



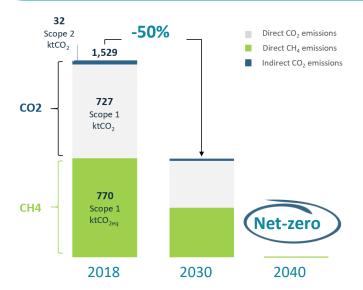


Net zero



Our pathway to net zero

Clear pathway to net-zero in our own scope 1&2 emissions



- One of the earliest in setting carbon neutrality target in the utilities sector
- Target aligned with Paris agreement to keep temperature increase within 1.5° C
- Engaged with suppliers and associates to promote their carbon footprint reduction (Scope 3)

Enabler of system decarbonisation

Secure asset readiness and flexibility and support green gases development

We ensure readiness of our assets and investments to hydrogen

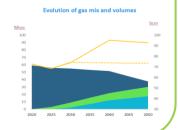
We work with policymakers to promote green gases

We work with green hydrogen value chain players to drive down cost of production

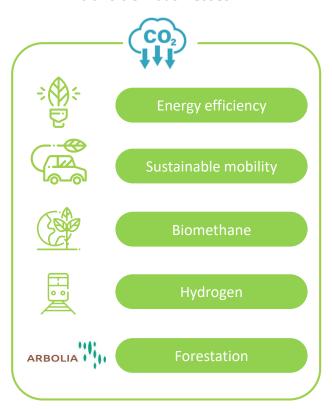
In our long-term scenario we foresee all transported gas by 2050 to be either renewable or abated







Reduce CO2 emissions through our energy transition businesses





Snam's Net Zero Positioning

Upstream infrastructure

Midstream

Downstream



Natural gas



Sector coupling/ storage/power to gas



Hydrogen



Early presence leveraging technological partnerships

renewables/ Biomethane/ Biomethane/ Infra

Biomethane supply infrastructure, circular economy

base to deliver
methane/biomethane
volumes while enabling
H₂ ramp up, also in
blending, and providing
flexibility to the
electricity grid

Evolve from CNG platform to LNG and H2 mobility

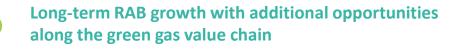


Become a leading
national operator in
Energy Efficiency
services









Why Snam will succeed in a net zero environment

- Committed to net zero by 2040 and ESG leader
 - Clear pathway on scope
 1 & 2 emissions
 - Launched programme on associates and suppliers
 - New scorecard

- Energy transition businesses
- Insourced skills and competences
- Leader in key growth markets
- Enhancing core asset

- 2 Long-term RAB growth
- Blending tests, H2 asset readiness
- Sector coupling/
 Dual fuel
- Long-term sustainable growth

- 5 International footprint
- Increased and diversified geographical footprint
- Asset-light approach in countries with high potential
- Snam Global Solution to monetise expertise

- Execution Capabilities and technology edge
- Investments track record incl. TAP
- Building world leading technology gas TSO
- Technology edge in H2 &H20
- Leverage core competences across similar sectors
- Strong balance sheet and disciplined investment approach
- Committed to current credit metrics
- Accretive returns
- Consistency with our ESG strategy





The green gas super-cycle



Green gas will account for more than 25% of the energy mix by 2050 (1)

Net zero commitments

European commitments to:

- **55%** CO2 by 2030
- **Net zero** by 2050

China commitment to net zero by 2060

US re-enter Paris Agreement

Essential role of gas & green gas

Fuel switching to maximise CO2 reduction

 By 2040 around 400 bcm of switching to natural gas (2)

Green gases to play a central role

 Cost effective solution to decarbonize hard to abate sectors

Role of the grid fully recognised

Gas grids essential to net zero; need to repurpose and replace infrastructure where necessary

- European grids require limited retrofit
- Retrofit costs 10-25% of newbuild
- Pipeline transport cost \$0.10-0.20 per kg per 1000km

