

Andreja Kumer,
MSc in Industrial Engineering
SRIP – Circular Economy

Replacement of fossil fuels in industrial processes



SRIP – Circular Economy

Cofounders:



ŠTAJERSKA
GOSPODARSKA
ZBORNICA



Internationalisation



Human resources development



Business consultancy, environmental services



Technology transfer



Project consultancy

Administrative and technical support in project preparation.



Integration of knowledge and research infrastructure sharing



Development activities in collaboration with state institution representatives



Promotion of members

In ŠGZ print and online media, on ŠGZ social networks, events.



Provision of expert content related to circular economy

Organisation of workshops, public consultations, conferences.

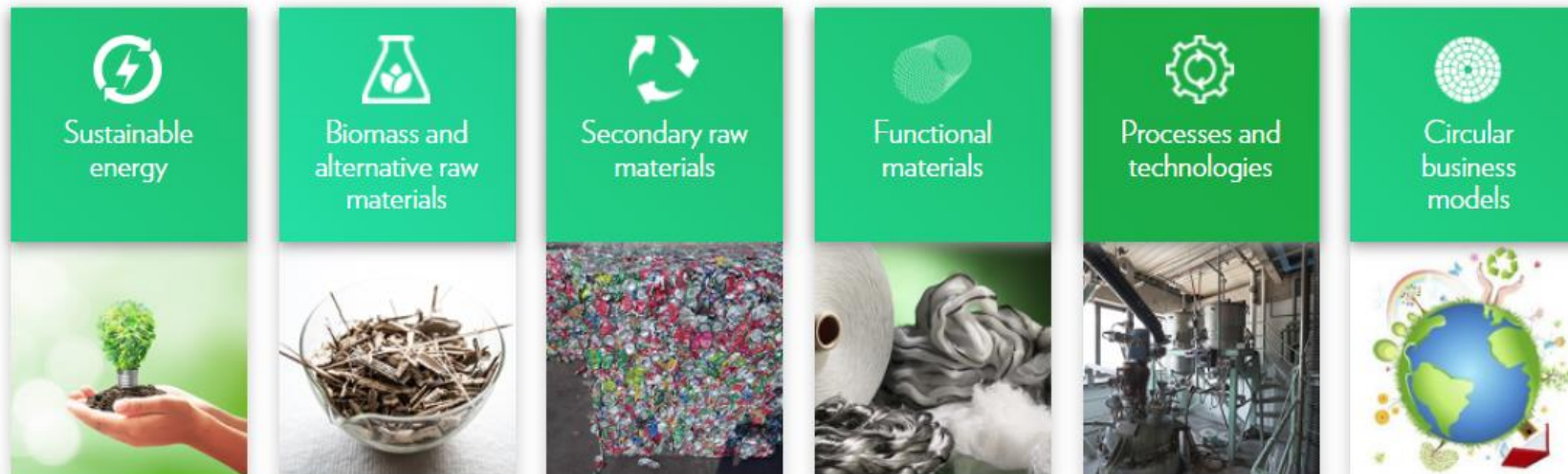


Univerza v Mariboru

Fakulteta za kemijo
in kemijsko tehnologijo



NATIONAL INSTITUTE
OF CHEMISTRY



103 members

68 companies

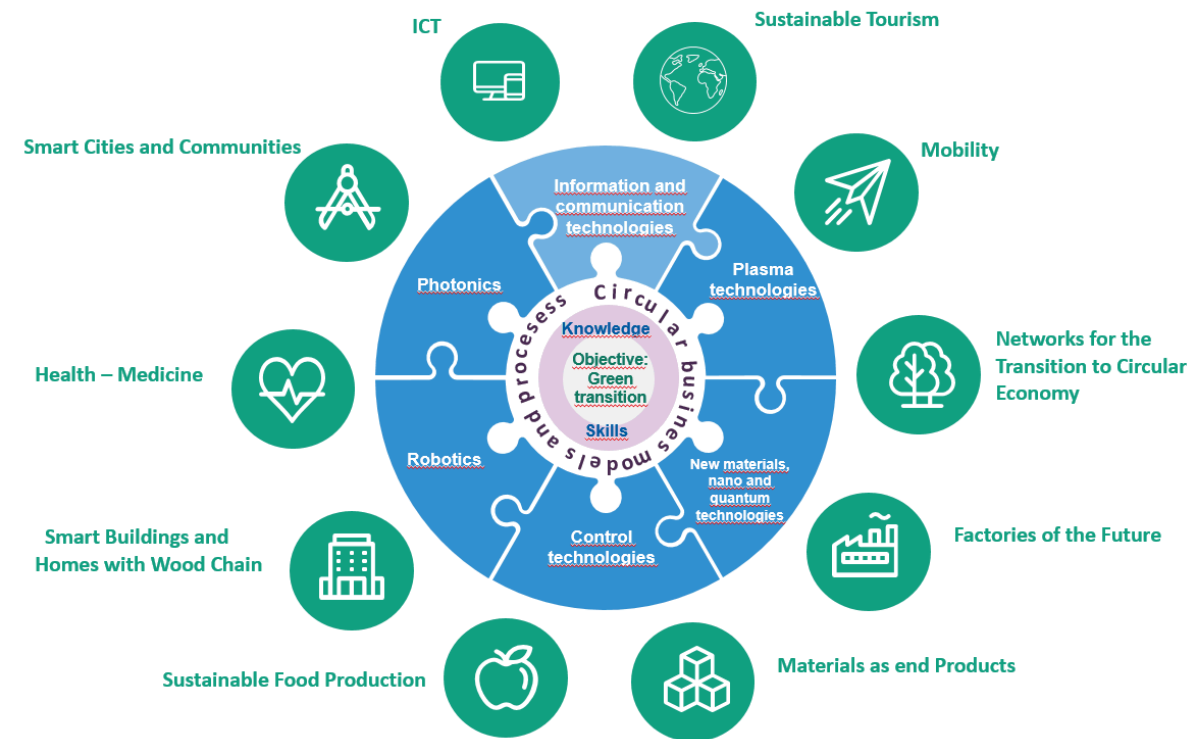
17 NGOs

18 RDI

Slovenian Sustainable Smart Specialisation Strategy (S5)

Key strategic goal:

