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ENERGY

#EURegionsWeek2025

"Close to You" Event

14 October 2025

Brussels, BE

THE ENERGY TRANSITION IN EUROPE'S REGION

How to meet increased demand for clean electricity, hydrogen, and P2X?

Päijät-Hämeen liitto
The Regional Council of Päijät-Häme

REGIONE LAZIO

ØSTFOLD FYLKESKOMMUNE

VÄSTRA GÖTALANDSREGIONEN

REGIONE TOSCANA

REGIONE PUGLIA

ENERGIAREN EUSKAL ERAKUNDEA
ENTE VASCO DE LA ENERGÍA

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INTRODUCTION & WELCOME

Antonio Aurigemma

President of the Regional Council (Lazio Region), Co-ordinator of the Presidents of Italian Legislative Assemblies, and Member of the CoR

Pekka Komu

Member of the European Committee of the Regions

Päijät-Hämeen liitto
The Regional Council of Päijät-Häme

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KEYNOTE PRESENTATIONS ON EU AND REGIONAL ENERGY TRANSITIONS

Lisa Lovold

European Commission

(DG ENER - C.4: Infrastructure and Regional Cooperation)

Petteri Laaksonen

Dr.Sc., LUT School of Energy Systems

Päijät-Hämeen liitto
The Regional Council of Päijät-Häme

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LUT is the world's

15TH BEST SMALL UNIVERSITY

THE WORLD UNIVERSITY RANKINGS

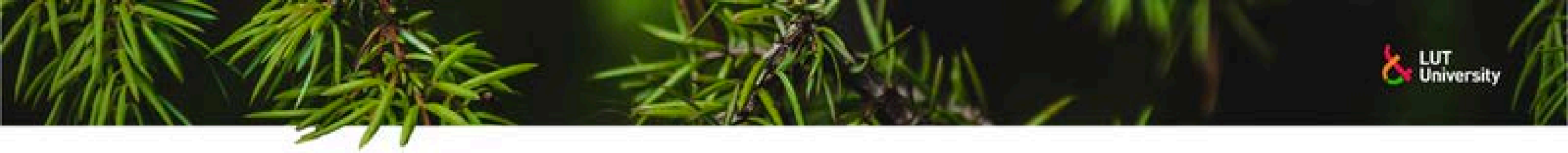
CPRM ENERGY GROUP MEETING, BRUSSELS

TRANSITION TO FOSSIL FREE SOCIETY AND ITS REGIONAL IMPACTS

Petteri Laaksonen, D.Sc., Research Director

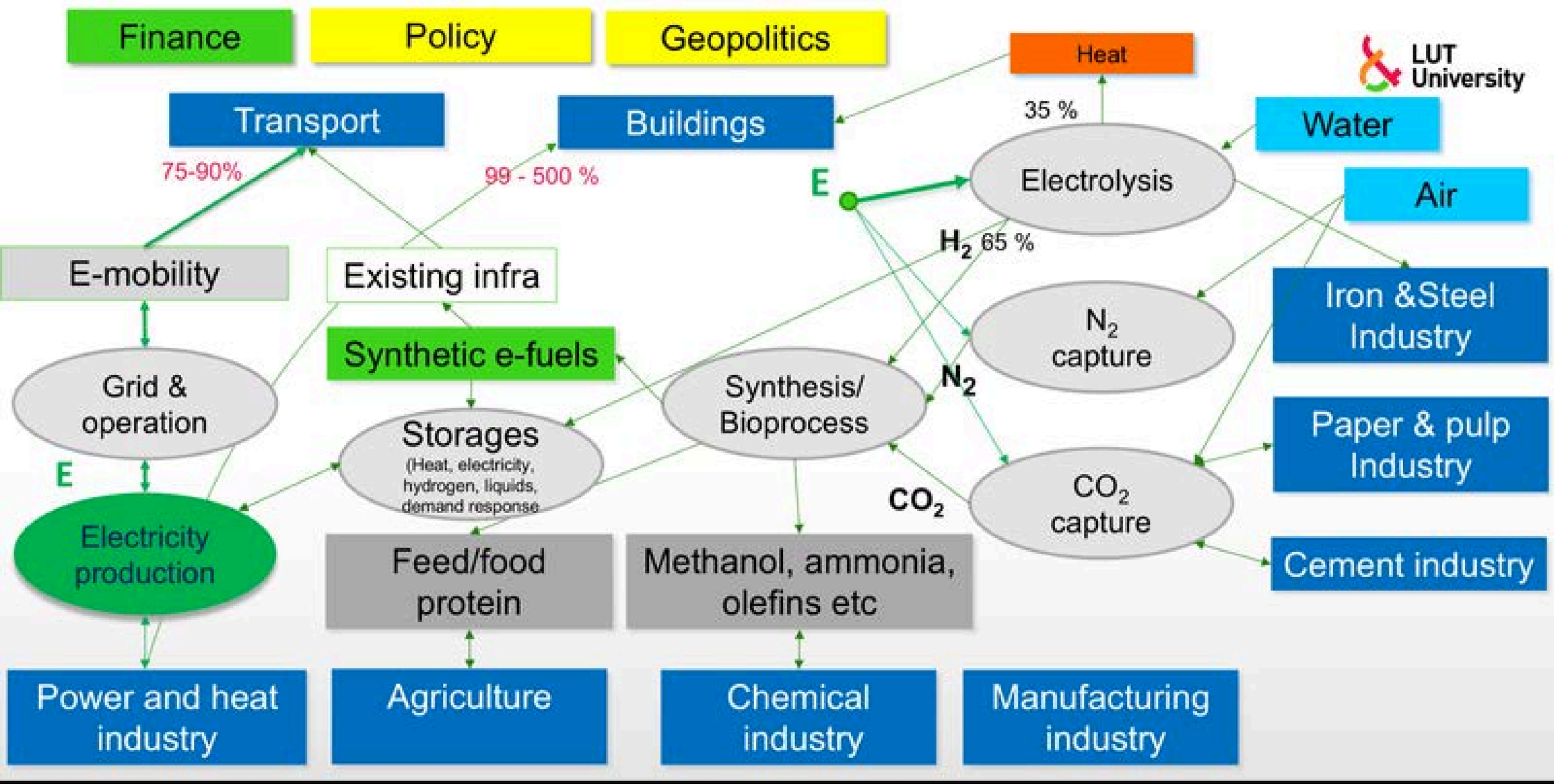
School of Energy Systems

LUT University



MAIN GOAL – HOW TO DO IT?

Get rid of Fossile fuels and raw materials



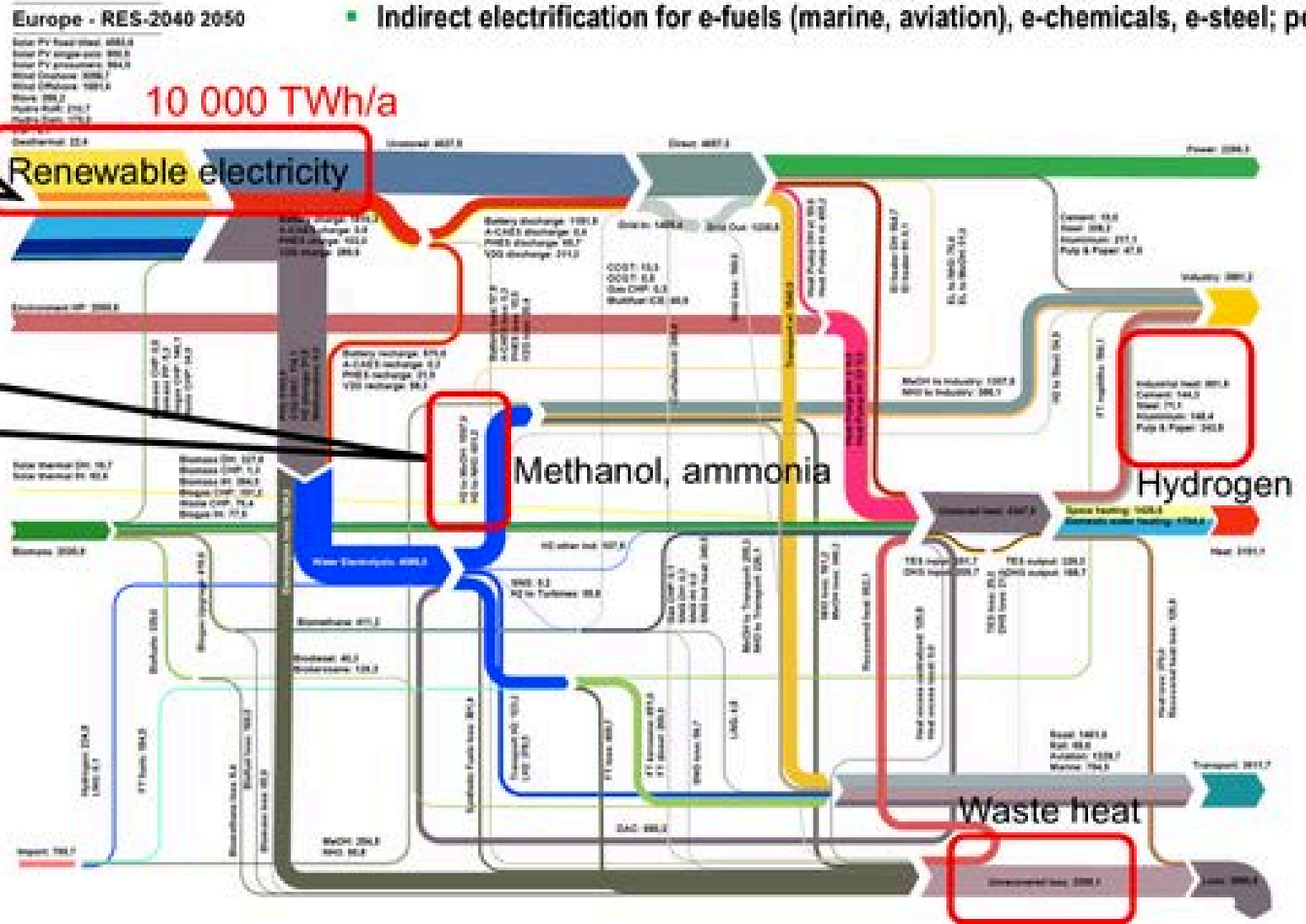
De-fossisation - Logical framework

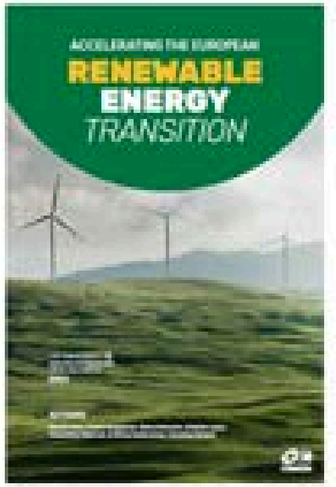
Energy system transition in Europe

- Zero CO_2 emission low-cost energy system is based on electricity
- Core characteristic of energy in future: Power-to-X Economy
  - Primary energy supply from renewable electricity: mainly solar PV and wind power
  - Direct electrification wherever possible: electric vehicles, heat pumps, desalination, etc.
  - Indirect electrification for e-fuels (marine, aviation), e-chemicals, e-steel; power-to-hydrogen-to-X

Electrical energy

Hydrogen economy is a subset of power-to-x - economy





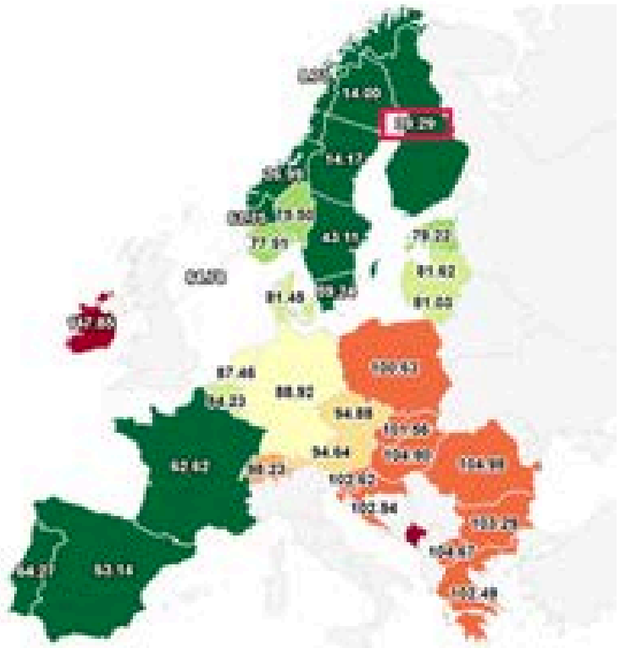
Greens/EFA, 2022

https://extranet.greens-efa.eu/public/media/file/1/7862

FINLAND'S ROLE IN THE EUROPEAN TRANSITION

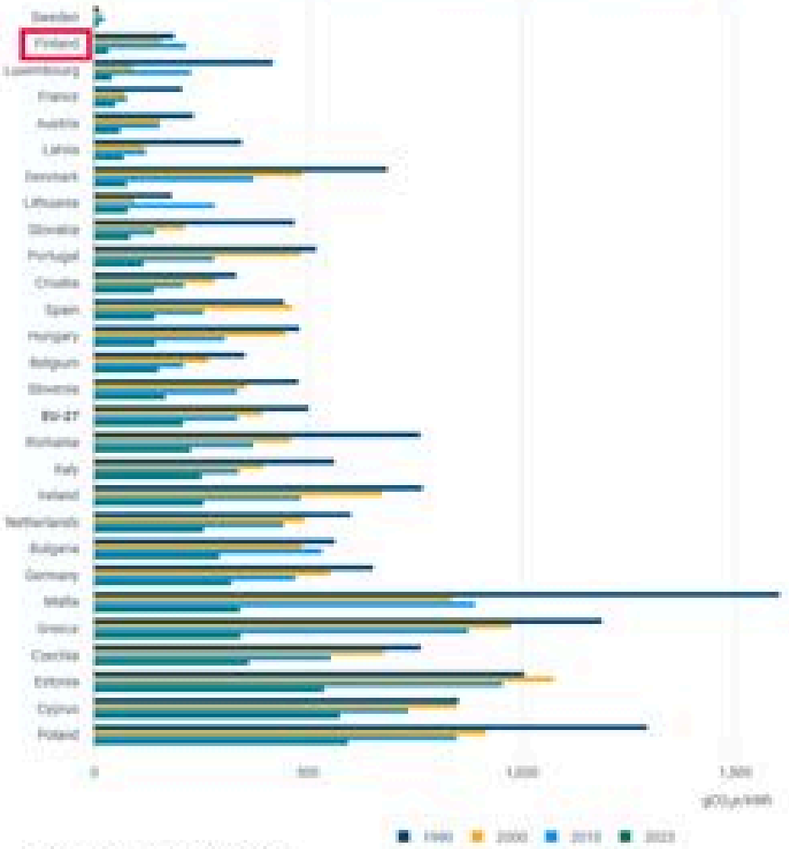
Average electricity spot market prices in 2024

in EUR/MWh



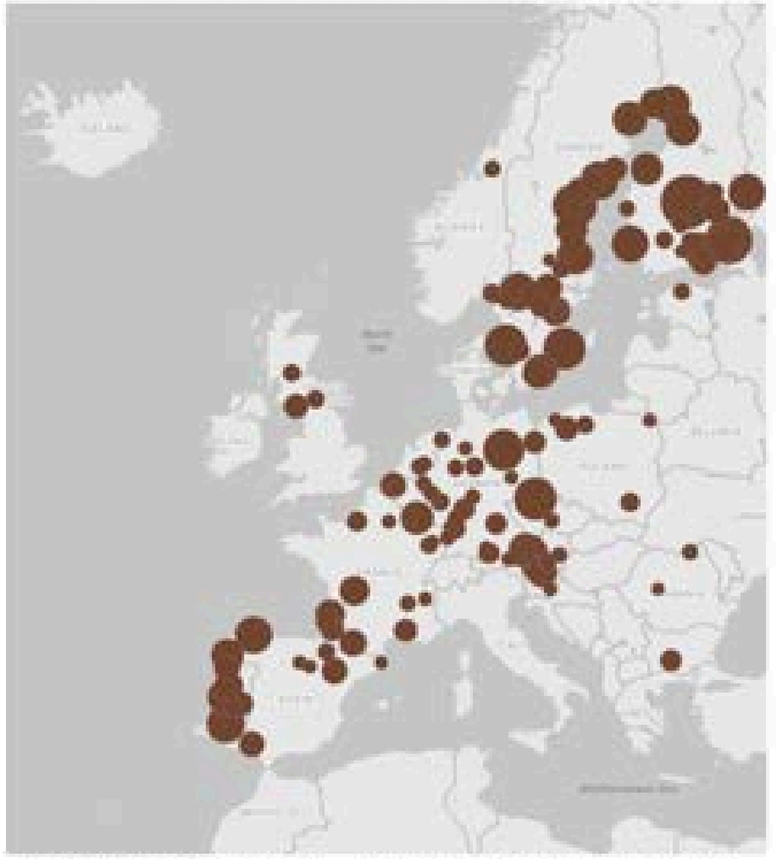
Energy-Charts.info; Last Update: 09/11/2025, 9:50 AM GMT+2

