



IL FUTURO DELL'ENERGIA: un'analisi dagli stakeholders internazionali

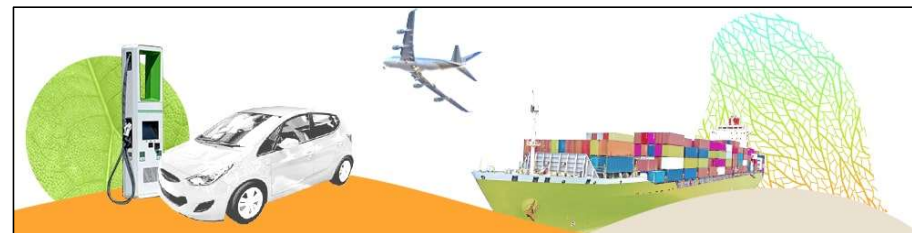
The Hydrogen Cluster (NRRP)
The Italian experience

Aosta 10° December 2021



European Main Targets 2030

**Making transport sustainable for all
reduce emissions**



**Cleaning our energy system
Boosting global climate action**



**Leading the third industrial revolution
create jobs and growth**



**Address energy poverty
reduce energy dependency**



European Context

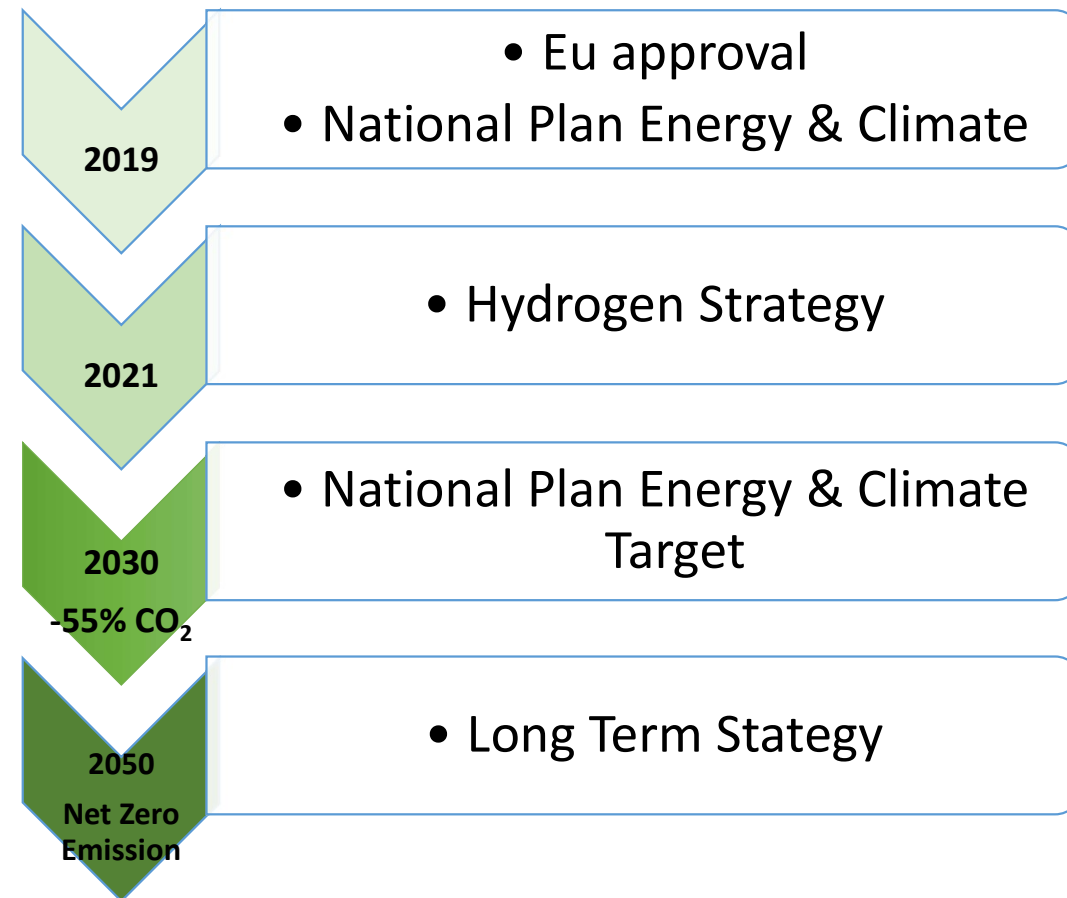
- Since 2019 there has been a strong acceleration of interest in the hydrogen;
- The EU Commission launched in July 8th 2020 The European Hydrogen Strategy;
- In the last months many European countries presented their hydrogen national plan;
- Italy is finalising the Strategy in the next weeks;
- The document identifies a composite architecture of programs and projects on an increasing scale, combining decarbonisation, economic and social sustainability.
- The package “Green Revolution & Ecological Transition” is supported by 68,6 B€ investment



