Clean Hydrogen Partnership

Clean Hydrogen Joint Undertaking States Representatives Group

Report on national and regional policies on Hydrogen

Co-funded by the European Union

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Introduction

Pursuant to the requirements set forth in Article 20(9) and (10) of the Single Basic Act, this report provides an overview of national and regional policies and programmes related to Hydrogen for year 2024 and identifies the specific ways of cooperation of Member States and Associated Countries with the actions funded by the Clean Hydrogen Joint Undertaking, in relation with:

- Policy initiatives and programmes on Hydrogen, including hydrogen research and innovation,
- Demonstrations, deployment and uptake as well as relevant funding.
- Dissemination events, dedicated technical workshops and communication activities

Thank you to all States Representatives for their contributions.

Czech Republic

Contact Information:

Name:	Petr MERVART, Plenipotentiary of the Minister of Industry and Trade for Hydrogen Technologies
e-mail address:	petr.mervart@mpo.gov.cz

Hydrogen Valleys

This section covers information on the hydrogen valley, roadmaps, strategic objectives, as well as priorities and governance.

Hydrogen Valleys until 2023, inclusive

The leader of the "hydrogen valley" initiative in the Czech Republic is the Interregional Cooperation Working Group for Transforming Coal Regions (H3 team). This group represents the common interests of the coal regions in transition, implementing the Hydrogen Valley pilot project. The regions undergoing this transformation include Ústí, Karlovy Vary, and Moravian-Silesian Regions.

https://www.mzp.cz/C1257458002F0DC7/cz/news_20230404-Hejtmani-uhelnych-regionu-podepsali-na-Ministerstvu-zivotniho-prostredi-vodikove-memorandum-Cilem-je-vetsi-mezikrajska-spoluprace-pro-rozvoj-vodikovych-technologii/$FILE/vodikove_memorandum2023.pdf

Coal regions in transition in the Czech Republic have united to promote the adoption of hydrogen technologies and the development of "hydrogen valleys" as part of their transition to a more sustainable economy. On April 4, 2023, the governors of the Ústí nad Labem, Moravian-Silesian, and Karlovy Vary regions signed a memorandum to foster cooperation between these coal regions, aiming to transform them into prosperous 21st-century hubs.

Historically, these regions have been the primary energy suppliers for the Czech Republic and key centres of industry (including the chemical industry as one of the main sectors of hydrogen production and consumption and steel industry). As a result, companies in these areas are well-positioned to produce hydrogen and integrate hydrogen technologies into their operations. Additionally, universities in the Moravian-Silesian and Ústí regions possess significant expertise and collaborative opportunities with other Czech and international academic institutions, supporting hydrogen research and attracting students to emerging fields.

The Ústí nad Labem Region, in particular, is striving to maintain its status as the energy heart of the Czech Republic during the energy transition. The region has developed a regional hydrogen

strategy outlining its goals for the coming years. It has the potential to establish a comprehensive hydrogen value chain—from production to efficient storage and distribution—while promoting its use in various industries. These efforts include fostering emission-free mobility and reducing energy consumption in buildings.

The Moravian-Silesian region has long been the main centre of the steel industry in the Czech Republic and a significant centre of the chemical industry. These sectors have the greatest potential for the use of hydrogen. For this reason, a hydrogen platform was created in the region in 2022, which was transformed into the Moravian-Silesian Hydrogen Cluster. In 2024 a regional hydrogen strategy was prepared and approved.

The H3 team's initiatives are open to other regions, and we anticipate that hydrogen valleys will gradually expand across the Czech Republic.

Hydrogen Valley 1: Ústí Region

The development of the hydrogen economy has long been supported by the Hydrogen Platform of the Ústí Region (coordinated by the Economic and Social Council of the Ústí Region), which unites companies, regional and municipal authorities, universities, and research institutions. The region actively participates in international hydrogen partnerships such as Hydrogen Europe and S3 Hydrogen Valleys Partnership. Enhanced inter-regional cooperation will further aid the development of hydrogen infrastructure and, most importantly, ensure the coordinated allocation of funding for these initiatives.

http://www.hsr-uk.cz/rubrika/vodikova-platforma/

Hydrogen Valley 2: Moravian-Silesian Region

In the Moravian-Silesian Region, the Moravian-Silesian Hydrogen Cluster has been established by the Moravian-Silesian Region in collaboration with universities and companies. Currently, it includes several dozen partners, including the Moravian-Silesian Region itself, VSB-Technical University of Ostrava, and a range of large and smaller companies committed to producing equipment for the production, distribution, and utilization of hydrogen. This effort is giving rise to a new, innovative industrial sector in the region, providing significant employment opportunities and facilitating the transition away from coal-based energy production.

https://www.ms-vk.cz/

Hydrogen Valleys in 2024

Hydrogen Valleys represent an opportunity to drive regional development and support the decarbonization of energy and industry. On July 17, 2024, the Government of the Czech Republic approved an update to the country's Hydrogen Strategy.