green transition as innovative, low-carbon, digital and knowledge-based transformation of economy and society



FUTURE HYDROGEN USE

- to generate high-temperature heat in steel, cement, brick and glass industry
- transport / mobility (city buses, railway)
- Large scale hydrogen valley currently (SI-IT-CRO)
- Hydrogen Center (SI-AT)
- national hydrogen roadmap in preparation under NECP



STATE OF THE ART

- more than 40 national and international projects
- several courses at all levels of tertiary education
- yearly 2400 t of hydrogen is produced by the steam reforming of natural gas
- 1200 t are used for the production of hydrogen peroxide
- 1200 t are used in glass and steel industry for oxygen removal from various processes and for heat production in production processes
- must support entire value chain



PROJECTS

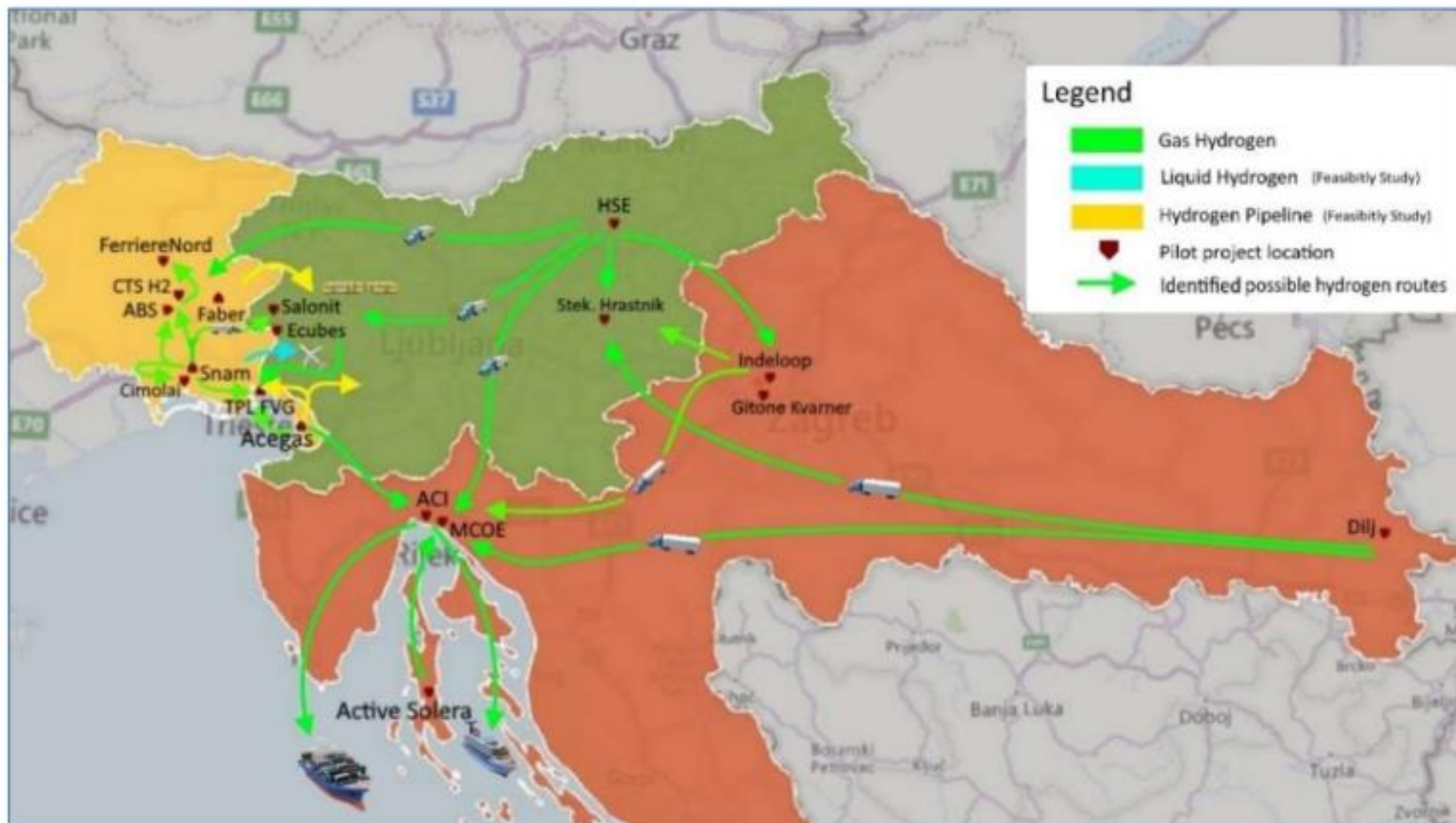
- North Adriatic Hydrogen Valley (SI-AT-CRO)
- Small Hydrogen Valley Zasavje
- Hydrogen Center (hydrogen-center.eu)
- Replacement of fossil fuels for hydrogen in industrial processes (H2GLASS): production, storage, distribution and end-use
- Other EU pilot-demonstration projects: ETEKINA, INEVITABLE, REVEAL