Greenhouse gas emission intensity of electricity generation



European Environment Agency:
https://www.eea.europa.eu/en/analysis/indicators/greenhouse-gas-emission-intensity-of-1

Pulp and paper plants with biogenic emissions in Europe



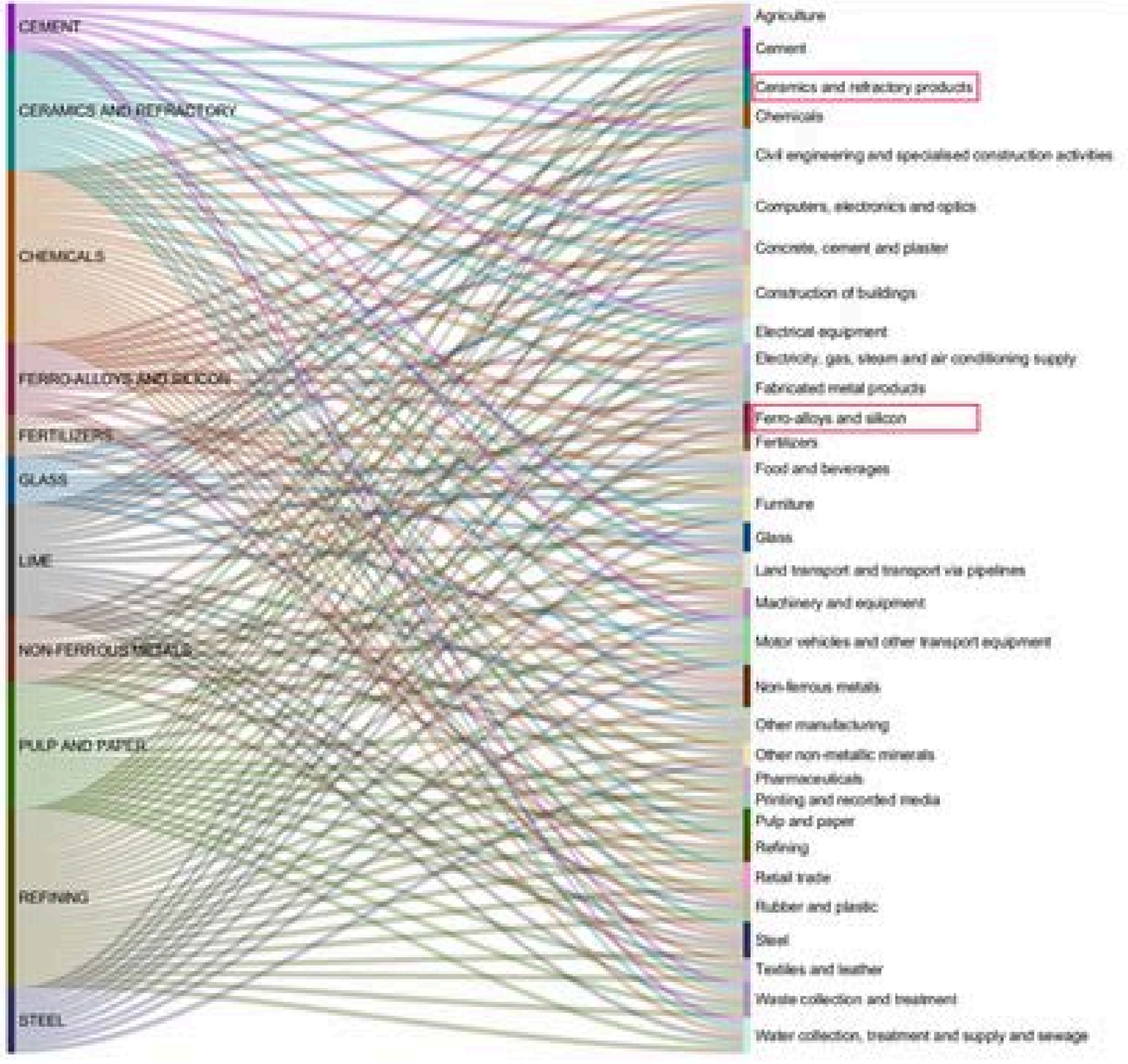
CaptureMap from Endrava: https://www.capturemap.no/the-biogenic-co2-breakdown/

INDUSTRIAL TRANSITION

Fossil Free Chemical Industry

EUROPEAN CHEMICAL INDUSTRY

- Second largest chemicals producer in the world (after China).
- The EU's second largest producer of export products (20% in 2024).
- Strongly dependent on Russian energy and Chinese chemical imports.
- Second largest CO_2 emitting industrial sector (132 Mt CO_2 in 2022).
- Several other manufacturing sectors depend on products of the chemical industry.



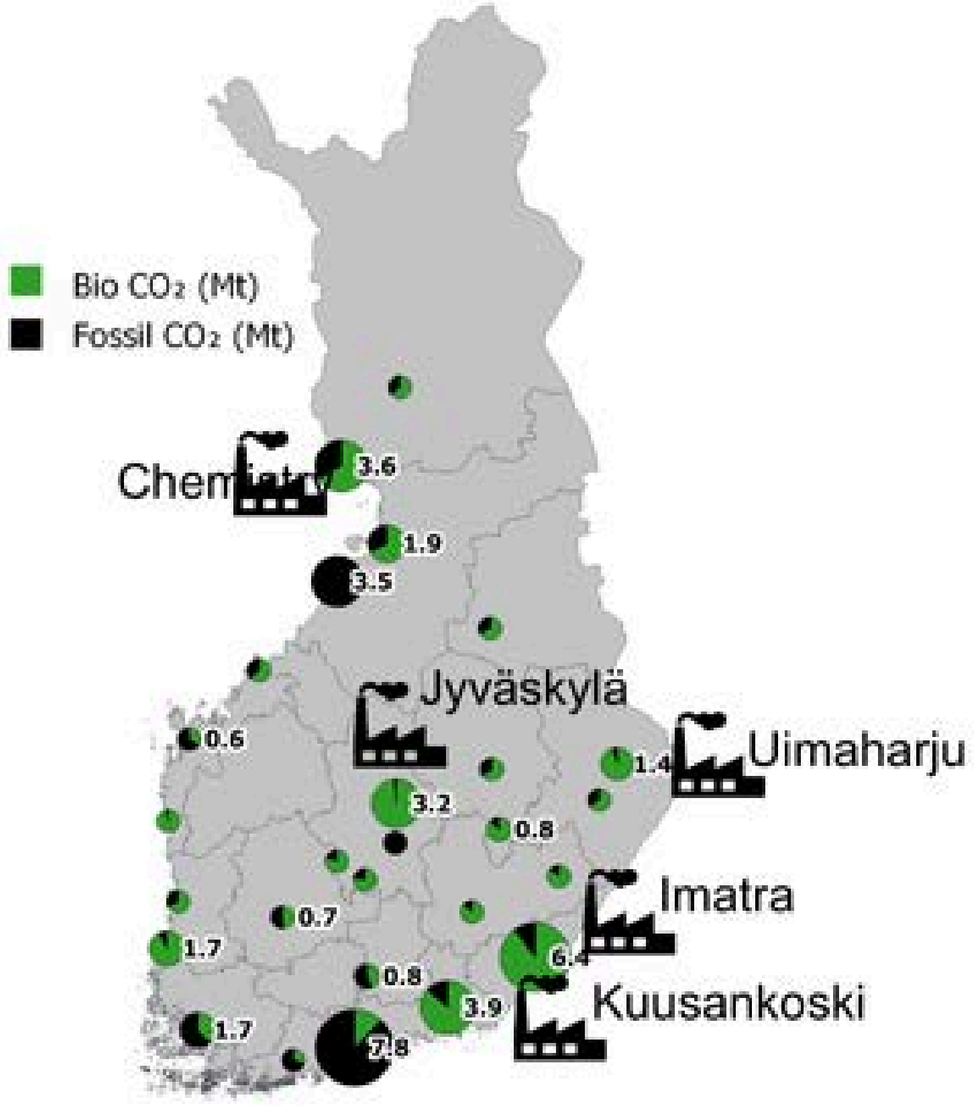
DE-FOSSOLISATION OF FINNISH CHEMICAL INDUSTRY

FINNISH CHEMICAL INDUSTRY

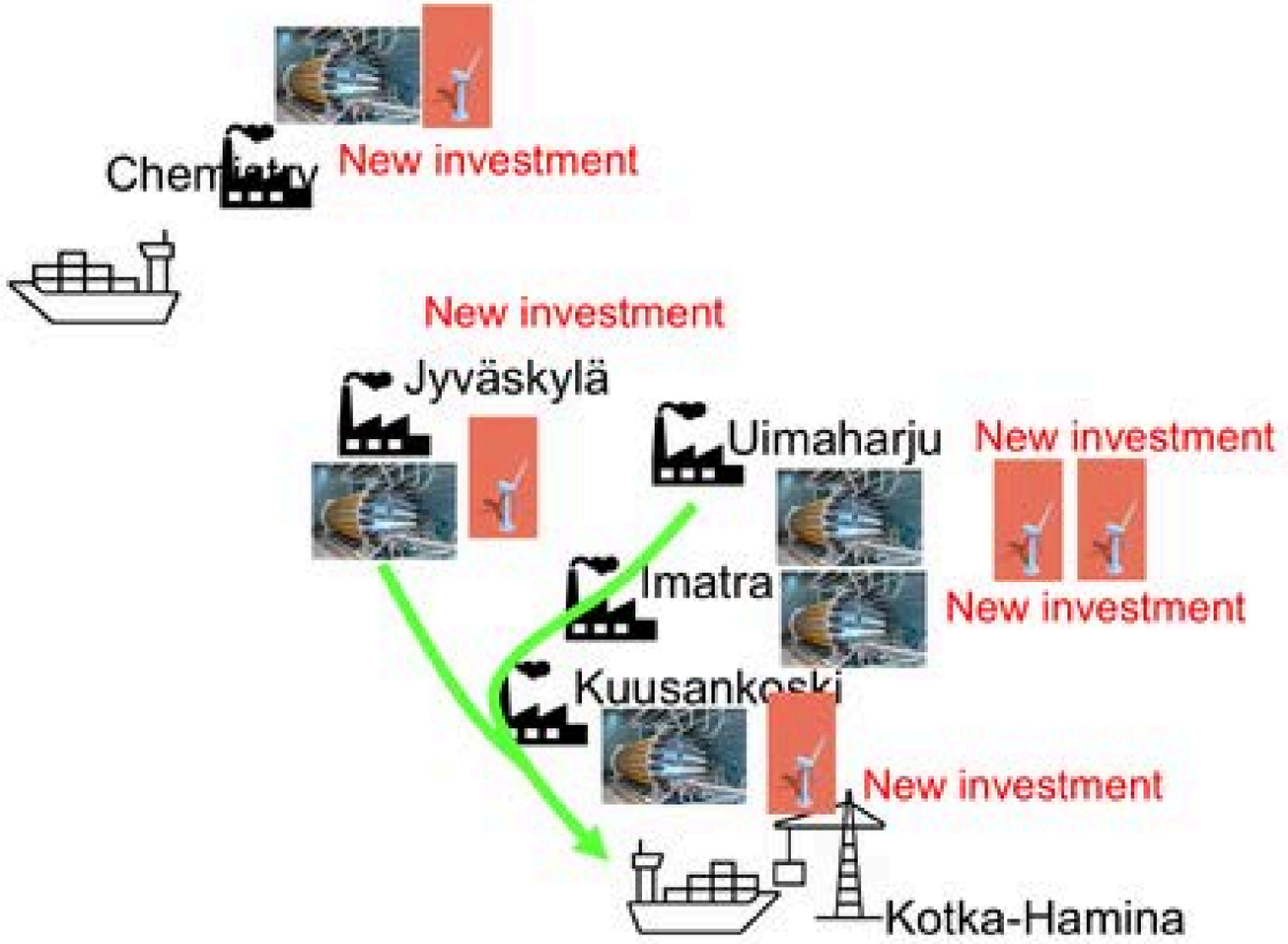
- Concentrated in Porvoo, near Helsinki.
  - Production of fuels, chemicals and polymers from fossil (oil and gas) and renewable (bio-based and waste) sources.
  - Main actors: Neste, Borealis Polymers, Alta Performance Materials and BEWI RAW.
  - Neste was the second largest company in Finland by turnover in 2024[1)].
- Finland's largest producer of export products (19% in 2024).
- Generates 3.3 Mt CO_2 emissions, corresponding to 9% of Finland's total emissions (in 2023).
- Transition to Fossil free production requires 8000 MW of "continuous" electric power for hydrogen production - in energy 68 TWh/a
- The amount of required bio based carbon dioxide is 8.3 MTn/a representing all carbon dioxide from 3-4 pulp mills.
- Faces ~500 M€ annual emission trading (EU ETS) costs from 2034 onward.

1) Talouselämä 500 -lista.