This update builds upon the original Hydrogen Strategy, addressing rapid technological advancements, changes in legislative frameworks, and new binding European targets. The revision process, initiated in 2023 by the Ministry of Industry and Trade, involved collaboration with various stakeholders, including the Ministry of the Environment, the Ministry of Transport, regional representatives, the Czech Hydrogen Technology Platform (HYTEP), the Confederation of Industry and Transport of the Czech Republic, the Czech Gas Association, the Energy Regulatory Office, the TPUE Technology Platform, NET4GAS, GasNet, and others.

The updated strategy focuses on two main objectives: reducing greenhouse gas emissions and promoting economic growth. It envisions hydrogen playing a critical role by replacing a portion of fossil fuels in transportation, acting as an energy carrier for transport and storage, serving as a raw material for the chemical industry, and providing a heat source for specific technologies.

In line with this updated strategy, a Hydrogen Valley Coordination Group was established in 2024 to further support and coordinate the development of hydrogen valleys. Managed by the Ministry of Industry and Trade, this group comprises representatives from regions where hydrogen valleys are under development or planning, as well as representatives from the Ministry of the Environment and the State Environmental Fund.

The primary responsibilities of the Hydrogen Valley Coordination Group include strategic planning, stakeholder engagement, project management, legislative support, and fostering technological innovation.

Czech Hydrogen Strategy Update 2024:
https://www.mpo.gov.cz/assets/cz/prumysl/strategicke-projekty/2024/7/Vodikova-strategie-CR-aktualizace-2024.pdf

Hydrogen Valley 3: Karlovy Vary Region

In the Karlovy Vary Region, a new hydrogen platform was created and one of the largest projects, led by Sokolovská Uhelná, received substantial support in 2024. The project aims to transform areas affected by lignite mining into industrial zones, investing in infrastructure to support clean mobility, energy storage, hydrogen production, and rare earth metal processing.

https://www.menimekraj.cz/aktuality/210-vodik-novy-hnaci-motor-karlovarskeho-kraje
https://www.menimekraj.cz/projekty/47-sokolovska-investicni-a-green-development

Uptake, Demonstrations & Deployment Activities

This section includes funding for uptake, demonstration and deployment activities as well as ongoing and planned projects in 2024.

Funding

Investment incentives - Annex No. 3 to Government Regulation No. 221/2019 Coll. (Government Regulation on the Implementation of Certain Provisions of the Act on Investment Incentives)

- Total budget of the Funding Programme(s)/ instrument(s) for the uptake, demonstration and deployment of hydrogen related projects (in EUR equivalent) 105 849 009 EUR (2 667 395 025 CZK). This amount is related to the projects 1 – 13 listed below.

- Programs under development:

  - GREENGAS, a new program to support the installation of electrolysers and related infrastructure is under the preparation and will be open in the second half of December 2024. Planned volume of subsidies is 3 000 0000 000 CZK (120 000 000 EUR).
  - National Envelope for European hydrogen Bank and/or other scheme(s) for operational costs support.

- *Current status of the Funding Programme(s)/ instrument(s): ongoing Investment Incentives and Operational programmes*:
  - *Name and contact details of the funding bodies:*
    - *Ministry of Industry and Trade*
    - *Ministry of the Environment*
    - *State Environmental Fund*
    - *Ministry of Transport*
    - *Ministry for Regional Development*

During 2024, specific calls were announced within the framework of the Operational Programme Just Transition, aimed at supporting the development of strategic and action planning in the area of hydrogen economy development in the above-mentioned transiting coal regions. A specific call was announced for each of the regions, and in each of the regions, a separate project at this level is now expected to be initiated, with the full launch of these projects expected by 1 January 2025. The projects will be significant not only for the further activity of regional hydrogen platforms, but above all for their capacity to obtain relevant data from the territory and subsequently use this in the preparation of a whole set of strategic documents. These strategic documents will be essential from the perspective of further coordination of the development of the hydrogen economy in the given regions, but at the same time they will significantly improve insight into the needs of developing hydrogen economies also from the level of national authorities, which will be able to take these needs into account, among other things, when setting the content of future support mechanisms, e.g. at the level of the construction of cohesion policy programmes for the EU 2028+ programming period.