Policy support

Policy support focusing on reducing supply costs through scale

- EU policy targeting 40 GW of electrolyzer capacity by 2030
- National strategies already point to ca 30 GW
- Italian strategic guidance calls for 5
 GW by 2030
- Ca. 50GW of projects announced worldwide

Next Generation EU funds IPCEI support

Net zero sparks new capex supercycle

H₂ to account for ca. 25% of the global energy mix by 2050

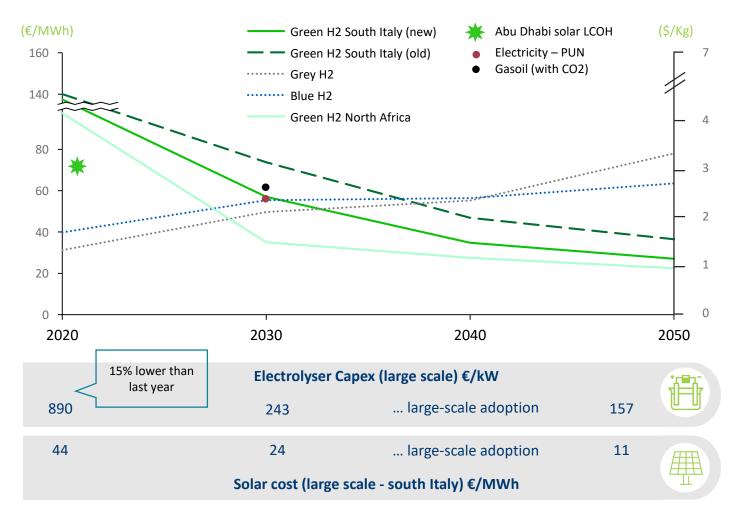
Repurposing EU backbone € 30-60bn by 2040 (3)

€750bn Next Generation EU funds

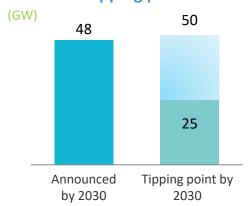


H2 production costs are falling even faster than expected

Levelized production cost of hydrogen evolution



Announced H2 projects already reach tipping point



- 25GW of electrolyzes capacity worldwide required for H2 costs around \$2/kg in favorable areas for renewable production
- Ca. 50GW by 2030 «tipping point»

Value-chain cooperation to create scale









Strong policy support

			****			2 TO SECOND			
	Hydrogen share on energy consumption (%)	2030	-	2-5	-	-	4-5 ³	-	2
		2050	13-14 ¹	15-20	20	-	-	-	20
	Installed lectrolysis capacity (GW)	2030	40 (+ 40 outside EU)	2	6.5	4	5	3-4	5
		2050	500	5		-	-	-	
Initial se of applic		2030	-	Industry Mobility Blending	Industry Mobility	Industry Mobility	Industry Mobility		Industry Mobility Blending
Investm (€Bn		2030	320-458 ²	7	7 ⁴	9	94	-	10



H₂ supported by €750bn of funding available from Next Generation EU funds



¹ Considering hydrogen in energy uses only, in most EU scenarios hydrogen adds up to 23%

² Of which 220-340 bln EUR to scale up and connect 80-120 GW of renewables (not always included in country figures)

³ Estimates based on 90 - 110 TWh target hydrogen demand

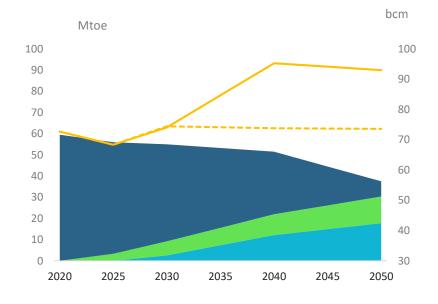
⁴ Figures on H2 public investment package

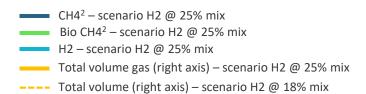
Growing share of H2 to support long-term need for infrastructure