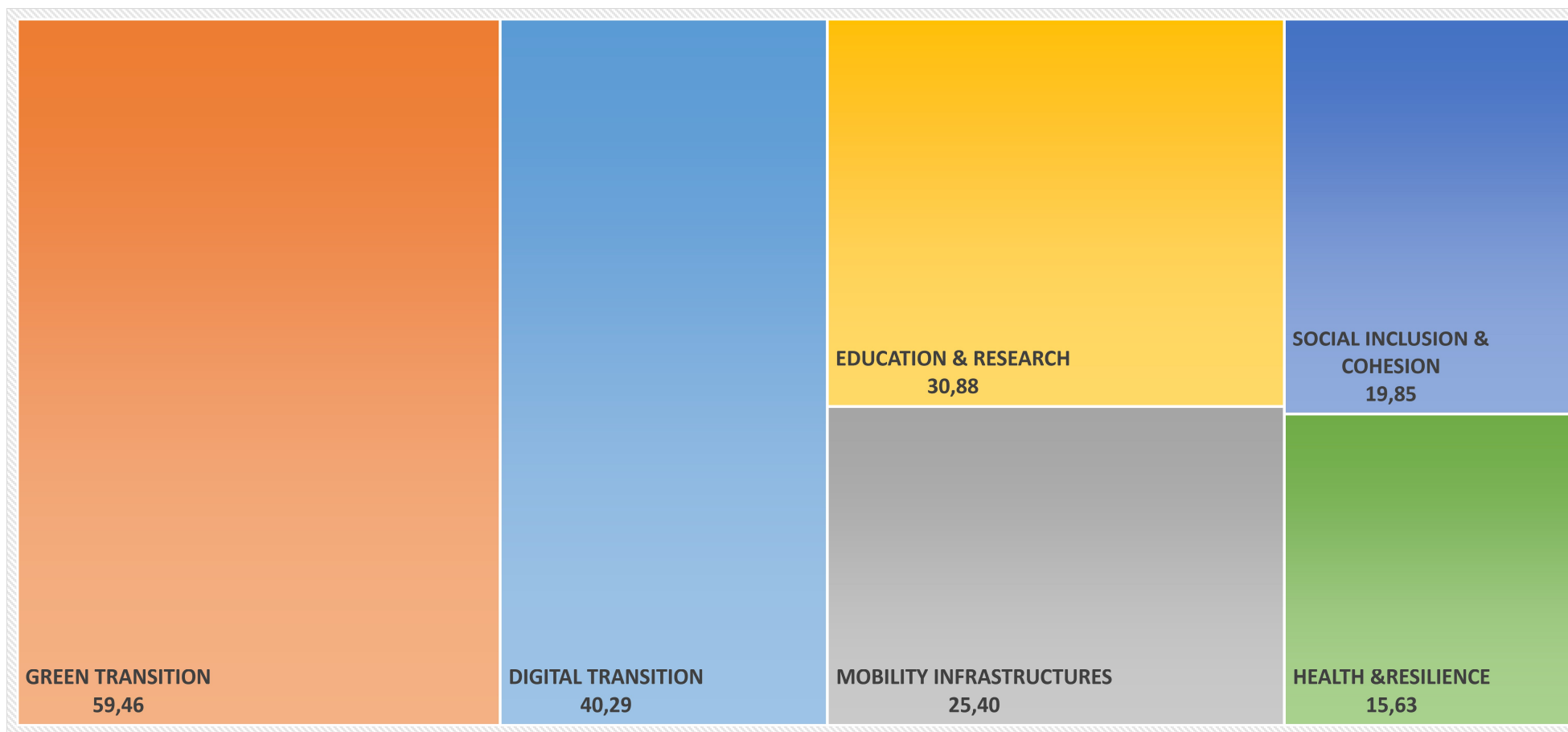
The Italian Scenario

- The Italian Hydrogen Strategy fits into the National Plan Energy and Climate (2030) as well as the Long Term Strategy (2050);
- Hydrogen acts as a carrier able to assume a wide spectrum of roles enabling the energy integration process;
- Green H₂ development underlies a paradigm shift in the country's industrial and economic system and requires a convergent efforts from all rings of the Supply Chain.
- In these days we are facing the new updated European directive proposal “Fit for 55” that drastically reduce the CO₂ emission targets at - 55% comparing 1990 level.