Funding overview:

https://www.czechinvest.org/en/For-Investors/Investment-Incentives/Production-of-strategic-products?force
https://www.optak.cz/
https://opjak.cz/vyzvy/
https://opd3.opd.cz/stranka/vyzvy-opd3
https://www.sfzp.cz/en/about-the-modernisation-fund/
https://opst.cz/

Ongoing & Planned Projects

a/ Ongoing projects

- ***Number of ongoing projects: 14***

• ***Title of the project 1:***	***Hydrogen backup power supply***
• *Coordinators*	*FOR Engineering s.r.o.*
• *Participants*	*FOR Engineering s.r.o.*
• *Objectives*	*Development and construction of a prototype hydrogen backup power source. The technology prototype will be verified in semi-operation and the control system of the whole technology will be developed. The project actively works with energy surpluses produced from RES, storage and consumption within buildings and building complexes. The output of the project will be a facility for storage and use of renewable energy. The facility will use an electrolyser for hydrogen production, pressure vessels for hydrogen storage, and a fuel cell to convert hydrogen into electricity and heat. The entire facility will be in the prototype stage. The hydrogen will be produced on-site in the RES electrolysers, the hydrogen produced will then be stored on-site and subsequently used for the reverse generation of electricity and heat in times of need.*
• *R&I area(s) they belong to H2 production; H2 storage, distribution; mobility applications, power, marketing, research and development*	*H2 production; H2 storage, distribution*

• *Starting and Ending Date*	*Till 31-12-26*
• *Duration*	
• *Funding Programme/Instrument*	*European Regional Development Fund*
• *Total Funding and* • *EU funding/co-funding*	*29 613 181 CZK (1 175 126 EUR)* *21 101 057 CZK (837 343 EUR)*
• *Projects websites or other relevant links (e.g press releases) regarding project results*	*https://www.foreng.cz/*

• ***Title of the project 2:***	***Development and validation of components for peripheral hydrogen fuel cell systems***
• *Coordinators*	*Eaton Elektrotechnika s.r.o*
• *Participants*	*Eaton Elektrotechnika s.r.o*
• *Objectives*	*Development and validation of components for hydrogen fuel cell peripheral systems (including the development of a test facility for the developed components)*
• *R&I area(s) they belong to H2 production; H2 storage, distribution; mobility applications, power, marketing, research and development*	*Production, research and development*
• *Starting and Ending Date*	*01-03-23 till 30-06-26*
• *Duration*	*39 M*
• *Funding Programme/Instrument*	*European Regional Development Fund*
• *Total Funding and* • *EU funding/co-funding*	*45 611 772 CZK (1 809 990 EUR)* *23 203 212 CZK (921 833 EUR)*
• *Projects websites or other relevant links (e.g press releases) regarding project results*	*https://www.eaton.com/cz/cs-cz/support/Informace-ograntech.html*

• ***Title of the project 3:***	***Energy self-sufficient wastewater treatment system technology using RES***
• *Coordinators*	*ENVISAN-GEM, a.s.*
• *Participants*	*ENVISAN-GEM, a.s.*
• *Objectives*	*Application of technology using pure oxygen from RES instead of air for WWTP operation while maintaining the efficiency of the treatment process, which will be the basis for the creation of an energy island system of*

	WWTP operation using hydrogen technologies and renewable energy sources
• *R&I area(s) they belong to H2 production; H2 storage, distribution; mobility applications, power, marketing, research and development*	*H2 production; H2 storage, distribution, power*
• *Starting and Ending Date*	*01-09-23 till 31-08-25*
• *Duration*	*24 M*
• *Funding Programme/Instrument*	*European Regional Development Fund*
• *Total Funding and* • *EU funding/co-funding*	*5 777 463 CZK (229 264 EUR)* *3 806 927 CZK (151 068 EUR)*
• *Projects websites or other relevant links (e.g press releases) regarding project results*	https://www.envisan.cz/clanek/pokrocila-elektrolyticka-vyroba-vodiku-z-oze-15

