STATE OF THE CLEAN HYDROGEN VALLEYS SECTOR 2026

Developing Hydrogen Valleys in a challenging market environment

Clean Hydrogen Partnership

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AUTHORS

Uwe Weichenhain-Stahl, Christopher Schmitt, Markus Kaufmann, Franziska Hörth, Martin Scheiner (Roland Berger)

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CONTACT

Roland Berger
Christopher Schmitt
christopher.schmitt@rolandberger.com

Clean Hydrogen Joint Undertaking
Avenue de la Toison d' Or 56-60, 1060 Brussels
info@clean-hydrogen.europa.eu

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Opening Remarks

Clean hydrogen has never been more important — and the sector's journey so far is proof that the path from ambition to reality, whilst demanding, is well underway. Like many transformative energy transitions before it, the clean hydrogen sector has moved through a familiar arc: from early enthusiasm and bold announcements, through a necessary period of consolidation, and now into the early stages of a genuine commercialisation phase.

The hype cycle of the early 2020s gave way to harder questions — about project economics, offtake, and the pace of regulatory frameworks. That recalibration, whilst challenging, has ultimately strengthened the sector. The projects that have survived and progressed are more commercially grounded, more technically mature, and more investment-ready than those of a few years ago.

Hydrogen Valleys have been at the heart of this resilience. Accounting for the large majority of the over 600 MW of operational electrolyser capacity in Europe today, and representing a significant share of the more than 3.3 GW that has passed Final Investment Decision, Hydrogen Valleys have demonstrated that the integrated model – combining production, transportation, and end use within a single coordinated ecosystem – is not only viable, but the most robust path forward. They are the building blocks from which a European clean hydrogen sector will be constructed, one regional ecosystem at a time.

The Clean Hydrogen Partnership has played a foundational and continuously evolving role in establishing Hydrogen Valleys as a globally recognised concept and a cornerstone of Europe's clean energy strategy and has brought forward numerous activities to develop and support Hydrogen Valleys over the last years.

With this report, grounded in the most comprehensive empirical dataset on over 100 Hydrogen Valleys globally, the Clean Hydrogen Partnership sheds light into where the sector stands, how to overcome the challenges ahead and what project developers, policymakers and investors can do.

The hydrogen economy is being built right now – by project developers, policymakers, and investors who are willing to act with conviction. Hydrogen Valleys are showing what is possible. It is time for all of us to build on that foundation.

Valérie Bouillon-Delporte

Executive Director, Clean Hydrogen Partnership

The growing global interest in Hydrogen Valleys over recent years is truly promising. Today, our platform features nearly 100 Hydrogen Valleys worldwide – with Europe alone hosting more than twice as many as in 2022.

The platform features 83 Hydrogen Valleys in 21 European countries.

There is broad international consensus that a successful global hydrogen economy requires balanced growth in both supply and demand.

This is precisely where the Hydrogen Valley model excels: by integrating hydrogen production with real-world applications within a dynamic, self-sustaining ecosystem where the whole supply chain exists.

The Clean Hydrogen Partnership has been key to this development, having already supported 27 valleys. Together they represent project investments of more than EUR 1.6 billion for a total public funding of EUR 328 million – a leverage factor of almost 5 times.

While a number of Hydrogen Valleys widely are spread in Central and Western Europe, we are incentivizing our partners in Widening Countries to bring forward their projects and contribute to the development of hydrogen in their countries.

To turn these visions into reality, we welcome the collaboration between the Clean Hydrogen Partnership and the Clean Hydrogen Mission of Mission Innovation, reflected on initiatives such as the Hydrogen Valleys Platform – integrated under the Hydrogen Valleys Facility, designed to support developers in making their project a reality. Only by working together can we accelerate the transition from concept to implementation.

Krzysztof Kuik

Clean Planet Director, DG RTD, European Commission

Executive Summary

State of the Clean Hydrogen Valleys Sector 2026

Hydrogen Valleys Report 2026 – State of the Clean Hydrogen Valleys Sector

Executive Summary

Hydrogen Valleys as enablers towards a clean hydrogen sector

Clean hydrogen is universally recognised as indispensable for reaching global net zero - and yet the path to get there has grown more complex. Despite a global project pipeline of c. 440 GW of announced electrolyser capacity by 2030, the sector is currently navigating a marked consolidation phase, after a hype cycle that reached its peak in 2022. Project delays and cancellations are mounting, driven by a combination of persistent policy and regulatory uncertainty, hydrogen production costs that have consistently exceeded early projections, and a demand side where binding offtake commitments remain elusive.

However, despite these significant challenges, the sector continues to scale up. While the speed of the market ramp-up in reality falls short of the (inflated) expectations of the early 2020s, real progress is happening on the ground, with final investment decisions (FID) happening and electrolyzer assets being commissioned across Europe. Today, over 600 MW electrolyser capacity is operational in Europe, an increase of 225 MW as compared to 2024. In 2025, more than 800 MW electrolyser capacity took FID in Europe, adding up to the 3.3 GW of electrolyser capacity past FID in Europe. Half of this 3.3 GW is planned to be operational in 2026.

Hydrogen Valleys are a key driving force behind this ramp-up. Today, Hydrogen Valleys in Europe account for around 400 MW operational electrolyser capacity. This is in line with the 600 MW operational electrolyser capacity in Europe.[1] This underscores the paramount importance of Hydrogen Valleys for building the clean H2 sector from the ground up via local and regional ecosystems, which can in turn be connected to form a European sector. In this context, Hydrogen Valleys have demonstrated notable resilience precisely because of their integrated design. By combining production, transportation and end use within a single coordinated framework, they offer a more robust commercial and operational foundation than standalone projects.

The Hydrogen Valley Platform (H2V Platform) is a global collaboration platform for all information on hydrogen flagship projects and aims to facilitate a clean energy transition by promoting the emergence of integrated hydrogen projects along the value chain as well as by raising awareness among policymakers, industry and other stakeholders. On the platform, Hydrogen Valleys around the globe provide insights into their project development. The Hydrogen Valley concept raised interest all over the world and many geographies are developing similar concepts, so-called hydrogen hubs, clusters or “Hydrogen Valleys”.

The H2V Platform supports the objectives of the Clean Hydrogen Mission by demonstrating commercially viable hydrogen technologies and accelerating deep decarbonisation in hard-to-abate sectors. The diverse hydrogen valleys showcased on the platform, together with the extensive guidance materials provided, foster the development of integrated hydrogen projects worldwide and help establish the foundation for an interconnected global hydrogen economy. Furthermore, the Platform supports the Clean Hydrogen Mission goal of reaching 100 Hydrogen Valleys worldwide by 2030.

The Clean Hydrogen Partnership (JU) supports the European Commission in its co-lead role under the Clean Hydrogen Mission within the Mission Innovation 2.0. Following the lead of the European Commission, in 2020, the JU initiated the development of the Hydrogen Valley Platform and by January 2021, after a thorough exercise of data collection, 34 Hydrogen Valleys were selected and went live on the platform.

To date, more than 100 Hydrogen Valleys globally are represented on the H2V Platform.

[1] Operational electrolyser capacity in Europe based on Hydrogen Europe's Clean Hydrogen Monitor (2025); operational electrolyser capacity in Europe attributable to Hydrogen Valleys based on data reported by European Hydrogen Valleys on the H2V Platform with latest data update (March 2026).

The state of play of Hydrogen Valleys – Leveraging insights from the H2V Platform

The H2V Platform, now featuring 106 Hydrogen Valleys globally, provides the most comprehensive empirical dataset available on the sector's progress.

Following a major platform upgrade and data update completed in April 2026, the data sheds light on a sector in active forward movement: the share of operational Valleys featured on the H2V Platform globally has doubled from 9% to 18% since 2024, and projects at or beyond FID now represent 37% of the portfolio.

Pipeline ambitions are substantial – 81 Hydrogen Valley projects globally expect to reach commercial operations by 2032, with aggregate planned electrolyser capacity exceeding 21 GW across all 106 projects. Europe[2] accounts for approximately 91% of registered Valleys, with Germany, Spain, Portugal, France and the Netherlands leading, while cross-border initiatives are emerging as a significant structural trend.

Across the portfolio, mobility remains the most frequent end use, with 83% of Valleys planning to serve mobility end uses. Industrial applications are foreseen in 67% of the Valleys (up from 61% in 2024), reflecting a growing focus on hard-to-abate sectors as anchor offtakers.

The voice of Hydrogen Valleys: Current market sentiment

For the first time, a market sentiment survey was conducted among Hydrogen Valley project developers in April 2026.

While the current market sentiment amongst Hydrogen Valley practitioners is rather mixed, they display a strong confidence in hydrogen as a long-term solution, with 59% of all respondents being confident or very confident about the long-term hydrogen market outlook.

In the near term, several hurdles need to be overcome in Hydrogen Valley project development: 39% of all projects mention delays, with project business case (39%), supply chain issues (30%) and lack of or insufficient project funding (25%) mentioned as top three reasons for project delays.

Offtake remains the make-or-break condition for business cases and the single most critical bottleneck on the path to Final Investment Decision (FID). 68% of respondents have secured less than 25% of their targeted binding offtake volume.

When asked about key success factors for reaching FID, respondents identified long-term market demand, access to funding and financial incentives, and technical expertise as the non-negotiable commercial and capability foundations, complemented by regulatory support, governmental backing, and strategic project planning as the critical enabling conditions.

The overarching conclusion from this market sentiment survey is clear: advancing Hydrogen Valley projects to FID is today primarily a commercial, financial, and policy challenge. Converting the sector's strong latent long-term conviction into active investment commitment will require targeted action on demand creation, financing mechanisms, and regulatory certainty.

The way forward: Success factors to enable Hydrogen Valley ecosystems

Hydrogen Valley ecosystems will only fulfil their transformative potential if Valley developers, policymakers and investors contribute to jointly drive the scale-up.

Hydrogen Valley developers are at the forefront of making clean hydrogen ecosystems happen on a local or regional level. Therefore, they should focus on these four decisive success factors:

1. Build Hydrogen Valley projects in a way that they have a strong and sustainable revenue base beyond hydrogen sales and with strong anchor offtakers
2. Consistently drive down the project costs to a viable level via techno-economic optimisation to close the gap to offtaker willingness-to-pay
3. Ensure investment readiness of Hydrogen Valley projects from the very start of the development
4. Build Hydrogen Valleys as integrated ecosystems along the entire value chain to leverage synergies beyond standalone asset projects

Policymakers around the globe are the ones that shape climate targets, develop demand- and supply-side policy measures to incentivise the uptake of clean hydrogen and implement targeted financing

[2] In this report, European Hydrogen Valley projects refer to Hydrogen Valley projects in EU countries as well as in Iceland, Norway, Serbia, Turkey, Ukraine and the United Kingdom.

instruments, as well as market-making standards. In their role, they are crucial to the build-out of a global hydrogen ecosystem and can contribute with three key levers to this uptake:

1. Advance enforceable and binding regulation to convert policy ambitions into market demand and willingness-to-pay for clean hydrogen
2. Build and enable the market infrastructure that hydrogen needs to scale
3. Bridge the Valley of Death – Fund the high-risk early stage

Investors are essential to the hydrogen energy transition. While public investors absorb early-stage risk and unlock private capital, private investors provide the scale needed to bring projects to commercial operation. Without sustained engagement from both, the gap between ambition and deployment will not close – their engagement should therefore focus on:

1. **Public lenders:** De-risk the early-stage development phases that private capital cannot reach with blended financing mechanisms and standardised co-financing architectures
2. **Private lenders:** Build the capability and products to finance hydrogen at scale, for example, by treating hydrogen as a distinct asset class
3. **Equity investors:** Build positions in hydrogen-related projects across the entire value chain from renewable energy sourcing to hydrogen end use logistics to de-risk newly emerging value chains end-to-end

About the H2V Facility – Join us to build the future of Hydrogen Valleys together!

Funded by the Clean Hydrogen Partnership, the Hydrogen Valley Facility (H2V Facility) aims to unlock transformative support for Hydrogen Valleys on their way to Final Investment Decision (FID), to support the European Commission's aspirational target of having 50 valleys operational or under construction in the EU by 2030. Roland Berger together with its consortium partners Worley and Inycom were mandated by the Clean Hydrogen Partnership for the set-up and implementation of the H2V Facility. The H2V Facility complements the support that the Clean Hydrogen Partnership is providing to the actual deployment of Hydrogen Valleys (including CAPEX support), via the Partnership's annual Call for Proposals [3] .The H2V Facility consists of three pillars:

- **Hydrogen Valley Platform**: A global showcase of hydrogen flagship projects at different maturity stages, providing insights into Hydrogen Valley projects around the globe
- **H2V Knowledge Centre & Capacity Building**: A self-service platform offering knowledge materials and best-practice exchange for the broader hydrogen community and dedicated workshops and in-person events for Hydrogen Valleys
- **Project Development Assistance (PDA)**: Tailored expert support advancing valleys from idea to concept (PDA light) and from concept to FID (PDA plus)

In 2026, the Hydrogen Valley Facility will enter its next phase, as it further builds out its targeted set of activities. In April 2026, the 2nd Call for Applications for PDA support for up to 13 Hydrogen Valleys in the EU and in countries associated with Horizon Europe was launched with the PDA services planned to start in September 2026. As part of the capacity-building activities, Hydrogen Valleys funded by the Clean Hydrogen Partnership and PDA Beneficiaries will meet biannually for in-person workshops dedicated to best-practice exchanges and to foster collaboration. The H2V Platform underwent a major data update based on a completely redesigned data questionnaire that over 105 Hydrogen Valleys filled out. It is now live with enhanced functionalities and visualisations as well as a dynamic statistics section.

The Clean Hydrogen Partnership aims to further expand the H2V Platform by featuring additional and emerging Hydrogen Valleys on it. Interested hydrogen project developers can start the onboarding process within the "Join us" section on the H2V Platform (https://h2v.eu/hydrogen-valley-platform/join-us).

[3] Hydrogen Valleys - Clean Hydrogen Partnership - European Union

1

Hydrogen Valleys as enablers towards a clean hydrogen sector

1 Hydrogen Valleys as enablers towards a clean hydrogen sector

The role of clean hydrogen in global climate efforts

Clean hydrogen is universally recognised as a pivotal energy vector in global efforts to reduce greenhouse gas emissions and to reach the global net zero target – without clean hydrogen, there will be no net zero.

To get there, an electrolyser capacity of c. 3.3 TW would be needed by 2050 under the IEA's Net Zero Emission Scenario, requiring hydrogen project development efforts around the globe – from project developers, investors and policymakers alike. Hydrogen is a political priority in a number of countries. As of the end of 2025, 65 governments have adopted national hydrogen strategies underlining the importance of hydrogen in decarbonisation of industry, mobility and energy and are increasingly adopting demand-side incentives to push the use of clean hydrogen.

Recent hydrogen market dynamics – From hype to market consolidation

However, the clean hydrogen market uptake has recently faced significant headwinds: While the global clean hydrogen project pipeline has reached some 440 GW by 2030 (based on project announcements), project delays and cancellations are mounting – a market consolidation that followed the clean hydrogen hype that reached its peak in 2022.

The clean hydrogen sector has undergone a profound transformation over the past several years, moving from a period of extraordinary market optimism to one of sobering consolidation. Fuelled by an ambitious wave of European and global policy commitments in the early 2020s, hydrogen attracted unprecedented levels of interest, culminating in a peak of project announcements.

This enthusiasm, however, outpaced the regulatory and market conditions necessary to sustain it. As the decade progressed, the gap between ambition and implementation became increasingly apparent, triggering a significant wave of project downsizing, postponements, and outright cancellations.

Root causes of current hydrogen market headwinds

There are four interconnected root causes for these current headwinds the hydrogen market faces:

On the policy front, recent shifts in US climate policy, including a reassessment of international climate commitments and a reorientation of clean energy funding priorities, have introduced new dynamics into the global policy landscape, which may influence the strategic positioning of other countries and shape the confidence of private investors in long-term decarbonisation commitments.

Regulatory uncertainty compounds this challenge significantly. Across the hydrogen sector, positive business cases for clean hydrogen remain heavily contingent on clear and binding regulation, yet such frameworks are not yet fully implemented in many markets. Policy implementation uncertainty, spanning clean hydrogen portfolio standards, Contract for Difference schemes, international shipping emissions rules, and broader renewable energy and carbon pricing regulation — is generating investor hesitation, not least because sector-specific industrial target guidance remains in many cases yet to be defined.

In terms of production costs, initial assumptions have proven overly optimistic. Post-FEED[4] estimates have revealed materially higher CAPEX requirements, driven by inflationary pressures across materials, logistics and financing. Operational expenditure, in particular renewable energy costs, remains elevated, while interest rate increases drive up the capital cost of projects. As a consequence, the levelised cost of hydrogen (LCoH) continues to exceed competitiveness thresholds.

Finally, the demand side presents a structural challenge: most projects have difficulties in concluding binding offtake agreements, despite optimistic demand forecasts. Willingness-to-pay is still insufficient to trigger large-scale supply commitments and regulatory uncertainty is itself a barrier to offtake, as industrial consumers are reluctant to commit to hydrogen adoption whilst hedging against the possibility of softened regulatory requirements.

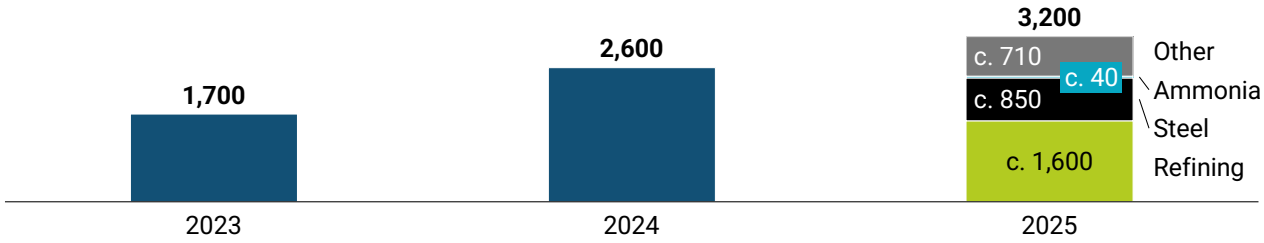
[4] FEED: Front-End Engineering Design

Real progress and market evolution

Despite these headwinds, real progress is happening on the ground.

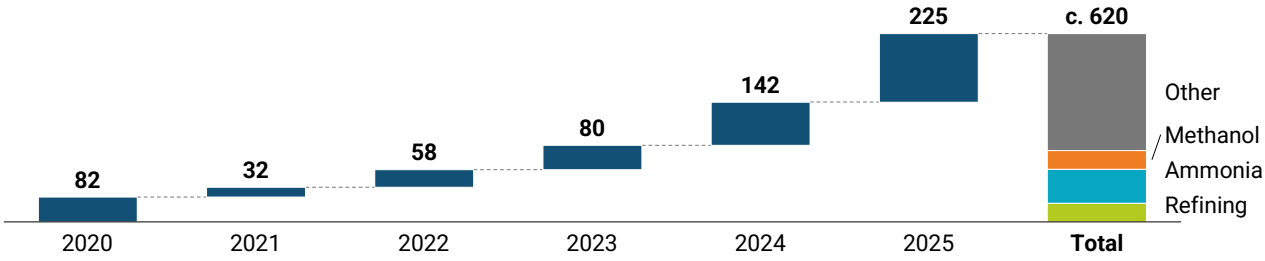
According to Hydrogen Europe, c. 3.2 GW electrolyser capacity are already under construction in Europe alone as of the end of 2025, with an envisaged offtake mostly for refining, followed by steel and ammonia.

FIGURE 1: **ELECTROLYSER CAPACITY PAST FID AND UNDER CONSTRUCTION IN EUROPE [MW]** [5]



Globally, over 3.5 GW of electrolyser capacity are already operational, thereof 600 MW in Europe alone, according to recent Hydrogen Europe figures. This capacity has ramped up steadily with particularly strong increases in the last two years.