Roadmap

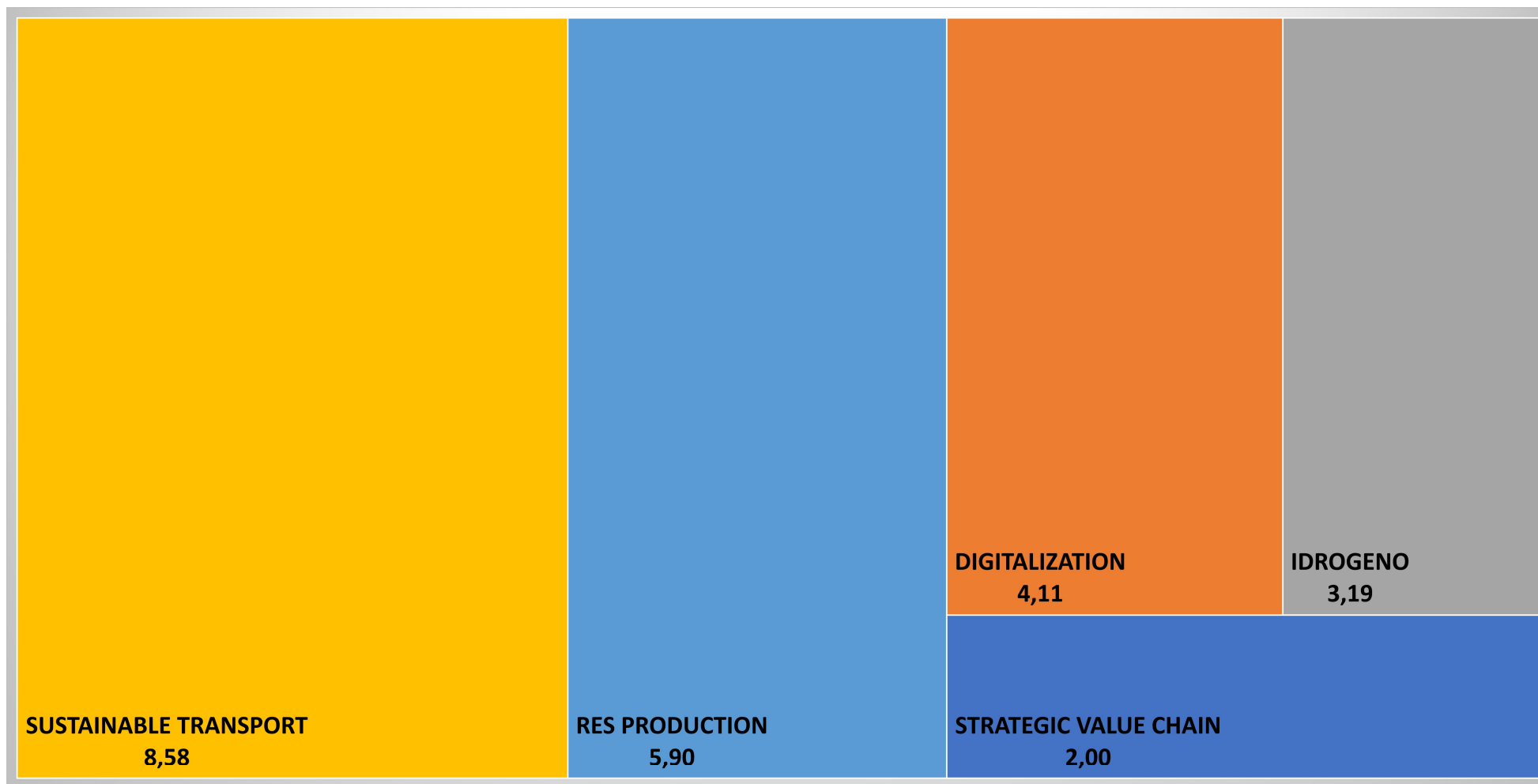


NRRP INVESTMENTS MAIN SECTORS (Value in B€)