• ***Title of the project 4:***	***Electronic counter for hydrogen dispenser***
• *Coordinators*	*Beta Control s.r.o.*
• *Participants*	*Beta Control s.r.o.*
• *Objectives*	*Realization of the HEAD electronic counter prototype, the project output will be used to prepare and start serial production of electronic counters with operation monitoring for sale to the beneficiary's customers*
• *R&I area(s) they belong to H2 production; H2 storage, distribution; mobility applications, power, marketing, research and development*	*Storage/distribution, research and development*
• *Starting and Ending Date*	*Till 31-12-2026*
• *Duration*	
• *Funding Programme/Instrument*	*European Regional Development Fund*
• *Total Funding and* • *EU funding/co-funding*	*20 912 950 CZK (829 878 EUR)* *13 844 172 CZK (549 371 EUR)*
• *Projects websites or other relevant links (e.g press releases) regarding project results*	https://www.betacontrol.cz/cs/kdo-jsme/

• ***Title of the project 5:***	***Support at international exhibitions and trade fairs***

• *Coordinators*	*DEVINN s.r.o.*
• *Participants*	*DEVINN s.r.o.*
• *Objectives*	*Obtaining enquiries for hydrogen management system projects and the integration of hydrogen technologies into buildings also outside the domestic market, ideally in countries where the subsidy and legislative background is already more developed.*
• *R&I area(s) they belong to H2 production; H2 storage, distribution; mobility applications, power, marketing, research and development*	*Marketing*
• *Starting and Ending Date*	*15-02-24 till 31-07-24*
• *Duration*	*5 M*
• *Funding Programme/Instrument*	*European Regional Development Fund*
• *Total Funding and* • *EU funding/co-funding*	*443 535 CZK (17 600 EUR)* *221 767 CZK (8 800 EUR)*
• *Projects websites or other relevant links (e.g press releases) regarding project results*	https://www.devinn.cz/spolufinancovane-projekty

• ***Title of the project 6:***	***Implementation of marketing activities of Kolibrik.net, s.r.o. and further expansion on foreign markets***
• *Coordinators*	*Kolibrik.net, s.r.o.*
• *Participants*	*Kolibrik.net, s.r.o.*
• *Objectives*	*The company's entry and expansion into foreign markets, thanks to the implementation of a trade fair exhibition at world fairs with a focus on hydrogen technologies*
• *R&I area(s) they belong to H2 production; H2 storage, distribution; mobility applications, power, marketing, research and development*	*Marketing*
• *Starting and Ending Date*	*Till 31-12-25*
• *Duration*	
• *Funding Programme/Instrument*	*European Regional Development Fund*
• *Total Funding and* • *EU funding/co-funding*	*1 709 641 CZK (67 842 EUR)* *854 820 CZK (33 921 EUR)*

• *Projects websites or other relevant links (e.g press releases) regarding project results*	https://www.kolibrik.net/en/projekty-spolufinancovane-z-eu

• ***Title of the project 7:***	***Modernization and innovation of the large research infrastructure of SPL-HTC***
• *Coordinators*	*Charles University*
• *Participants*	*Charles University*
• *Objectives*	*Modernisation of the large research infrastructure SPL-HTC, the Czech laboratory for materials research operating in the European research infrastructure CERIC-ERIC*
• *R&I area(s) they belong to H2 production; H2 storage, distribution; mobility applications, power, marketing, research and development*	*Research and development*
• *Starting and Ending Date*	*01-03-24 till 31-12-26*
• *Duration*	*30 M*
• *Funding Programme/Instrument*	*European Regional Development Fund*
• *Total Funding and* • *EU funding/co-funding*	*32 702 824 CZK (1 297 731 EUR)* *22 793 869 CZK (904 518 EUR)*
• *Projects websites or other relevant links (e.g press releases) regarding project results*	https://www.mff.cuni.cz/cs/verejnost/aktuality/vyzkumna-infrastruktura-spl-htc-projde-diky-op-jak-rozsirenim-a-modernizaci

• ***Title of the project 8:***	***Modernisation of ENREGAT infrastructure***
• *Coordinators*	*VSB - Technical University of Ostrava*
• *Participants*	*VSB - Technical University of Ostrava*
• *Objectives*	*Modernisation of the large research infrastructure "Energy recovery of waste and gas purification" (VVI ENREGAT). The new infrastructure will enable its users to implement topics contributing to the strengthening of scientific potential and innovation in the field of sustainable energy, decarbonisation, chemical recycling, hydrogen technologies and air pollution reduction.*
• *R&I area(s) they belong to H2 production; H2 storage,*	*Research and development*

distribution; mobility applications, power, marketing, research and development	
• *Starting and Ending Date*	*01-01-24 till 31-12-26*
• *Duration*	*36 M*
• *Funding Programme/Instrument*	*European Regional Development Fund*
• *Total Funding and* • *EU funding/co-funding*	*59 964 793 CZK (2 379 555 EUR)* *41 795 461 CZK (1 658 550 EUR)*
• *Projects websites or other relevant links (e.g press releases) regarding project results*	https://www.vsb.cz/veda/cs/detail-novinky/?reportId=46638&linkBack=%2Fveda%2Fcs%2Findex.html