FIGURE 2: **OPERATIONAL ELECTROLYSER CAPACITY IN EUROPE [MW]**[6]



Within 10 to 15 years, clean hydrogen could become a globally traded commodity. The hydrogen market is currently evolving from an early commercialisation phase, characterised by single early adopters with strong public support for first-of-a-kind projects, into an emerging market. This phase is characterised by high-volume hydrogen applications that begin to enter the picture, most notably in refining, steelmaking and ammonia. Projects are currently becoming larger in scale and increasingly international in scope, with the role of hydrogen transportation growing and flexible carriers beginning to emerge. The public support is increasingly focused on instruments such as quotas, Contracts for Difference and carbon pricing, enabling new market dynamics around industrial decarbonisation clusters and declining transportation costs.

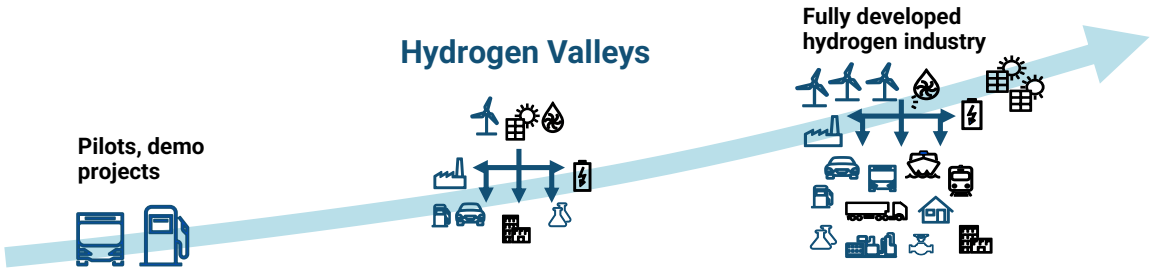
Hydrogen Valleys – What they are and why they matter more than ever today

Hydrogen Valleys are integrated clean hydrogen ecosystems that cover a specific geography, ranging from a local or regional focus - such as industrial clusters, ports, or airports - to broader national or international regions including cross-border hydrogen corridors. Within their geographic scope, these ecosystems supply several sectors through a common hydrogen infrastructure, serving, industry, mobility and energy end uses. Hydrogen Valleys cover multiple steps in the value chain, extending from hydrogen production through storage and distribution to offtakers via various modes of transport.

[5] As per Clean Hydrogen Monitor 2025 (Hydrogen Europe)

[6] As per Clean Hydrogen Monitor 2025 (Hydrogen Europe)

FIGURE 3: **HYDROGEN VALLEYS AS ENABLERS OF A CLEAN HYDROGEN ECOSYSTEM**



Hydrogen Valleys have proven to be a key driver for the clean hydrogen sector and ultimately the transition towards decarbonised economies. Today, Hydrogen Valleys in Europe account for around 400 MW operational electrolyser capacity. This is in line with the 600 MW operational electrolyser capacity in Europe.[7] This underscores the paramount importance of Hydrogen Valleys for building the clean hydrogen sector from the ground up via local and regional ecosystems, which can in turn be connected to form a European sector. Against the recent market headwinds, they have demonstrated a notable degree of resilience. Their integrated and at the same time diversified design, combining hydrogen production, transportation and end use within a single coordinated framework, provides a more robust commercial and operational foundation than standalone, single-asset projects, which are more exposed when individual links in the value chain weaken.

By demonstrating hydrogen technologies in real-world conditions at meaningful scale, they systematically de-risk commercial, technological, and regulatory uncertainties, fostering a collaborative ecosystem of industry, government, and research institutions that accelerates innovation and reduces the overall cost of hydrogen deployment.

The transferable knowledge and best practices generated by each Hydrogen Valley directly accelerate the development of future projects, while the combined investment volumes mobilised globally, currently exceeding EUR 134 bn, can drive economies of scale in electrolyser manufacturing and hydrogen logistics, bringing the entire sector closer to cost competitiveness.

[7] Operational electrolyser capacity in Europe based on Hydrogen Europe's Clean Hydrogen Monitor (2025); operational electrolyser capacity in Europe attributable to Hydrogen Valleys based on data reported by European Hydrogen Valleys on the H2V Platform with latest data update (March 2026).

The Clean Hydrogen Partnership and Hydrogen Valleys

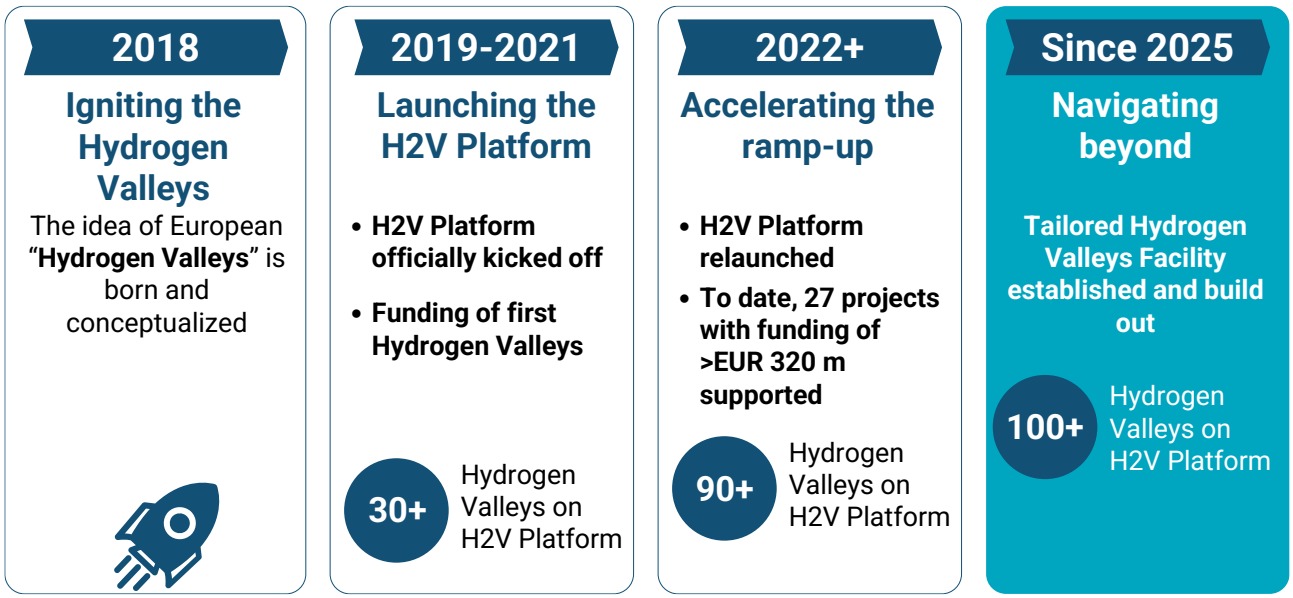
The Clean Hydrogen Partnership has played a foundational and continuously evolving role in establishing Hydrogen Valleys as a globally recognised concept and a cornerstone of Europe's clean energy strategy. As such, it has brought forward numerous activities to develop and support Hydrogen Valleys over the last years.

The concept of Hydrogen Valleys was developed by the Clean Hydrogen Partnership, through its predecessor the FCH 2 JU[8], laying the conceptual and community groundwork for what would become a globally adopted model. Building on the successful work of the Clean Hydrogen Partnership with regions and on the learnings of earlier projects , support to Hydrogen Valleys (both to DEVEX and CAPEX) has been included in all Partnership Call for Proposals since 2019.

The scale and impact of this work was formally recognised through the European Commission's allocation of an additional EUR 200 m via REPowerEU to double the number of Hydrogen Valleys by 2025, underpinning the broader ambition of at least 50 Hydrogen Valleys operational or under construction in Europe by 2030. To date, over EUR 320 m in cumulative funding has been granted for 27 Hydrogen Valley projects in 23 countries.

Building on this foundation, the Clean Hydrogen Partnership developed the global H2V Platform (www.h2v.eu) — launched in 2021 and expanded into a comprehensive one-stop shop by 2023, now hosting more than 100 Hydrogen Valleys worldwide.

FIGURE 2: **THE CLEAN HYDROGEN PARTNERSHIP'S SUCCESS STORY OF HYDROGEN VALLEYS**



[8] Fuel Cells and Hydrogen 2 Joint Undertaking

2

The state of play of Hydrogen Valleys – Leveraging insights from the H2V Platform

2 **The state of play of Hydrogen Valleys** – Leveraging insights from the H2V Platform

The Hydrogen Valley concept has firmly established itself as a cornerstone of clean hydrogen project development - and despite the complex realities of evolving policy environments, challenging economics and large-scale infrastructure deployment, Hydrogen Valley ecosystems continue to demonstrate that integrated approaches are the most robust path from ambition to implementation.

Central to this progress is the Hydrogen Valley Platform, which supports the objectives of the Clean Hydrogen Mission by demonstrating commercially viable hydrogen technologies and accelerating deep decarbonisation in hard-to-abate sectors.

The diverse Valleys showcased on the platform foster the development of integrated hydrogen projects worldwide - laying the foundation for an interconnected global hydrogen economy and advancing the Mission's goal of reaching 100 Hydrogen Valleys worldwide by 2030.

This chapter describes key insights and statistics of the 106 Hydrogen Valleys on the H2V Platform and examines the defining trends across the Hydrogen Valley landscape.

The underlying data stems from a comprehensive survey the 106 registered Hydrogen Valleys on the platform complete on a biannual basis. The last survey was conducted in April 2026 based on a completely redesigned questionnaire (see Annex), now offering additional insights and statistics, thereby enabling an evidence-based perspective on the sector's progress and the conditions shaping its trajectory.

2.1 The Hydrogen Valleys Platform at a glance

The Hydrogen Valley Platform

The Clean Hydrogen Partnership's Hydrogen Valley Platform (www.h2v.eu) is the world's leading global collaboration platform dedicated to Hydrogen Valleys. It serves as a central hub, providing comprehensive information on flagship hydrogen projects worldwide and acting as the primary reference point for the most advanced Hydrogen Valleys globally. It features global Hydrogen Valley projects to enhance visibility, provide dedicated insights into hydrogen project development and facilitate exchange across the community.

Officially launched in January 2021 with 34 Hydrogen Valleys, the platform has expanded from an European initiative into the world's leading global collaboration hub for Hydrogen Valleys. As such, it is not merely a showcase, but a practical instrument designed to accelerate the global scale-up of the clean hydrogen sector.

Hydrogen Valley criteria

The H2V Platform applies six criteria to characterise a Hydrogen Valley:

1. **Broad value chain coverage:** Covering multiple steps of the value chain from hydrogen production to storage, transport and offtake
2. **Large in scale:** Setting up two-digit multi-million EUR investment projects that are beyond mere pilot/demo projects as well as scalable or replicable
3. **Geographically defined scope:** Creating hydrogen ecosystems that cover a specific geography, from local/national activities to international outreach
4. **Supply of more than one end use:** Showcasing the versatility of hydrogen by covering more than one end sector or application in the industry, mobility and energy sector
5. **Clean hydrogen production:** Following a zero/low-carbon hydrogen production pathway
6. **Project under real development:** Projects have to be under real development, i.e., have at least a defined project outline with main details on the project.

FIGURE 3: **HYDROGEN VALLEY CRITERIA FOR THE H2V PLATFORM**

1. **Broad value chain coverage**
   From H_2 production to storage, transport and offtake
2. **Large in scale**
   Planned CAPEX of at least EUR 10 m
3. **Geographically defined scope**
   Specific local or regional coverage
4. **Supply of multiple end uses**
   In mobility, energy and/or industry
5. **Project based on clean H_2**
   Clean H_2 (de facto mainly green H_2)
6. **Project under real development**
   I.e., have at least a defined project outline

The most comprehensive dataset on Hydrogen Valleys to date

The underlying survey data of the H2V Platform stems from a questionnaire which the registered Hydrogen Valleys complete on a biannual basis.

This structured survey covers, among others, the Hydrogen Valley project fundamentals, technologies deployed, financial aspects, development progress and challenges as well as the recent perspective on market dynamics. The most recent update was conducted in April 2026 based on a completely redesigned survey questionnaire with refined indicators and streamlined questions. The result presented as part of this report is an up-to-date and analytically robust dataset - one of the most complete empirical bases available on the global Hydrogen Valley landscape.

Together, all Valleys tracked on the platform account for a total planned investment volume of EUR 134 bn, with aggregate planned electrolyser capacity exceeding 21 GW.

Major H2V Platform upgrade with new features and insights

From November 2025 to April 2026, the H2V Platform underwent a comprehensive revamp to enhance user experience, improve data accessibility and provide more powerful analytical tools. Four key enhancements strengthen its role as the central hub for the global Hydrogen Valley community.

1 **New and redesigned Hydrogen Valley data questionnaires**: The questionnaire has been fundamentally restructured, separating project fundamentals from current status and introducing a biannual update mechanism. The back-end interface features a new dashboard with progress tracking, profile preview and independent section submission, alongside streamlined navigation and improved usability.

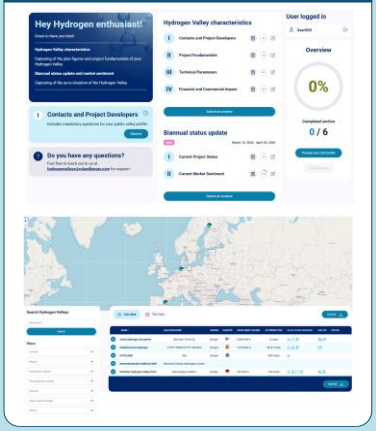
2 **Interactive statistics feature on Hydrogen Valley data**: The platform's most substantial new addition enables aggregated data analysis across all tracked Hydrogen Valleys. Users can build fully customised statistics across dimensions such as end-use distribution, electrolyser capacities, development status and production volumes, supported by a guided demonstration for new users.

3 **Comprehensive Hydrogen Valley overview:** The redesigned overview offers enhanced filtering across 100+ projects by value chain, investment and production volumes, country and status. A new tile view and enriched map pop-ups deliver richer information at a glance.

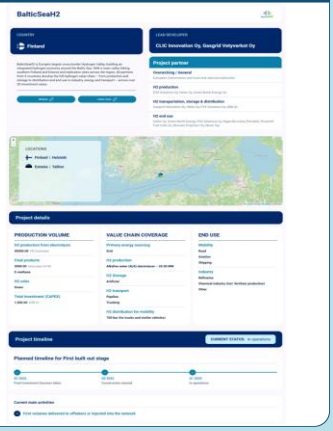
4 **Enhanced Hydrogen Valley profiles**: Each profile page now features richer, more structured content, including Valley logos, multiple project locations and clearly presented electrolyser and renewable energy capacities, in a more visually compelling layout.

Customisable insights in entirely new section

Streamlined onboarding & Hydrogen Valley overviews



Detailed Hydrogen Valley profiles



Scale and growth of the H2V Platform

Following the most recent data update in April 2026, the H2V Platform now features 106 Hydrogen Valleys globally - a significant increase from approximately 30 registered at the platform's inception in 2021 and roughly double the number recorded in 2022. This growth reflects the evolution of the Hydrogen Valley concept from a European blueprint into a globally recognised model for integrated clean hydrogen project development. Of the 106 projects on the H2V Platform, 12 Hydrogen Valleys were added as part of this update cycle.

Hydrogen Valley archetypes

Hydrogen Valleys can be categorised into three distinct archetypes, each reflecting different scales, end uses and market dynamics. The boundaries between them are fluid and projects frequently evolve across archetypes over time.

Archetype 1 comprises locally oriented Valleys focused primarily on mobility applications such as heavy-duty trucks and urban bus fleets, typically led by public-private collaborations with electrolyser capacities of 5–20 MW. Whilst historically significant, pure archetype 1 projects are becoming less prevalent, as competition from battery-electric technologies and the industry's shift towards greater scale have eroded the standalone business case for small-scale hydrogen mobility.

Archetype 2 represents medium-scale projects serving industrial consumers, including steel, chemicals and fertiliser end users, replacing grey hydrogen with clean alternatives at 20–300 MW electrolyser capacities. Anchored by credible industrial offtakers and supported by CO_2 regulation, this archetype currently offers the most robust commercial foundation, despite headwinds from rising PPA prices and regulatory uncertainty around additionality rules.

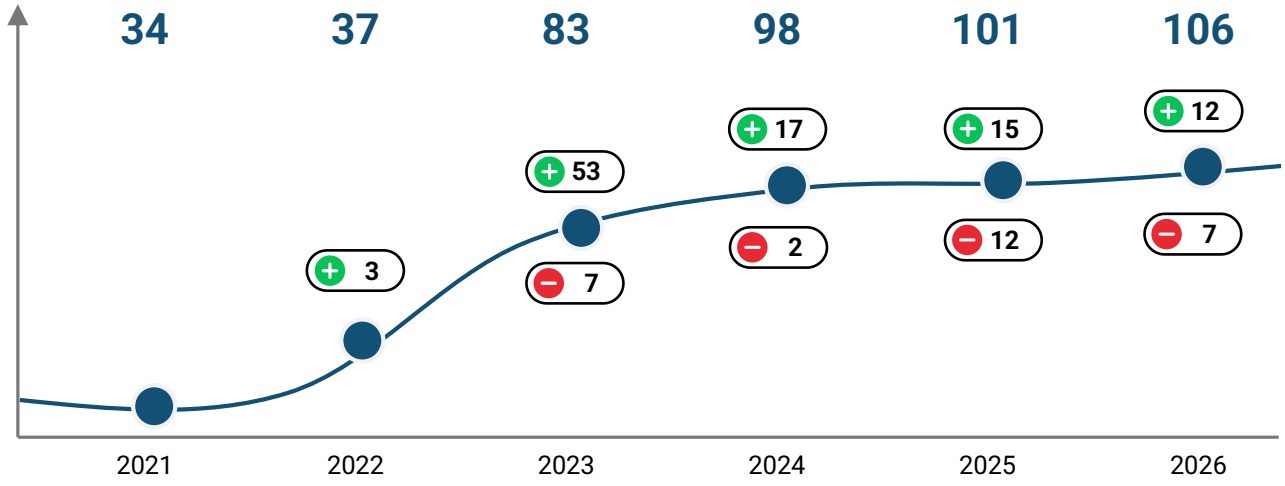
Archetype 3 encompasses giga– and large-scale, export-oriented projects aiming to connect hydrogen-rich production regions with global demand centres at GW scale. Despite their strategic ambition, these projects have made limited progress due to high capital requirements, immature international trading markets and geopolitical uncertainty.

Across all archetypes, shared learnings and infrastructure interconnections, first and foremost the European Hydrogen Backbone, offer significant potential to accelerate deployment and mature the broader clean hydrogen ecosystem.

2.2 Overview of Hydrogen Valleys on the H2V Platform

The H2V Platform has grown significantly over the last years – the initial size of 34 Hydrogen Valleys could almost be tripled to date. Over the course of time, 134 Hydrogen Valleys have been added to the H2V Platform.

FIGURE 4: **DEVELOPMENT OF THE NUMBER OF HYDROGEN VALLEYS ON THE H2V PLATFORM**



Not all of them still exist today – reflecting the ongoing market consolidation, 28 Hydrogen Valley projects have been removed from the H2V Platform, resulting in 106 projects featured on the H2V Platform to date.

Europe remains the dominant region for registered Hydrogen Valleys, underpinned by comprehensive policy frameworks and sustained public funding, with Germany, Spain, Portugal, France, and the Netherlands leading activity. Beyond Europe, the Americas account for approximately 5% of registered Valleys. Brazil's Piauí region stands out, leveraging exceptional renewables and competitive electricity prices to pursue GW-scale green ammonia production. The United States and Canada are advancing hydrogen hub initiatives, while Chile focuses on export-oriented development in its southern regions. The Asia-Pacific region and the Middle East and Africa each represent around 2% of the portfolio. Asia-Pacific activity spans established projects in Japan, emerging initiatives in Thailand, and significant developments in Australia, whilst the Middle East and Africa are anchored by transformational projects in Saudi Arabia and Israel.

Looking ahead, the next data update in October 2026 will feature intensified global outreach efforts in collaboration with Mission Innovation, with the aim of broadening geographic representation and further diversifying the platform's portfolio.