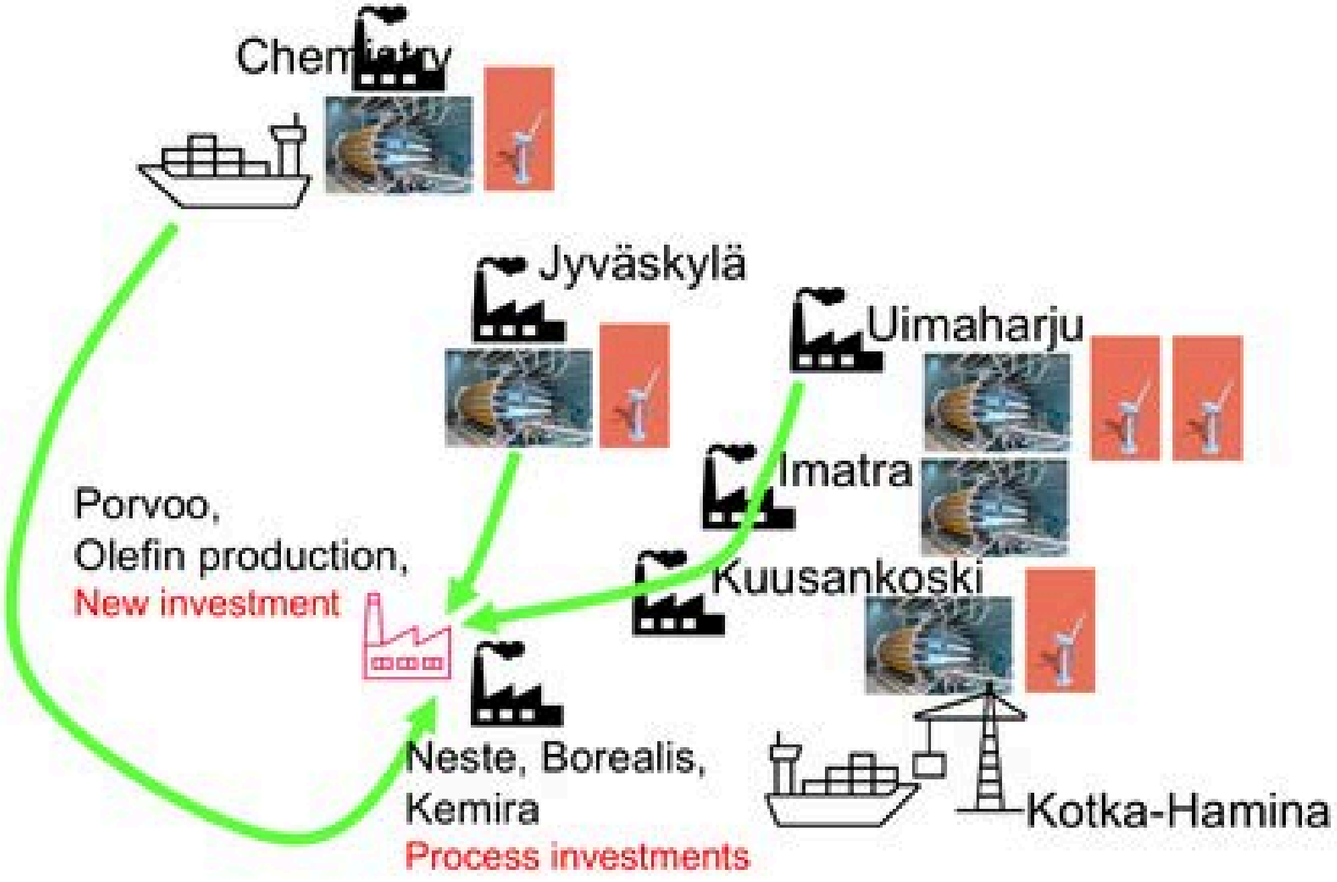
Phase 1: Methanol production by bio CO_2 capture



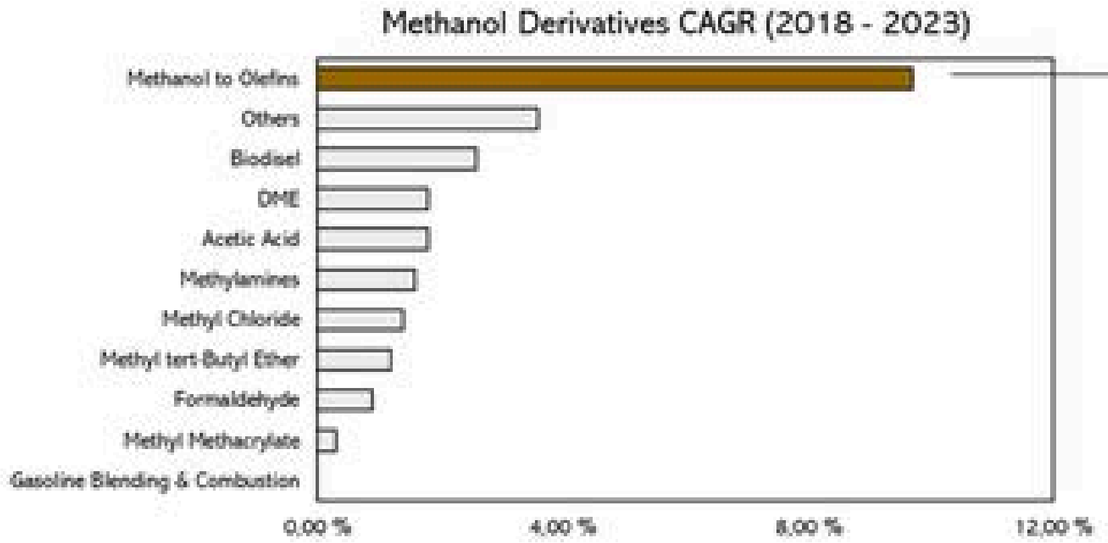
Phase 2: Methanol production, transport and sales

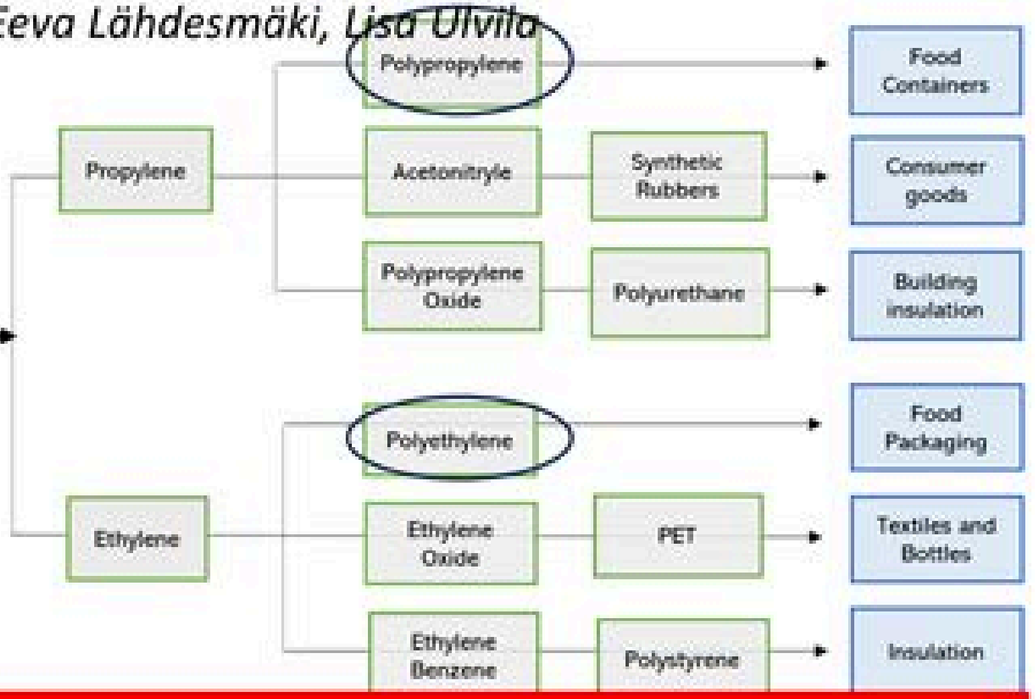


Phase 3: Methanol to Olefin (MTO)production



Source: Scientific paper in publication process: Transition towards power-to-X economy: A case study of Finnish industries e-methanol adoption: Jenna Ruokonen, Teemu Tuomisalo, Eeva Lähdesmäki, Lisa Ulvila

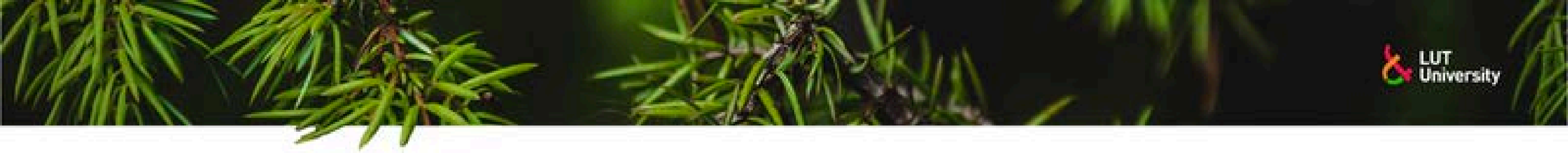




- Plastics are the principal value added product of the MTO process. (1)
- **Currently large scale MTO processes are centred exclusively in China. Currently 16 operating plants, 0 before 2011. (2) None in Europe (4)!**
- However, could this be a novel chemical manufacture industry in Europe with the advent of e-methanol production capacity? (5)

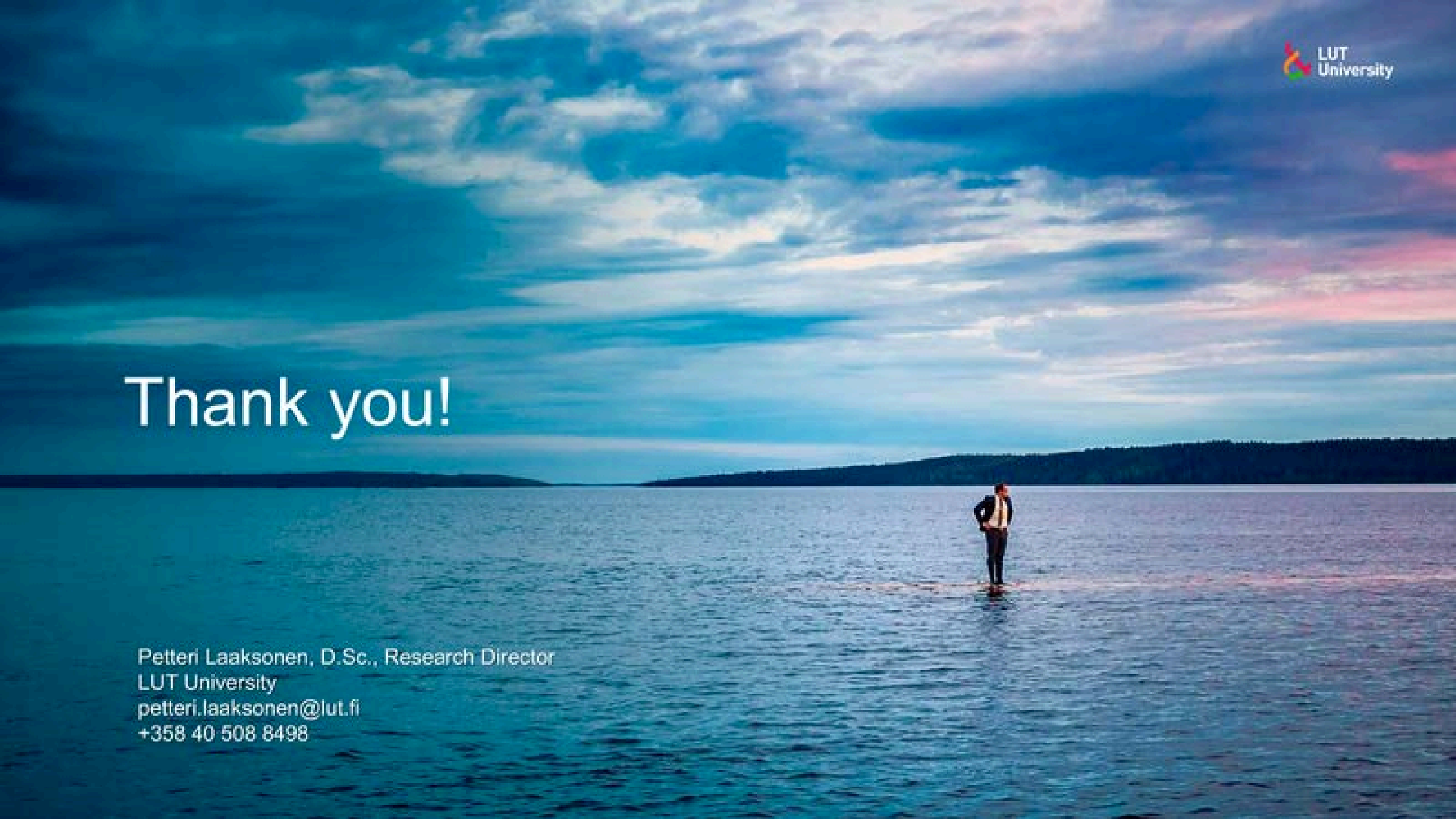
  → Lego and NovoNordisk have pioneered contracts of e-methanol(3) for e-plastic production in Europe

(1) MMSA, 2023 (2) Tabibian & Sharifzadeh, 2023 (DOI: 10.1016/j.rser.2023.113281) (3) Lego, 2023 (https://shorturl.at/gAI8)
(4) https://dechema.de/dechema_media/Downloads/Positionspapiere/Technology_study_Low_carbon_energy_and_feedstock_for_the_European_chemical_industry.pd
(5) https://www.methanolmsa.com/additional-mmsa-services/methanol-to-olefins-mto/



CONCLUSIONS

- Direct electrification, when possible
  - Road transport, rail
  - Heating
- Indirect electrification with hydrogen as energy carrier (Fuels)
  - Aviation (synthetic jet fuel)
  - Shipping (methanol CH_3OH, ammonia NH_4)
- Chemical Industrial transition through methanol and ammonia
- Demand growth of new clean, affordable energy is huge
  - Energy volumes are impossible to transfer across Europe in electricity
- Competitive advantage is based on low-cost wind and solar power



Thank you!