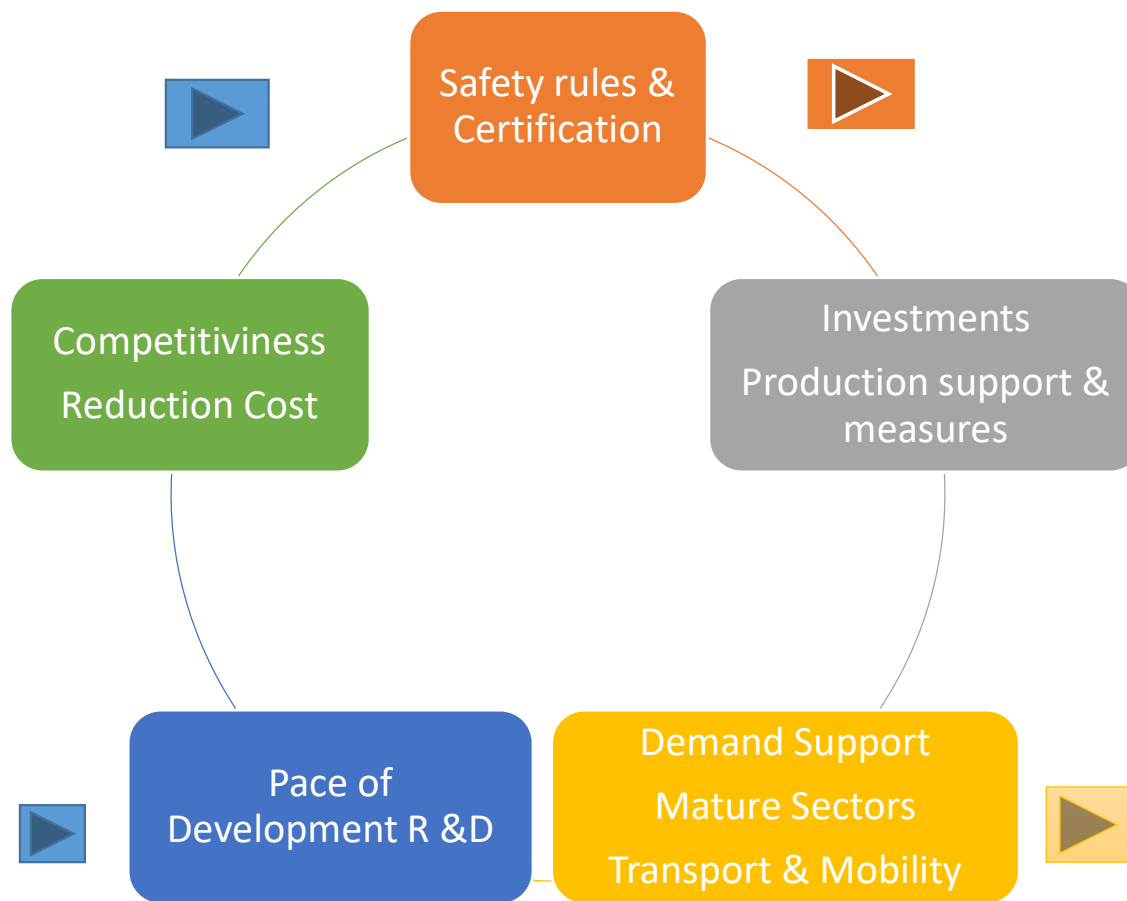


PNRR INVESTMENTS SUSTAINABLE ENERGY - IDROGENO - MOBILITY

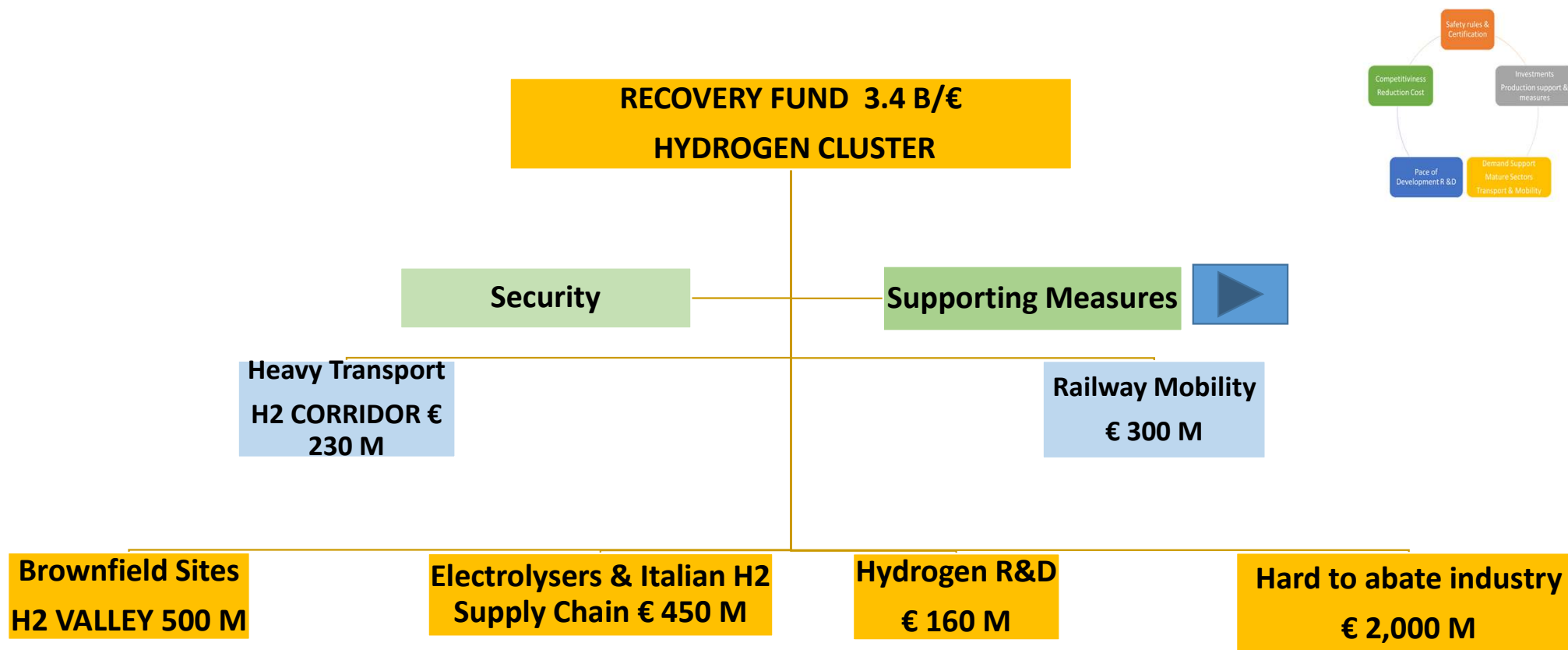