FIGURE 5: 106 HYDROGEN VALLEYS ON THE HYDROGEN VALLEY PLATFORM

Austria
HI2 Valley Austria
WIVA P&G - Wasserstoffinitiative Vorzeigeregion Austria Power & Gas
WIVA P&G HyWest

Belgium
Green WaHyVe – The Walloon Hydrogen Valley
FLHyPorts – Flemish Hydrogen Ports Valley
H2BE

Brazil
Green Energy Park Piauí
Solatio H2 Piauí

Canada
Edmonton Region Hydrogen Hub

Chile
Green Hydrogen Magallanes

Czech Republic
Moravian-Silesian Hydrogen Valley

Denmark
Cluster NorthH2
CONVEY
HOST PtX Esbjerg
HyBalance

Estonia
Hydrogen Valley Estonia

Finland
Arctio Hydrogen Ecosystem
BalticSeaH2
BotH2nia Hydrogen Valley
Naantali Green Hydrogen and Ammonia Plant
Oulu Green Hydrogen Park

France
AdvancedH2Valley
H2SUD Vallée
HyNA Hydrogen Valley
IMAGHyNE
ZEV – Zero Emission Valley

Germany
Clean Hydrogen Coastline
eFarm
Grande Region Hydrogen EEIG
H2-Hub Neumünster
H2Rivers
H2EART
H2B:IMPACT
HyBayern
Hydrogen Valley Anklam
Hydrogen Valley Emsland
HY.Kiel
HY.Kiel
hy.klettwitz
HY.Waiblingen
HY.City.Bremerhaven
"Model region for green hydrogen" – Stuttgart
Norddeutsches Reallabor (RNL)
North Sea Hydrogen Valley Ports
REFHYNE2
TH2ECO

Greece
CRETE-AEGEAN H2 Valley (CRAVE-H2)
H2CRETE Valley Project
North-1
TRIERES

Hungary
MVM Hydrogen

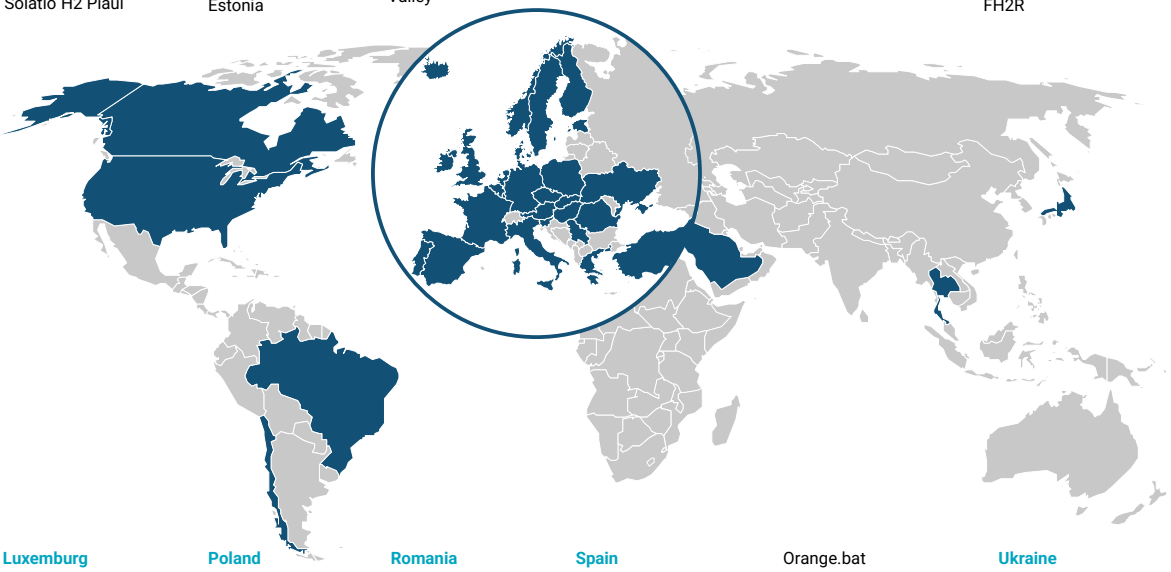
Ireland
Hydrogen Nexus Nodes
SH2AMROCK

Iceland
HYCELAND

Israel
Southern Arava Hydrogen Valley

Italy
H2ise0 Hydrogen Valley
Hydrogen Valley South Tyrol
HydrogER
TH2ICINO

Japan
FH2R



Luxemburg
LuxHyVal (Luxembourg Hydrogen Valley)

Netherlands
Djewels
H2Next
HEAVENN
Hydrogen Hub Noord-Holland

Norway
Adger Hydrogen Hub
HyFuel AS
NORHyWAY

Poland
Amber Hydrogen Valley
Mazovial Hydrogen Valley (HySPARK)

Portugal
Galileu
GREENH2ATLANTIC
H2tALENT
Luso Eco Fuels
MadoquaPower2x (Sines Energy Hub)
Sines Hydrogen Valley

Romania
Hydro 3D
Transylvania Hydrogen Valley

Saudi Arabia
NEOM GREEN ENERGY

Serbia
H2V Rasina

Slovakia
EastGateH2V

Slovenia
North Adriatic Hydrogen Valley

Spain
Andalusian Green Hydrogen Valley
Asturias
Basque Hydrogen Corridor BH2C
BenortH2
Castellon Green Hydrogen Project
Catalina Green Hydrogen
Compostilla Green
GetHyGa
Green Hysland
Hydrogen Valley of Castilla y Leon
Orange.bat
Tajuna H2

Sweden
Mid Sweden Hydrogen Valley
HiWHyB – High Coast to West Coast Hydrogen Valley

Thailand
Phi Suea House Project

Turkey
South Marmara Hydrogen Shore - HYSouthMarmara

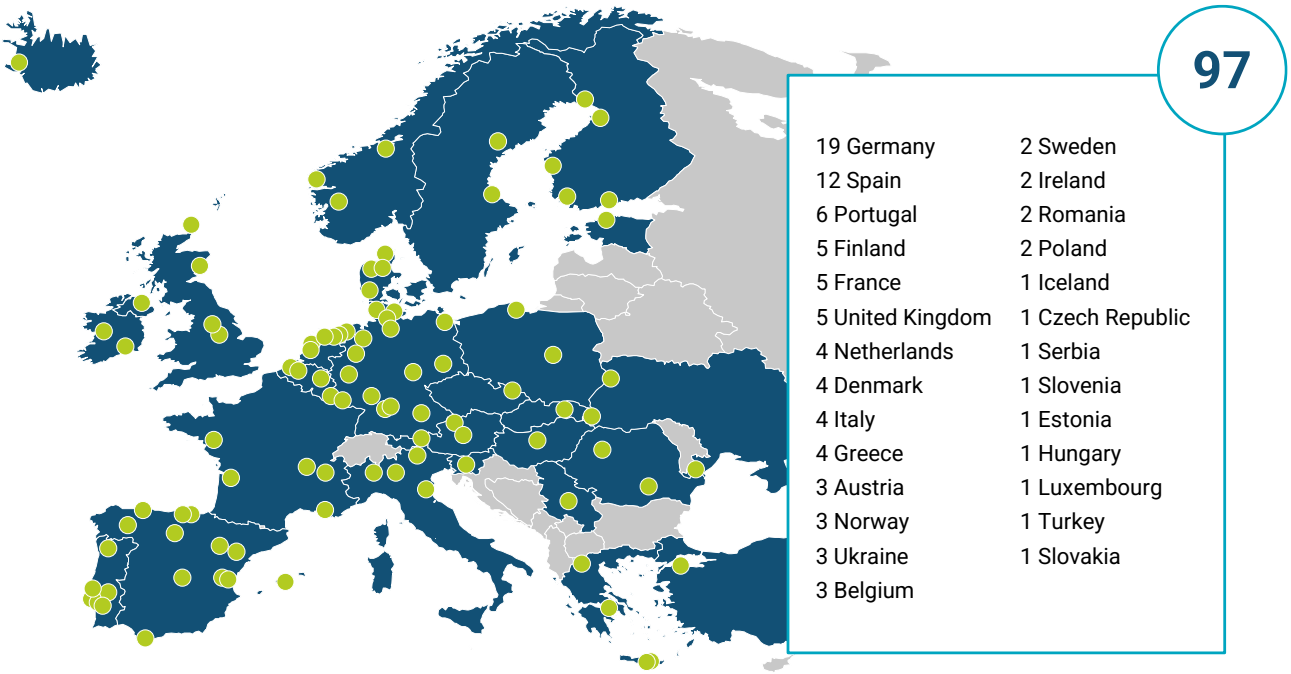
Ukraine
GreenWest PtX
H2U Hydrogen Valley – Reni
H2U Hydrogen Valley – Zakarpatti

United Kingdom
BIG HIT
Coast2Coast Hydrogen Valley
Lighter than Aire
Ulster Hydrogen Valley
TH2ISTLE

United States
SoHyCal

As evidenced by the H2V Platform data, approximately 91% of all registered Hydrogen Valleys are located within Europe, reflecting the continent's strategic prioritisation of hydrogen and the depth of activity across its Member States. This concentration is underpinned by a strong enabling hydrogen policy framework - the EU Hydrogen Strategy (2020), the REPowerEU Plan (2022), the Renewable Energy Directive III (RED III) (2023) and the subsequent delegated acts on hydrogen - that simultaneously reinforces both hydrogen demand and supply, complemented by the active promotion of the Hydrogen Valley concept by European institutions, including the Clean Hydrogen Partnership.

FIGURE 6: **GEOGRAPHIC SPREAD OF HYDROGEN VALLEYS IN EUROPE**



Within Europe, the geographic distribution reveals notable clustering. Germany maintains its position as the leading host nation, driven by ambitious federal and state-level hydrogen strategies and substantial public funding mechanisms. Portugal as well as Spain have emerged as particularly dynamic markets, with large-scale initiatives concentrated in the Basque Country, Andalusia, Aragon and Castilla y León. The Netherlands, France and Italy continue to feature prominently, while the Nordic countries - particularly Finland - have demonstrated remarkable momentum, now hosting multiple large-scale initiatives.

A significant development since the previous assessment is the expansion into Central and Eastern Europe. Poland, Romania, Slovakia, Hungary and the Czech Republic now feature dedicated Hydrogen Valley initiatives, frequently supported by EU cohesion funds and Just Transition mechanisms. Ukraine has also entered the H2V Platform with ambitious cross-border hydrogen corridor projects, demonstrating the sector's resilience even amid challenging circumstances.

A notable trend is the emergence of cross-border Hydrogen Valleys spanning multiple jurisdictions. The North Adriatic Hydrogen Valley (connecting Slovenia, Croatia and Italy's Friuli Venezia Giulia region), the Grande Region Hydrogen initiative (linking Germany, France and Luxembourg) and the BalticSeaH2 project (connecting Finland and Estonia) exemplify this collaborative approach.

These transnational initiatives align well with infrastructure plans such as the European Hydrogen Backbone and emerging international hydrogen corridors, signalling a shift towards interconnected regional ecosystems.

2.3 The pulse of Hydrogen Valleys: Insights from the H2V Platform

Numbers and geography tell only part of the story. To understand the true state of Hydrogen Valley development, it is necessary to look beneath the surface - at how projects are structured, how they are progressing through development stages and how the sector is responding to a more demanding market environment.

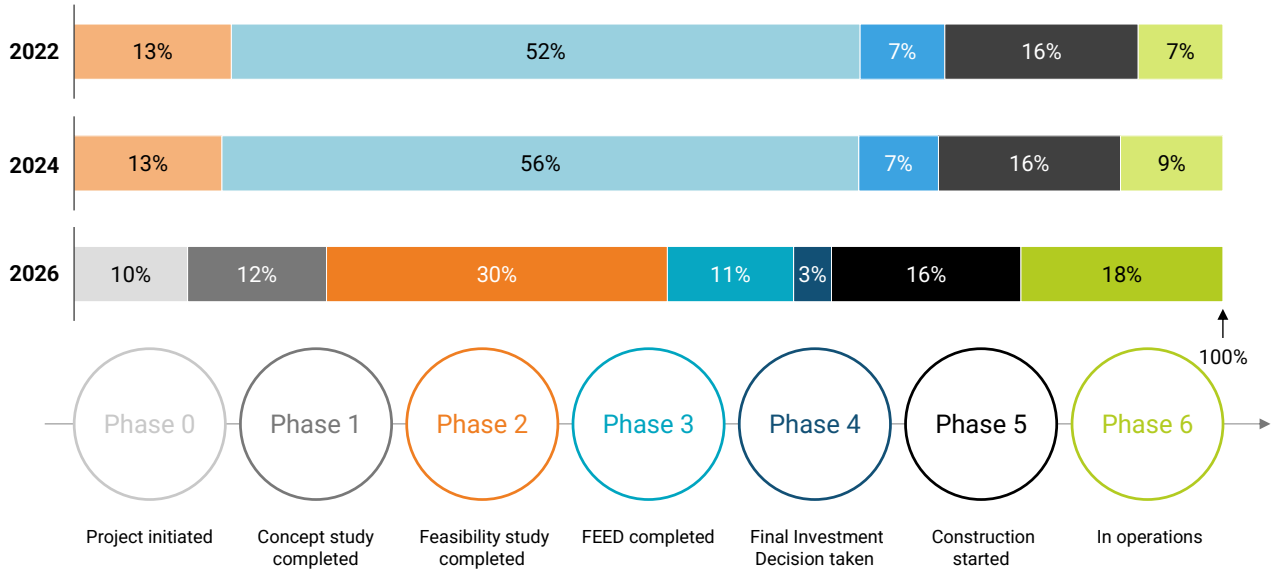
The following section presents the core empirical findings from the H2V Platform's most recent data update, offering a structured analysis of the trends that are shaping the sector today.

2.3.1 Development progress - Where Hydrogen Valleys stand today and what they plan for the future

Project status along lifecycle

The Hydrogen Valley projects on the H2V Platform are distributed across the entire project lifecycle, offering a comprehensive picture of a sector in active development - from early-stage initiatives still defining their concept to projects already in regular operations. When interpreting changes relative to the 2024 assessment, it is worth noting that the platform is dynamic by nature: new Valleys join on an ongoing basis, meaning that shifts in the overall distribution reflect both the genuine advancement of existing projects through development stages and the addition of new - often early-stage - entrants to the portfolio. This should be kept in mind when reading the figures that follow.

FIGURE 7: **STATUS OF HYDROGEN VALLEYS ALONG THE PROJECT LIFECYCLE (N = 101)**



Approximately 63% of all Hydrogen Valleys are currently in pre-FID phases, spanning project initiation, concept study, feasibility study and FEED stages - down from approximately 69% in the 2024 assessment. This distribution signals a broadly early-stage pipeline actively building towards implementation: more than half of all pre-FID projects have already completed a feasibility study or progressed beyond. Looking more closely, 10% of all Hydrogen Valleys are at the project initiation stage with no finalised concept study yet in place, representing a pipeline of new entrants. Projects with a concept study represent roughly 12% of the portfolio, while another approximately 30% have already completed the feasibility stage and a further 11% have completed FEED studies.

The shift between the major development phases since the 2024 assessment reflects a consistent forward movement across the portfolio. The share of pre-FID projects has decreased from approximately 69% to

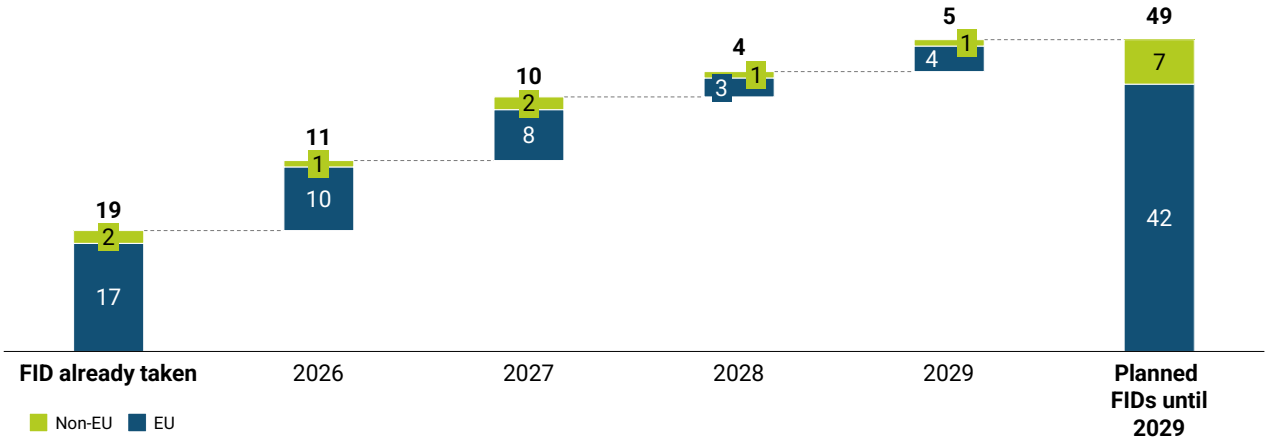
63%, while - most notably - the share of operational Valleys has doubled from 9% to 18%. Projects that have reached or surpassed FID now represent approximately 37% of all Valleys in total, up from 32% in 2024. Within this cohort, around 3% have recently taken FID, 17% are under construction and 18% have achieved operational status. Operational Hydrogen Valleys - including WIVA P&G (Austria), HyBayern (Germany), HyBalance (Denmark) and H2Rivers (Germany)- demonstrate that integrated hydrogen value chains can be successfully implemented and run at scale. Construction-phase projects include the Amber Hydrogen Valley in Poland and TRIERES in Greece.

Outlook on planned FIDs and CODs

The platform also provides insights into the pipeline of future FIDs, based on the Valley developers' current expectations and plans:

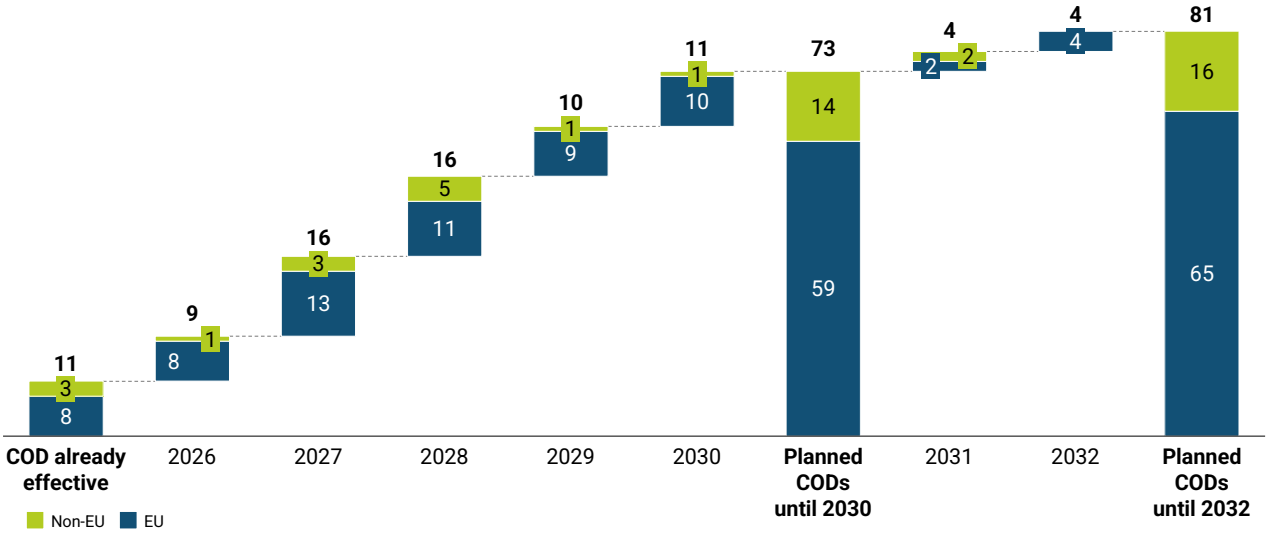
19 Valleys on the H2V Platform, thereof 17 in the EU, have already taken FID. Another 30 Hydrogen Valleys have their FID planned until 2029. According to the respondents' current plans, 42 EU and 7 non-EU Hydrogen Valleys could then be in the post-FID phase.

FIGURE 8: CUMULATIVE NUMBER OF HYDROGEN VALLEYS PLANNING TO TAKE FID IN THE NEXT YEARS (N = 49)



The H2V Platform data also sheds light on progress towards the Commercial Operation Date (COD), offering a clear picture of where Hydrogen Valleys stand in their path to operation.

