

National Hydrogen Strategy and Action Plan for Romania
ANNEX 1: ACTION PLAN FOR IMPLEMENTING THE NATIONAL HYDROGEN
STRATEGY 2030

The action plan is meant to define the roadmap to be followed by stakeholders in order to achieve their objectives and reach benchmarks.

The strategy implementation will be continuous and will take into consideration any changes in the internal and external context during the analysed strategic timespan. Actions and measures are defined in view of the general objectives, ensuring that their sum results in the benchmarks being reached.

The institutions in charge with coordinating the actions being carried out will collaborate with all the stakeholders in order to ensure that benchmarks are reached, and the stakeholders will actively participate in the actions, by providing project teams, relevant know-how and information.

The financing sources are indicative, and the coordinating entity will detail the financing sources and, as applicable, will draft and request that detailed financing conditions are drawn up, according to the applicable rules and regulations. New financing sources will also be added to the previous versions of the deliverable as Romania's Operational Programmes are approved by the European Commission.

Actions and benchmarks are defined according to Scenario 1.

General objective	Action	Coordinating entity	Potential financing sources	Deadline for completion	Benchmarks	
<p>G.O.1.</p> <p>Avoiding, by at least 2.9 mil. tonnes of CO₂, the carbon emissions in 2030, by using green hydrogen and clean hydrogen in the industrial sector, as well as by using green hydrogen in the transport sector and energy sector</p>	<p>A.1.1.</p> <p>Stimulating the gradual transition to the use of green hydrogen and clean hydrogen in the industries that already use hydrogen¹ via consumption funding schemes</p>	Ministry of Economy	Just Transition Operational Programme	2027	17.2 kt of green H ₂ and 3.3 clean H ₂ in industrial consumption	
				2030	34.4 kt of green H ₂ and 6.6 clean H ₂ in industrial consumption	
	<p>A.1.2.</p> <p>Introducing hydrogen use stimulation schemes in new industrial applications</p>	Ministry of Economy	Just Transition Operational Programme	Innovation Fund	2027	2.4 kt of green H ₂ in new industrial applications
					2030	24 kt of green H ₂ in new industrial applications
	<p>A.1.3.</p> <p>Promoting the introduction of hydrogen based vehicles in local public transport</p>	Ministry of Development, Public Works and Administration / Ministry of European Union Investments and Projects	"Anghel Saligny" National Investment Programme NRRP Regional Operational Programme		2027	217 hydrogen powered buses
					2030	300 hydrogen powered buses (total 2030)
	<p>A.1.4.</p>	Ministry of Environment, Waters and Forests	Transport Operational Programme		2027	3700 heavy and medium duty vehicles

¹ Without the refining sector

General objective	Action	Coordinating entity	Potential financing sources	Deadline for completion	Benchmarks
	Supporting the procurement of heavy-duty and medium-duty green hydrogen powered vehicles for the freight and passenger transport by road		Connecting Europe Facility	2030	21,500 heavy and medium duty vehicles (total 2030)
	A.1.5. Supporting the procurement of hydrogen powered cars	Ministry of Environment, Waters and Forests	Rabla Plus Programme	2027	300 cars
				2030	2,000 cars (total 2030)
	A.1.6. Developing a pilot / trial project to analyse the options and technical and financial feasibility of using hydrogen in waterway transport	Ministry of Transport and Infrastructure	Innovation Fund Transport Operational Programme	2027	1 project of using hydrogen in passenger transport by waterway
	A.1.7. Supporting the building and commissioning of hydrogen filling stations on the main TEN-T network for road transport	Ministry of Transport and Infrastructure	Connecting Europe Facility Regional Operational Programme	2027	8 filling stations
				2030	39 filling stations
	A.1.8. Green hydrogen admixture in the gas grid (volume admixture in total consumption)	Ministry of Energy	Sustainable Development Programme 2021-2027	2030	2% green hydrogen admixture in total gas consumption
	A.1.9.	Ministry of Energy	NRRP		