(part of the Green Revolution & Ecological Transition)



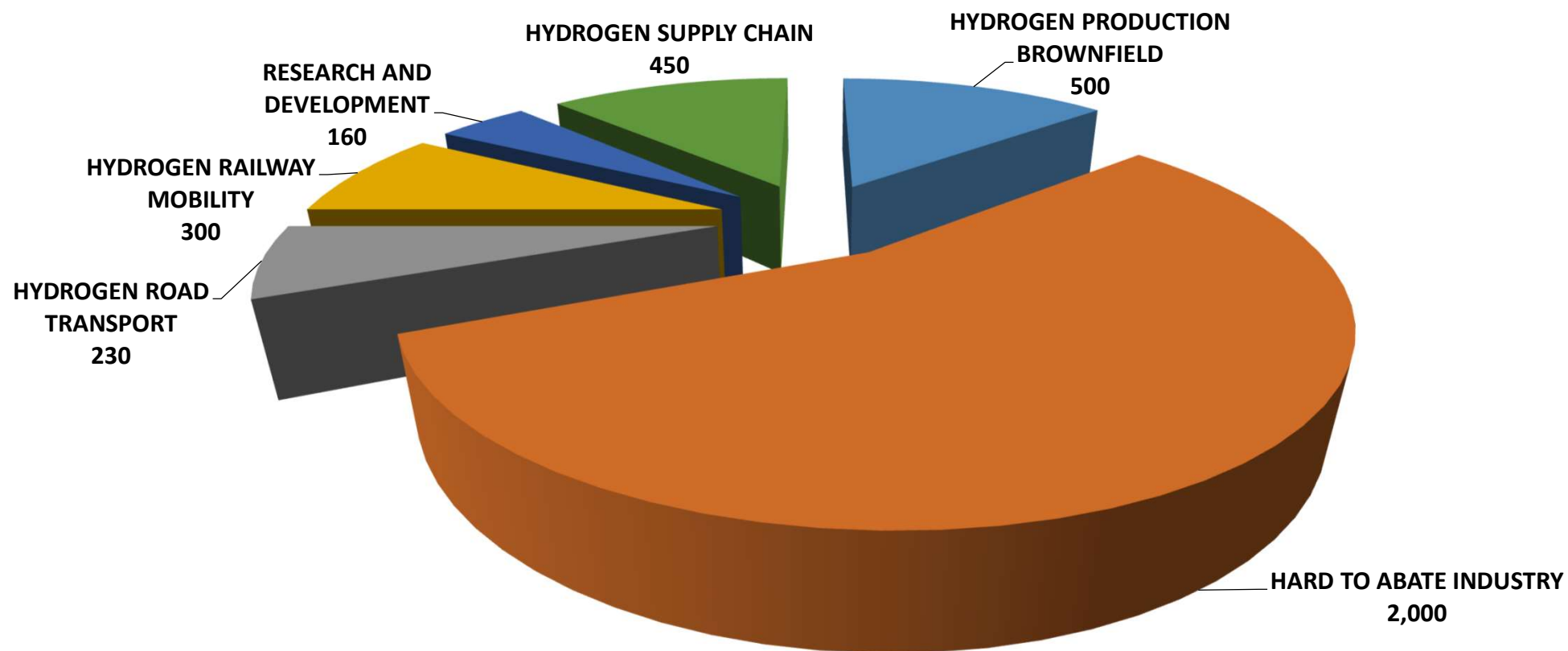
Main steps to deploy a Green Hydrogen Market. The Italian experience