FIGURE 9: CUMULATIVE NUMBER OF HYDROGEN VALLEYS WITH PLANNED COD IN THE NEXT YEARS (N = 81)



Prior to the April 2026 data update, 11 Hydrogen Valleys, thereof 3 non-EU and 8 EU, were already operational. By 2030, this number could grow, as per current plans of the Hydrogen Valley project developers, to 73 with 59 being located in the EU. If these plans materialise, the aspirational target of having 50 Hydrogen Valleys operational or under construction as per 2024 European Commission Roadmap for Hydrogen Valleys[9] could be fulfilled.

This forward-looking timeline underscores both the ambition of the sector and the scale of the implementation effort that lies ahead.

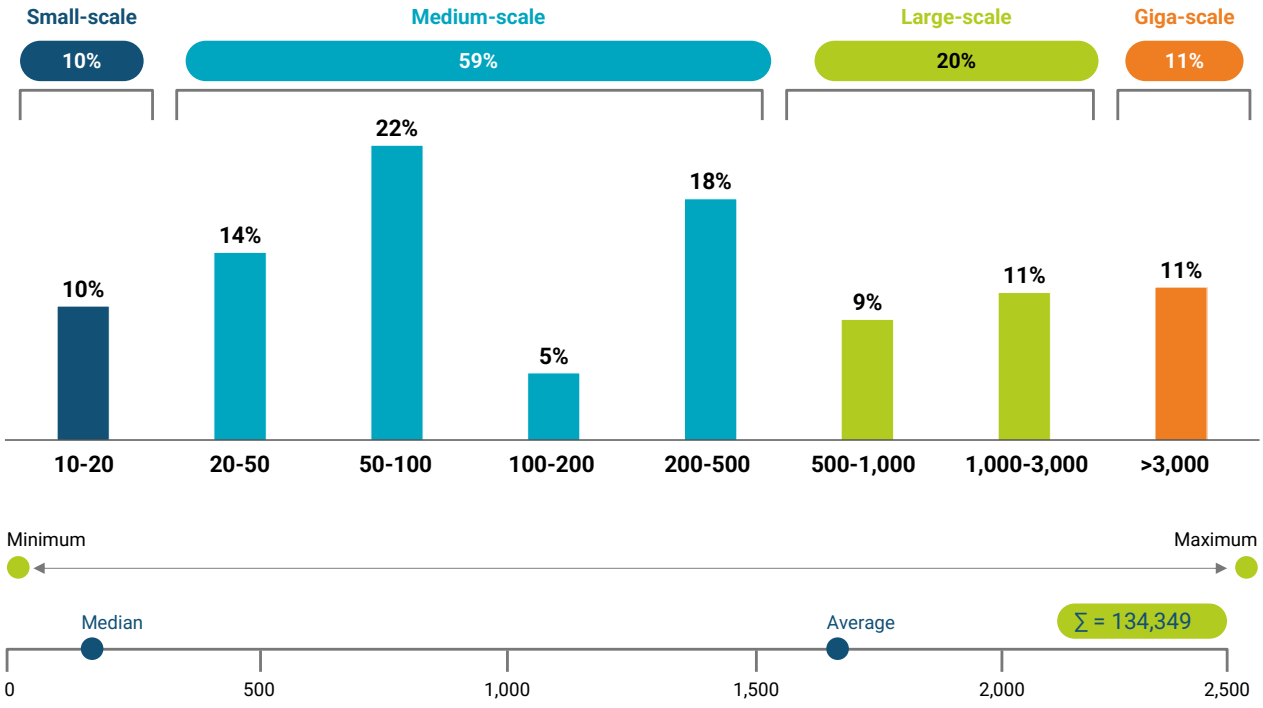
2.3.2 Investment and Financing

Investment volumes and CAPEX spent to date

The 2026 data reflects the considerable amount of investment committed across the Hydrogen Valley portfolio.

Aggregate planned CAPEX across all registered Valleys exceeds EUR 134 bn over project lifetimes - a figure that underscores the ambition and diversity of integrated hydrogen project development globally. This spans the full range of project archetypes from small mobility-focused initiatives investing in local electrolysis and refuelling infrastructure, to medium-scale industrial decarbonisation projects, through to large export-oriented Valleys covering renewable generation, gigawatt-scale electrolysis and hydrogen derivatives production.

FIGURE 10: **DISTRIBUTION OF INVESTMENT VOLUMES ACROSS HYDROGEN VALLEY PROJECT SIZES [EUR M] (N = 105)**



Investment volumes demonstrate substantial heterogeneity across the portfolio: While the median investment volume is EUR ~150 m, the average investment volume lies with EUR 1.7 bn far above, indicating the statistical influence of few giga-scale projects.

Small-scale Valleys with planned CAPEX of EUR 10–20 m represent approximately 10% of projects, typically corresponding to mobility-focused initiatives or demonstration projects serving crucial functions as proof-of-concept installations and regional ecosystem builders - projects such as HyBayern or eFarm are representative of this tier, combining local electrolyser

[9] EC SWD(2024) 159 final

capacity with hydrogen refuelling infrastructure for public transport and road mobility.

Medium-scale Valleys in the EUR 20–500 m range comprise roughly 59% of the portfolio and are by far the largest group of projects on the H2V Platform. They often represent industrial decarbonisation initiatives centred on specific anchor offtakers with electrolyser capacities of 20-100 MW. Projects such as REFHYNE 2, Orange-bat or HydrogER illustrate this category well, targeting the decarbonisation of refinery operations, island energy systems and industrial clusters respectively.

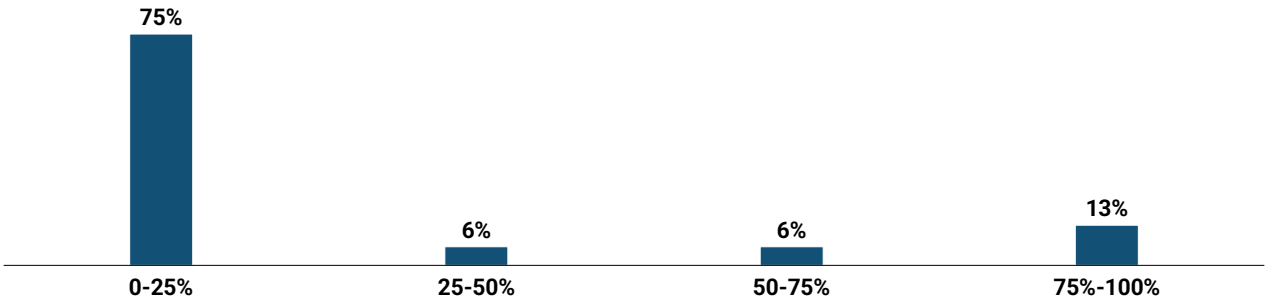
Large-scale Valleys with investments between EUR 500 m and EUR 3 bn account for approximately 20% of the portfolio. These projects typically combine industrial offtake with export ambitions and involve phased development approaches spanning multiple build-out stages. BotH2nia, Tajuña H2 and NORHyWAY are characteristic examples, each integrating renewable generation, large-scale electrolysis and multiple end-use sectors within a clearly defined regional scope.

The remaining 11% represents **giga-scale** Valleys exceeding EUR 3 bn. in planned investment, pursuing GW-scale production and export-oriented business models producing hydrogen derivatives such as ammonia or e-fuels. While primarily targeting international commodity markets with dedicated renewable energy infrastructure at an unprecedented scale, each of these Valleys also carries a distinct local ecosystem character, fostering regional industrial development and energy system integration. Projects such as NEOM, HyNA Hydrogen Valley, the Andalusian Green Hydrogen Valley and the green hydrogen projects in Brazil's Piauí region exemplify this archetype, targeting international commodity markets with dedicated renewable energy infrastructure at an unprecedented scale.

The overall project maturity of the Hydrogen Valley projects featured on the H2V Platform is strongly reflected in the **share of total planned CAPEX spent to date**. 75% of the Valleys indicated that they have spent up to 25% of their planned CAPEX volume, while only 13% of survey respondents reported a CAPEX spend of 75–100%.

CAPEX expenditure is a widely recognised proxy for project maturity, as each development phase carries distinct, verifiable cost commitments that cannot be made without completing the preceding phase. A CAPEX spend of 0–25% typically indicates that a project has not yet progressed beyond the FEED phase, with expenditure concentrated on desk studies, initial scoping, techno-economic assessments, site selection, conceptual engineering, cost benchmarking and equipment specifications. Once the FID has been taken and capital is fully committed, the project transitions into the construction and commissioning phase - the stage in which the substantial majority of total CAPEX is deployed.

FIGURE 11: **SHARE OF TOTAL CAPEX SPENT HYDROGEN VALLEY PROJECTS HAVE SPENT TO DATE [%] (N = 37)**



Financing sources and structures

As part of the H2V Platform data update, Hydrogen Valley developers were asked to indicate their main planned funding sources for the CAPEX investment. Out of the 106 Hydrogen Valleys on the H2V Platform, 80% responded to this question.

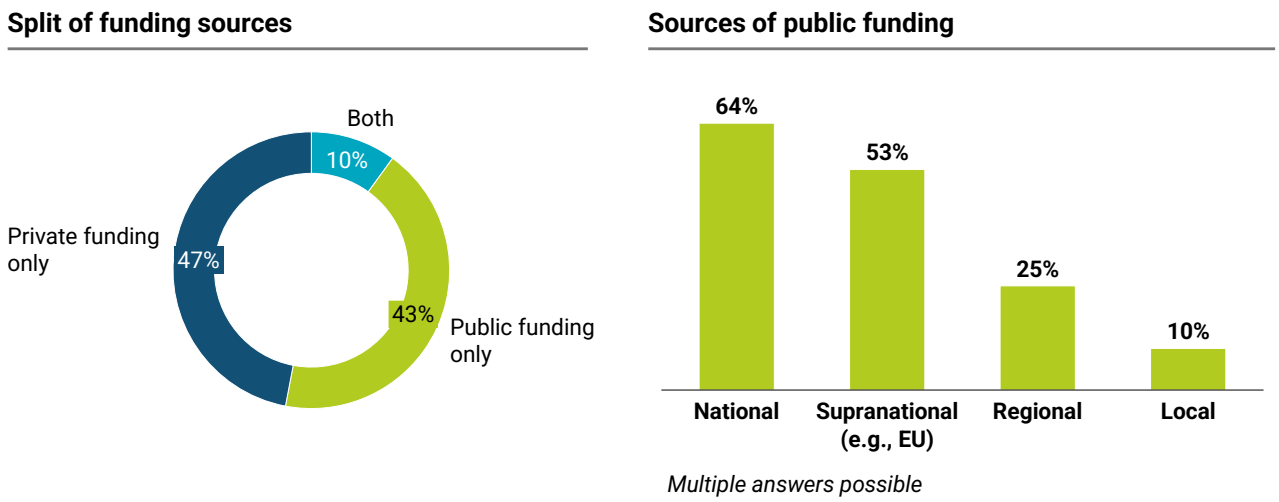
The data reveals a strong reliance on public funding across Hydrogen Valleys. The largest share of respondents (47%) plan to draw on both public and private funding sources, indicating a blended financing approach as the most common strategy. A further 43% of those Hydrogen Valleys that provided a response to this question intend to rely on public funding exclusively, bringing the total share of Hydrogen Valleys with public funding involvement to 90%.

By contrast, only 10% of respondents plan to finance their projects through private funding alone as per current planning.

These shares are largely the same across all project stages, with post-FID projects relying a bit more on a combination of private and public funding than more early-stage projects. These figures need to be interpreted, however, with caution as most projects on the H2V Platform are still early stage and have not yet developed a proper financing concept.

This distribution underscores the central role of public support in the Hydrogen Valley ecosystem in particular in early stages of development, while also highlighting that nearly half of all Valleys are actively pursuing private co-financing – a sign of growing market engagement and the sector's gradual shift towards more diversified funding models.

FIGURE 12: **DISTRIBUTION OF FUNDING SOURCES PLANNED ACROSS HYDROGEN VALLEYS [% OF RESPONDENTS THAT INDICATED THE RESPECTIVE FUNDING SOURCE][10] (N = 73)**



If public funding is received, there is a tendency to combine multiple sources of funding. National-level sources are the most commonly targeted, cited by 64% of respondents. Supranational funding — most notably EU instruments — follows closely at 53%, underscoring the important role of European-level programmes, including the funding by the Clean Hydrogen Partnership. Regional funding is planned by 25% of respondents, while local funding plays a comparatively minor role at 10%.

Taken together, the data highlights that Hydrogen Valley financing is predominantly anchored in public funding — particularly at the national and European level — with blended finance structures emerging as the most common approach. This reflects both the current capital intensity of hydrogen infrastructure and the continued necessity of public risk-sharing to mobilise private investment at scale.

2.3.3 Key project fundamentals along the hydrogen value chain

A defining characteristic of Hydrogen Valleys is their integrated coverage of the full hydrogen value chain - from renewable energy generation through to end-use delivery. This section analyses the key technical parameters reported by Valley developers across five areas: renewable energy sourcing, hydrogen production, storage, transportation and end use. The findings reveal both the diversity of approaches across the portfolio and the emerging patterns that characterise the current generation of Hydrogen Valley projects on the H2V Platform.

Renewable energy sourcing

Electricity sourcing is a foundational design choice for any Hydrogen Valley, directly shaping both the

[10] The percentages refer to the percentage of respondents that indicated that they use/plan to use this funding source based on a yes or no question.

economics and the regulatory compliance profile of hydrogen production.

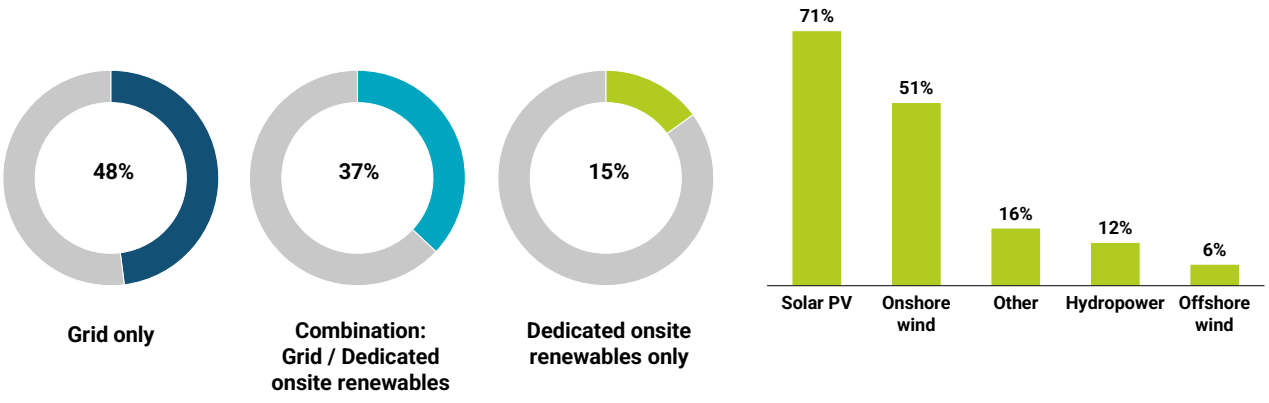
The H2V Platform data shows that **grid connectivity** is the dominant electricity sourcing pathway, with 48% of Valleys relying exclusively on grid supply. Grid-connected projects are particularly prevalent among smaller- and medium-scale initiatives located in industrialised regions with well-developed power infrastructure - where access to green Power Purchase Agreements (PPAs) offers a pragmatic and capital-efficient route to renewable electricity supply without the complexity of on-site generation assets.

In addition, 37% of projects combine grid connectivity with dedicated onsite renewable generation, reflecting a hybrid approach to electricity sourcing.

Approximately 52% of Valley respondents incorporate dedicated onsite **renewable energy generation** within their project boundaries (including both fully onsite dedicated renewables production and hybrid configurations, which combine onsite renewables and power supply from the grid). This approach is especially characteristic of larger-scale, export-oriented projects/ Valleys located in regions with exceptional renewable resources, such as southern Europe, South America and the Middle East where vertically integrated production models offer a structural cost advantage and support compliance with temporal and spatial matching requirements under frameworks such as RED III[11].

Zooming into the 52% of projects with dedicated onsite renewables, Solar PV is by far the most prevalent technology, specified in 71% of these projects, reflecting its cost competitiveness and geographic versatility across the portfolio. Onshore wind follows at 51%, most prominently in projects located in Northern Europe and coastal regions with strong wind resources. Hydropower features in 12% of cases, typically in projects in Scandinavia or mountainous regions where existing hydro assets can be leveraged as a dedicated or complementary power source. Offshore wind - despite its significant generation potential – is present in only 6% of projects with dedicated renewables, reflecting the higher capital requirements, longer development timelines and site-specific constraints associated with offshore development. Notably, many projects combine more than one renewable source, using technology complementarity to improve capacity factors, reduce curtailment risk and strengthen the overall bankability of their energy supply structure.

FIGURE 13: **RENEWABLE ENERGY SOURCING AND GENERATION TECHNOLOGIES [%] (N = 94)**

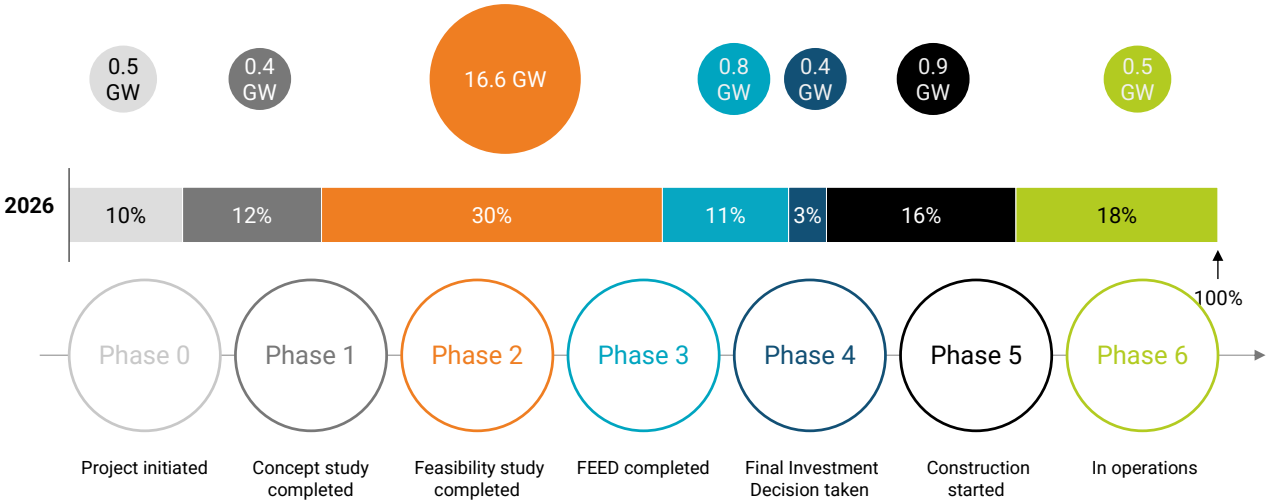


Electrolyser technology and capacity

The hydrogen production infrastructure planned across Hydrogen Valleys reflects both technological maturation and scaling ambition. The 2026 data reveals **aggregate planned electrolyser capacity exceeding 21 GW** across all registered Valleys, with individual project capacities spanning from single MW demonstration units to multi-GW production complexes.