• ***Title of the project 9:***	***Hydrogen filling station Napajedla***
• *Coordinators*	*Solar Global Service a.s.*
• *Participants*	*Solar Global Service a.s.*
• *Objectives*	*Construction of a 50 kg/hr hydrogen filling station containing a dispensing rack, electrolyzer, high-pressure compressor and hydrogen storage. The electricity required to operate the filling station will be harnessed from a planned photovoltaic rooftop power plant on an adjacent building on the site. The dispensing rack of the filling station will allow the filling of passenger vehicles (700 bar pressure) as well as trucks and buses (350 bar pressure) using two filling guns.*
• *R&I area(s) they belong to H2 production; H2 storage, distribution; mobility applications, power, marketing, research and development*	*Storage and distribution*
• *Starting and Ending Date*	*Till 01-05-26*
• *Duration*	
• *Funding Programme/Instrument*	*Cohesion Fund*
• *Total Funding and* • *EU funding/co-funding*	*49 957 250 CZK (1 982 430 EUR)* *42 463 663 CZK (1 685 065 EUR)*
• *Projects websites or other relevant links (e.g press releases) regarding project results*	https://www.solarglobal.cz/tiskova-zprava/zlinsky-kraj-centrem-zelene-revoluce-spolecnost-solar-global-v-napajedlech-vybuduje-jednu-z-prvnich-plnicich-stanic-na-zeleny-vodik

• ***Title of the project 10:***	***Construction of a hydrogen filling station on the premises of Pražská plynárenská a.s. in Prague Michle***
• *Coordinators*	*Pražská plynárenská, a.s.*
• *Participants*	*Pražská plynárenská, a.s.*
• *Objectives*	*Realization of a public hydrogen filling station in Prague Michle, which will serve hydrogen passenger cars, hydrogen buses and hydrogen municipal vehicles. The public hydrogen filling station is part of a comprehensive hydrogen management project including a green hydrogen production plant*
• *R&I area(s) they belong to H2 production; H2 storage, distribution; mobility applications, power, marketing, research and development*	*Storage and distribution*
• *Starting and Ending Date*	*Till 31-12-26*
• *Duration*	
• *Funding Programme/Instrument*	*Cohesion Fund*
• *Total Funding and* • *EU funding/co-funding*	*51 770 000 CZK (2 054 365 EUR)* *44 004 500 CZK (1 746 210 EUR)*
• *Projects websites or other relevant links (e.g press releases) regarding project results*	https://www.ppas.cz/aktuality/prazska-plynarenska-postavi-v-praze-vodikove-stanice https://opd3.opd.cz/projekt/Vystavba-vodikove-plnici-stanice-v-arealu-Prazske-plynarenske-as-v-Praze-Michli

• ***Title of the project 11:***	***Construction of hydrogen filling stations at ORLEN Benzina - Phase 4 (Project 1)***
• *Coordinators*	*ORLEN Unipetrol RPA s.r.o.*
• *Participants*	*ORLEN Unipetrol RPA s.r.o.*
• *Objectives*	*Construction of hydrogen filling stations in Prague, Brno and Ostrava by ORLEN Unipetrol RPA s.r.o.*
• *R&I area(s) they belong to H2 production; H2 storage, distribution; mobility applications, power, marketing, research and development*	*Storage and distribution*
• *Starting and Ending Date*	*Till 31-12-26*

• *Duration*	
• *Funding Programme/Instrument*	*Cohesion Fund*
• *Total Funding and* • *EU funding/co-funding*	*218 090 000 CZK (8 654 365 EUR)* *174 472 000 CZK (6 923 492 EUR)*
• *Projects websites or other relevant links (e.g press releases) regarding project results*	https://www.orlenunipetrolrpa.cz/CS/o-nas/Stranky/projekty-a-dotace.aspx