Transporting H2: key facts

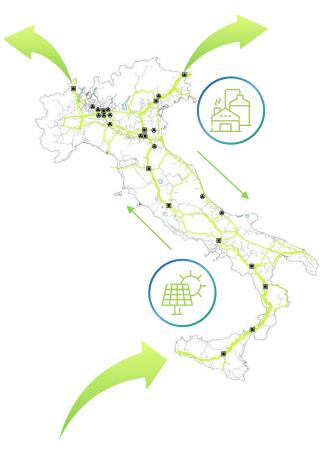
- Hydrogen is 3.8x less dense than natural gas ⁽¹⁾
- Hydrogen travels faster through a pipeline than natural gas, containing additional pipeline capacity requirements
- Pipelines offer flexibility for sector coupling, also through linepack

Evolution of gas mix and volumes













Capex plan 2020 - 2024



Our 2020-2024 plan

ITALIAN INFRASTRUCTURE

Net zero investments

• Replacement of more than 1,170 km pipelines

Sardinia methanization

Technological innovation and network digitalization

Capex 2020-24

€ 6.7bn

KPIs

>2.5% RAB

growth to 2024

INTERNATIONAL PORTFOLIO

• Stable contribution from diversified portfolio

 Leveraging opportunities from energy transition and technology rollout and Snam Global Solutions 10% average

cash return

NEW ENERGY TRANSITION BUSINESSES

Biomethane: Develop biomethane capacity

 Energy efficiency: Pipeline of projects for public administration, residential and industrial clients

 Sustainable mobility: Consolidation of CNG footprint, focus on LNG and H2 supply infrastructure, SSLNG

• **Hydrogen**: H2 for trains, fuel cells H2-ready on Snam network

€ 0.7bn

€150m of

EBITDA

by 2024



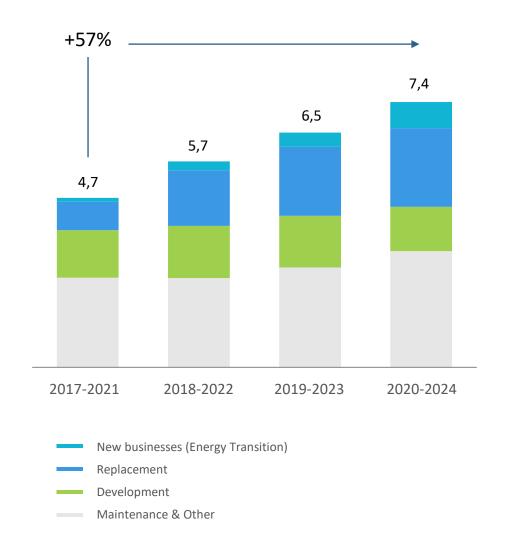


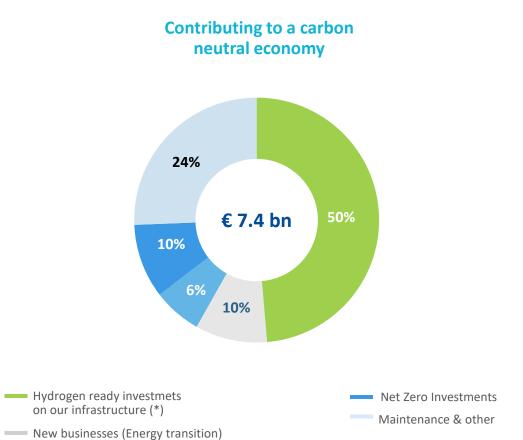
Solid €7.4bn investment plan 2020-2024, with clear long-term trajectory



energy to inspire the world

Snam's plan contributes to a carbon neutral economy







energy to inspire the world

Digitalization/Technology

Italian RAB capex highlights



Key development activities

- Sardinia project:
 - Realization of the virtual pipeline
 - First section of the backbone
- Dual fuel compressions station

Storage wells infilling (peak volumes increase)

*Virtual Pipeline" with Panigaglia and OLT terminals **PONTO TEMBRES ** **ACCHERO** **PONTO TEMBRES ** **ACCHERO** **PONTO TEMBRES ** **ACCHERO** **CANSCRIA** **C