[11] EU's Renewable Energy Directive (RED III)

FIGURE 14: **PLANNED ELECTROLYSER CAPACITY AND PROJECT STATUS [GW AND % OF HYDROGEN VALLEY PROJECTS][12] (N = 91)**

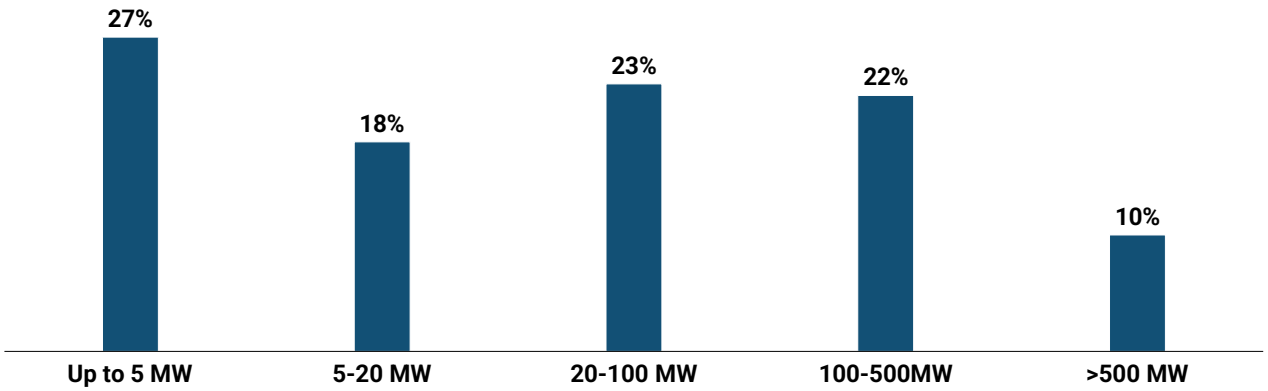


Δ of 1.1 GW without information on project status

The vast majority of this capacity is at planning or development stage - only 474 MW (2% of the total planned capacity of 21 GW) across 16 projects is currently operational, underlining that the bulk of the sector's production potential is yet to be realised.[13]

The electrolyser capacity distribution across the portfolio spans a wide range of scales:

FIGURE 15: **ELECTROLYSER CAPACITY RANGE [MW] (N = 59)**



Small-scale installations of up to 5 MW account for approximately 27% of Valleys, typically serving mobility applications or functioning as pilot and demonstration projects. Installations in the 5-20 MW range represent approximately 18% of projects, covering mobility-focused initiatives with broader regional reach and early industrial use cases.

Medium-scale installations between 20-100 MW represent about 23% of projects, corresponding to dedicated industrial decarbonisation initiatives with

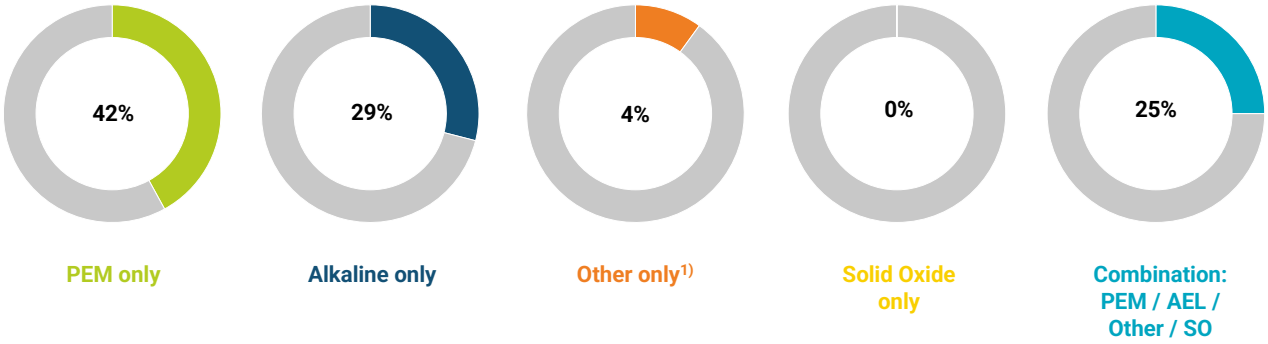
[12]Electrolyser capacity in phase 2 largely driven by Green Energy Park Piauí Hydrogen Valley in Brazil with announced electrolyser capacity of c. 10.2 GW.

[13] Out of the 16 Hydrogen Valleys on the H2V Platform that are operational, two indicated that they have multiple build-out stages, i.e., parts of their announced electrolyser capacity might not yet be fully operational.

anchor offtakers in sectors such as refining, chemicals or steel. Large-scale installations of 100-500 MW comprise roughly 22% of Valleys, functioning as multi-purpose hubs serving diverse offtake sectors.

At the upper end of the spectrum, very **large-scale** installations exceeding 500 MW - predominantly export-oriented projects targeting international hydrogen commodity markets that also have a local focus - account for approximately 10% of the portfolio.

FIGURE 16: **DISTRIBUTION OF ELECTROLYSER TECHNOLOGIES BY NUMBER OF PROJECTS [%] (N = 89)**



1) Anion Exchange Membrane (AEM) electrolyser or Hydrogen Valley not yet decided for an electrolyzer technology

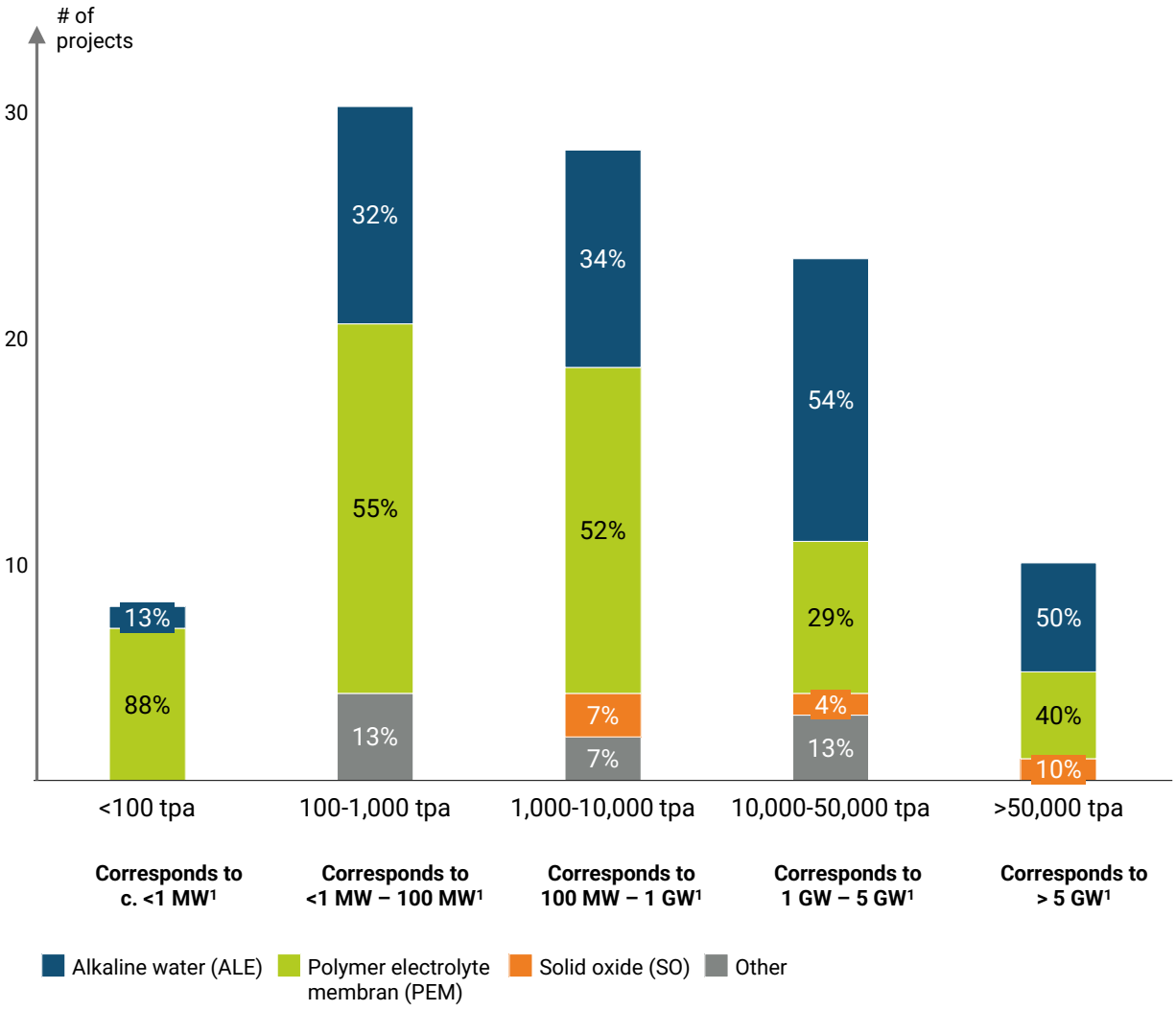
When examining electrolyser hydrogen production capacity in relation to **technology choice**, clear patterns emerge. Polymer Electrolyte Membrane (PEM) electrolysers are the most frequently deployed single-technology solution, present in approximately 42% of Valleys.

PEM is particularly prevalent in the small and medium-scale tiers (88% of projects under 100 tpa and 55% of projects between 100 and 1,000 tons per annum of hydrogen production volume use PEM), where its advantages in dynamic operation, compact footprint and compatibility with variable renewable electricity supply make it the preferred choice for grid-connected and mobility-focused installations.

Alkaline Electrolysis (AEL) follows, with 29% of projects relying solely on alkaline technology and is the dominant technology in the large- and giga-scale tiers (54% of projects between 10k and 50k tons per annum of hydrogen production use alkaline technology). Lower capital costs per MW, established supply chains and a proven track record at scale make AEL the technology of choice for the export-oriented projects that drive the upper end of the capacity distribution - explaining why the average installation size for AEL projects is substantially larger than for PEM.

Solid Oxide Electrolysis (SOE) is not deployed as a standalone technology. However, approximately 6% of all Valleys include SOE within a combination of technologies, attracting interest for specific industrial applications where high efficiency and potential heat integration offer a technical advantage. Its deployment remains limited and typically confined to hybrid configurations, reflecting the current state of commercial availability and smaller installation sizes. 25% of Valleys deploy a combination of technologies.

FIGURE 17: **TECHNOLOGY SPLIT OF ELECTROLYSERS BY HYDROGEN PRODUCTION VOLUME [# OF PROJECTS] (N = 85)**



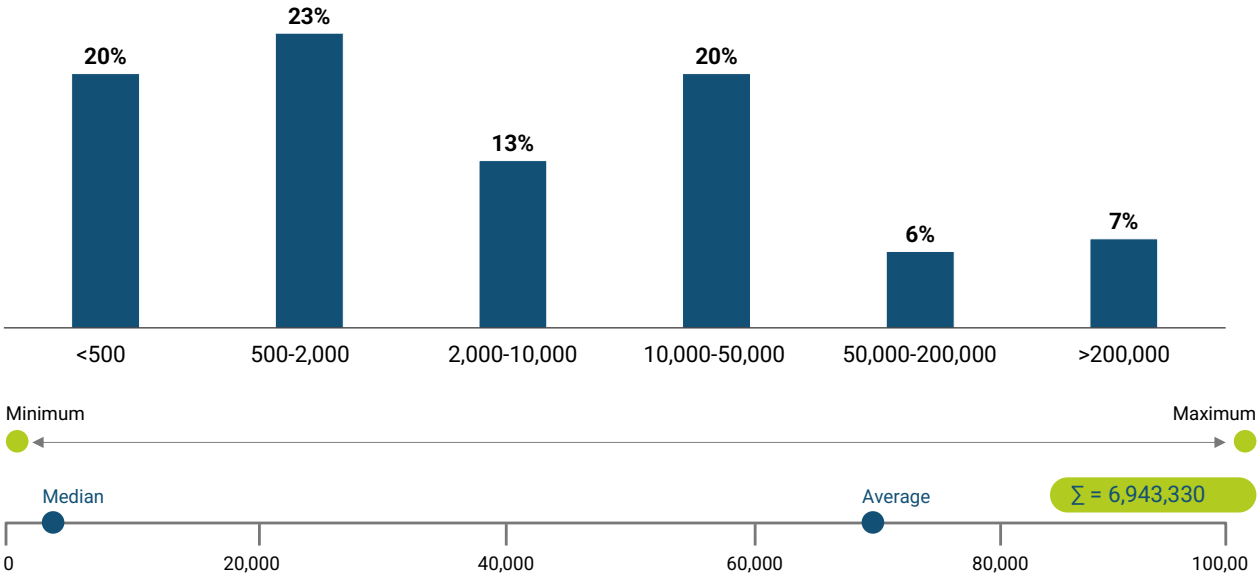
1) Assuming an electrolyser load factor of 60%

Planned hydrogen production volume

The planned production volumes demonstrate corresponding ambition. Hydrogen Valleys report a planned hydrogen production ranging from under 500 tonnes per year for small demonstration projects to over 200,000 tonnes annually for the largest export-oriented initiatives. The median planned production volume is approximately 2,000 tonnes per year, reflecting the scaling trend across the portfolio. In total, the Hydrogen Valleys tracked on the platform plan to produce 6.9 million tonnes of hydrogen per year at their final build-out stages.

Hydrogen colour distribution is overwhelmingly green, with over 96% of Valleys pursuing renewable hydrogen production pathways.

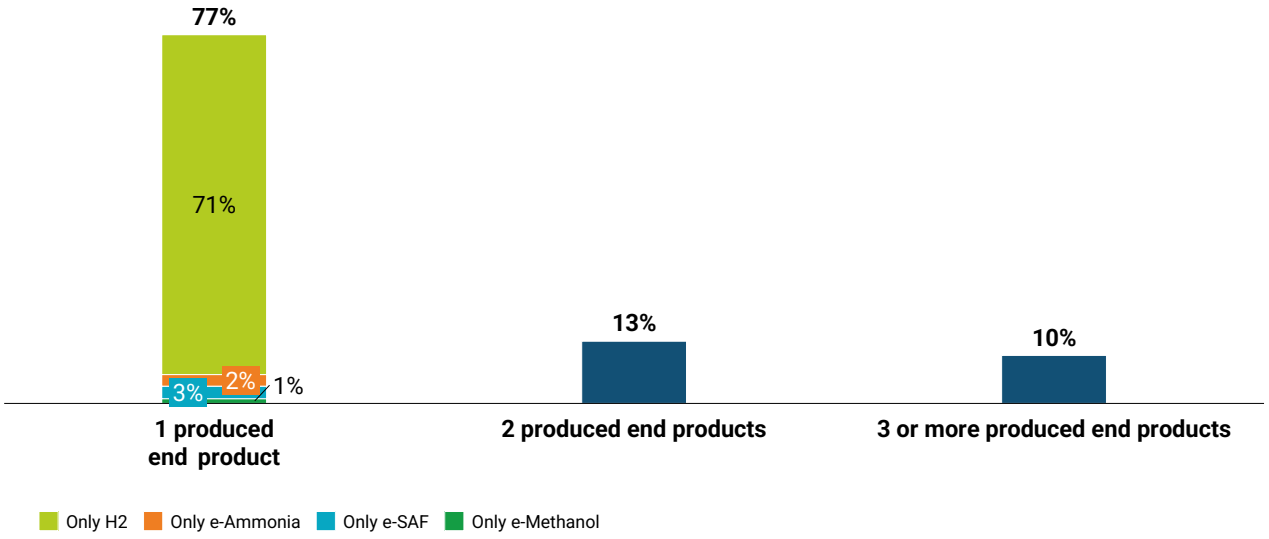
FIGURE 18: **HYDROGEN PRODUCTION VOLUME [TONS/YEAR] (N = 95)**



Hydrogen end products

The end product focus across Hydrogen Valleys is clear: the large majority of projects centre on hydrogen as their single primary output. 76% of Hydrogen Valleys produce only one end product – mostly hydrogen itself - while a further 13% produce two end products, typically pairing hydrogen with a derivative such as ammonia or e-SAF. Multi-product configurations covering three or more outputs are rare across the portfolio, reflecting a pragmatic project design philosophy that prioritises simplicity and offtake clarity in the development phase.

FIGURE 19: **NUMBER OF PRODUCED END PRODUCTS IN HYDROGEN VALLEYS [%] (N = 94)**



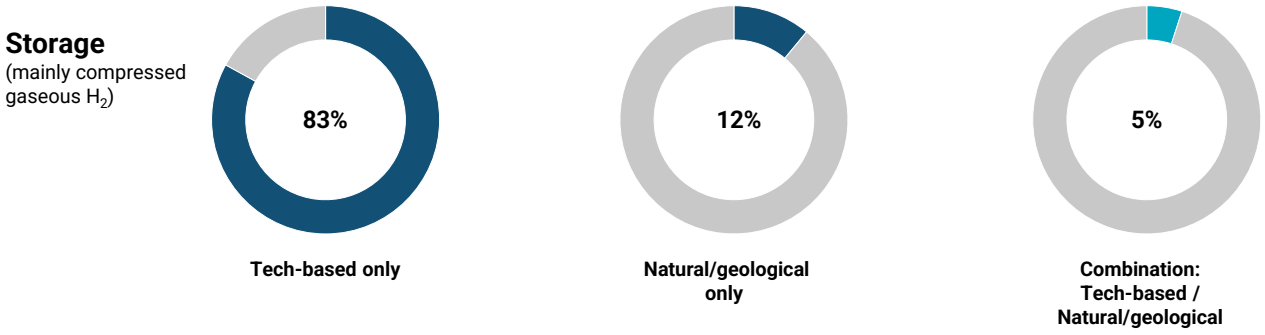
Beyond pure hydrogen, a range of derivative products feature across the portfolio. Green ammonia is planned in approximately 13% of Valleys (e.g., NEOM), both as a standalone product and part of multi-product configurations, predominantly in large- and giga-scale export-oriented projects targeting fertiliser markets and shipping fuel applications. E-methanol features in roughly 12% of Valleys (e.g., HiWHyV - High Coast to West Coast Hydrogen Valley), with projects targeting shipping fuel and chemical feedstock markets. Sustainable Aviation Fuel (e-SAF) is present in approximately 14% of projects (e.g., Galileu and Tajuña H2), driven by aviation sector decarbonisation mandates and the relatively tractable logistics of liquid fuel distribution. The presence of these derivatives reflects a broader market logic: hydrogen derivatives offer more manageable transportation and storage characteristics than pure hydrogen, enabling access to established commodity markets and global trade routes - particularly relevant for the export-oriented Valleys that dominate the large- and giga-scale tiers of the portfolio.

Hydrogen storage

Storage solutions are specified in approximately 76% of Hydrogen Valleys, reflecting the central role of storage in enabling flexible, reliable hydrogen supply across integrated value chains.

Tank-based compressed gas storage - typically in cylinders or pressure vessels - is the most prevalent single solution, present in roughly 83% of all Valleys and particularly common in smaller- and medium-scale projects serving mobility and local industrial offtake. Underground or geological storage, primarily in salt caverns, features in approximately 12% of surveyed projects relying on natural storage only, concentrated among larger-scale Valleys with high production volumes and a need for seasonal or strategic buffer capacity. Derivative storage - covering ammonia, e-methanol, liquid hydrogen and liquid organic hydrogen carriers (LOHCs) - is specified in a share of export-oriented projects where the storage and transport characteristics of hydrogen derivatives offer a practical advantage over compressed or liquefied hydrogen.

FIGURE 20: **TYPES OF HYDROGEN STORAGE SOLUTIONS [%] (N = 76)**



Hydrogen transportation

Transportation infrastructure across the Hydrogen Valley portfolio covers a range of modalities, reflecting the diversity of project scales, geographies and offtake structures. Trucking via tube trailers is the most widely specified transport mode, reported by 38% of Valleys (trucking only). Pipeline transport is specified in 22% of projects (pipeline only) and shipping in approximately 2% (shipping only), with a further share of projects reporting other transport modalities - including distribution via liquid hydrogen tankers, LOHC transport and direct on-site delivery to co-located industrial consumers. A further 38% of Valleys combine multiple transport modes, with the majority of these configurations consisting of a combination of trucking and pipeline solutions, reflecting the need to connect local distribution with emerging pipeline infrastructure and enable flexibility across different offtake points.

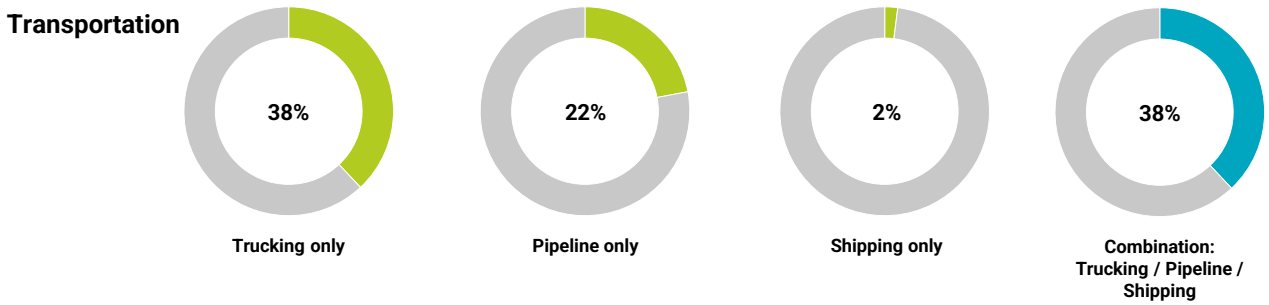
Looking at each transport mode in more detail reveals a pattern that the mode of transport and logistics tend to be correlated with the project size: Among the Valleys specifying trucking, tube trailer transport is predominantly associated with smaller- and medium-scale projects serving dispersed mobility or industrial offtake points where pipeline infrastructure is not yet available.