Petteri Laaksonen, D.Sc., Research Director
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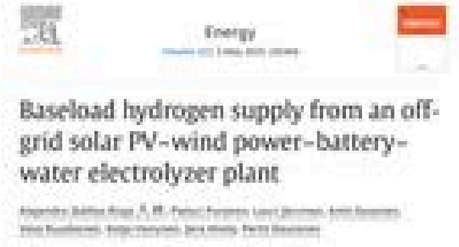
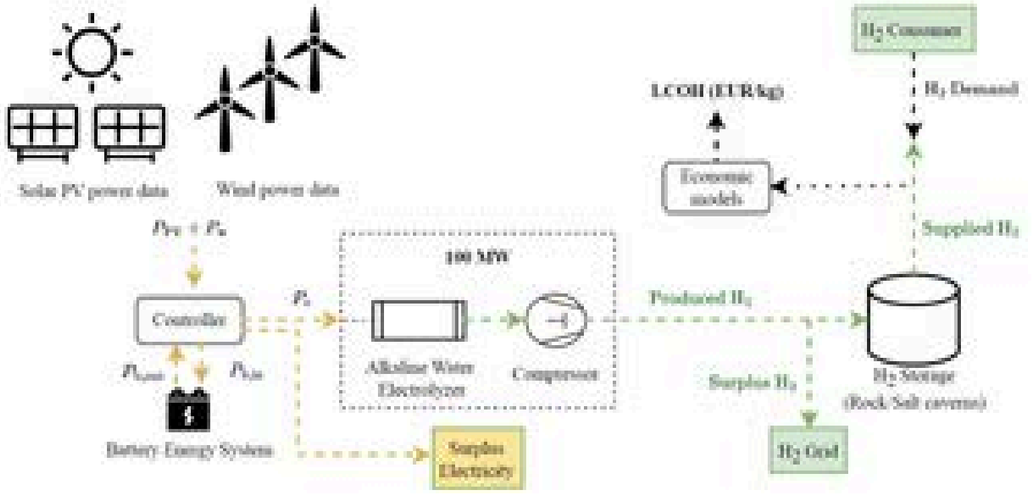
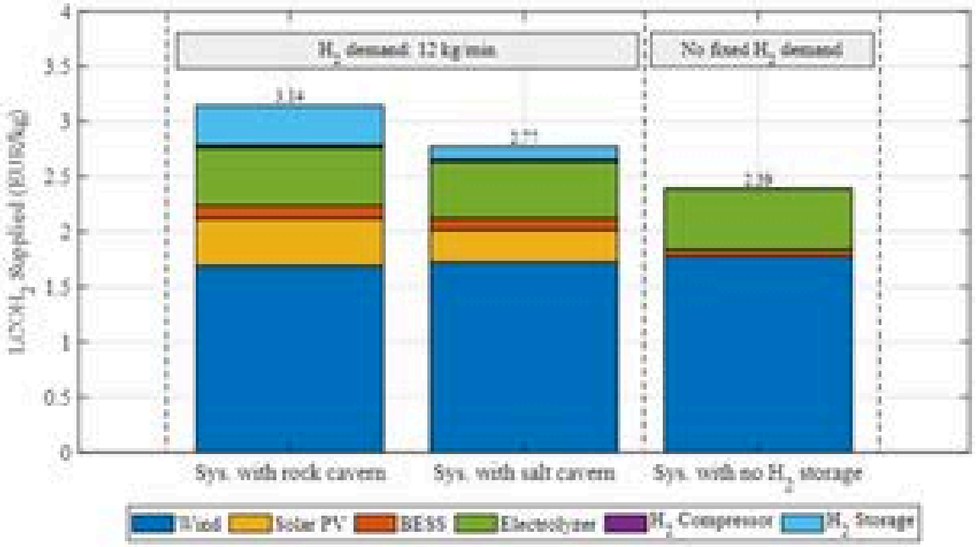
BASELOAD HYDROGEN FROM WIND AND SOLAR



- Simulation and optimization of a complete green hydrogen production system with 2025 numbers
  - Minimizing LCOH with optimal dimensioning and control of 100 MW electrolyzer, battery, wind and solar, storage, and compression, based on certain H2 demand



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PANEL DISCUSSION: REGIONAL HYDROGEN INNOVATION AND STRATEGIES

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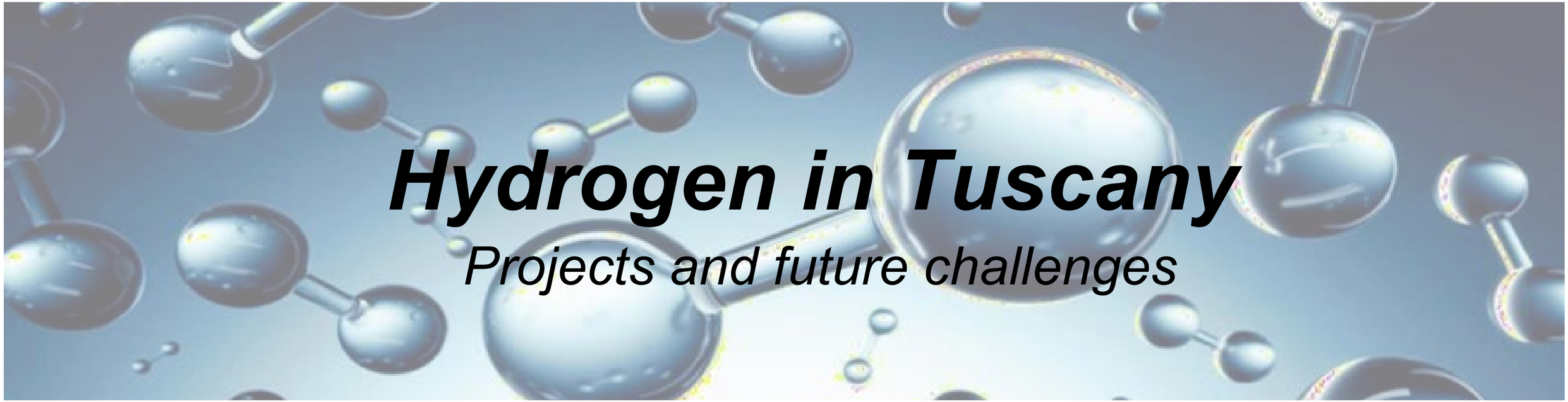
TOSCANA A BRUXELLES



Hydrogen in Tuscany

Projects and future challenges

EU Week Regions and Cities 2025

CPMR - *“TheenergytransitioninEurope’sRegions”*

Brussels, 14 October 2025

REGIONE TOSCANA

TUSCANY REGION EUROPEAN REGIONAL DEVELOPMENT FUND

Tuscany Region ERDF: main priorities linked to Hydrogen

Priority1
Research and innovation, digitalization, and competitivity

47,9% € 589.000.000

Priority 2

Ecologic transition, resilience and biodiversity

29,9% € 367.860.000

Priority 3

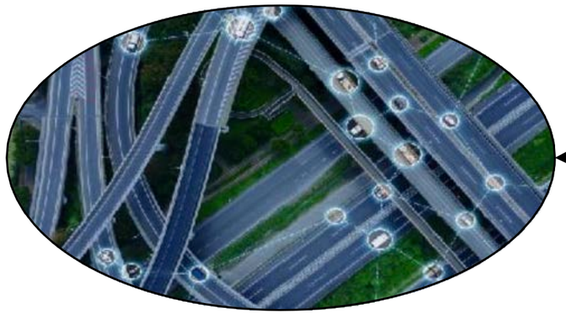
Urbanandsustainable mobility

10,3% € 127.500.000

98 MLN (2025-2027)
Innovative Projects related to STEP technologies (incl. Green H2)

1. REGIONAL ACTIONS

REGIONAL HYDROGEN BOARD (2022)



Mobility & infrastructure

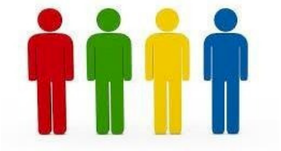
Research & training

Energy & environment

Technology transfer & supply chains

REGIONE TOSCANA

H2 BOARD: SOME DATA



200+ ACTORS WHO TOOK PLACE IN THE REGIONAL BOARD

85 PROJECT PROPOSALS

39 PROJECT PROPOSALS RELATED TO THE ENERGY AND ENVIRONMENTAL THEMES

REGIONE TOSCANA

2. PARTICIPATION TO H2 NATIONAL CALLS (NRRP–NATIONALRECOVERYANDRESILIENCEPLAN)

M2C2 investment of the NRRP «Production in industrial areas»

National budget: € 500.000.000

Regional budget: € 17.500.000

Tuscany Region Call 2023

Hydrogen Valley Rosignano HVG: € 16.000.000

REGIONE TOSCANA

Hydrogen Valley Rosignano HVG

RT/ NRRP

16 MLN

SOLVAY CHIMICA ITALIA SPA

SAPIO PRODUZIONE IDROGENO OSSIGENO SRL & F2I HOLDING PORTUALE SPA

ABOUT THE PROJECT

Build a **Green H2 production plant**

Powered by **Renewable electricity**

Disused industrial area in Solvay plant (Rosignano)

Capacity: **756 tonnes/year**

Aim: **15% cut**

CO2 from peroxide production

Expected end date: **first half of 2026**

REGIONE TOSCANA

3. INTERREG PROJECTS FOR THE EXCHANGE OF BEST PRACTICES ON H2

PROJECT H2 MOVE: Hydrogen for a green and sustainable mobility

Co-financed by the Interreg Italy- France Maritime Programme 2021- 2027

Definition of a macro-strategy of action plans for the **introduction of hydrogen systems for port vehicles** and connections, and between the port anche the productive areas

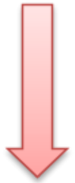
HYPERION project «Hydrogen uptake in European Regions»

Financed by INTERREG EUROPE

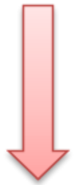
Mapping exercise of the hydrogen supply chain in Tuscany, to **identify research and development, distribution and storage sites** in view of the forthcoming Hydrogen valley bid

4. TUSCANY HYDROGEN VALLEY

Mapping H2 **Value Chain**

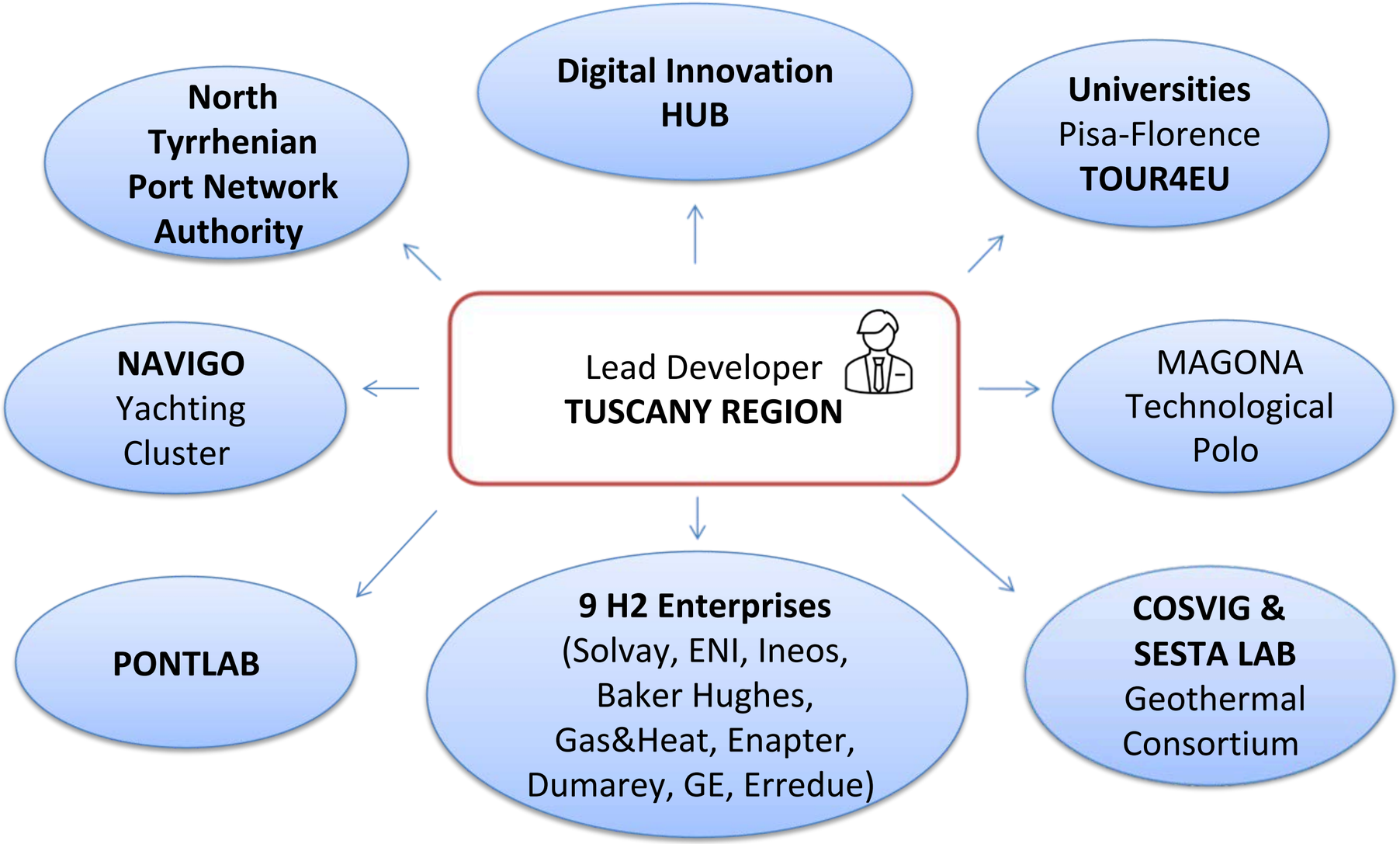


Selecting strategic **partners**



Defining the **Business Plan**

4 (II) - TUSCANY HYDROGEN VALLEY



4 (III) - TUSCANY HYDROGEN VALLEY

The Tuscany Regional H2V aims to position the region as a Europeanhub forgreen hydrogen,leveraging its coastal ports, industrial clusters, and renewable energy potential.

Call PDA LIGHT 19.9.2025

Clean Hydrogen Partnership

→

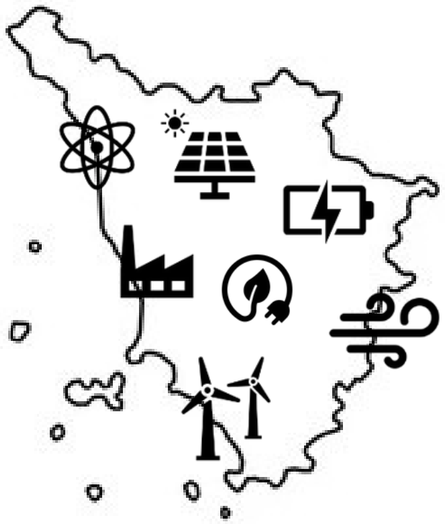
Technical Assistance to create a H2 Valley project (pre-feasibility)

REGIONE TOSCANA

4 (IV). TUSCANY HYDROGEN VALLEY

STRATEGIC PERSPECTIVES

- Develop a **scalable hydrogen infrastructure** acrossTuscany
- Promote **industrial decarbonization** through hydrogen technologies
- Foster **innovation and R&D** in hydrogen applications
- Enable **cross-sectoral collaboration** and commercial partnerships
- Support **regional development** and **job creation**.



5. FUTURE STEPS

European H2 Valley call 2026

National Hydrogen Observatory

Hydrogen Europe

Implementation of a Tuscany H2Valley

THANK YOU FOR YOUR ATTENTION!