• ***Title of the project 12:***	***Sokolovská investment and green development***
• *Coordinators*	*Sokolovská uhelná, legal successor, a.s.*
• *Participants*	*Sokolovská uhelná, legal successor, a.s.*
• *Objectives*	*Transformation of sites affected by lignite mining into industrial zones and investment in their accessibility and the construction of utility networks, for new areas such as clean mobility, energy storage, hydrogen production, rare earth metals processing*
• *R&I area(s) they belong to H2 production; H2 storage, distribution; mobility applications, power, marketing, research and development*	*H2 production; H2 storage, distribution; mobility applications, power*
• *Starting and Ending Date*	*Till 31-12-27*
• *Duration*	
• *Funding Programme/Instrument*	*Just Transition Fund*
• *Total Funding and* • *EU funding/co-funding*	*530 523 143 CZK (21 052 505 EUR)* *270 126 469 CZK (10 719 304 EUR)*
• *Projects websites or other relevant links (e.g press releases) regarding project results*	https://sokolovskainvesticni.cz/#predstaveni https://www.menimekraj.cz/projekty/47-sokolovska-investicni-a-green-development

• ***Title of the project 13:***	***SYNERGYS - systems for energy synergy***
• *Coordinators*	*Charles University*
• *Participants*	*Charles University*
• *Objectives*	*Energy and economic transformation of the coal region of the Ústí nad Labem Region, the main output of the project is a new international research and test site for renewable energy sources with a focus on geothermal*

	energy and alternative sources and their integration into the existing energy system
• *R&I area(s) they belong to H2 production; H2 storage, distribution; mobility applications, power, marketing, research and development*	*Power, research and development*
• *Starting and Ending Date*	*Till 31-12-27*
• *Duration*	
• *Funding Programme/Instrument*	*Just Transition Fund*
• *Total Funding and* • *EU funding/co-funding*	*1 208 707 454 CZK (47 964 581 EUR)* *1 027 401 336 CZK (40 769 894 EUR)*
• *Projects websites or other relevant links (e.g press releases) regarding project results*	https://opst.cz/projekt/synergys/

• ***Title of the project 14:***	***National Hydrogen Mobility Centre***
• *Coordinators*	*Centrum dopravního výzkumu v.v.i. (Transport Research Center)*
• *Participants*	*APT, HYTEP, DEVINN, AIR PRODUCTS, EGÚ Brno, ORLEN UniCRE, GREEN REMEDY, ZEBRA GROUP, GREEN REMEDY, Adast Systems, SAKO Brno, Czech Technical University, University of West Bohemia,* VSB-Technical University of Ostrava, Brno University of technology
• *Objectives*	*The centre is established within the performance of Hydrogen Strategy for Climate Neutral Europe and Hydrogen Strategy of the CR, which reflects the target of the European Green Deal to reach climate neutrality by 2050. The Centre covers activities of key players in the CR in the field of hydrogen technologies and is based on the principles of integral ecology. Centre's strategic objectives are R&D&I support of greenhouse gases emission reduction in transport with the use of hydrogen technologies, and support of economic growth of the CR in relation to introducing hydrogen technologies in transport. The goal of the Centre is to support acceleration of the implementation process of hydrogen technologies at minimized related costs*

	and to support balanced production and consumption of hydrogen.
• *R&I area(s) they belong to H2 production; H2 storage, distribution; mobility applications, power, marketing, research and development*	*mobility applications:* • *Hydrogen Islands* • *Hydrogen consumption modelling* • *SW to support implementation of hydrogen mobility* • *Separator of hydrogen from natural gas* • *Operational aspects of hydrogen refuelling stations.* • *system for sampling of hydrogen at hydrogen refuelling stations* • *Alternative way of hydrogen transport*
• *Starting and Ending Date*	*1-1-23 till 31-12-28*
• *Duration*	*72 M*
• *Funding Programme/Instrument*	*The Recovery and Resilience Facility (RRF)*
• *Total Funding and* • *EU funding/co-funding*	*269 054 000 CZK (10 376 746 EUR)* *207 188 000 CZK (8 221 746 EUR)*
• *Projects websites or other relevant links (e.g press releases) regarding project results*	https://www.cistadoprava.cz/nahyc-m/ https://starfos.tacr.cz/projekty/TN02000007?query=6pwaaadffyzq

b/ Planned projects related to hydrogen projects (e. g. approved, but not started yet, projects looking for funding)

- *Number of planned projects: 8*
- *Title of the projects:*
  1. ***Hydrogen Valley development - Ústí nad Labem Region***
  2. ***Hydrogen Valley development – Karlovy Vary Region***
  3. ***Hydrogen Valley development - Moravian-Silesian Region***
  4. ***Deployment of hydrogen mobility in the city of Ústí nad Labem***
  5. ***GET Centre of UJEP***
  6. ***Gas transmission network repurposing***
  7. ***Hydrogen trains for cross-border connection***