Among the Valleys specifying pipeline transport, approaches vary significantly. Other projects are developing dedicated local or regional pipeline

infrastructure, either as standalone assets or as feeders into future backbone networks. Reported pipeline lengths across the portfolio range from 0.5 km up to 1000 km, reflecting the spectrum from intra-site connections to inter-regional transport corridors. The longest pipelines are predominantly planned by Valleys in the Nordics and in France and Germany. These large-scale connections are most likely not dedicated hydrogen pipelines, as the respective projects indicated that their transport infrastructure will form part of national or European hydrogen network buildouts rather than standalone assets.

Among Valleys specifying vessel-based shipping as hydrogen transportation pathway, projects are large- or giga-scale export-oriented initiatives located in regions with favourable renewable resources. Shipping modalities include ammonia, liquid hydrogen, e-methanol and LOHC transport.

FIGURE 21: **TYPES OF TRANSPORTATION PATHWAYS [%] (N = 90)**



Hydrogen end uses

Hydrogen Valleys demonstrate their value by serving multiple end-use sectors simultaneously, showcasing hydrogen's versatility as an energy carrier and industrial feedstock. The vast majority of Hydrogen Valleys that responded to the survey serve at least one end-use sector, i.e., mobility, industry and/or energy.

Mobility is the most frequently targeted end-use sector, cited by approximately 83% of all Hydrogen Valleys. Road mobility - encompassing cars, trucks and buses - dominates this category, present in roughly 90% of mobility-focused Valleys. These Valleys frequently report plans for hydrogen refuelling stations operating at both 350 bar and 700 bar pressures.

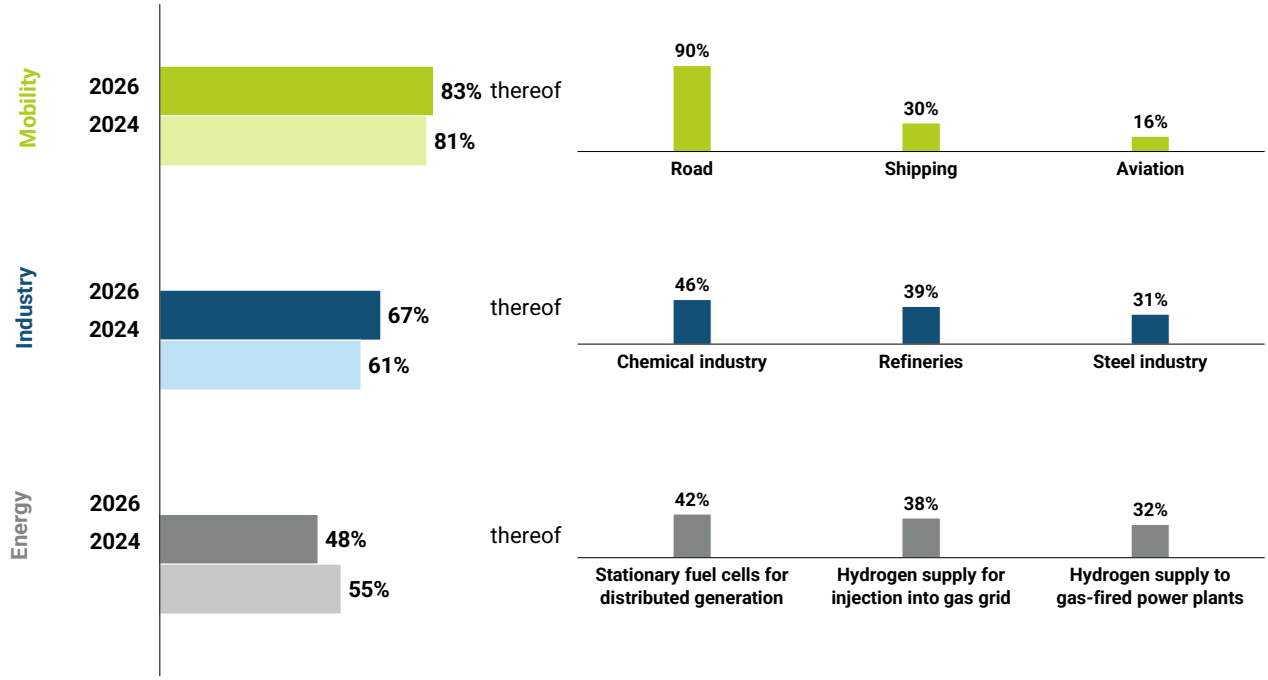
Maritime and shipping applications are featured in approximately 30% of Valleys. Applications range from port equipment and harbour vessels to inland shipping and ferry services, with several Valleys explicitly targeting bunkering infrastructure for ocean-going vessels using ammonia or methanol. Aviation represents an emerging frontier at approximately 16% of Valleys, spanning airport ground support equipment and regional aircraft operations.

Industrial end uses in which hydrogen is used as a feedstock are specified in approximately 67% of Hydrogen Valleys, reflecting the critical role of hard-to-abate sectors in driving clean hydrogen demand. Chemical and petrochemical industries represent the largest industrial offtake category at roughly 46% of Valleys, including ammonia production, methanol synthesis and replacement of grey hydrogen in existing processes. Refining applications feature in approximately 39% of Valleys, while steel production via hydrogen-based direct reduced iron appears in about 31% - offering particularly high-volume offtake potential.

Energy applications feature in approximately 48% of Valleys. Gas grid injection and blending appear in roughly 38%, providing flexible offtake while enabling utilisation of existing infrastructure. Stationary fuel cells for distributed power generation feature in approximately 42%, while hydrogen use in gas-fired power generation and district heating round out the energy portfolio.

Comparing end-use trends between 2024 and 2026, the overall sectoral mix has remained broadly stable, with mobility holding near-constant at around 81-83% of Valleys. The most notable shift is the increased integration of industrial applications, which rose from 61% in 2024 to 67% in 2026, reflecting a growing focus on hard-to-abate sectors as anchor offtakers. Energy applications, by contrast, declined from 55% to 48%.

FIGURE 22: END USES [% OF RESPONDING VALLEYS WHICH SERVE THE RESPECTIVE END USES] (N = 105)



Multiple answers possible

3

Advancing Hydrogen Valleys towards Final Investment Decision – Challenges, success factors, and needs for action

3 Advancing Hydrogen Valleys towards Final Investment Decision – Challenges, success factors, and needs for action

Reaching a FID is the defining milestone in any Hydrogen Valley project's journey – and yet, in a market environment defined by cost pressure, regulatory uncertainty and the persistent challenge to find binding offtake, taking an FID is a challenging endeavour.

This chapter brings together first-hand insights from a market sentiment survey conducted among Hydrogen Valley practitioners and translates the findings into actionable recommendations for developers, investors and policymakers.

3.1 The voice of Hydrogen Valleys: Market sentiment, challenges, and success factors

With the April 2026 data update, for the first time, a market sentiment survey among all Hydrogen Valley project developers was conducted.

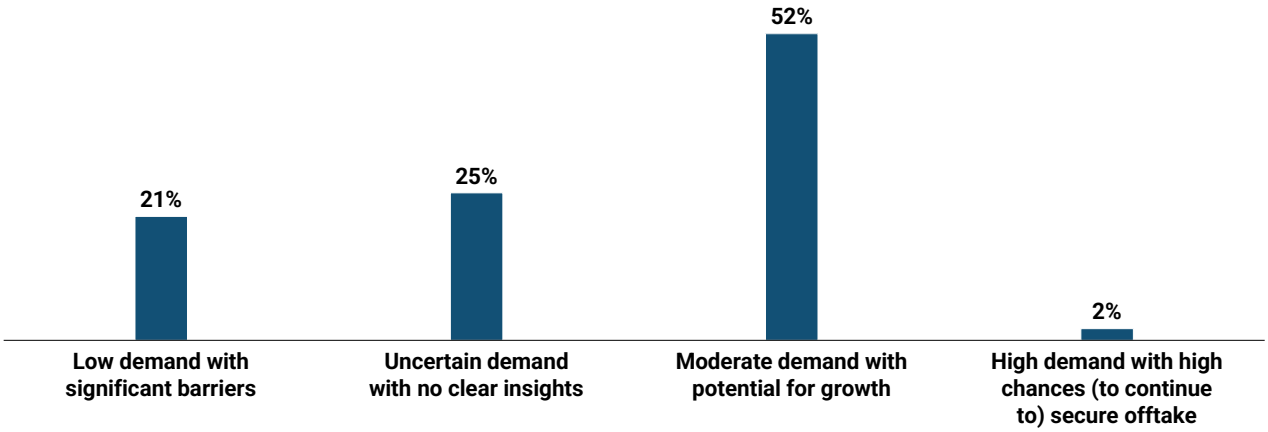
This survey captures an up-to-date perspective on the perception and hydrogen project fundamentals, including on the project status and recent development activities, anticipated cost of production and expected willingness-to-pay, sector outlook and demand perception including their influencing factors, and success factors relevant for FID.

Most Hydrogen Valleys expect moderate market demand

Understanding how project developers assess market demand in their respective regions is a critical indicator of commercial viability and investment readiness for any Hydrogen Valley project. Regional demand is shaped by local industrial offtake potential, policy frameworks and offtaker readiness and directly influences Hydrogen Valley project sizing, revenue assumptions, and ultimately the bankability of a project.

Given the rapidly evolving hydrogen market landscape, up-to-date demand assessments are essential to ensure that project strategies remain aligned with current market realities.

FIGURE 23: **ASSESSMENT OF REGIONAL MARKET DEMAND FOR HYDROGEN SOLUTIONS [%] (N = 56)**



In terms of regional market demand for hydrogen, the market sentiment survey reveals a mixed picture with respondents being cautiously optimistic, yet marked by considerable uncertainty. The dominant response (52%) reflects an expectation of moderate demand with potential for growth, suggesting that the majority of project developers see a viable commercial pathway ahead, albeit one that has not yet fully materialised.

This is a constructive signal for the sector, as it indicates that most projects are being developed against a backdrop of emerging, rather than absent, demand.

In contrast to that, 25% report uncertain demand with no clear visibility on how the market will develop, pointing to a structural challenge in the hydrogen sector: the difficulty of anchoring investment decisions to reliable offtake signals. A further 21% even anticipate low demand accompanied by significant barriers, citing challenges such as cost competitiveness gaps, insufficient infrastructure, and a lack of demand-side policy support as key obstacles to market uptake. Taken together, these two groups represent nearly half of all respondents — underscoring that demand uncertainty remains one of the most critical risks facing Hydrogen Valley projects today.

At the other end of the spectrum, only 2% of respondents expect high demand with strong offtake potential, confirming that mature, bankable demand pipelines remain the exception rather than the norm across the global Hydrogen Valley community at this stage of market development.

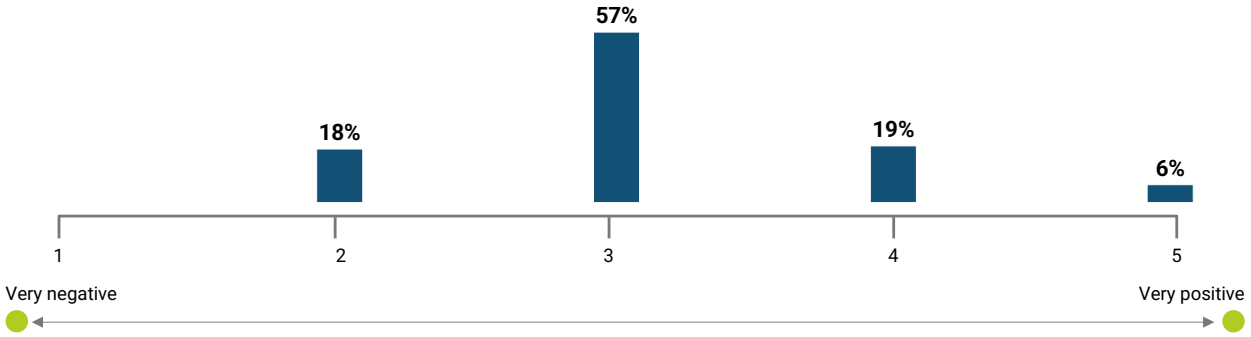
Cautious optimism regarding current hydrogen project development

Via the market sentiment survey, Hydrogen Valley practitioners have been asked to provide on a scale from 1 to 5 their current perception from very negative to very positive on the development of hydrogen projects in general in their region. This indicator is a critical determinant of the local project development conditions, as it directly shapes market confidence and stakeholder support.

Most Hydrogen Valleys (57% of respondents) currently see the project environment neither overly positive nor overly negative, reflecting a regional environment where hydrogen is neither strongly embraced nor actively opposed, but rather met with a degree of neutrality or wait-and-see attitudes. This is consistent with broader findings across the hydrogen sector, where public awareness remains high but in-depth understanding of the technology and its benefits is still limited, making it difficult for strongly positive perceptions to take hold. Encouragingly, a combined 25% of respondents rated the regional perception as positive, assigning a score of 4 or 5. This signals that a meaningful share of projects are operating in regions where stakeholder sentiment is genuinely constructive. On the other end of the scale, 18% of respondents rated the regional perception at 2, indicating the presence of notable scepticism or barriers to acceptance in certain regions.

Overall, the distribution underscores that while the sentiment landscape is broadly constructive, significant work remains to shift neutral perceptions towards active support, particularly through policy implementation and funding opportunities as well as the demonstration of tangible local benefits.

FIGURE 24: **CURRENT PERCEPTION ON HYDROGEN PROJECTS IN GENERAL [% OF RESPONDENTS] (N = 56)**



When being asked about the underlying factors that influence the perception of hydrogen project development in their regions, the market sentiment survey indicates that major driving forces are external market and policy factors. Internal technical or industrial challenges received much lower scores, underscoring the urgency of addressing demand creation, regulatory certainty and geopolitical risk management as the priority levers for unlocking a more positive and investable hydrogen project environment.

Market demand (68%) is for Hydrogen Valley survey respondents the single most influential factor, pointing to a defining trend: as long as demand signals remain weak or unclear, overall project sentiment will continue to be constrained, making demand-side measures the most impactful lever for improving perception.

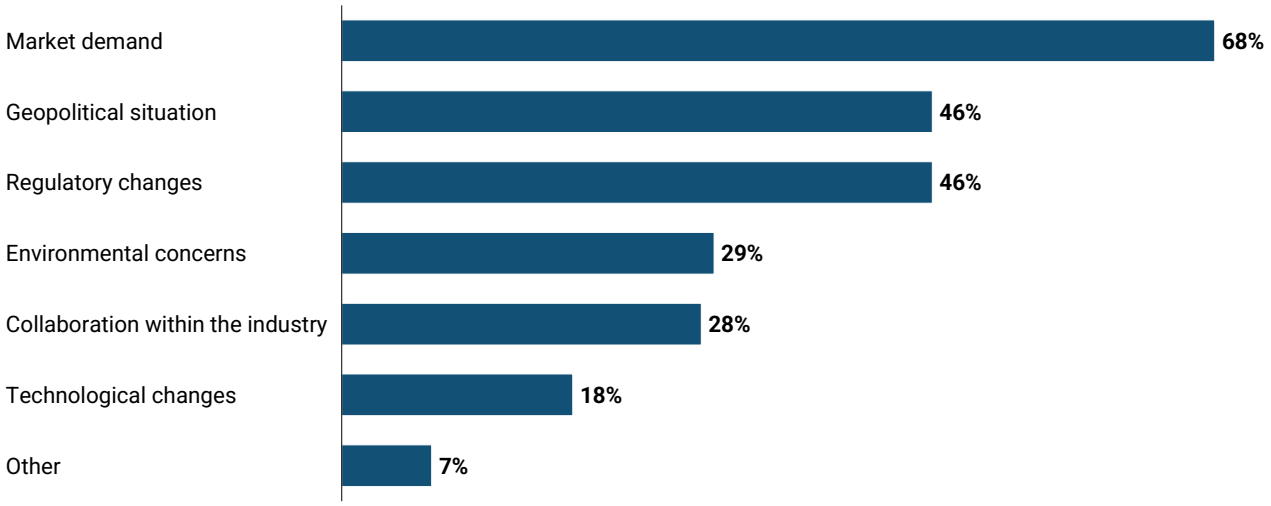
Geopolitical situation and regulatory changes are cited equally by 46% of respondents, reflecting that regulatory stability and geopolitical predictability are

now perceived as inseparable prerequisites for healthy project development conditions.

Environmental concerns (29%) and industry collaboration (28%) rank closely together, indicating that sustainability credentials and ecosystem partnerships are increasingly recognised as enablers of social license and commercial viability on the path to FID.

Technological changes rank lowest at 18%, confirming that technology risk has receded as a primary concern, and that the main barriers to hydrogen project development are now commercial, regulatory, and geopolitical in nature.

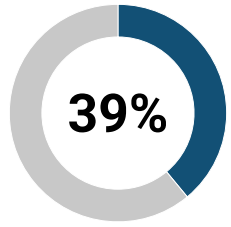
FIGURE 25: **FACTORS THAT INFLUENCE MARKET PERCEPTION [% OF RESPONDENTS], MULTIPLE ANSWERS POSSIBLE (N =**



Project delays reflecting widespread uncertainties

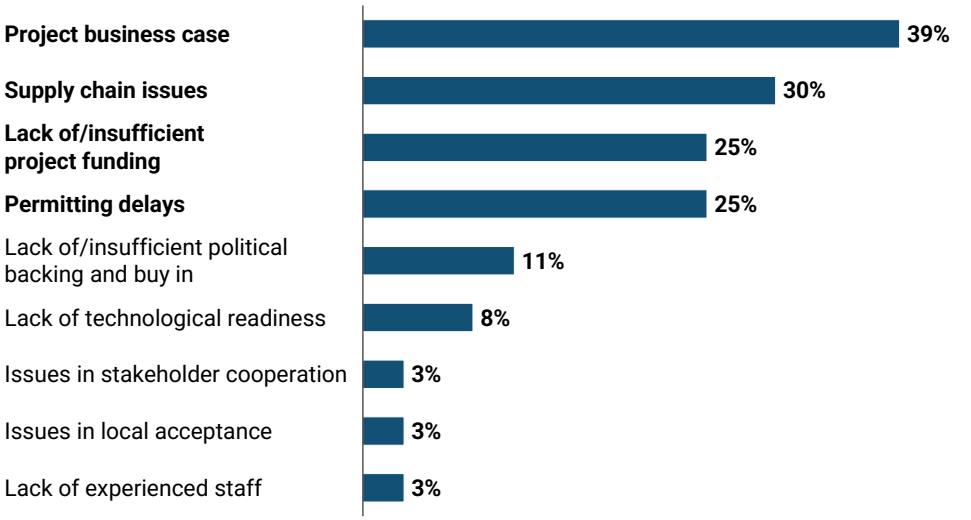
The described market demand, geopolitical and regulatory factors seem to partially translate into project delays. 39% of surveyed projects experience project delays as compared to their original planning – a reality the sector acknowledges openly.

FIGURE 26: **SHARE OF PROJECT DELAYS AND REASONS FOR PROJECT DELAYS [% OF RESPONDENTS] (N = 93)**



of surveyed projects experience project delays

Reasons for project delays



Multiple answers possible

Among those affected, the most frequently cited reasons are challenges around the project business case (39% of delayed projects), supply chain issues (30%), insufficient project funding from both private and public sources (25%) and delays in permitting and authorisation procedures (25%). This distribution suggests that the primary bottlenecks are commercial and financial in nature - a useful signal for where targeted non-financial support can have the greatest impact.