NORTH ADRIATIC HYDROGEN VALLEY

- Budget: 25 M€ (leverage effect: over 700M€ investments)
- Partnership: 34 organisations
- Integrated cross-border cooperation on the entire renewable supply chain
- Exchange of more than 20% of H₂ annually (more than 5000 t/year)
- 3 strategic sectors: industry, energy and transport
- 18 pilot/testbed projects





SMALL HYDROGEN VALLEY ZASAVJE

- Nacional level
- Production of 570 t of hydrogen per year
- Production and use of hydrogen in the production of chemicals: use of hydrogen as a raw material for the production of resins
- Production of hydrogen from biogas reforming in high-temperature processes and its use
- Implementation of a smaller integrated unit with a power of 4 kW to demonstrate FCH Technology (Fuel Cell and Hydrogen) to achieve efficient energy use at the level of individual buildings and neighborhoods, and in the operation of the local energy community



HYDROGEN CENTER



- Connecting all stakeholders of the ecosystem, promoting innovation in the field of guiding technologies
- Created under the H2GreenFUTURE project
- Addresses legislation and regulations (establishment of a regulatory sandbox and proposed legislation in Slovenia and Austria), and the importance of staff education and training

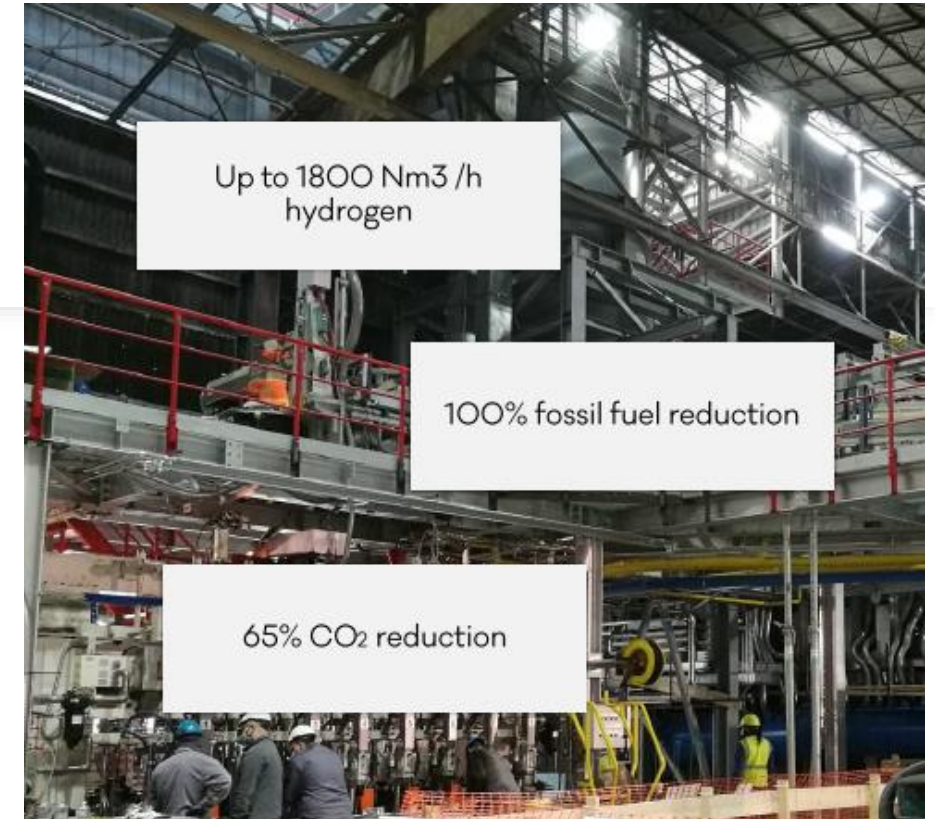


Slovenia - Austria

H2GreenFUTURE

H2GLASS

- 23 partners, 4 year project (Lunch in Jan 2023)
- Budget 33 M€
- Replacement of fossil fuels in production process
- Production, storage, transport, usage, smart management system
- Glass production decarbonization utilizing Hydrogen (120t/day)



CONTACT

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