General objective	Action	Coordinating entity	Potential financing sources	Deadline for completion	Benchmarks
	Building and preparation of new gas distribution grids for up to 20% by volume green hydrogen admixture into natural gas				
	A.1.10. Developing combined cycle gas turbines (CCGT) that use up to 50% green hydrogen blended into natural gas	Ministry of Energy	Modernization Fund	2030	Commissioning of 1600 MW combined cycle turbines prepared for 50% green hydrogen
	A.1.11. Preparing the Danube ports located on the TEN-T network for hydrogen and alternative fuel transmission (bunkering of hydrogen, methanol and ammonia);	Ministry of Transport and Infrastructure	Transport Operational Programme Connecting Europe Facility (CEF-T)	2030	Initial technical – economic studies, feasibility studies
	A.1.12. Preparing Constanța port for the international trade with hydrogen and alternative fuels (bunkering of hydrogen, methanol and ammonia)	Ministry of Transport and Infrastructure	Transport Operational Programme Connecting Europe Facility (CEF-T)	2030	Initial technical – economic studies, feasibility studies
G.O. 2. Creating the conditions required for the production of at least 137 kt/year of green hydrogen and 3 kt/year of clean	A.2.1. Promoting the creation of "hydrogen ecosystem" type partnerships, whereby production provides for the local consumption, developing the whole value chain, and results in a lower carbon	Ministry of Energy	Combined funding sources depending on the ecosystem characteristics	2025	Signing partnership and off-take long-term hydrogen agreements

General objective	Action	Coordinating entity	Potential financing sources	Deadline for completion	Benchmarks
hydrogen in 2027, and 282 kt/year of green hydrogen and 7 kt/year of clean hydrogen in 2030, in order to develop the industries that are difficult to decarbonate and to develop a clean transport sector.	footprint in an industrial area and/or conurbation				
	A.2.2. Developing a project to analyse the technical – economic conditions and options, a feasibility study and, as applicable, a technical project for the generation of low emission methanol from clean hydrogen and the CO ₂ captured in the hydrogen production	Ministry of Energy	Innovation Fund	2025	Feasibility study for the production of low emission methanol
	A.2.3. Installing an electrolysis capacity that will reach 3,985 MW in 2030	Ministry of Energy	NRRP Modernization Fund	2027	136.6 kt of green hydrogen 1,934 MW electrolysis capacity
			Modernization Fund Connecting Europe Facility (CB RES)	2030	282 kt of green hydrogen 3,985 MW electrolysis capacity
A.2.4. Supporting the creation of renewable energy production capacities dedicated to green hydrogen production	Ministry of Energy	Modernization Fund	2028	7,970 MW installed power	

General objective	Action	Coordinating entity	Potential financing sources	Deadline for completion	Benchmarks
	<p>A.2.5. Connection and adjusting natural gas transmission networks to the Hydrogen Backbone European Network</p>	Transgaz	Modernization Fund Project of Common Interest (PCI)	2030	Actively participating in the EHB (European Hydrogen Backbone) initiative and aligning to the objectives agreed in it.
	<p>A.2.6. Introducing a system of guarantees of renewable origin (GO) for green hydrogen, aligned with the European initiatives in this respect</p>	Ministry of Energy		2027	Adopting the legislation required to a GO system
	<p>A.2.7. Updating safety standards and rules on the entire hydrogen value chain, by aligning to European initiatives and national initiatives, in collaboration with the national relevant institutions in Romania (e.g. INSEMEX, ISCIR, ICSI, INCDDPM etc.)</p>	Ministry of Energy		2024	Publishing the updated elements of the regulatory framework

General objective	Action	Coordinating entity	Potential financing sources	Deadline for completion	Benchmarks
G.O.3. Developing hydrogen technologies and implementing them in the economy by training human resources and supporting research, innovation and technology transfer activities and infrastructure	A.3.1. Setting up vocational schools and post-secondary schools specializing in hydrogen technologies, addressing the whole value chain, mainly in the areas defined as hydrogen ecosystems	Ministry of Education	State budget	2026	Study and specialization programmes in vocational schools
	A.3.2. Introducing retraining programmes on hydrogen technologies	Ministry of Work and Social Solidarity	Just Transition Operational Programme State budget	2027	Retraining programmes on hydrogen
	A.3.3. Introducing notions on hydrogen technologies in secondary school curricula for physics and chemistry	Ministry of Education	State budget	2027	Curriculum incorporating notions about the H ₂ technology
	A.3.4. Developing an accredited training and specialization programme dedicated to the staff involved in deploying, commissioning, using, operating, exploiting, maintaining and certifying equipment, machinery and processes in the field of hydrogen technologies	Ministry of Education	State budget	2027	Accredited training and specialization programme on H ₂