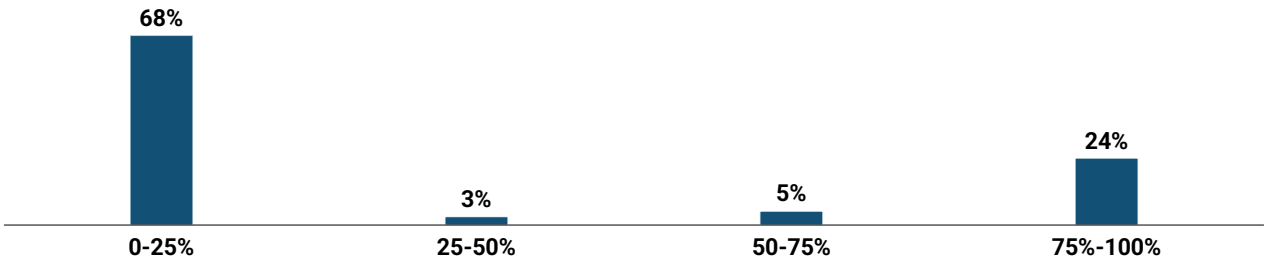
Offtake discussions in early stages for most Hydrogen Valleys

The project business case is closely tied to offtake commitments as the key revenue stream. As such, offtake is the make-or-break condition for Hydrogen Valley business cases.

In terms of binding offtake commitments, most Hydrogen Valleys (68%) have not yet secured considerable offtake commitments for their hydrogen production volumes, underscoring that the majority of projects are still in early-stage commercial development.

A combined 8% of respondents have secured between 25-75% of their offtake, pointing to a near-absent middle ground between projects with minimal offtake and those with near-full coverage. 24% of respondents, including the projects already operational, report a secured offtake share of 75% and more, representing the commercially most advanced cohort on the H2V Platform.

FIGURE 27: **SHARE OF HYDROGEN PRODUCTION VOLUME FOR WHICH BINDING OFFTAKE HAS ALREADY BEEN SECURED [% OF RESPONDENTS] (N = 72)**



More than 50% expect a hydrogen production cost of above EUR 6 per kg hydrogen

The anticipated, i.e., planned, hydrogen production cost distribution across the Hydrogen Valley projects on the H2V Platform shows that the majority of projects are targeting cost ranges that remain above the current market competitiveness thresholds, with 58% of respondents expecting an LCoH above EUR 6 per kg hydrogen.

This is broadly consistent with global green hydrogen cost benchmarks, with only the most optimal project configurations in high-renewable-resource regions being able to achieve the lower end of LCoH estimates. Looking ahead, costs are expected to decline by the mid-2030s, driven by falling renewable energy prices, electrolyser learning rates, and economies of scale, while instruments such as the EU Hydrogen Bank and carbon pricing mechanisms can play a critical bridging role in the interim period.

The expected hydrogen production cost varies considerably among survey respondents.

The largest cohort (34%) anticipates a LCoH of EUR 4–6 per kg, making these projects the most likely candidates for near-term bankability. A further 24% expect a LCoH of EUR 6-8 per kg hydrogen, reflecting higher electricity costs or less favourable renewable resource profiles.

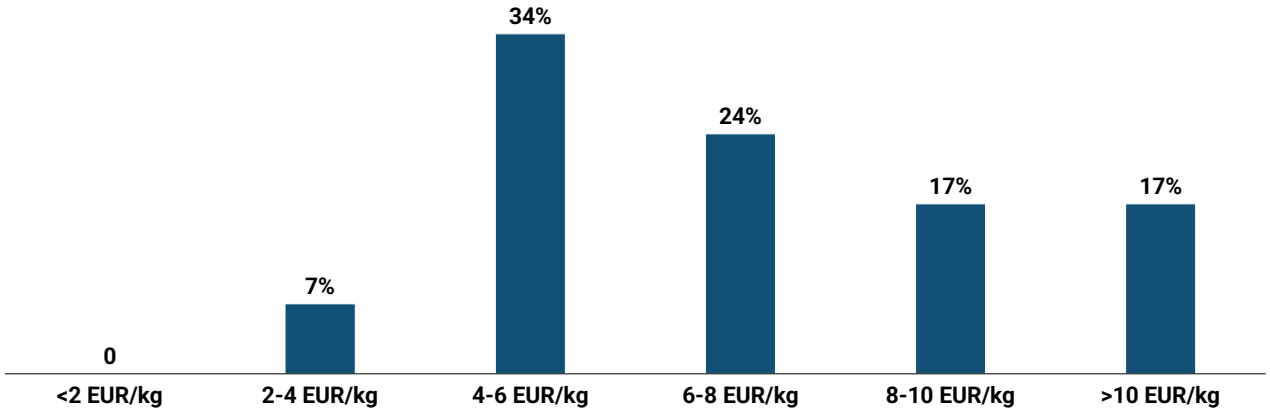
A combined 34% anticipate costs of EUR 8 per kg or above, pointing to projects at earlier development stages or in structurally less competitive locations.

Only 7% anticipate a LCoH of EUR 2-4 per kg, the long-term competitiveness threshold, indicating that this target remains aspirational for the vast majority of projects under current conditions.

It should be noted that many Hydrogen Valley projects on the H2V Platform are still in early stages of development, where anticipated H2 production costs remain highly preliminary. Furthermore, many projects

with foreseen COD in the late 2020s and early 2030s expect significant technology cost reductions from learning rates and economies of scale which are already factored into their H2 production cost projections but remain highly uncertain. The figures do not include transportation costs to the end users, which need to be taken into account when comparing H2 production cost vs. offtakers' willingness to pay.

FIGURE 28: EXPECTED HYDROGEN PRODUCTION COST OF HYDROGEN VALLEY PROJECTS [% OF RESPONDENTS FOR COST RANGES IN EUR PER KG HYDROGEN] (N = 41)

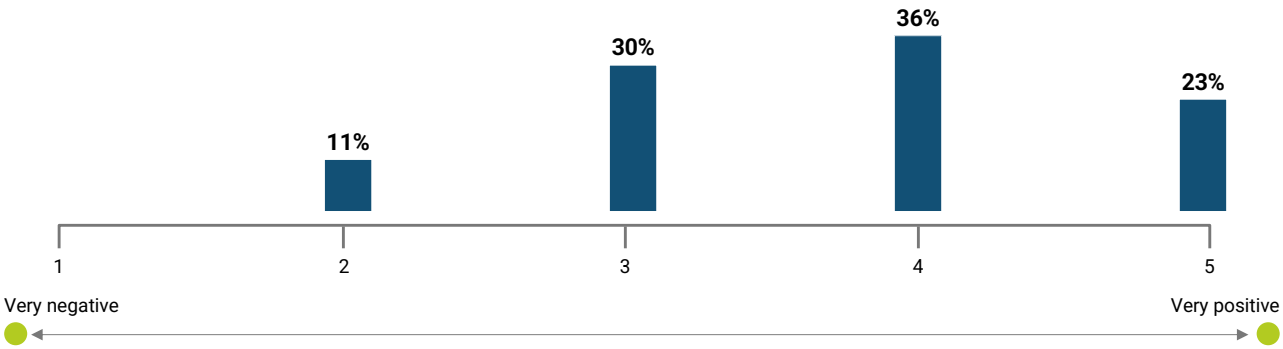


Overall, strong confidence in hydrogen as a long-term solution

While the current market sentiment amongst Hydrogen Valley practitioners is rather mixed, they display a strong confidence in hydrogen as a long-term solution: c. 59% of respondents are positive or very positive regarding its long-term viability.

This reflects that the foundational belief in the strategic role of hydrogen remains robust, even where near-term project conditions are challenging.

FIGURE 29: LEVEL OF CONFIDENCE OF HYDROGEN PROJECTS BEING A LONG-TERM ENERGY SOLUTION [% OF RESPONDENTS] (N = 56)



The differing ratings between the current and the long-term view expressed in this market sentiment survey clearly point towards a pattern that today's neutrality and hesitancy are largely a reflection of present-day barriers such as demand uncertainty, regulatory gaps and infrastructure immaturity, rather than a lack of belief in hydrogen's fundamental value proposition.

This distinction is critical: it suggests that improving near-term project conditions via policy support, demand creation, and financing mechanisms has the potential to convert latent long-term conviction into active investment commitment.

Key success factors to bring hydrogen projects to FID

Maturing Hydrogen Valley projects to FID while navigating the current market conditions is the precondition for any future operational project, however, is for most projects a highly complex endeavour.

Hydrogen Valley practitioners point to a variety of success factors that need to be present in combination.

Regarding their relevance, the responses can be clustered into three categories.

Commercial and financial foundations, i.e., long-term market demand, and access to funding and financial incentives are considered by survey respondents as the non-negotiable foundation for any project seeking to reach FID.

Interestingly, long-term market demand was considered more relevant than securing offtake when it comes to taking FID. This could potentially underpin the perception that long-term demand is seen as a precondition for offtake as it signals general confidence in the market and enhances the credibility of individual offtake agreements.

FIGURE 30: **SUCCESS FACTORS RELEVANT TO BRING HYDROGEN PROJECTS TOWARDS FID (AVERAGE RESPONSES) (N = 57)**

Ranked closely thereafter, the **enabling conditions** are considered to have high relevance. Regulatory and governmental support and strategic project planning are identified as the critical enablers that convert a commercially viable concept into a bankable proposition.

The **contextual factors**, i.e., location and infrastructure, stakeholder partnerships, technological readiness, and environmental impact are collectively rated as supporting rather than determining factors for FID. The relatively lower ranking of technological readiness is consistent with the broader survey finding that technology risk has receded as hydrogen production technologies have matured, thereby confirming that the main barriers are now commercial and regulatory rather than technical.

3.2 What Hydrogen Valley developers can do: Driving project development effectively

Hydrogen Valley developers are at the forefront of making clean hydrogen ecosystems happen on a local or regional level.

In the current state of the hydrogen market where the pathway to FID is still challenging – as shown in the market sentiment survey - , project developers can contribute with five success factors to make Hydrogen Valley projects happen:

- Build a strong and sustainable revenue base with strong anchor offtakers
- Unlock additional revenue streams beyond hydrogen sales
- Drive down the project costs to a viable level via techno-economic optimisation
- Ensure investment readiness from the very start of the development
- Build an integrated ecosystem along the entire value chain – Embedding the Valley effect

Build a strong and sustainable revenue base with strong anchor offtakers

A strong and sustainable revenue base can best be unlocked with a strong anchor offtaker. Hydrogen Valleys that are integrated with energy-intensive industrial sites occupy a stronger position in the market than standalone hydrogen production projects. Refineries, ammonia producers, and steel manufacturers bring three qualities that matter enormously at the development stage:

- Scale and credibility — they consume large, verifiable hydrogen volumes that provide a solid commercial foundation for your project
- Regulatory obligation — refineries, for example, face binding RFNBO[14] procurement requirements under RED III, meaning their demand is binding rather than aspirational
- Financial standing — their track record and balance sheet make them the type of counterparty that lenders find genuinely bankable

Developers should therefore prioritise engaging these industrial anchors from the pre-FEED stage onwards — not as a commercial courtesy, but as a structuring decision. Early engagement allows to align logistics, delivery specifications, and contractual terms before your engineering design is fixed, avoiding costly retrofits later in the process.

The value of a confirmed anchor offtaker also extends well beyond the volume it directly contributes. A signed framework agreement or heads of terms with a credible industrial buyer sends a powerful signal to the rest of the market — it validates your demand thesis to secondary offtakers who would otherwise wait for proof of commercial traction, and it gives lenders the evidence of real, committed demand they need to progress due diligence with confidence.

Unlock additional revenue streams beyond hydrogen sales

Most hydrogen projects today plan to rely or already rely almost entirely on hydrogen sales — a model that leaves them exposed to price pressure and volume shortfalls. In a market where offtake prices are still being negotiated and demand has yet to consolidate, this single-revenue dependency is unlikely to satisfy institutional lenders and equity investors.

Hydrogen Valley developers should therefore actively identify and contract for additional revenue sources beyond the sales of H2 wherever commercially and technically viable. These can include:

- **Grid and ancillary services** using power arbitrage– With battery energy storage systems (BESS), electricity can be purchased when prices are low and sold when prices are high.
- **Capacity remuneration mechanisms** – Receiving payments for making generation or flexibility capacity available to the grid.
- **Sales of by-products of H2 production**, including O2

Where developers choose to pursue grid and ancillary services as an additional revenue stream, this has direct design implications: electrolysers must be built with the operational flexibility — including fast ramp-up capability, defined minimum stable load thresholds, and appropriate control architecture — to qualify for and participate in these markets.

[14] RFNBO: Renewable Fuels of Non-Biological Origin

Hydrogen Valley projects that can credibly model and contractually secure revenues from multiple sources alongside hydrogen sales are significantly more attractive to investors. Diversified income reduces revenue concentration risk, strengthens debt service coverage ratios, and opens the project to a broader range of financing options.

Drive down the project costs to a viable level via techno-economic optimisation

For many projects, the LCoH remains above what most hydrogen offtakers are willing to pay, making cost reduction an imperative.

The Hydrogen Valley market sentiment survey reveals that 60% of the Hydrogen Valley project developers currently assume a hydrogen sales price of c. EUR 8 per kg H_2 and above (see chapter 3.1). The expected willingness-to-pay for green hydrogen in Europe, in contrast, currently ranges at c. EUR 4.5 to 8.0 per kg H_2 in most end-use segments with only very limited demand volume expected to pay EUR 10.0 and above in 2030.

To drive down project costs, Hydrogen Valley developers should treat LCoH reduction as a continuous discipline built into every stage of the project development – not a one-off modelling exercise.

Reducing the cost of producing hydrogen is not something that happens at a single point in time. It requires active attention throughout the entire development and engineering process, from early concept through to financial close. In practice, this means:

- **Benchmarking electrolyser technology options** against independently verified performance guarantees, rather than accepting supplier claims at face value
- **Locking in supply chain costs early** through structured vendor engagement and competitive procurement, before market conditions move against you
- **Optimising your balance-of-plant design** for the specific conditions of your site, avoiding the cost penalties that come from applying generic solutions to site-specific challenges
- **Structuring your power purchase agreement** to maximise the hours your electrolyser operates at efficient load, within the boundaries set by applicable RFNBO and low-carbon hydrogen certification rules

The goal is to build a cost reduction trajectory that is grounded in evidence — contracted supply chain costs, validated engineering assumptions, and benchmarked performance guarantees from your electrolyser supplier — rather than optimistic projections unsupported by commercial commitments.

For lenders and equity investors, this trajectory is a central underwriting assumption: the projects most likely to attract financing are those that can demonstrate, at every stage of development, a credible and evidence-based path to a competitive cost of hydrogen production.

Ensure investment readiness from the very start of the development

The global hydrogen pipeline looks impressive on paper, with 21 GW of production capacity announced by Hydrogen Valleys on the H2V Platform alone. Yet the share of projects that have actually reached a FID remains a small fraction of that total, with just 5%. Alongside the broader market environment, one of the most consistent drivers of this attrition is poor investment proposition quality — characterised by underestimated feasibility costs, offtake assumptions that have never been stress-tested, and engineering bases that no independent expert has reviewed.

Building a credible investment case means getting the following right:

- **Stress-test your assumptions** — challenge your cost, revenue, and timeline projections against conservative scenarios before your financiers do it for you
- **Complete your FEED to the required standard** — a FEED that cannot support a ±15% CAPEX estimate will not give lenders the cost certainty they need to underwrite debt
- **Develop a holistic permitting roadmap** — not a list of permits required, but a sequenced plan that identifies risks, dependencies, and mitigation measures, reviewed by local regulatory counsel
- **Commission an independent financial model review** — before presenting to any public or private financier, have your model audited by an adviser who is not invested in the outcome

Beyond these fundamentals, developers should proactively align with the bankability assessment frameworks applied by the international financial institutions such as the EIB and the EBRD,— treating compliance with their standards not as a bureaucratic hurdle, but as a quality benchmark that signals credibility to the entire investor community.

Institutional lenders and equity investors will only commit capital where the investment proposition gives them genuine confidence that the project can be delivered. Developers who establish credibility early – and back it with independent verification – will be first in line for the financing that every other project is chasing.

A genuine part of a solid investment proposition is **offtake**. Hydrogen Valleys should structure their offtake agreements around pricing and volume commitments that work for both their lenders and their buyers over the long term.

Getting this balance right is one of the most consequential decisions in offtake negotiations — and one of the most common points of failure. Lenders need a guaranteed minimum revenue floor to ensure debt service. Buyers need a price structure they can live with for fifteen to twenty years, without feeling trapped as the market evolves.

These two requirements are not irreconcilable. A well-designed agreement combines:

- **A stable base price with a degree of flexibility** — set at a level that reliably covers debt obligations, giving lenders the certainty they need, while allowing both sides to benefit as hydrogen production costs are expected to fall over time
- **A take-or-pay volume commitment** — set high enough to protect the minimum revenue floor your financing depends on

One further point that is easy to overlook but materially affects the financing structure: the longer the contract, the more debt the project can carry — and the less equity sponsors must contribute. Offtake contract duration is therefore not just a commercial detail. It is a financing decision that should belong at the heart of every offtake strategy from day one.

Build an integrated ecosystem along the entire value chain (the "Valleys Effect")

A Hydrogen Valley is not a single asset. It is a system — and its ability to function reliably over the long term depends entirely on how well its individual components are designed, sequenced, and connected.

Renewable energy generation, hydrogen production, storage, transportation, and end-use logistics are not separate workstreams to be developed independently and integrated later – the Hydrogen Valleys on the H2V Platform show this in an impressive way. They are interdependent parts of a single infrastructure chain, and a weakness in any one of them constrains the performance of all the others:

- **Renewable energy generation** sets the boundary conditions for everything further downstream – the volume, variability and cost of power available to what the rest of the system can deliver
- **Hydrogen production assets** must be sized to the renewable energy supply profile and calibrated to the offtaker demand volume
- **Hydrogen storage infrastructure** is the buffer that holds the system together and determines the variability in the production and consumption gap
- **Hydrogen transportation, distribution and end use logistics** must be developed in step with production and storage assets and designed backwards from the offtaker location and receiving infrastructure

The practical implication is clear: hydrogen infrastructure and asset planning across the entire Hydrogen Valley must be treated as a single, integrated exercise from the outset.

Developers who design their upstream, midstream, and downstream assets as a coherent whole — and continuously realign that design as grid conditions, technology options, and market realities evolve — build the kind of resilient, end-to-end ecosystem that is capable of operating reliably at scale over the long term.

3.3 What policymakers can do: Creating a supportive policy and regulatory framework

Policymakers around the globe are the ones that shape climate targets, develop demand- and supply-side policy measures to incentivise the uptake of clean hydrogen and implement targeted financing instruments. In their role, they are crucial to the build-out of a global hydrogen ecosystem and to ultimately contribute to the regional Hydrogen Valleys across the globe.

To specifically develop Hydrogen Valleys, policymakers can contribute with three key levers to this uptake:

- Advance enforceable and binding regulation to convert policy ambitions into market demand
- Build and enable the market infrastructure that hydrogen needs to scale
- Bridge the Valley of Death – Fund the high-risk early stage

Advance enforceable and binding regulation to convert policy ambitions into market demand

Clear, predictable and binding hydrogen-specific regulation is a key driver of demand: It provides the certainty needed for end users to switch from conventional fuels and for developers to take FID.
Political targets for hydrogen uptake only create real demand if they are binding, enacted in national legislation and enforced in the market.

Many policy frameworks today suffer from an execution gap: While governments have published a national hydrogen strategy and quantitative targets, policy mechanisms to achieve the set ambitions are often not yet fully in place. This refers to binding legislation, designated competent authorities, monitoring frameworks, and proportionate penalty mechanisms. This gap matters because it prevents demand targets from translating into the concrete offtake commitments that project developers and their financiers require.

Binding regulation is one of the most powerful levers available to stimulate hydrogen demand — and the EU has moved with notable ambition and speed in establishing the framework to do so. The adoption of binding renewable hydrogen targets through RED III in 2023, followed by the Delegated Acts on RFNBO and low-carbon hydrogen, represents a landmark regulatory achievement that has provided the sector with a clearer legal foundation than exists in virtually any other major market globally, even though delays in national transposition continue to present a challenge.

The EU has taken active steps to support Member States in the process of legislative implementation through guidance and technical assistance. A major lesson of this process was that translating ambitious legislation into operational compliance systems is a complex, resource-intensive task that takes time.