- *Funding Programme/Instrument Just Transition Fund*
- *Total Funding and EU funding/co-funding for projects 1 – 5 is 2 625 995 025 CZK (104 206 152 EUR).* The projects listed above (1.-5.) are under preparation and no legal acts have been issued.
- *Funding for project 6 is under the preparation. It will be partly funded from PCI project and partly from Modernization Fund. Overall estimate of repurposing coast for the main hydrogen transport corridors is about 8 000 000 000 CZK (320 000 000 EUR).*

- *Project 7 is on hold; we are looking for the suitable source of renewable hydrogen-.*

Dissemination & Communication & Synergies

- *Type of dissemination/communication activity: international conference*
- *Title/Subject:* **Hydrogen Days 2024**
- *Date: 20-22 March 2024*
- *Duration:3 days*
- *Organiser/coordinator: Czech Hydrogen Technology Platform (HYTEP)*
- *Number of attendees/members: 232*
- *Relevant link (if available):* *https://www.hydrogendays.cz/2024/pages/* *or* https://www.hytep.cz/o-vodiku/tiskove-zpravy/hydrogen-days-2024-vodikovi-experti-z-celeho-sveta-se-setkaji-v-praze

  The 14th edition of the traditional European expert conference Hydrogen Days 2024 took place in Prague on 20-22 March 2024. In addition to research and policy presentations, the conference also offered a number of educational seminars as it provides an excellent framework for sharing up-to-date information on hydrogen policies and strategies as well as hydrogen and fuel cell technologies. It also provides the best setting to showcase the latest advances in research, projects and products in the Czech Republic, Visegrad regions and Central Europe. The programme was divided into several keynote lecture tracks and panel discussions. The first thematic area was the development and deployment of hydrogen in the energy sector. The second theme focused on the development and deployment of hydrogen in transport. The third thematic area was dedicated to cross-cutting and overarching topics such as education, legislation and safety, certification of renewable hydrogen and integration of the electricity and gas grid. Cooperation opportunities, European policies and national strategies, hydrogen valleys or successful projects as well as the decarbonisation potential of hydrogen will also be presented. During the whole conference there was also an accompanying exhibition where demonstrations of hydrogen technologies and products were presented. On the last day of the conference, participants had the opportunity to present their companies, research institutes, projects or products and thus gain contacts to potential professional partners.

- *Type of dissemination/communication activity: national conference*
- *Title/Subject:* ***Presentation of Updated of the Hydrogen strategy***
- *Date: 29 August 2024*
- *Duration: 1 day*
- *Organiser/coordinator: Ministry of Industry and Trade*
- *Number of attendees/members: 100*

- *Relevant link (if available):* https://www.mpo.gov.cz/cz/prumysl/strategicke-projekty/predstaveni-vodikove-strategie-cr-aktualizace-2024--282838/

  As part of the presentation of the update of the Hydrogen Strategy of the Czech Republic, which took place at the Ministry of Industry and Trade in Prague on 29 August 2024, a meeting of experts was held, which focused on key aspects and opportunities for the development of hydrogen technologies in the Czech Republic. The updated Hydrogen Strategy presents a comprehensive plan for the development of hydrogen technologies and their integration into the Czech energy, industry and transport sectors. The main objective of this strategy, prepared by the Ministry of Industry and Trade and approved by the Government of the Czech Republic, is to support the transition to low-carbon and renewable energy, strengthen economic growth and industrial competitiveness. The strategy is divided into three key stages: 'Local Islands', 'Global Bridges' and 'New Technologies', which aim to cover the period up to 2050. Its implementation requires the cooperation of different sectors, including industry, transport and government, as well as the involvement of local communities and regions in the development of hydrogen technologies and infrastructure. A strategic approach to the production, import and use of hydrogen will ensure that the Czech Republic is ready for the transition to a low-carbon economy and meeting its climate commitments.

- *Type of dissemination/communication activity: international conference*
- *Title/Subject:* **H2 Forum 2024**
- *Date* 10-11 September 2024
- *Duration 2 days*
- *Organiser/coordinator: Karlovy Vary Region*
- *Number of attendees/members: 200*
- *Relevant link (if available):* https://h2forum.inovujsnami.cz/

  The 3rd annual H2 Forum conference took place in Karlovy Vary on 10-11 September 2024, focused on supporting the development of the hydrogen economy in the Czech Republic. This time too, the most prominent personalities and experts from the public, academic and commercial sectors took the stage to discuss the present and future of hydrogen. The programme included expert presentations on the topic of the hydrogen future, successful projects from the Czech Republic and abroad were presented and the necessity of creating hydrogen valleys was explained. The Hydrogen Forum 2024 was held under the auspices of the Ministry of Industry and Trade.