General objective	Action	Coordinating entity	Potential financing sources	Deadline for completion	Benchmarks
	<p>A.3.5. Establishing post-university training and continued professional development programmes on hydrogen technologies dedicated to university and pre-university teaching staff</p>	<p>Ministry of Education, National Council of Rectors</p>	<p>State budget</p>	<p>2027</p>	<p>Post-university training and professional development programmes on H2</p>
	<p>A.3.6. Launching calls for projects within the National Research-Development and Innovation Plan 2022-2027, solely dedicated to basic research and applied research activities, carried out in the field of hydrogen, with a dedicated budget, the goal being to validate technologies (TRL 4) in laboratory conditions; outcome indicators are the publication of the main results in the international journals in the red and yellow areas (the first two quartiles, Q1 and Q2)</p>	<p>Ministry of Research, Innovation and Digitalization Executive Unit for Funding Higher Education, Research, Development and Innovation</p>	<p>State budget</p>	<p>2025</p>	<p>Call for projects launched within RDINP IV 2022-2027 dedicated to H2 with the goal of demonstrating TRL4 for proposed technologies and publication in the Q1 journals</p>
	<p>A.3.7. Launching calls for projects within the National Research-Development and Innovation Plan 2022-2027 solely dedicated to basic research and applied research activities in the field of</p>	<p>Ministry of Research, Innovation and Digitalization, Executive Unit for Funding Higher Education, Research,</p>	<p>State budget</p>	<p>2025</p>	<p>Call for projects launched within the RDINP 2022-2027 dedicated to H2 with the goal of demonstrating TRL7 for proposed</p>

General objective	Action	Coordinating entity	Potential financing sources	Deadline for completion	Benchmarks
	hydrogen, in a partnership between economic operators (as a consortium leader) and research organizations, with a dedicated budget, the goal being to demonstrate the functionality of technologies in real functioning conditions (TRL 7); the outcome indicators are to patent the innovative results at European level.	Development and Innovation			technologies and patenting results
	A.3.8. Institutional support for the involvement of economic operators (as direct participants) and the Romanian research institutions (as indirect participants) in at least 1 important project of common European interest (IPCEI) in the field of hydrogen technologies	Ministry of Economy	IPCEI	2026	Participation of at least one Romanian economic operator (direct participant) and research institution (indirect participant) within the IPCEI dedicated to hydrogen
	A.3.9. Setting up the Romanian HUB of Hydrogen and New Technologies within the Smart Growth, Digitalization and Financial Instruments Operational Programme	Ministry of Research, Innovation and Digitalization	Smart Growth, Digitalization and Financial Instruments Operational Programme	2026	Establishing the Romanian Hydrogen and New Technologies Hub

General objective	Action	Coordinating entity	Potential financing sources	Deadline for completion	Benchmarks
	A.3.10. Developing at least one Technology Transfer Centre, in a public-private partnership, in the areas selected to become hydrogen ecosystems	Ministry of Research, Innovation and Digitalization Ministry of Economy	State budget	2026	Establishing the Technology Transfer Centre
	A.3.11 Supporting remunerated work experience programmes for medium and highly skilled staff, in industry, in companies that operate hydrogen production units	Ministry of Education Ministry of Work and Social Solidarity	State budget	2026	Remunerated work experience programmes in private companies
G.O.4 Using hydrogen and Power-to-X solutions to integrate renewable energy sources and achieve sectoral integration	A.4.1. Developing a pilot project to analyse the feasibility of P2X applications, with RES energy resulting from avoiding any cut in production in order to create a production – consumption balance, using an installed capacity electrolyser of minimum 10 MW, in order to study the sector coupling potential (applications in various industries)	Ministry of Energy	Clean Hydrogen Partnership via Horizon Europe Innovation Fund	2026	Pilot project
	A.4.2.	Ministry of Economy	Clean Hydrogen Partnership via Horizon Europe	2027	Feasibility study

General objective	Action	Coordinating entity	Potential financing sources	Deadline for completion	Benchmarks
	Carrying out a project analysing the technical and financial feasibility of hydrogen storage in the salt caverns at Ocna Mureş, as a potential component of the Cluj-Napoca – Târgu Mureş – Sighişoara – Sibiu – Sebeş ecosystem.		Innovation Fund		
	A.4.3. Developing an industrial scale integrated pilot project using H ₂ production – consumption technologies (e.g. electrolyzers – fuel cells(FC)) and storage technologies (salt caverns and / or industrial field) based on the Power-to-Hydrogen-to-Power concept	Ministry of Research, Innovation and Digitalization	Clean Hydrogen Partnership via Horizon Europe Innovation Fund	2026	Demonstrating technologies at the Technology Readiness Level TRL 7-9 ²

² [UEFISCDI](#) - TRL 7 – Demonstrating the prototype functionality under relevant operating conditions

TRL 8 – Finalized and qualified systems

TRL 9 – Systems the functionality of which was proven in an operational environment