The broader lesson the EU's experience offers to policymakers worldwide is clear: how well a regulation is enforced matters as much as how ambitious it is.

A moderate quota that is genuinely binding – with designated authorities and real penalties – may achieve more for market development than a higher target the market cannot rely on. Market confidence does not come from the level of a quota. It rather comes from confidence that the quota will be enforced.

Build and enable the market infrastructure that hydrogen needs to scale

Green hydrogen currently costs two to four times more than its fossil-based equivalent in most markets. Even where binding demand quotas exist, this gap makes switching commercially unviable for most buyers — and regulation alone cannot close it. Without additional policy instruments, demand targets remain aspirational rather than bankable. The same challenge plays out on the supply side: demand is fragmented, contracts are negotiated from scratch every time, and the commercial infrastructure that mature commodity markets take for granted simply does not yet exist for hydrogen.

Therefore, policymakers should dedicate their efforts to:

- **Scale price support mechanisms** — deploy and expand Contracts for Difference and double-auction instruments such as H2Global, which bridges the price spread between producers and buyers through an intermediary; commit to regular, predictable auction rounds so that the market has the forward certainty it needs to turn demand targets into real procurement agreements
- **Build supply and demand matching platforms** — significantly expand platforms that pool buyers and sellers, such as the EU Hydrogen Mechanism, enabling market participants to aggregate

fragmented demand to a scale that project finance can underwrite

- **Support standardised offtake contract frameworks** — fund and promote the development of standard contract templates that address hydrogen-specific commercial issues such as certification obligations, take-or-pay levels, and pricing mechanisms; making their use a condition of public funding eligibility accelerates adoption and reduces the transaction costs that currently slow every negotiation to a close. As part of the H2V Facility, guidance on such offtake terms were developed and made available for public use within the commercial self-service knowledge material (Commercial self-service knowledge material | H2Valleys)

Beyond these three levers, policymakers should treat coherence across all three as a strategic objective in its own right — price support without matching platforms leaves demand fragmented; platforms without standard contracts slow every deal to a crawl. The jurisdictions that move decisively and coherently across all three dimensions will establish the commercial infrastructure on which a functioning hydrogen market depends — and will attract the private capital that every other market is competing for.

Bridge the Valley of Death – Fund the high-risk early stage

Most public financing instruments are built around CAPEX. They are designed to fund assets that are ready to build — not projects that are still working to get there.

This leaves a structural gap precisely where it matters most: the pre-FID development phase, where feasibility studies, FEED, permitting, legal structuring, and commercial analysis determine whether a project ever becomes financeable at all. For independent developers in particular, these costs cannot be absorbed from their own balance sheets.

The result is a pipeline full of commercially promising projects that stall — not because the underlying concept is flawed, but because the development funding needed to drive it forward simply is not there.

Closing this gap requires policymakers to act on one decisive lever: The build-out of dedicated early-stage financing instruments for hydrogen project development. Expanding the volume and accessibility of DEVEX funding windows and technical assistance programmes such as the Project Development Assistance programme under the Hydrogen Valleys Facility by the Clean Hydrogen Partnership (see Chapter 4) is key.

Besides scaling individual instruments, policymakers should treat coordination across public funders — including multinational and national development banks and finance institutions — as a strategic priority. Fragmented DEVEX support, where multiple instruments operate with overlapping mandates and inconsistent criteria, adds complexity without adding coverage.

The jurisdictions and institutions that establish coherent, accessible, and well-resourced development funding ecosystems will be the ones that convert their hydrogen project pipeline from announced ambition into investment-ready reality.

3.4 What investors can do: Unlocking financing for hydrogen projects

Investors are essential to the hydrogen energy transition: the vast majority of Hydrogen Valleys on the H2V Platform rely on them as financiers. While public investors absorb early-stage risk and unlock private capital, private investors provide the scale needed to bring projects to commercial operation.

Without sustained engagement from both, the gap between ambition and deployment will not close. Their engagement should therefore focus on:

- **Public lenders**: De-risk the phases that private capital cannot reach
- **Private lenders**: Build the capability and products to finance hydrogen at scale
- **Equity investors:** Build positions across the value chain to de-risk newly emerging value chains end-to-end

Public lenders: De-risk the phases that private capital cannot reach

Hydrogen projects spend years in development before a single euro of CAPEX is committed. Feasibility studies, FEED, permitting, and commercial structuring must all be completed before institutional capital can engage.

Without de-risked development-phase projects reaching the market, the pipeline of CAPEX-ready assets that private lenders need remains permanently thin. Public lenders should therefore focus on three aspects:

- **Engage in the DEVEX phase through first-loss and blended financing structures** — deploy first-loss tranche mechanisms, subordinated reimbursable grants, and political risk guarantees to absorb the acute early-stage risks that private capital cannot price; projects that are properly capitalised through structured DEVEX financing arrive at the CAPEX stage with stronger fundamentals and materially better prospects for attracting private debt on favourable terms
- **Develop standardised co-financing product architectures that private lenders can adopt without bespoke negotiation** — design and disseminate replicable blended finance structures that commercial banks can integrate directly into their own credit processes and build co-financing frameworks with private counterparties so that capital can be mobilised efficiently
- **Co-design explicit refinancing pathways for the post-commissioning phase — in partnership with equity investors and private lenders** — define early on when and on what conditions public facilities will step back after the high-risk phase and private capital will step in to ensure the full financing lifecycle operates as a coherent whole

Private lenders: Build the capability and products to finance hydrogen at scale

Hydrogen project financing today still does not follow a blueprint: No standard templates, no established risk benchmarks, no replicable product architecture. For the market as a whole, this is a structural bottleneck: private capital cannot deploy at the pace and scale the energy transition requires.

Closing this gap requires private lenders to act on three fronts simultaneously:

- **Treat hydrogen as a distinct asset class and build the internal infrastructure to match** — develop repeatable debt structures tailored to hydrogen's specific risk profile: long construction periods, novel technology stacks, and revenue models without established market precedent, and establish sector-specific covenant frameworks and product templates that can be applied consistently across transactions
- **Partner systematically with Export Credit Agencies (ECAs) and public development banks to crowd in capital and de-risk hydrogen investments** — treat public co-financing not as a fallback for deals that cannot otherwise close, but as a structural feature of your hydrogen lending strategy as they are an essential risk-sharing structure for a nascent asset class
- **Work with equity investors to build clear pathways for refinancing/leverage after higher risk project phases (post COD)** – provide clear outlook for (more risk-prone) equity investors that CAPEX-offloading via non-recourse project finance lending is available, once a project has become operational, to unlock equity investments and enable asset rotation for developers

Equity investors: Build positions across the value chain and deploy specialised investment vehicles

Hydrogen Valley projects are integrated projects with assets along the entire value chain. What happens up- and downstream directly affects the risk profile of the entire project. Ownership structures, risk-sharing architectures and value chain configurations are topics yet to be shaped.

Equity investors should – when engaging with hydrogen project investments – consider these two topics:

- **Invest across the value chain to lower the portfolio risk** — build equity positions that span production, storage, transport, and end-use infrastructure rather than concentrating exposure in a single segment. Shared infrastructure such as hydrogen backbone pipelines, storage hubs, and blending facilities can offer attractive return profiles and a diversified user base that also institutional lenders can underwrite with confidence
- **Target green hydrogen assets through dedicated investment vehicles** — build up dedicated deal teams with sector-specific expertise and asset management capabilities, including capacity building in regulatory expertise and structural market dynamics to manage the complexity of hydrogen project development

4

The H2V Facility – Join us to build the future of Hydrogen Valleys together!

4 The H2V Facility – Join us to build the future of Hydrogen Valleys together!

4.1 The H2V Facility as the Clean Hydrogen Partnership's key vehicle to support the ramp-up of Hydrogen Valleys

Funded by the Clean Hydrogen Partnership, the H2V Facility aims to unlock transformative support for Hydrogen Valleys on their way to FID, to support the European Commission's aspirational target of having 50 Valleys operational or under construction in the EU by 2030. By focusing on high-impact activities, the H2V Facility aims to accelerate the clean hydrogen transition in Europe by advancing a diverse portfolio of Hydrogen Valleys to investment-readiness, transforming regional initiatives into continental success and driving innovation via dissemination of knowledge.

Roland Berger together with its consortium partners Worley and Inycom were mandated by the Clean Hydrogen Partnership for the set-up and implementation of the H2V Facility. The H2V Facility delivers dedicated non-financial support via three pillars:

- **The Hydrogen Valley Platform** that was presented as part of this report features European and global hydrogen flagship projects in different maturity stages (pre-FID, under construction and in operation) and provides dedicated insights into hydrogen project development
- **The H2V Knowledge Centre** is a self-service and interaction platform for the broader hydrogen community, thereby providing dedicated content, knowledge products and formats for exchange on best practices for projects at different pre-FID maturity levels
- **The Project Development Assistance** (PDA) is directed to Hydrogen Valleys to advance them from idea to concept (PDA light programme track) and from concept to feasibility stage and ultimately to FID (PDA plus programme track)

In 2026, the Hydrogen Valleys Facility will enter its next phase as it further builds out its targeted set of activities designed to further accelerate the development of Hydrogen Valley projects across Europe towards FID.

Within its three pillars, various activities and milestones are planned:

FIGURE 31: **OUTLOOK ON THE HYDROGEN FACILITY ACTIVITIES FOR 2026**

Project Development Assistance

Apr 2026
Start of the Call for Applications for the 2nd PDA cohort

Aug 2026
First milestone tracking on Hydrogen Valley progress for PDA Beneficiaries of 1st PDA cohort

Sep 2026
Start of 2nd PDA cohort

H2V Knowledge Centre & capacity building

Continuously
Expansion of H2V Knowledge Centre

From Jul 2026
Webinar series on key hydrogen project development topics (experts, policymakers, industry)

Bi-annual
In-person workshops for PDA Beneficiaries and Valleys funded by the Clean Hydrogen JU to foster collaboration and best practice exchange

H2V Platform

Apr 2026
Major data update based on redesigned questionnaire (>100 Hydrogen Valleys)

May 2026
Relaunch with enhanced features, improved visualisations and expanded statistics

Pillar 1: Project Development Assistance programme[15]

In April 2026, the Clean Hydrogen Partnership launched its second Call for Applications. This call will offer a new group of up to 13 Hydrogen Valleys across the EU and in countries associated with Horizon Europe the opportunity to benefit from structured expert support and to advance their projects towards bankability.

In August 2026, the Clean Hydrogen Partnership will conduct its first biannual milestone tracking for the Hydrogen Valley projects that received PDA support within the first wave, to follow up on the progress achieved after the PDA support. This review will provide an evidence-based view on how the PDA support has contributed to the project advancement and where additional action may be required.

In September 2026, the second PDA cohort is scheduled to commence, marking the start of a new cycle of tailored Hydrogen Valley project support. This will allow the Hydrogen Valleys Facility to build on the lessons learned from the first PDA cohort and to further scale its impact across a broader set of regions and project constellations.

Pillar 2: H2V Knowledge Portal and capacity building

Throughout 2026, the H2V Knowledge Centre will further be built out with additional knowledge materials on hydrogen project development to continue to serve as a self-service platform for learning and exchange, aimed at strengthening the capabilities of Hydrogen Valley stakeholders. The Hydrogen Valleys Facility provides a growing set of self-service knowledge materials on all core aspects of Hydrogen Valley development. These resources will enable project promoters, public authorities and other stakeholders to access guidance, tools and best practices at their own pace, thereby supporting continuous capacity building beyond the formal PDA engagements.

In parallel, a rolling webinar series starting in July 2026 will cover key hydrogen project development topics, featuring expert talks and discussions with policymakers and industry stakeholders. Furthermore, for Hydrogen Valleys that receive funding from the Clean Hydrogen Partnership and that have participated in PDA support, in-person interactive workshops will take place on a biannual basis. These workshops intend to create a vibrant Hydrogen Valley community, foster the sharing of best practices and knowledge and initiate collective action on topics of common interest.

Pillar 3: H2V Platform

In 2026, the H2V Platform will be further positioned as the central information hub for Hydrogen Valleys.

In April 2026, a comprehensive data update was successfully completed, drawing on a fully redesigned and restructured questionnaire to capture project information in a more consistent, comparable and user-friendly manner with more than 100 Hydrogen Valleys requested to indicate their project fundamentals and information on their recent status.

On this basis, the H2V Platform was relaunched and is now live with an expanded set of statistics, enhanced functionalities and significantly improved visualisations. This upgrade is intended to provide stakeholders with deeper and up-to-date insights into the Hydrogen Valley landscape, facilitate benchmarking and monitoring and support evidence-based decision-making at project and policy level. Looking ahead, renewed efforts will be made to engage Hydrogen Valleys globally, broadening the platform's geographic reach and ensuring that pioneering projects from all regions can contribute to - and benefit from - this growing knowledge base.

4.2 Join the H2V Platform

About the H2V Platform

The Hydrogen Valleys Platform, the third pillar of the H2V Facility (https://h2v.eu/), is the world's leading global collaboration platform dedicated to Hydrogen Valleys.

The H2V Platform actively fosters the development of integrated hydrogen projects and raises awareness of their crucial role in the clean hydrogen sector among policymakers, industry and other stakeholders. It serves as a central hub, providing comprehensive information on flagship hydrogen projects worldwide and acting as the main reference point for the most advanced Hydrogen Valleys globally.

Launched in 2021 with 34 Hydrogen Valleys and following an extensive data collection exercise, the

[15] Please refer to the published Call documents to the second Call for Applications for PDA support for recent and binding information.

H2V Platform has since experienced remarkable growth. Today, it features over 100 Hydrogen Valleys from every continent, with the concept having expanded well beyond its European roots to include integrated hydrogen projects in the Americas, the Middle East and the Asia-Pacific region. This expansion highlights the dynamism and global significance of the Hydrogen Valley model as a blueprint for the broader clean hydrogen sector.

The H2V Platform is instrumental in achieving the target of 50 Hydrogen Valleys operational in the EU by 2030. By demonstrating commercially viable hydrogen technologies, it directly supports the objectives of the Clean Hydrogen Mission. The diverse Hydrogen Valleys showcased on the platform foster the development of integrated hydrogen projects worldwide and help establish the foundation for an interconnected global hydrogen economy - including the Mission's goal of reaching 100 Hydrogen Valleys worldwide by 2030. As such, it is not merely a showcase but a practical tool designed to accelerate the global scale-up of the clean hydrogen sector.

Participation in the further development of the H2V Platform enables project developers to play a pivotal role in advancing the global clean energy transition. Projects that join the H2V Platform become part of an exclusive network of leading hydrogen initiatives, facilitating active collaboration and exchange of best practices. This collaborative environment is vital to move the sector beyond small-scale demonstration projects into the more complex stages of pre-FID project development and beyond.

Benefits of joining the H2V Platform

1. **Boost your visibility & credibility:** Valleys featured on the H2V Platform gain exposure to a global audience of investors, policymakers and the broader hydrogen community through platform publications and events. All Valleys on the platform receive the Hydrogen Valley Certificate, recognising and certifying them as a global Hydrogen Valley flagship initiative.

2. **Connect with peers and fellow Valleys:** The H2V Platform serves as a direct channel for Hydrogen Valleys to connect with one another, facilitating the exchange of experience, best practices and lessons learned that are critical to advancing projects through the development lifecycle.

3. **Benchmark your project globally:** The H2V Platform continuously collects and publishes data across the full project lifecycle, covering investment volumes, electrolyser capacity, value chain coverage, end uses and more. This gives developers access to a rich empirical baseline against which to compare their own projects and understand their positioning and ambition level relative to Hydrogen Valleys worldwide.

4. **Learn from your peers:** Participating projects contribute to and benefit from a growing repository of lessons learned and best practices, enabling exchange of challenges and successful approaches across developers at different project stages and geographies.

5. **Connect with policymakers:** Membership of the H2V Platform increases the visibility of individual Valleys among policymakers and funding entities at local, national and supranational levels, supporting access to public funding instruments and reinforcing the political backing that surveys consistently identify as a critical success factor for project development.

6. **Shape the future of hydrogen:** By sharing learnings and project data, platform members actively contribute to accelerating the emergence of new hydrogen projects globally.

Join the H2V Platform with your Hydrogen Valley project!

The Clean Hydrogen Partnership aims to further expand the H2V Platform by featuring additional new and emerging Hydrogen Valleys on it!

The H2V Platform is open to all projects at the project development stage from around the world. Interested hydrogen project developers must meet six characteristics for their Hydrogen Valley project to be eligible to be featured on the H2V Platform:

1. **Broad value chain coverage:** Covering multiple steps of the value chain from hydrogen production to storage, transport and offtake

2. **Large in scale:** Setting up two-digit multi-million EUR investment projects that are beyond mere pilot/demo projects as well as scalable or replicable

3. **Geographically defined scope:** Creating hydrogen ecosystems that cover a specific geography, from local/national activities to international outreach

4. **Supply of more than one end use:** Showcasing the versatility of hydrogen by covering more than one end sector or application in the mobility, industry and energy sector

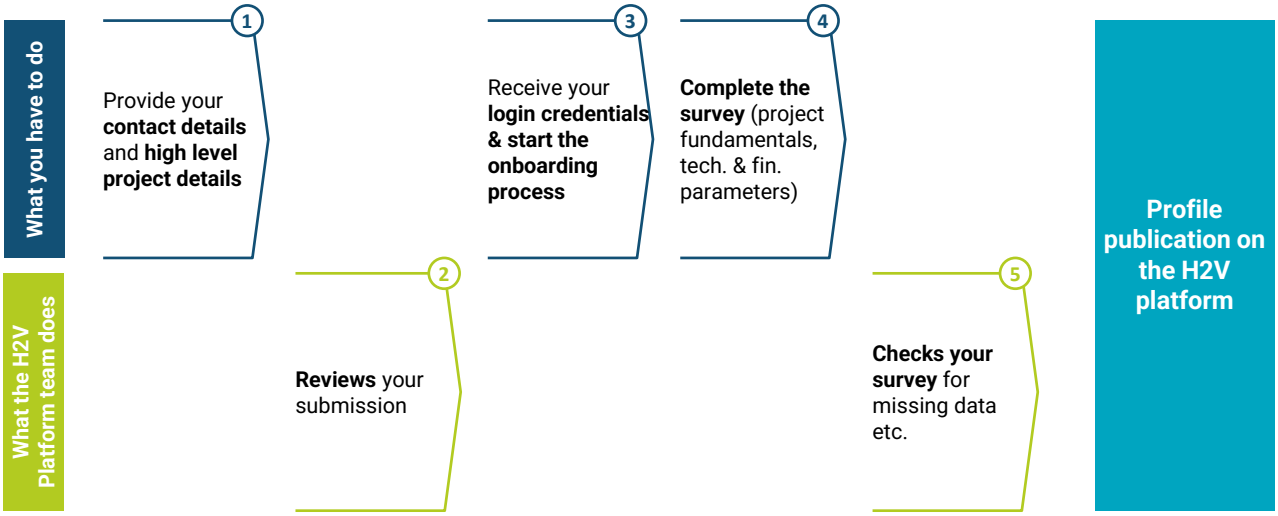
5. **Clean hydrogen production:** Following a zero/low-carbon hydrogen production pathway

6 **Project under real development:** Projects have to be under real project development, i.e., have at least a defined project outline with main details on the project

These criteria ensure that the H2V Platform continues to represent the most advanced and relevant hydrogen initiatives globally, while remaining open to the full diversity of Valley concepts - from small-scale, mobility-driven archetype 1 projects to large-scale, export-oriented archetype 3 initiatives.

If your project meets the criteria above, joining the H2V Platform is a straightforward process consisting of the following steps:

FIGURE 32: **STEPS TO BECOME A HYDROGEN VALLEY ON THE H2V PLATFORM**



The H2V Platform is continuously looking to feature new and recently emerged Hydrogen Valley projects from around the world and remains committed to showcasing all major developments in this growing and evolving sector. Regardless of the project stage or geography, the H2V Platform welcomes all Hydrogen Valley initiatives that meet the criteria - and invites them to contribute their experiences to a growing global knowledge base that benefits the entire sector.

Interested hydrogen project developers can start the onboarding process within the “Join us” section on the H2V Platform (https://h2v.eu/hydrogen-valley-platform/join-us).

Join us!

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