Replacements

About **1.200 km** of transport pipelines replaced during the plan period (Ravenna – Chieti; Rimini - San Sepolcro; S.Salvo - Biccari

~65% authorized or under construction

New interconnections

245 CNG and **50** biomethane connections to the grid

100 other connections to the grid



"H2-readiness" along the infrastructure value chain

Compression stations:

- First TSO to define standards on H2NG mix for compressors and turbines
- New "hybrid" compressor turbine tested with Baker Hughes, suitable for up to 10% H2 blending

Gas metering

 Launched joint study led by DNV with 10 TSOs and 7 meter suppliers



Pipelines

- 2/3 of existing network compliant with ASME¹
- Issued standards for new pipelines capable to transport 100% H2

Storage

- Verified feasibility of 2% H2 blending
- Project with Polytechnic of Turin and IIT² to assess feasibility of higher % of H2 blending
- Potential for storing also CO2



Final users

- Supplied industrial cluster with 10% H2NG blend
- Assessment of higher H2 blending in steel mill industrial furnaces
- Pilot project for use of H2 separation membranes to allow diversification of end users delivery

Sector collaboration

H2 Gas Asset Readiness
(H2GAR) cooperation
between EU TSOs.
6 working groups on
pipelines, compressor
stations, separation systems,
metering, safety and
underground storage

European H2 Backbone

plan – done in collaboration with 11 EU gas infrastructure companies - for a dedicated hydrogen transport infrastructure



Digitalisation: building world's most technological gas TSO

Technology strategy

- 1. Extract value from technology rollout by improving safety and effectiveness of operations
- 2. Develop a world class "data driven" infrastructure, leveraging top partnerships to have access to best technology roadmaps
 - IOT: 100x data gathered and used through diffused sensorization of assets
 - Cloud and edge computing to optimize scalability, latency and reliability: 10x data availability
 - Digital twin, wearables, robotization and drones & sat for operational excellence
- 3. Offer solutions developed through Global Solution

Targets

- Improve asset integrity and reliability
- Increase safety of workers
- Faster and more accurate pipeline leakage detection
- Optimize and prioritize maintenance

First release in H1 2021: Bologna "Flagship" District

- Launch H1 2021 of key applications to support operations in Bologna district (~4.300 km network)
- Measurement of results in terms of operational effectiveness, safety, asset integrity and reliability
- Rollout to other districts

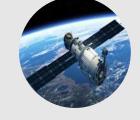


PIMOS & smart cathodic protection: real time, georeferenced leakage and potential corrosion detection through ~1.000 new devices



Drones for asset monitoring in extreme conditions





Satellites (radar & optics) for interference management and early landslides detection



on **2.700 valves**, impacts on **12.000 h/y** of maintenance activities



Near real time measure of **1.100 delivery points** for better operational management

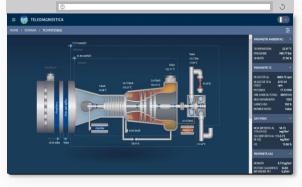




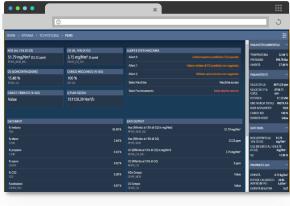


Digitalization and AI applied to industrial assets & operations to reduce emissions









PIMOS

Real time detection and location of gas leaks on the pipeline network, and identification of possible causes of pressure variations leveraging on machine learning

TELEDIAGNOSTICA GAS TURBINES

Acquiring and displaying diagnostic data of all plants gas turbines, to enable **predictive maintenance** and **anomalies early detection**

INTELLIGENT DISPATCHING

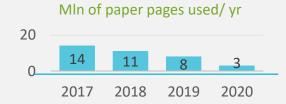
Application platform based on Artificial Intelligence algorithms to support Dispatching in the management of the grid, enabling greater reliability, safety and efficiency

PREDICTIVE EMISSIONS MONITORING

Implementation of **predictive models** (PEMS models) to forecast emissions and improve emissions monitoring

