//EU HYDROGEN
RESEARCH DAYS
15-16 NOVEMBER

NAHV
North Adriatic Hydrogen Valley

Jerneja Sedlar

www.nahv.eu

jerneja.sedlar@hse.si

Clean Hydrogen Partnership

European Hydrogen Week

Co-funded by the European Union

Project Overview

Call year:
[2022]

Call topic:
HORIZON-JTI-CLEANH2-2022-06-01

Project dates:
[1. 9. 2023 - 31. 8. 2029]

Total project budget:
[345.326.582,18 €]

NAHV

% stage of implementation 01/11/2023: [3 %]

Clean Hydrogen Partnership max. contribution: [24.996.826,69 €]

Other financial contribution: [tbd €]

//EU HYDROGEN RESEARCH DAYS 15-16 NOVEMBER

Partners and location of the Hydrogen Valley

Territory	SLOVENIA	CROATIA	ITALY Regione autonoma Friuli-Venezia Giulia
Institutional Partners	Ministry of Infrastructure	Ministry of Economy and Sustainable Development	Regional Council of Friuli-Venezia Giulia
Research Community	University of Ljubljana	University of Rijeka	University of Trieste
Industrial Partners	Holding Slovenske elektrarne d.o.o. Termoelektrarna Šoštanj d.o.o. HSE Invest d.o.o Ecubes d.o.o. Steklarna Hrastnik d.o.o. Salonit Anhovo d.d.	ACI Marine Active Solera Dilj Indeloop MCoE Gitone Kvarner d.o.o.	AREA Science Park ABS /Danieli Centro Combustion Snam S.p.A Ferriere Nord, Pittini Group ACEGAS Faber Industrie Meta Group Fondazione Bruno Kessler CTS H2 TPL FVG
Partners Outside Territory	Fundación para el Desarrollo de las Nuevas Tecnologías del Hidrógeno en Aragón		