Silvia Burzagli – Tuscany Region

Head of EU Liaison Office – Brussels

Directorate TerritorialCompetitivenessandManaging Authorities

silvia.burzagli@regione.toscana.it

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Energy transition in Lazio and PNRR projects in the field of hydrogen-based technologies

Luigi Palestini – Area Transizione Energetica - Direzione Regionale Ambiente, Cambiamenti Climatici, Transizione Energetica e Sostenibilità, Parchi – Regione Lazio

With the support of:

SAPIENZA UNIVERSITÀ DI ROMA

Università degli Studi Guglielmo Marconi

LIFE3H

cotral

CFFT Civitavecchia Fruit & Forest Terminal

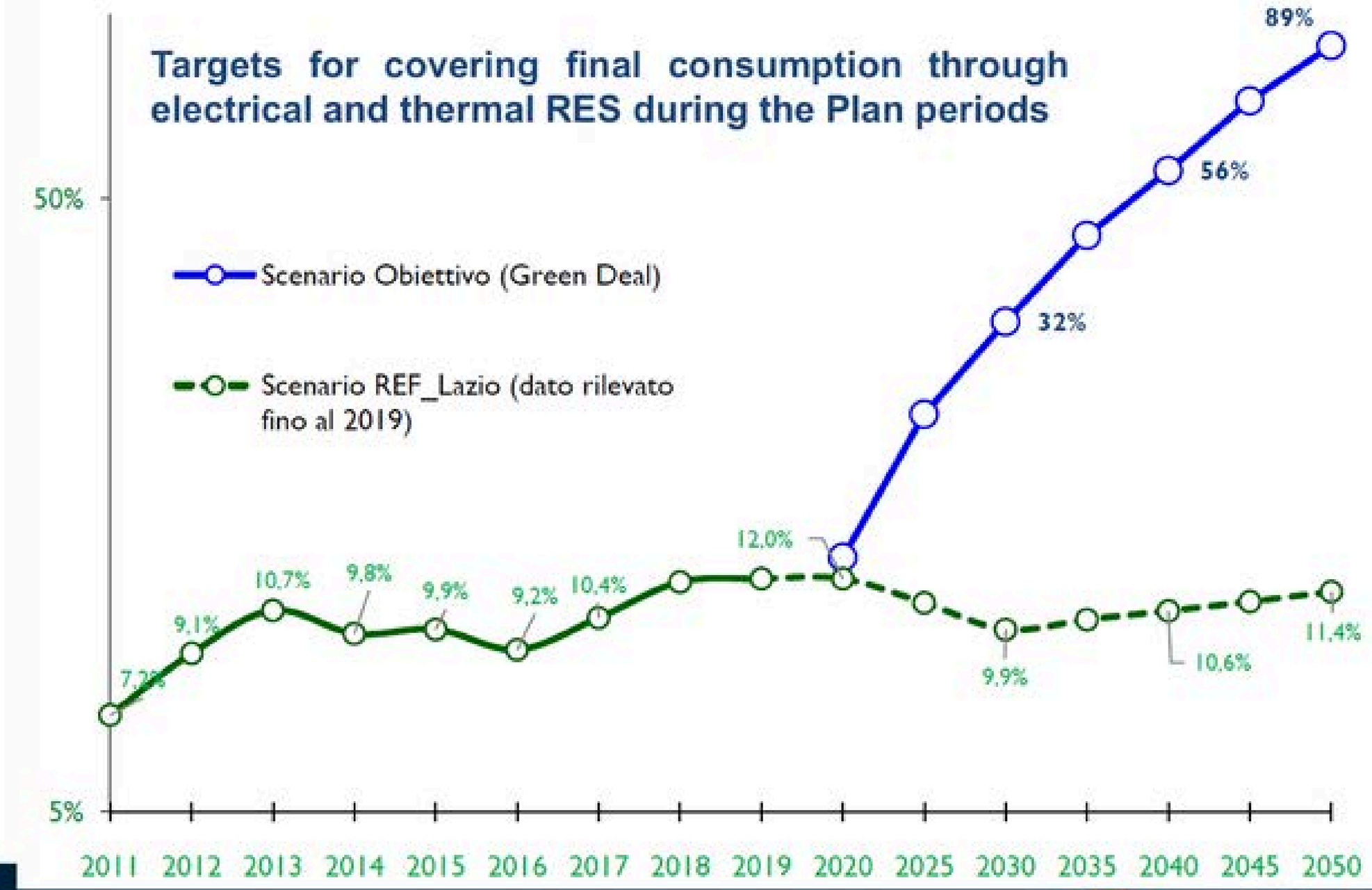
The Regional Energy Plan

- The Regional Energy Plan (PER-Lazio) is the tool with which the regional competences in the field of energy planning are implemented, with regard to the rational use of energy, energy saving and the use of renewable sources.
- It is the result of a shared and transparent consultation with public and private stakeholders and incorporates both the results of this consultation and the regional strategic guidelines

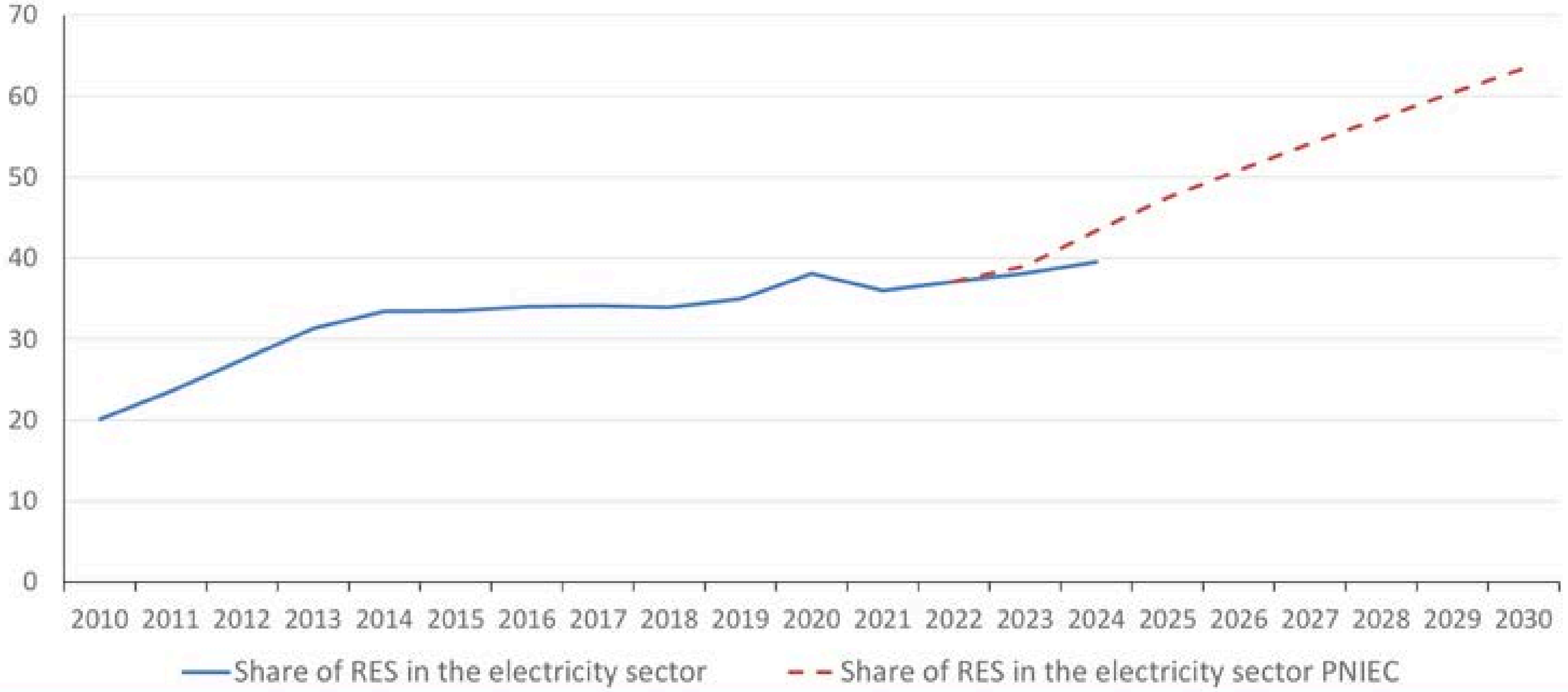
- The actual version of the PER is aligned with recent and ambitious European policies (Europe "carbon neutral" goal by 2050)

- Chapter 3 “Policies and Programming” of the new version of the PER includes priority guidelines, objectives and interventions regarding hydrogen, which are influenced by the results and the Best Practices identified by European projects

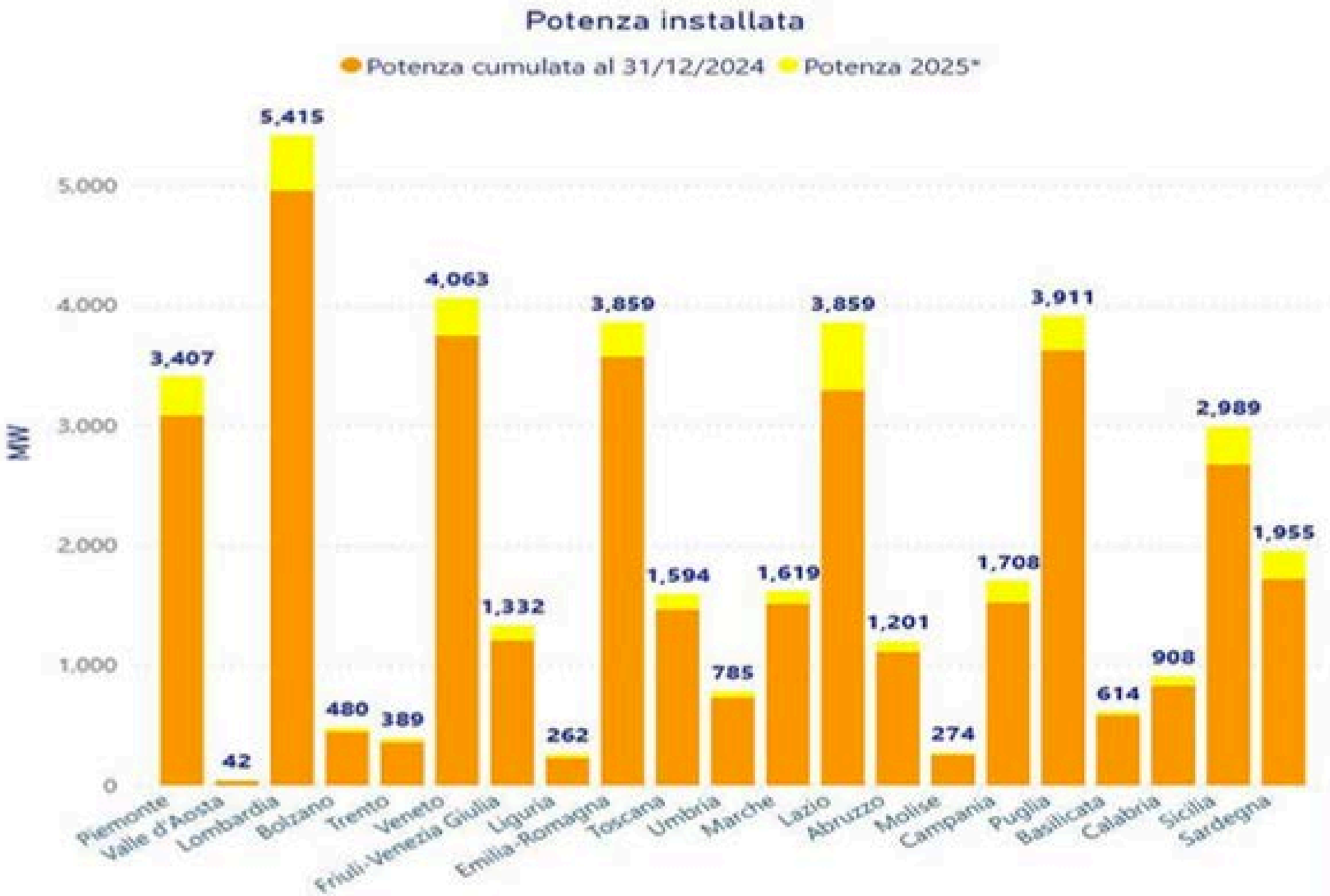
The scenarios described in the Regional Energy Plan



Penetration of RES in the electricity system in Italy (in %)



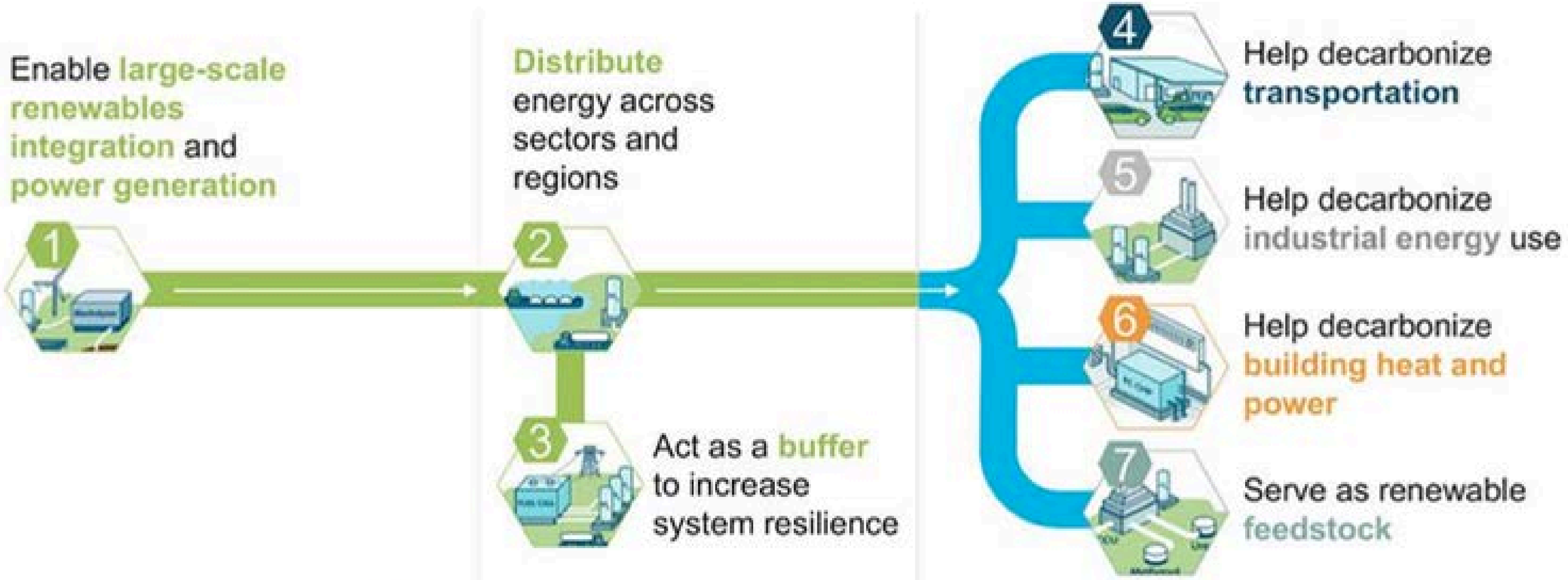
RES plants power installed by Italian Regions