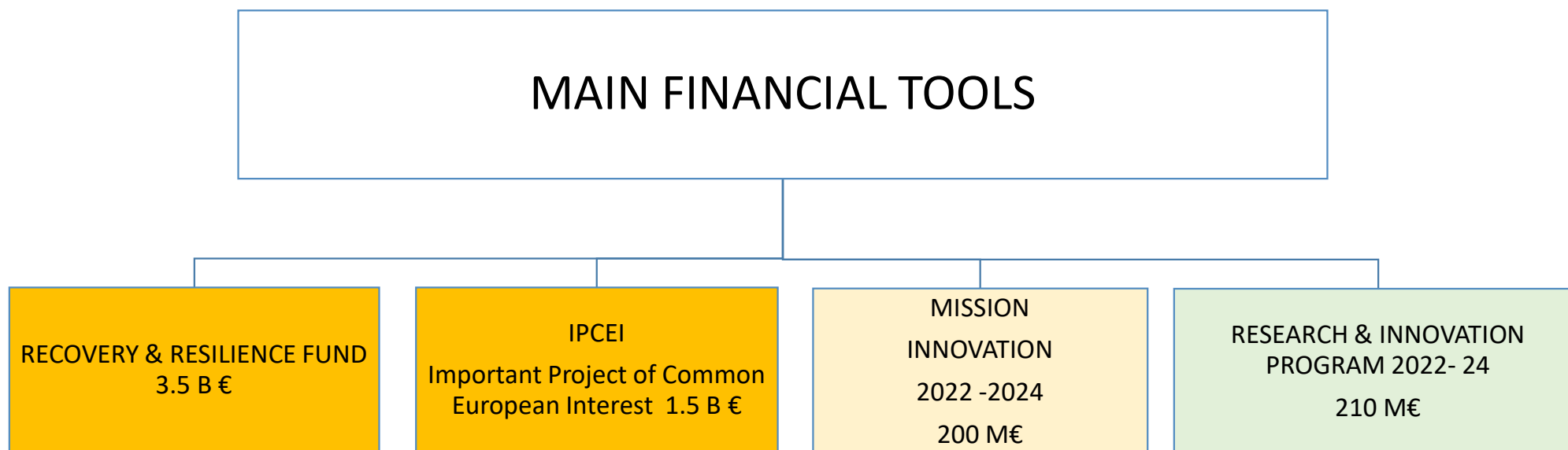
HYDROGEN DEVELOPMENT PROJECTS



Hydrogen Cluster NPRR Investments Distribution



ITALIAN HYDROGEN STRATEGY



A22 MOTORWAY H₂ PROJECT

Investments in hydrogen-based in creating up to 40 refueling station network for a reduction of transport-related emission;