Clean Hydrogen Partnership

European Hydrogen Week

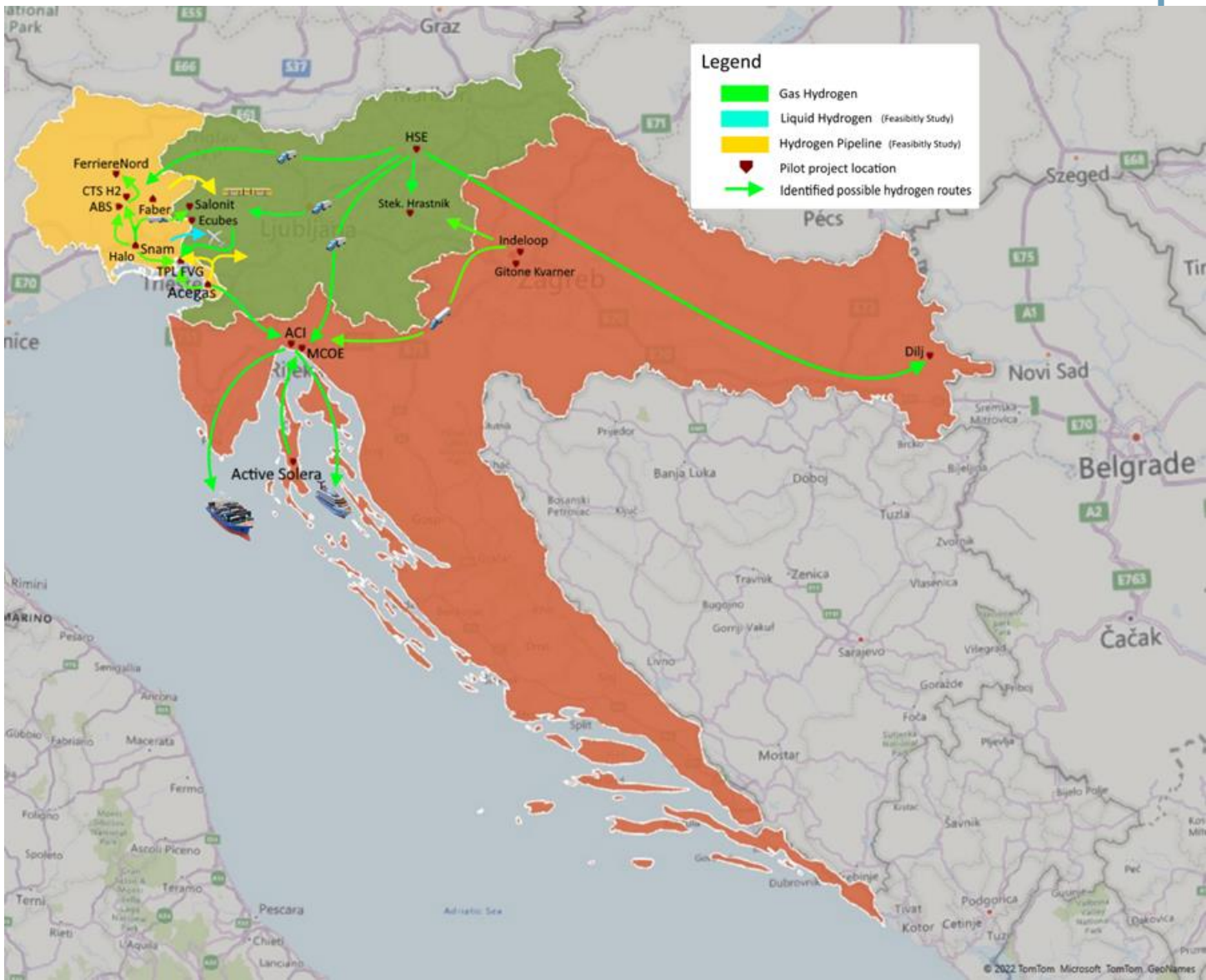
Co-funded by the European Union

//EU HYDROGEN RESEARCH DAYS 15-16 NOVEMBER

Overall Hydrogen Valley Concept

37 organizations covering the transnational Central European area of 3 territories - Slovenia, Croatia and FVG Region, demonstrating cross-border integration of hydrogen production, distribution and consumption, and exchange of over 20% of NAHV annual hydrogen production of about 5000 tons.

17 testbed applications in their related ecosystems, clustered in 3 main pillars - hard to abate, energy and transport sectors