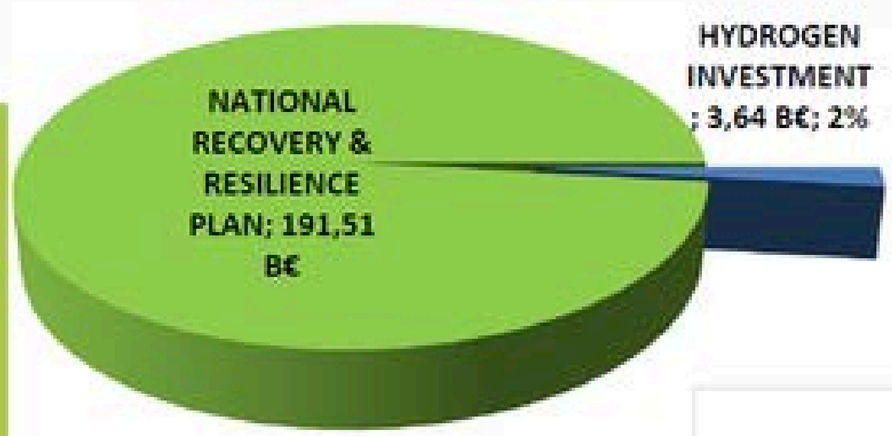
REGIONE LAZIO

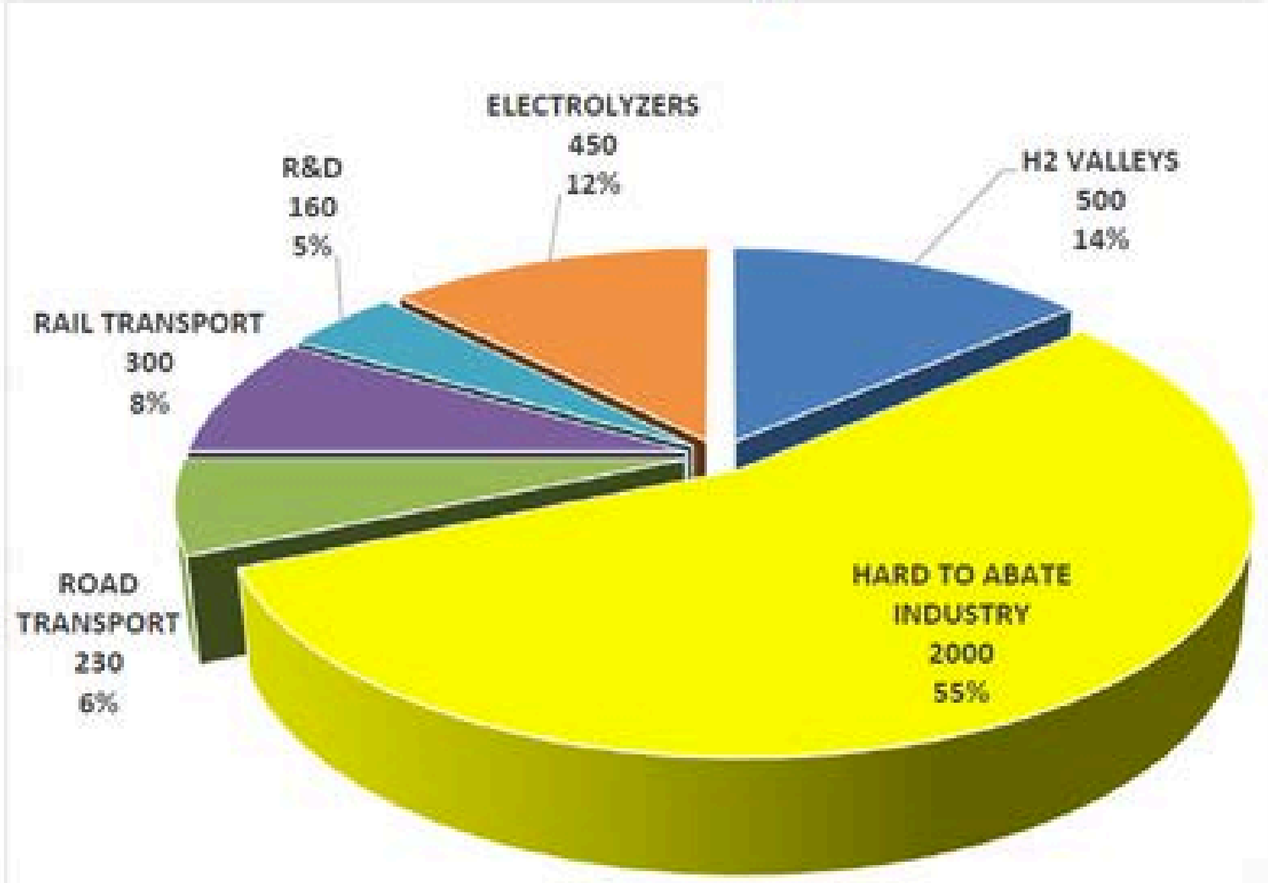
Hydrogen as an enabler of the energy transition in Europe

Enable the renewable energy system → Decarbonize end uses

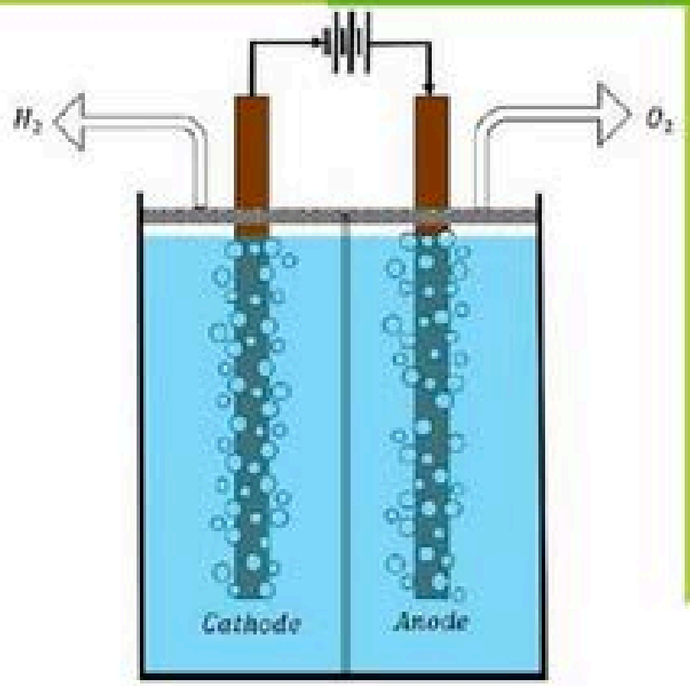


Hydrogen in the Italian Recovery Plan





PNRR
Misura 2
Componente 2
Investimento 3.1



PNRR M2C2 I3.1 Production in brownfield sites

Redevelopment of disused industrial areas for the production of hydrogen, to be used for local transport and industry

Objective of the investment

Create 10 hydrogen valleys, i.e. industrial areas with an economy partly based on hydrogen, to promote the production and use of H2 in industry and transport at the local level. To contain costs, brownfield sites already connected to the electricity grid will be used: electrolysers will be installed there for the production of hydrogen through RES over-generation or dedicated RES production in the area.

The total area of industrial areas in Italy, in 2011, was about 9,000 km^2: almost as much as Umbria. Most are strategically located to help build a widespread network of hydrogen production and distribution to nearby SMEs.

Hydrogen Valleys in Lazio funded by National Recovery Plan (PNRR)

On the basis of the ranking, the projects to be financed with the available resources are:

1) "**H2-Civitavecchia**", presented by CFFT - Civitavecchia Fruit & Forest Terminal S.p.a. for the port of Civitavecchia (RM) area and fully funded by the PNRR

2) "**Helios**" presented by Engie Servizi S.p.a. – Società Gasdotti Italia S.p.a. – Consorzio Industriale del Lazio for Patrica (FR) area and fully funded by the PNRR

3) "**Indeco Green Hydrogen Hub**" presented by Greenthesis – Indeco, for the Borgo Montello (LT) area and fully funded by the PNRR

In addition, the following project will be financed with Repower EU resources:

"**Roma Hydrogen Valley**", presented by IP INDUSTRIAL S.p.a. for the Rome area and fully funded by the PNRR

PNRR
M2C2
Investment 3.1

Project H2-Civitavecchia

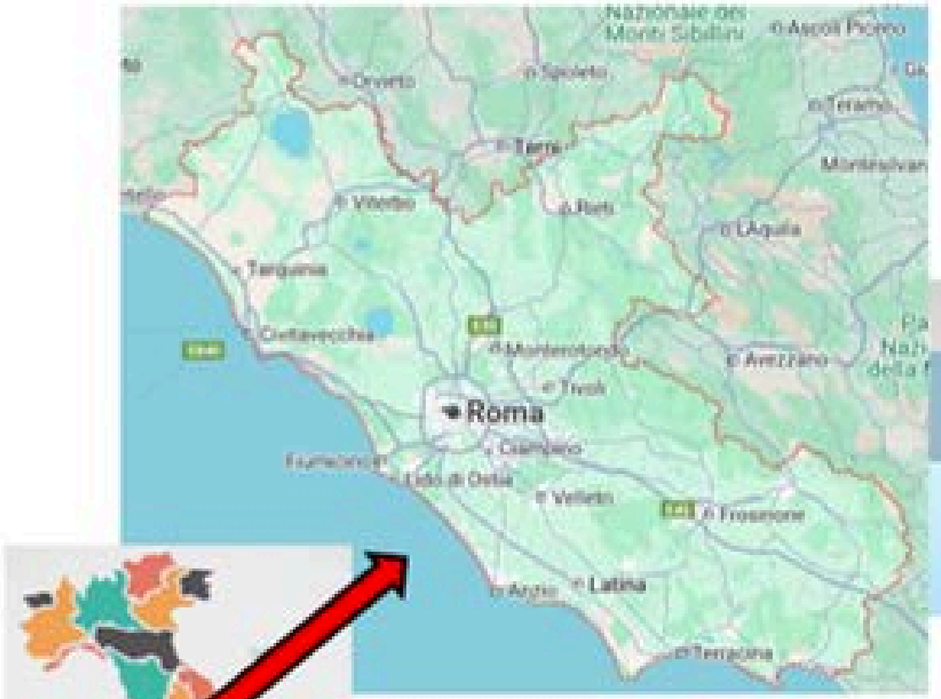
(Civitavecchia Fruit & Forest Terminal)
Location: Civitavecchia Interport (RM)

Uses of hydrogen:

- Cold ironing (electrification of docks at the Port through the supply of hydrogen to make up for an electricity generation of 3 MW and to store 30 MWh necessary for power supply and balancing)
- Heavy goods and passenger mobility (tank capacity 35 kg; driving distance 400 km)
- Average mobility of goods and people (tank capacity 10 kg; driving distance 300 km)

Electrolyser power	3	[MW]
PV plant annual energy production	7767	[MWh/year]
Annual H2 production	143	[tH2/year]
Equivalent hours of operation	2446	h
Efficiency	53,7	[MWh/tH2]
Water consumption	570	[l/h]

Cold Ironing at Port Docks



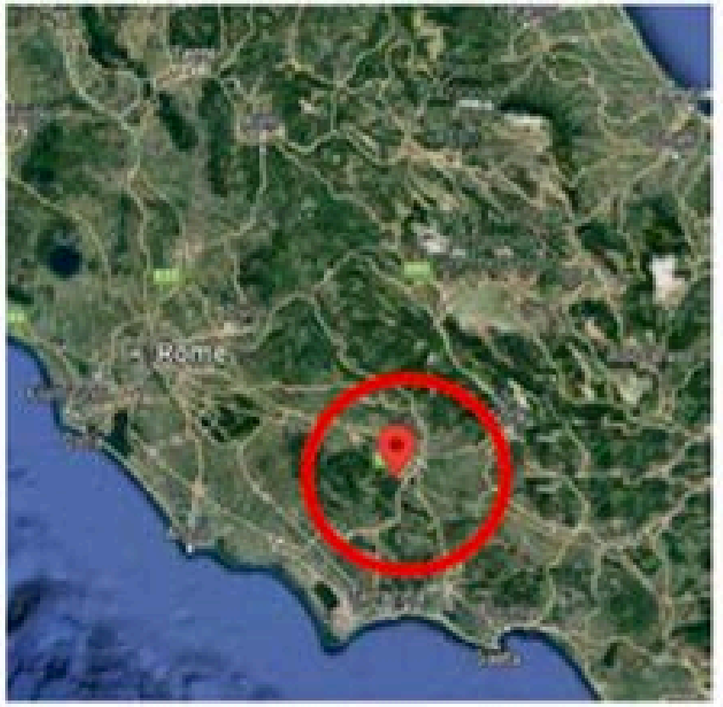
PNRR
M2C2 Investment 3.1
Helios Project
(Engie Servizi, Società Gasdotti Italia, Consorzio Industriale del Lazio)
location: Patrica (FR)

Uses of hydrogen:

Initial phase with the involvement of the pilot user of the project (Novamont S.p.A.), currently connected to the DX-Sacco pipeline, intending to use hydromethane blends in concentrations of up to 20%. Powered by a new "hydrogen ready" gas pipeline about 1.5 km long

Extension of the use of hydrogen blends to all companies currently connected to the DX-Sacco pipeline (6 in total in addition to the pilot company)

PV system power: 6,962.55 kWp
Electricity produced by PV plant: 10,057.52 MWh
of which consumed by the electrolyser: 9,720.3 MWh
Equivalent annual production hours of the PV system: 1452 h
4.5MW Electrolysis Unit
Electrolyser unit efficiency: 54.7 kWh/kg H2
H2 electrolyzer production capacity: 83 kg/h
Actual water consumption: 850 l/h (full load), i.e. 10.2 l/kg H2
Total H2 production: 290.65 tons/year



PNRR
M2C2 Investment 3.1

Indeco Green Hydrogen Hub Project (Greenthesis - Indeco)
location: Borgo Sabotino (LT)

Uses of hydrogen:

Objective of the project: Production of green hydrogen, through an innovative and advanced electrolysis process, powered by part of the permeate, coming from a three-stage reverse osmosis plant for the recovery of landfill leachate. Blending use in the gas network for nearby industries in the following sectors:

- food
- pharmaceutical
- iron and steel
- Trucking

PV system power: 3 MWp
Electricity produced by RES served: 3,112.70 MWh
Battery Energy Storage Capacity (BESS): 5.5 MWh
Annual production hours of the PV system: 1354 h
1MW Electrolysis Unit
Electrolyser unit efficiency: 53.3 kWh/kg H2
H2 electrolyzer production capacity: 18.75 kg/h
Actual water consumption: 190 l/h (full load),
Total H2 production: 156 tons/year
H2 storage with a maximum capacity of 1000 kg

Uses of hydrogen:

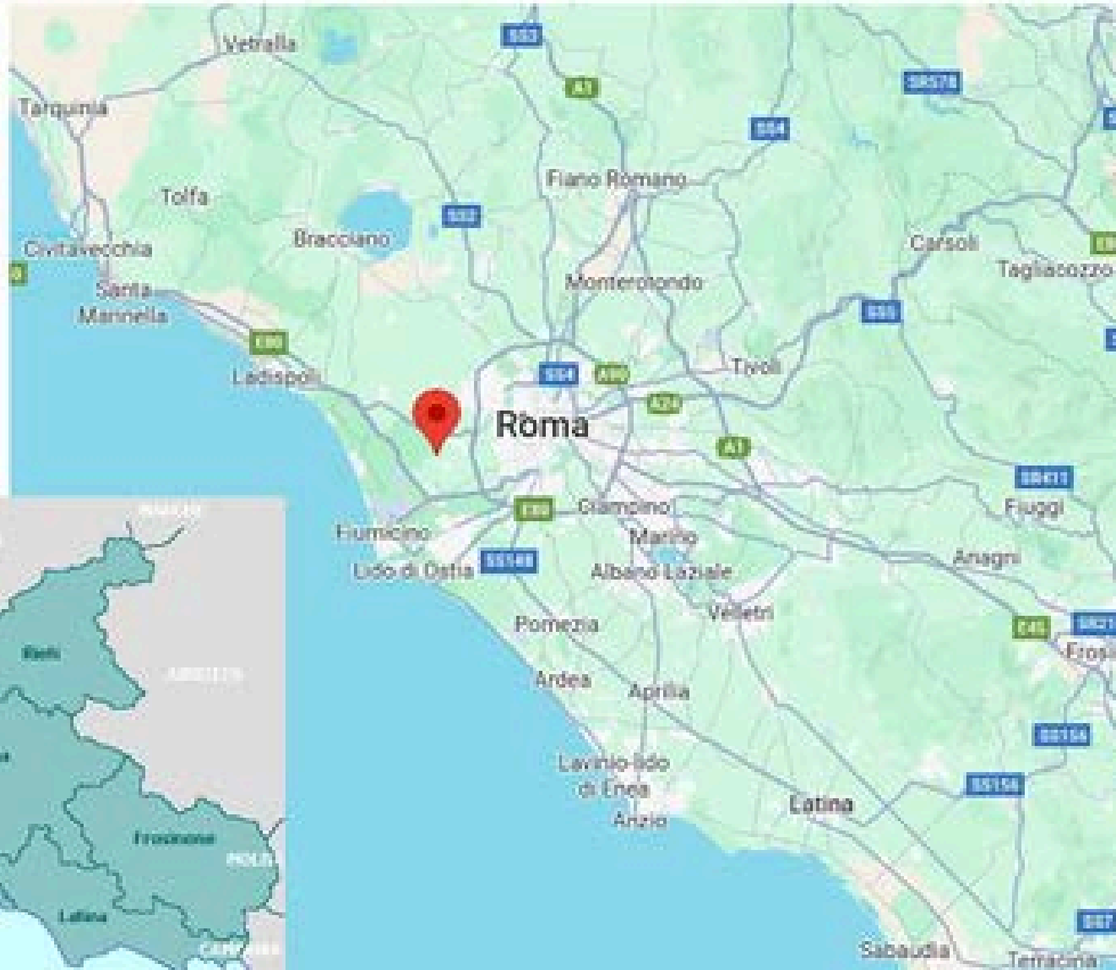
Objective of the project: Production of green hydrogen for:

- Green mobility (HRSs, H2 Buses, H2 Trucks)
- industrial processes

PNRR
M2C2 Investment 3.1

Roma Hydrogen Valley
(IP INDUSTRIAL)
location: Rome

PV system power: 4 MWp
Electricity produced by RES: 5,891 MWp/year
3 MW Electrolysis Unit
Electrolyser unit efficiency: 58 kWh/kg H2
H2 electrolyzer production capacity: 54 kg/h
Actual water consumption: 1200 l/h (full load),
Total H2 production: 130 tons/year
H2 storage with a maximum capacity of 1400 kg

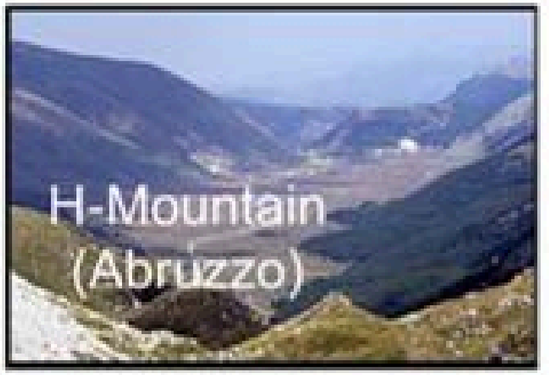


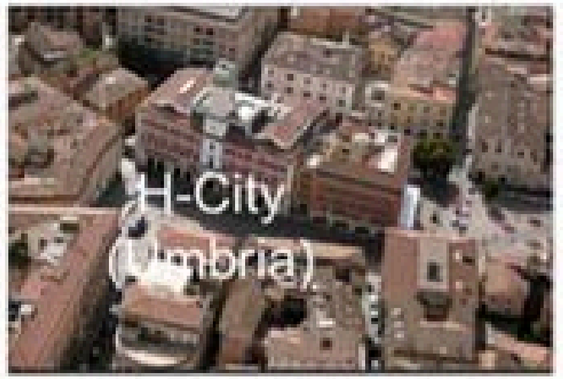
- Hydrogen Valleys: €500 million allocated
- Current result: Funded with PNRR 59 Hydrogen Valleys.
- Hydrogen Refuelling Stations (HRS): €230 million allocated.
- The goal is to make 2% of the national long-haul truck fleet hydrogen-powered by 2030.
- Current result: 36 Refuelling stations financed with PNRR.

Life3H OBJECTIVES & SCOPE

To set up, demonstrate and exploit 3 Hydrogen Valleys starting from the implementation of H2 buses fueled with surplus H2 coming from local industrial productions thus closing the economical circle locally

- Build up the first 3 Italian HVs laying the basis of one transregional HV
- Develop common & sustainable road LPT mobility reducing emissions based on 6 H2 buses (and 3 HRS) applied to 3 totally different areas and scenarios
- Implement integrated H2 local policies & regulatory approaches
- Increase circular economy → **utilization of by-product H2**
- Develop a HV implementation strategy and a standard smart sustainable mobility management system that allows extension and replication in other sites
- Raise citizens' awareness & improving policy commitment





REGIONE LAZIO

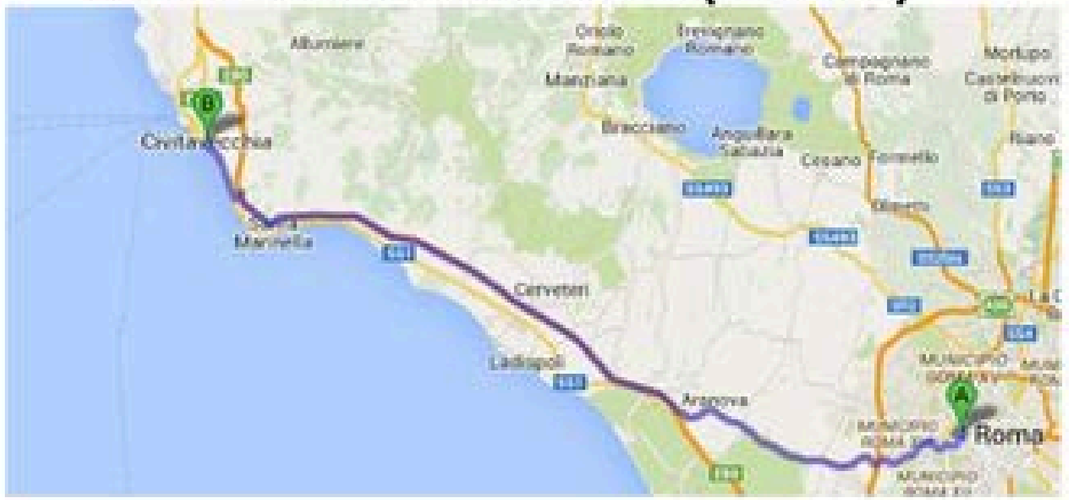
Il porto di Civitavecchia

REGIONE LAZIO

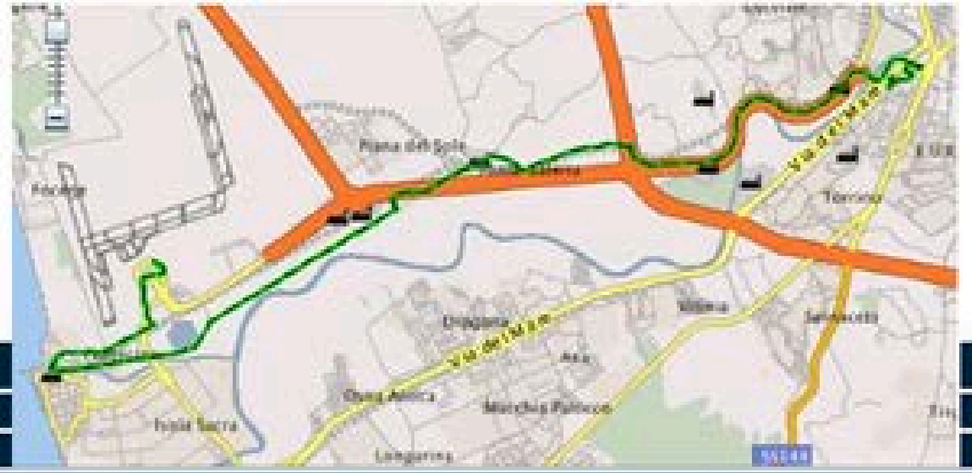
Future developments (2026-2030)

- The fuel cell buses can operate :
  - on specific lines
  - expected daily range
  - Low average speed
  - service type sort 3 (UITP "Project Sort" ed.2009)

Civitavecchia-Vaticano Line (70.7 km)



Fiumicino – Rome Line (30 km)



The current problem

- In some areas there are several hydrogen projects that complement each other
- For example, at the port of Civitavecchia there is a hydrogen valley, an HRS, the port's Cold Ironing and a hydrogen-based mobility project
- But now the real difficulty is integrating these projects with each other and making them move forward together
- This is why we need national and regional discussion tables and coordination action carried out above all by the regions
- The Lazio region has activated a roundtable with the Ministry of the Environment, which is responsible for the implementation of the hydrogen valleys
- This approach is important to avoid projects becoming "cathedrals in the desert"

Collaboration between regions to cross barriers

- Integration, synchronisation, and visibility appear to be the cornerstones of hydrogen deployment and scale up across the whole hydrogen value chain
- The Mediterranean is the sunniest region in Europe and therefore the most suitable for providing green energy to produce hydrogen. On the other hand, the factors that allow the development of green hydrogen production are availability of renewable sources, low-carbon grid electricity at low cost, R&D and collaboration, ambition and support from the government and availability of buyers (off-takers)
- With the development of the renewable hydrogen market, collaboration between the Mediterranean regions will be very important to ensure balanced, sustainable, participatory growth, which takes into account the interests of the regions

(from 2021 Clean Hydrogen Alliance Report on barriers and mitigation measures)

The IMC Hydrogen Task Force

The IMC Hydrogen Task Force aim to collect data and make an analysis of the activities underway in the Mediterranean regions, to:

- monitor European policies, to govern the change underway in favor of the regions;
- encourage the meeting of local actors and put H2 producers and users in contact;
- create a database of projects of interest to the IMC for the production, transport, and use of renewable hydrogen, starting from existing data and integrating them;
- encourage the comparison between existing projects and identify possible synergies between them and best practices;
- promote new forms of collaboration and projects for the training of staff who will have to follow and manage the new activities of this growing sector;
- study (R&D) different types of production, storage and transport plants to support a territorial strategy suitable to meet the needs of individual regions

REGIONE LAZIO

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Thank you for your attention!

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14 October 2025

Brussels, BE

PANEL DISCUSSION: REGIONAL HYDROGEN INNOVATION AND STRATEGIES

Silvia Burzagli

Executive Director of EU Liaison Office (Tuscany Region)

Luigi Palestini

Manager – Energy Transition Department (Lazio Region)

Gianna Elisa Berlingerio

Director - Economic Development Department (Puglia Region)

Päijät-Hämeen liitto
The Regional Council of Päijät-Häme

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REGIONE PUGLIA

ENERGIAREN EUSKAL ERAKUNDEA
ENTE VASCO DE LA ENERGÍA

Regione Puglia

October 14th 2025

THE H2Puglia2030 STRATEGY

Gianna Elisa Berlingerio,

Director, Department for Economic Development

European Integration and Major Projects

STRATEGIC VISION

- Since 2022, the Regional Hydrogen Observatory has been active, bringing together 25 experts from academia, industry, and institutions.
- In 2022, the Region approved the #H2Puglia2030 strategy, inspired by national guidelines.
- 2030 targets: 500 MW of installed electrolyzers and 40–45 thousand tonnes of green hydrogen per year.

IPCEI Hy2Infra – Hydrogen Infrastructure for Europe

– Puglia is the **only Italian region** with all its projects approved under IPCEI Hy2Infra.

- *Energie Salentine & Saipem*: electrolyzer systems (Brindisi & Taranto) – **620 MW total**.
- *SNAM*: hydrogen pipeline (€100M) – **195 km network** operational by 2028.

Interreg UNLOCK → strengthened collaboration with advanced EU regions on hydrogen innovation.

Research, Innovation & Industrial Ecosystem

Puglia as an industrial and technological testbed for hydrogen

Industrial players

- *Isotta Fraschini Motori* – hydrogen in marine transport
- *Iveco Group* – hydrogen road mobility
- *Avio Aero* – hybrid-electric propulsion
- *Comes SpA* – next-generation electrolyzers
- *Green Independence* – decentralized H_2 production & storage

Hydrogen Valleys & Mobility:

– In January 2023, Apulia launched a public call under the NRRP for renewable hydrogen in disused industrial areas.

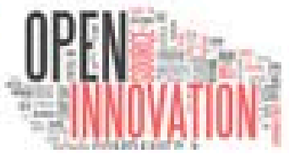
- **26** project proposals received, **17** deemed eligible.
- **€54M allocated** → 6 ongoing Hydrogen Valleys projects → representing **€75M total investments**.

– Hydrogen trains pilot project (MIT, €37M) → zero-emission lines in Southern Puglia.

Research & Innovation Network:

– *NEST Project* (**€114M** – MUR)
– *National Centre MOST* (CNR + **24** universities)
– Partnerships with *ENEA, RSE, Politecnico di Bari, UniSalento, UniBa*
– Regional R&I projects worth **€15M** (2023)

Upcoming Funding (2025–2027) → to strengthen Puglia's hydrogen ecosystem
– €20M → New Hydrogen Valleys (FSC 2021–2027)
– €40M → Hydrogen Valley in Taranto (Just Transition Fund)
– €32M → Research infrastructure for liquid & gaseous hydrogen
– €3.5M → ENERT "Positive Energy Valley" project in Taranto
– €10M → Flagship projects under the 2024 MASE–Puglia Agreement



New Funding and Open Innovation

Open Innovation & Collaboration
– Regional Law 4/2025: promotes collaboration among enterprises, start-ups, and research centres.
– Digital innovation platform and "Catalogue of Challenges & Opportunities".
– Recognition as Regional Innovation Valley confirms Puglia's EU leadership in sustainable innovation.
– 2024 Agreement with Bolzano Province → joint hydrogen and green mobility actions.