- *Type of dissemination/communication: conference*

- *Title/Subject:* **Hydrogen Technologies: Hydrogen Technology at International Industrial Fair in Brno**
- *Date: 9 October 2024*
- *Duration: 1 day*
- *Organiser/coordinator: Ministry of Industry and Trade*
- *Number of attendees/members: 60 (170 online)*
- *Relevant link (if available):* https://www.mpo.gov.cz/cz/prumysl/strategicke-projekty/vodikove-technologie-na-msv-2024--283742/ https://www.bvv.cz/en/msv/news/msv-international-industrial-fair-2024-will-focus-on-key-industrial-topics~n3749

  On 9 October 2024, the seminar "Hydrogen Technologies: from Assembly Plants to Brain Machines" took place at the Czech National Exposition at International Industry Fair in Brno. The seminar featured speakers representing state administration, companies, regions, research institutions and interest associations. The seminar was divided into three sessions (hydrogen strategy, hydrogen technologies, hydrogen valleys and projects). Both proton and anion membrane-based electrolysers were presented. Representatives of future hydrogen valley associations in the H3 group pointed out the pitfalls of project implementation and the high level of uncertainty for investors. Representatives of corporate associations pointed out the contradiction between the stated objectives, the applicable regulation and the natural layout of the Czech Republic. It was clearly stated that without wind power the RED3 targets will not be met. Speakers working in the transport sector talked about the perspectives of hydrogen application in rail and bus transport and pointed out the differences between battery and hydrogen mobility.

- *Type of dissemination/communication activity: international conference*
- *Title/Subject:* **Czech Hydrogen Backbone Dialogue**
- *Date* 5 September 2024
- *Duration 1 day*
- *Organiser/coordinator: NET4GAS, Ministry of Industry and Trade*
- *Number of attendees/members: 100 (230 online)*
- *Relevant link (if available):* https://www.czh2backbonedialogue.cz/

  The company NET4GAS, in collaboration with the Ministry of Industry and Trade (MPO), is working on building a backbone network for hydrogen transportation in the Czech Republic. The goal is to establish European hydrogen corridors for its import and to develop capacities for the production of affordable renewable and low-emission hydrogen. Strategic projects play a key role in this effort, as discussed by operators of European gas transmission systems and other energy and industry representatives at the Czech Hydrogen Backbone Dialogue. The conference, organized by NET4GAS under the

auspices of the MPO, presented concrete plans and an agreement on a joint approach to implementing related projects.

1. **Information on synergies**
   - Hydrogen Strategy update 2024 –collaboration Ministry of Industry and Trade with various stakeholders, including the Ministry of the Environment, the Ministry of Transport, regional representatives, the Czech Hydrogen Technology Platform (HYTEP), the Confederation of Industry and Transport of the Czech Republic, the Czech Gas Association, the Energy Regulatory Office, the TPUE Technology Platform, NET4GAS, GasNet, and others.
   - National Board for Hydrogen coordinated by the Ministry of Industry and Trade
   - Hydrogen Coordination Group coordinated by the Ministry of Industry and Trade
   - Hydrogen Valleys Coordination Group coordinated by the Ministry of Industry and Trade
   - Czech Hydrogen Technology Platform (HYTEP) covering more than 80 companies, universities, research institutions and municipalities involved in usage, production, transport, storage of hydrogen as well as in development and production of hydrogen technologies.

2. **International memorandums on cooperation**
   - In 2024 a memorandum on cooperation in the field of hydrogen was signed between the Czech Republic and Saxony.
   - In 2024 a memorandum on cooperation in the field of hydrogen was signed between the Czech Republic and Bavaria
   - Several memorandums on cooperation in hydrogen technologies were signed with Republic of Korea in the year 2022 and 2024.

3. **Synergy definition**

Synergy from the perspective of the Ministry of Industry and Trade means effective cooperation between different organisational units, sectors or entities in order to achieve better results than would be possible with the separate activities of individual parts. This approach emphasises the linking of resources, competencies and activities that increase efficiency, reduce costs and improve the quality-of-service delivery. Synergies may include policy coordination, data sharing, joint planning and project implementation, which strengthens the overall performance of the Department and its responsiveness to the needs of the public. It is about maximising added value through collaboration and strategic management.

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