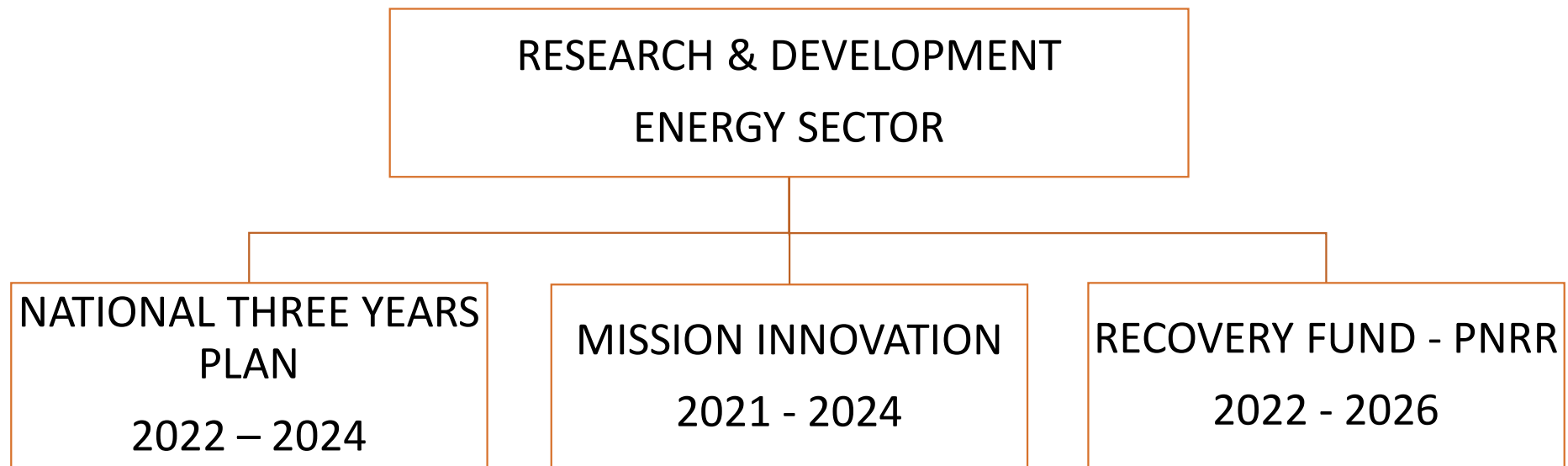
hydrogen refueling distributors suitable for trucks and cars.

Target: Reduction of CO₂ emissions: 795 gCO₂/km, for a 40 tons truck equal to 19.9 gCO₂/tkm