Clean Hydrogen Partnership

Expected hydrogen production and consumption

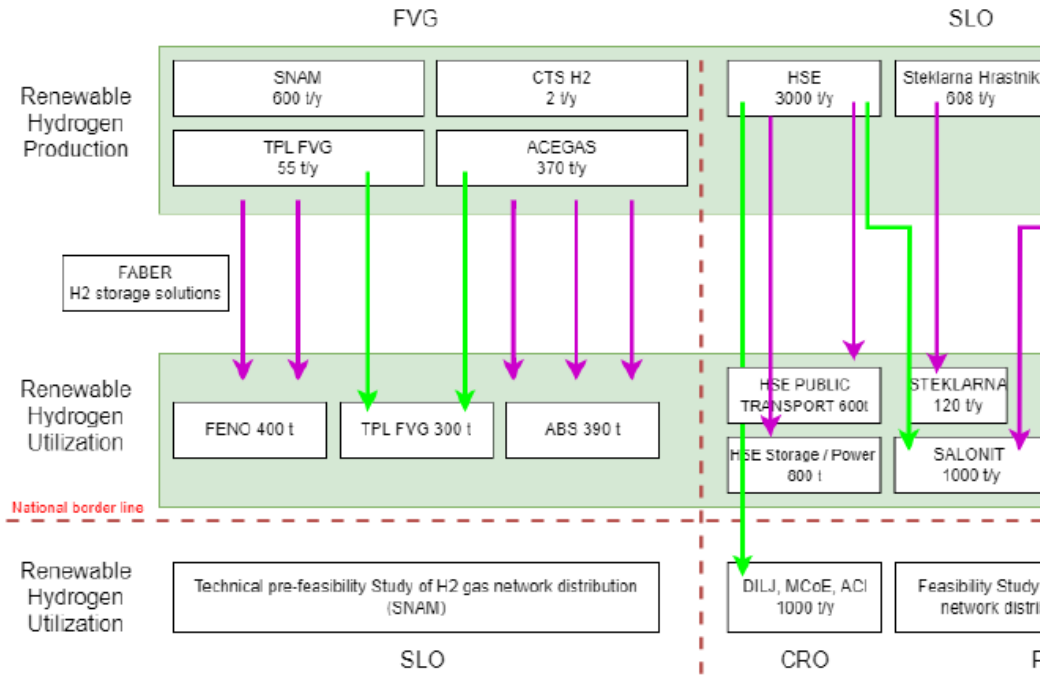


Figure 4 Production of renewable hydrogen, utilization

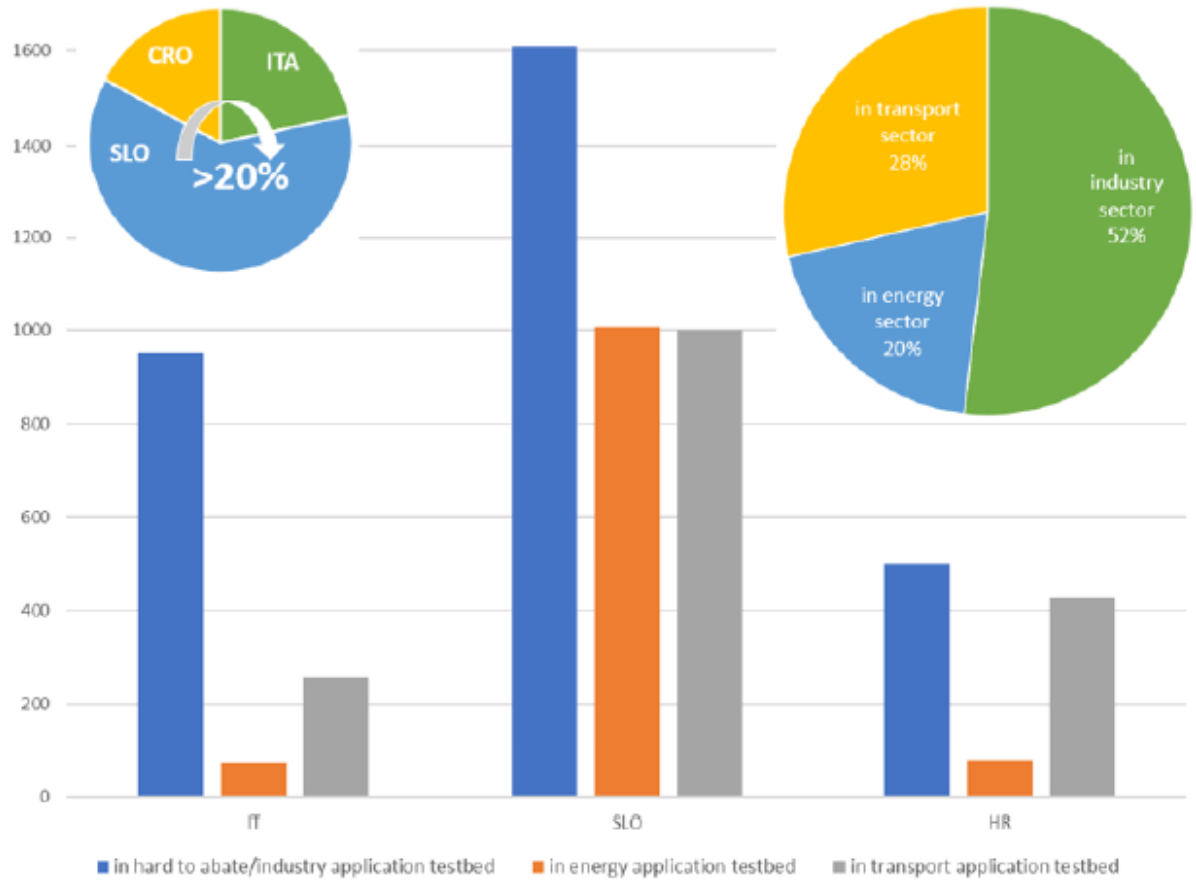


Figure 5 NAHV renewable H2 consumption(tonnes/year)

List of WP for project implementation and progress

Work package No	Work Package Title	Lead Participant Short Name
1	Project And Consortium Management	HSE
2	Hydrogen Valley System Definition	HSE
3	Renewable Hydrogen Testbed Applications for industry & hard-to-abate sectors	Steklarna Hrastnik
4	Renewable Hydrogen Testbed Applications for the energy sector	Acegas
5	Renewable Hydrogen Testbed Applications for the transport sector	MCOE
6	Cross Cutting and Cross Border Transport - Zero Emission Mobility Corridor North Adriatic	ECUBES
7	Communication, Education, And Dissemination	META
8	Policies Analysis and Guidelines	MINGOR
9	Inter-Regional Hydrogen R&D&I Development Joint Action Plan and NAHV Master Plan&Business Model	Area
10	Technical Demonstrator Plants Monitoring, Identification and Assessment Of Social, Economic and Environmental Impacts, Including Water Utilization	UNITS
11	NAHV Exploitation & Replication Activities	FBK

Project governance –AIBSL set up

- To ensure the necessary coordination and management of the ecosystem the NAHV association will be established and registered in Belgium as Association Internationale Sans but Lucratif (AISBL).