A Fair and Shared Transition

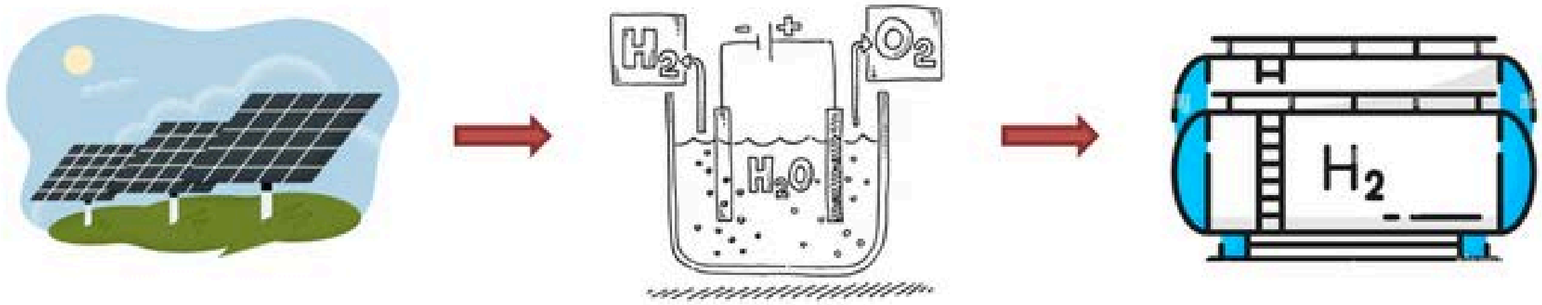
Energy as a social and territorial value

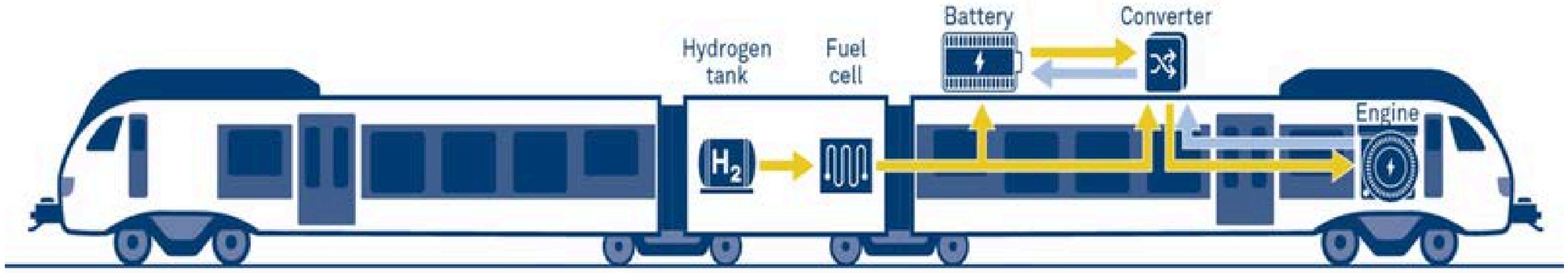
– *Energy Income* → allows vulnerable families to access renewable energy free of charge
– *Energy Communities* → citizens, SMEs, and municipalities share clean energy benefits
– *Compensation mechanisms* integrated into major energy projects

A multi-level **transition:**
– **Industrial scale:** large hydrogen-ready infrastructures.
– **Community scale:** local empowerment and shared governance.
– **Household scale:** efficiency, smart grids, equitable access.

Looking ahead:
– Europe's electricity demand will **triple** → Puglia ready to serve as the **Mediterranean hub for clean energy and hydrogen**.
– Building energy districts that connect industry, research, and communities.
→ **Energy as the new social contract** between institutions, businesses, and citizens.

THE GREEN TRANSITION OF THE RAILWAY SECTOR IN PUGLIA: TEN-T CORRIDORS AND THE ROLE OF GREEN HYDROGEN





HYDROGEN-POWERED TRAINS IN SALENTO

- Lecce – Gallipoli (km 53)
- Casarano – Gallipoli (km 23)
- Novoli – Gagliano (km 75)

≈ 70 million euros

Italian Recovery Plan

Development and Cohesion Fund

Puglia Region funds

Source: Ferrovie del Sud Est (2025)

STRATEGIC ALIGNMENT WITH EU POLICIES

EU GREEN DEAL

- 90% reduction of the emissions in transport by 2050
- Hydrogen vehicles and electrification
- Green infrastructure investiments
- Rail transport expansion

FIT FOR 55

- 55% reduction of GHG emissions by 2030 (compared to 1990 levels)

RED III DIRECTIVE

- 29% renewable energy in transport by 2030

REPowerEU

- Hydrogen to replace fossil fuels in transport
- Raise EU renewable share to 45% by 2030
- Support hydrogen rail projects

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PANEL DISCUSSION: ELECTRIFICATION FOR REGIONAL ENERGY TRANSITIONS

Camilla Eidsvold

Councillor (Østfold Region) and Vice-Chair of the CPMR NSC Climate & Energy WG

José Ramón López

International Project Manager (EVE, Basque Country) and Chair of the CPMR AAC Marine Renewable Energies WG

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Smart Charging of Electric Vehicles Using Alternative Power Supplies

Medusa
Alternativas de suministro eléctrico, S.L.

repsol

Who We Are

MEDUSA is a joint initiative by the Basque Energy Agency (EVE) and Repsol, focused on promoting sustainable electromobility.

Our mission is to accelerate the energy transition by providing smart charging solutions for electric vehicles, using existing electrical infrastructures.

Medusa

Partners:

repsol

ENERGIAREN EUSKAL ERAKUNDEA
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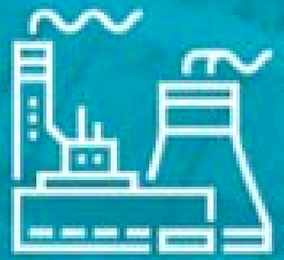
What we do?

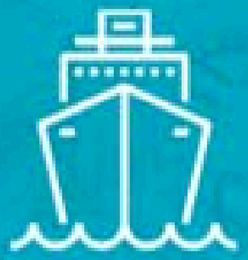
We use and adapt existing electrical infrastructures to charge electric vehicle fleets by utilizing idle electrical capacity.

RAILWAY NETWORKS



INDUSTRIAL COMPLEXES

LARGE FACTORIES



PORT FACILTIES

OTHERS

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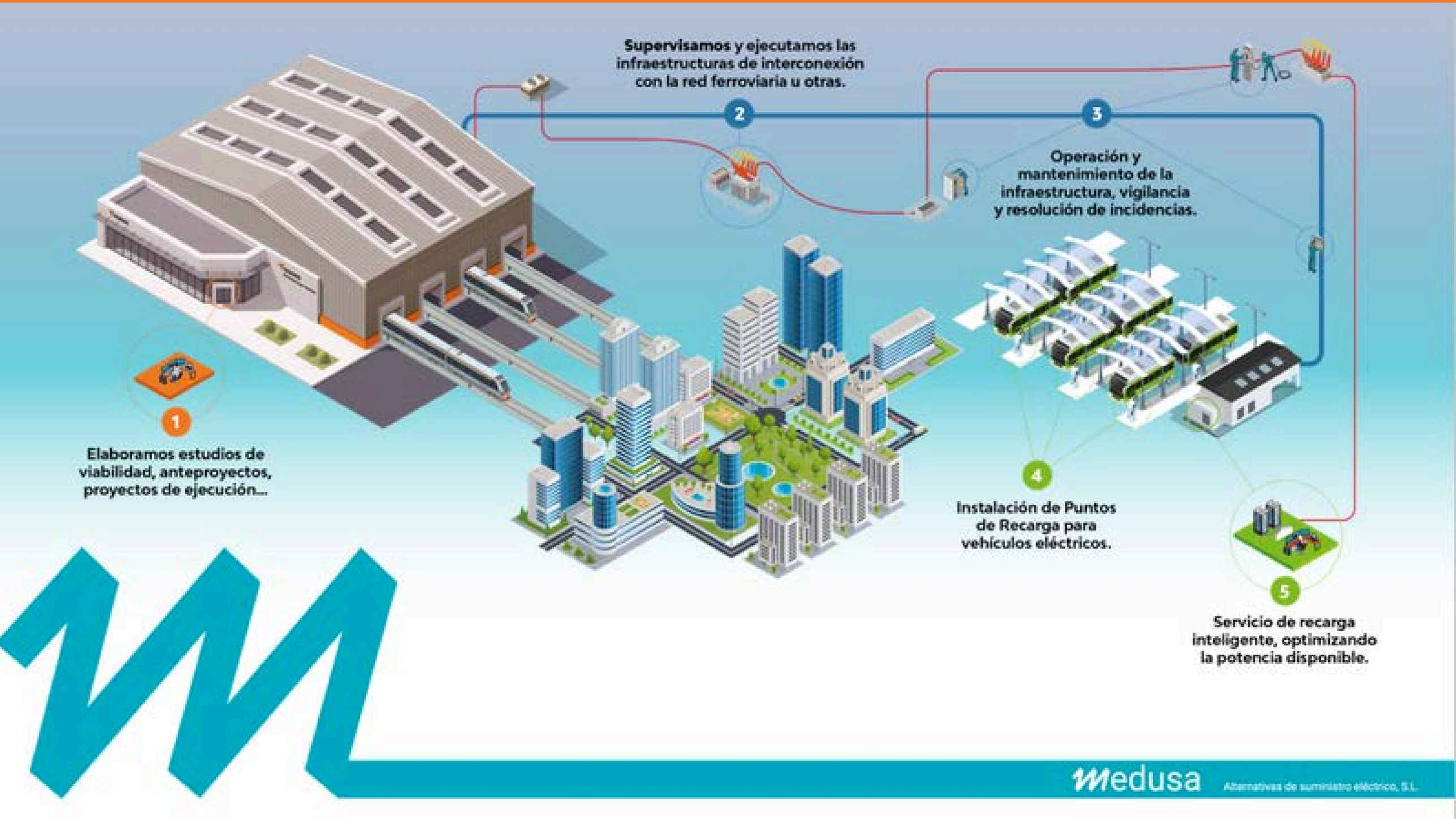

Medusa Alternativas de suministro eléctrico, S.L.

Key Benefits for **energy consumers**

- Access to high power in urban environments, avoiding network saturation and new grid connections.
- More competitive pricing: pay only for the energy consumed, not for contracted power.
- 24/7 availability and remote monitoring.
- Flexible and scalable as the fleet grows.

medusa

Key benefits for **energy suppliers**

Additional revenue from unused capacity.

Enhanced environmental commitment and corporate reputation.

Innovation without operational risk.

Medusa

Success Story: Bilbao

Bilbao Smart Charging Project

- Existing Metro Bilbao infrastructure is used to charge the city's electric bus fleet.
- 14 charging points for new electric buses, each with 120 kW capacity.
- Smart operation and management of the charging process, optimizing the use of idle power from the metro network.
- The system is fully operational since April 2024.

Key Results (April 2024 – August 2025)

- Total charges: 5,822
- Energy supplied: 833,206 kWh
- Kilometers covered: 757,460 km
- Most charging occurs at night, but daytime charging is possible if needed.
- No need to increase contracted power or request new grid connections.
- Recognized as a flagship project by the Spanish Ministry for Ecological Transition.

Medusa

metro bilbao

Recognition & Scalability

- **Recognition**

On September 11, 2025, the "Bilbobus" project received recognition as a flagship initiative within Spain's Recovery, Transformation and Resilience Plan, awarded by the Ministry for Ecological Transition.The Ministry highlighted its innovative character, impact, multiplier effect, and comprehensive approach as a model for transformative ecological transition.

- **Scalability**

The MEDUSA model is fully replicable and can be applied in other cities and sectors across Europe.It demonstrates how leveraging existing infrastructure and idle capacity can accelerate the electrification of transport, support decarbonization, and contribute to Europe's energy transition goals.

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Electrification for regional energy transitions

Region Västra Götaland

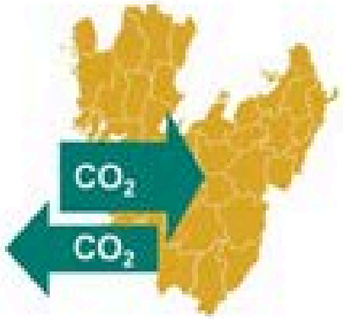
Louise Åsenfors

Regional Councillor, Vice-Chair of the Environment and Regional Development Committee

VÄSTRA GÖTALANDSREGIONEN

By 2030 we will no longer be dependent on fossil energy

Greenhouse gas emissions in Region Västra Götaland should be reduced by **80 percent** 2030 (compared with levels in 1990).



Greenhouse gas emissions caused by the consumption of the residents should be reduced by **30 percent** 2030 (compared with levels 2010).

VÄSTRA GÖTALANDSREGIONEN

Driving the transition through cooperation and support

Västra Götaland = an industrial region

One in five industrial jobs in Sweden is located in Västra Götaland.

25 000 jobs are at risk by 2030 due to lack of renewable energy power production.

Access to skilled worker is key for the industrial transition.

ELSA - Political regional energy agreement

We agree to work for improved preconditions, to speed up and increase fossil free energy production and powergrid expansion. 15-20 Twh to 2030

Region:

- Facilitate collaboration with regional and national stakeholders
- Support through regional development projects
- Work with analyses and spreading of knowledge to support the trasition

Municipal associations and municipalities:

- Subregional cooperation
- Proactive spatial planning

ACCEL - The purpose is to strengthen competitiveness in the region and accelerate society's transition to fossil-free energy by enabling rapid electrification.

- Permit for power grid
- Proactive grid expansion
- Flexibility in consumtion

Länsstyrelsen Västra Götaland

VÄSTRA GÖTALANDSREGIONEN

SVENSKA KRAFTNÄT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Brussels, BE

CONCLUDING REMARKS

Guglielmo Migliori

Head of Energy (CPMR)

Päijät-Hämeen liitto
The Regional Council of Päijät-Häme

REGIONE LAZIO

ØSTFOLD FYLKESKOMMUNE

VÄSTRA GÖTALANDSREGIONEN

REGIONE TOSCANA

REGIONE PUGLIA

ENERGIAREN EUSKAL ERAKUNDEA
ENTE VASCO DE LA ENERGÍA

CPMR CRPM

ENERGY

#EURegionsWeek2025

"Close to You" Event

14 October 2025

Brussels, BE

NETWORKING RECEPTION

18:00 - 19:00

Päijät-Hämeen liitto
The Regional Council of Päijät-Häme

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