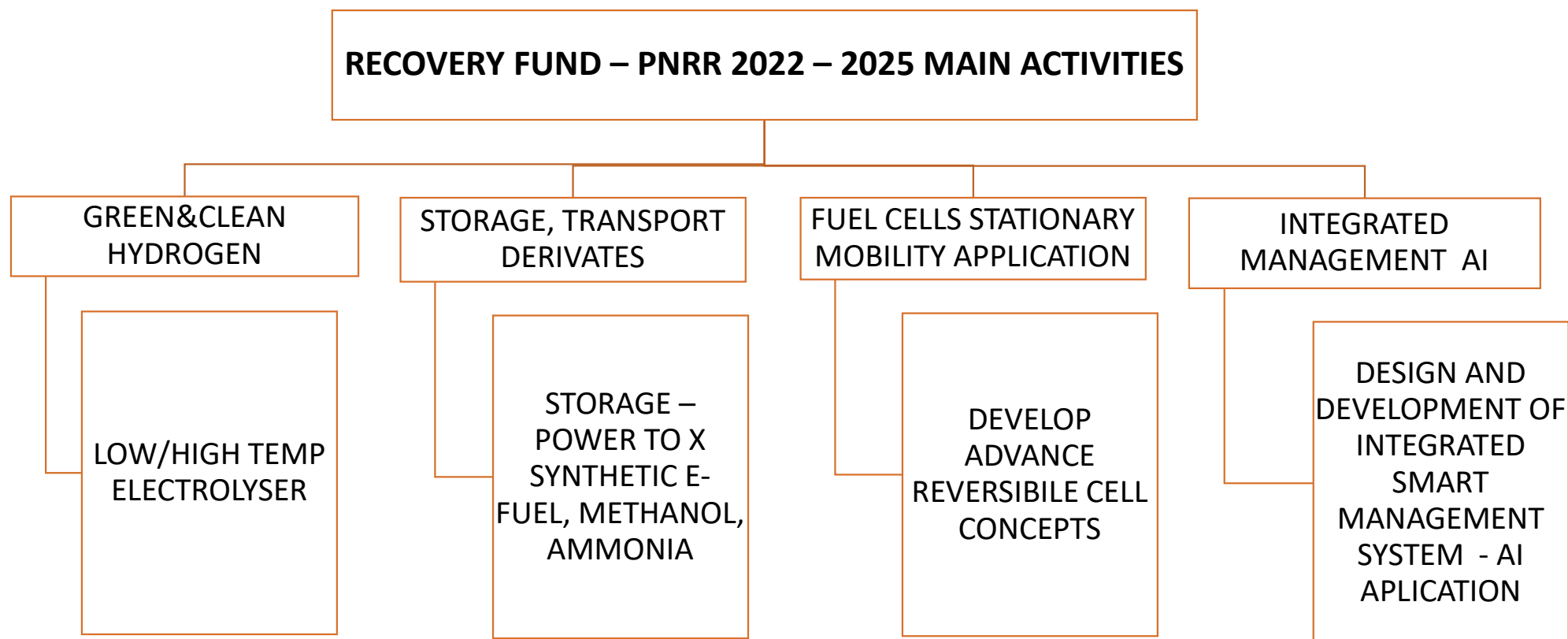
Heavy trucks Traffic 2019: 1.5 M



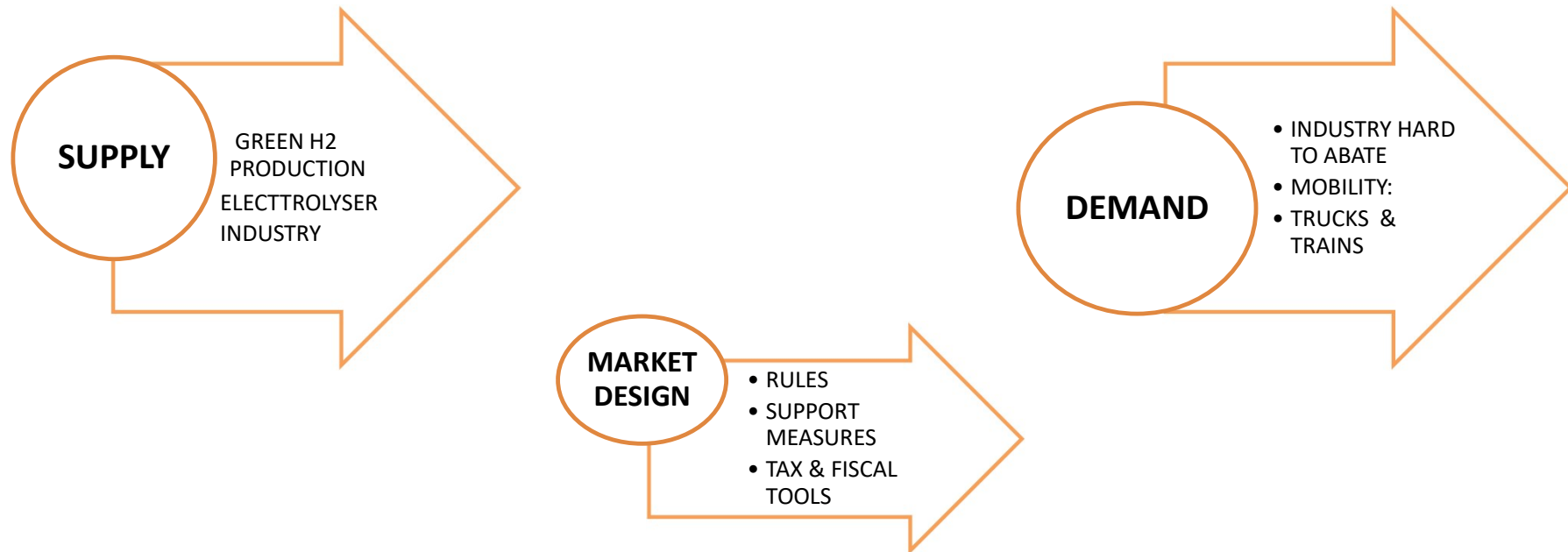
PUBLIC R&D INVESTMENT ON HYDRROGEN



RECOVERY FUND 2022 - 2025



STEPS TO MARKET DEVELOPMENT



International Co operation

- Global Collaboration plays an important role.
- A strong tools to accelerate innovation
- An opportunity to share and testing “mirror project” in different environments, saving time, reducing cost, find alternative solutions to critical problems and creating a common ground to build further steps
- Italy learned a lot by collaborating in several global programmes coordinate by International Institutions (IEA, IRENA, Horizon 2020).

Positive experience

- Mission Innovation - Italy have been playing an active role and last year the was launched the 2.0 phase MI
- Following the positive result of first five years, we decide to lead the Green Powered Future that combine all the RES with Digitalisation
- An new exciting experience shared with China and UK (co-leaders) together with other 11 countries, internaional institution and about 15 Private stakeholders
- The ambition is to developed tools to managed up to 100% Variable Renewable Energy (VRE) in power system in different geographies and climates .

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- The ambition is to developed researches and tools to managed up to 100% of Variable Renewable Energy (VRE) power system.

Human Being Targets for the Future

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Thank you for your attention

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