- Creating a legal organization will ensure involvement of all actors of the ecosystem and to transfer the legacy of the project's experience. The NAHV AISBL will become the governance body of the valley and it will act as a fair, transparent end equitable body representing the NAHV's stakeholders.

Project financing and funding

Territory	This Call	National Funds available
SLOVENIA 	8,16 mill €	80 mill € (Cohesion: 44 mill €, RRF 20 mill €, JTF 16 mill €)
CROATIA 	7,40 mill €	80 mill € (RRF: 59 mill €, ERDF Programme 21 mill €)
ITALY  Regione autonoma Friuli-Venezia Giulia 	9,22 mill €	43,5 mill € (FVG: 23.5 mill €, Italy: 20 mill €)
Outside Territory	0,21 mill €	/
Total	24,99 mill €	203,5 mill €

\+ **Clean Hydrogen JU Funding : 20 MEUR**

Clean Hydrogen Partnership

European Hydrogen Week

Co-funded by the European Union

Training and Skills

Develop the public awareness of hydrogen technologies

- NAHV has foreseen a wide set of awareness raising activities targeted to reach the project's stakeholders.
- In total about 500.000 people will be reached, 15 awareness events, 5 annual conferences, 10 activities with the schools and universities and about 680 students involved.
- The H2 STUDENT will involve 6.000 young students. The aims of H2STUDENT is to strengthen competencies in hydrogen technologies with a focus on clean mobility & the green transition and to transfer to the participants the necessary competencies in the field of hydrogen technologies.
- The hydrogen café will attract about 600 stakeholders, including citizens, researchers, students, NGOs.
- Communication programs dedicated to high school students will be developed to promote the spreading of H2 friendly culture.

//EU HYDROGEN RESEARCH DAYS 15-16 NOVEMBER

Replication activities

Transfer of the NAHV model to at least 5 additional Hydrogen Valleys of at least a similar size and scope in Europe:
In WP11 specific activities will be implemented to transfer the NAHV model. The digital twin system developed in NAHV will be made available in other similar contexts to facilitate the model uptake. Some contacts are already in place with the other EU regions which expressed their interest in the NAHV model (or part of its model) uptake. The NAHV organization which will be set up between Italy, Slovenia and Croatia will be a unique example of a cross border coordination system which will be transferred to at least 5 other hydrogen valleys in the EU.

Support development of Hydrogen Valleys in areas of Europe with no or limited presence of Hydrogen Valleys
In doing this our primary target will be the other valleys which have applied for the clean hydrogen call. A specific methodological package will be developed to support uptake of the NAHV's model. The NAHV has been built according to the hub-and-spoke model where the NAHV and the new legal entity are the hub which will liaise with and support the spokes in the other valleys. This modus operandi will speed up the replication process.

Risks & Challenges

Risk Management activities are applied to the NAHV project to attempt to decrease the probability and impact of negative events by identifying and planning for risks before significant negative consequences occur. The risk management lifecycle is made up of the following steps, as shown in Figure

Regulatory issues, e.g. denial of necessary permits or opposing provisions of national law;

Spatial issues, e.g. denial or severely hindered possibility of the placement of new Renewable Energy Sources such as a source for renewable hydrogen and/or hydrogen infrastructure in the envisaged region

Substantial opposition (e.g. during permit (administrative) procedures, court cases) from local communities, environmental activists, NGOs, which make a successful implementation of the project de facto impossible;

Substantial lack of public funding; taking into account that a sustainable business model for renewable hydrogen;

Communication and dissemination

Kick-off meeting
26-27 September 2023

Promotional video

//EU HYDROGEN
RESEARCH DAYS
15-16 NOVEMBER

www.nahv.eu

Clean Hydrogen Partnership

European Hydrogen Week

Co-funded by the European Union