DIGITALIZATION OF PROCESSES

End to end re-engineering of Company processes (field, central operations, corporate) aimed to increase responsiveness, flexibility and agility, thus reducing impact on resources (eg: paperless)







Energy transition businesses deep dive



New energy transition business with system integrator potential

Biomethane

Created platform in urban and agricultural feedstock

- 64MW of installed capacity target (+22 vs previous plan) of which c.
 20MW already authorized
- Industrialization of agricultural production
- Develop a platform for growth in the circular economy
- Low risk business model with low double digit return
 - Long term incentives
 - Contracts or partnership with waste management operators



c. **€220** m of investments

Energy Efficiency

Created platform to serve key segments: Residential (c. 10% of Capex)

- Pipeline supported by long term fiscal incentive scheme
- Long-term contracts in energy management and renovation of residential systems

Industrial (c. 40% of Capex)

 Ca 70MW installations of distributed energy systems

Public Administration (c. 50% of Capex)

 Deep and energy system renovation via public tender (c. 7yrs) and private public partnerships (c. 15yrs PPP)



Sustainable mobility

Created platform to deliver sustainable mobility fuels

- Complete CNG footprint:
 - 110 stations contractualised
 - Expand LCNG stations (> 40 LCNG stations @24)
- LNG supply for mobility
 - Snam to build & operate 1 liquefaction plants (50 ktpa)
 - Truck loading facility upgrade in Panigaglia
- Establish flagship H2 stations
 - **5** planned



c. **€150** m of investments

Hydrogen

New business unit launched to get ahead of the curve

- Initial focus on in-the money applications, including rail
- Upstream exposure conditional on long-term contracts
- Focus on consolidating technological leadership & proof of concept
- Hy-ready fuel cells to generate electricity for Snam consumption



c. €150 m of investments







Increasing visibility as policy, regulation and markets mature

Snam's commitment in the biomethane value chain: Snam4Environment





- Snam's goal is the development of the biomethane value chain, following a circular economy rationale
- S4Env business model is to develop a diversified portfolio of specialized assets, investing and acquiring ownership of biogas and biomethane plants and developing new greenfield projects
- Final objective is to fully exploit organic waste potential by producing not only biogas/biomethane, but also a high quality organic fertilizer and liquefied CO2 to be used in the food industry
- Snam created a dedicated company, Snam4Environment, to invest directly in biomethane production plants and circular economy in general with an investment plan of €220M in 2020-24
- So far, Snam has completed 4 acquisitions for a total production potential of c. 80 mcm/y

Snam investments

QIESBIOGAS

- Leader in Italy for the development, engineering and construction (EPC) of biogas and biomethane plants
- Active abroad with completed or ongoing projects in 10 countries

>10 Years of experience

Working plants

>300

Under management

20% Market share in Italy

enersisicilia

Project company to build a production plant of biomethane from OFMSW

36 ktons OFMSW (organic fraction of solid urban waste) treatment capacity

~ 4,0 mcm biomethane produced per year

renerwaste

a snam 4 environment company

Fully owned by Snam

- Biogas plants from OFMSW (130Ktons/y capacity to be converted into biomethane
- Municipal solid waste treatment plant (75 ktons/y)
- Projects for the development of biomethane plants from OFMSW (80 kton/y)



Acquisition of 50% stake in the share capital with joint control rights of Iniziative Biometano

At regime the company will own and manage 15 biomethane plants for a total installed capacity of c. 40MW



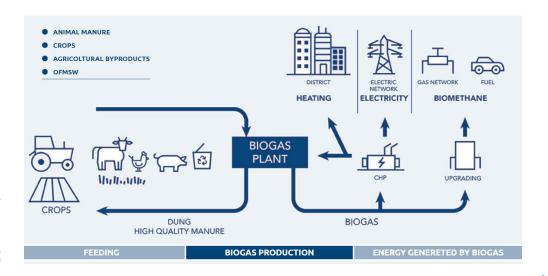
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Biomethane: a renewable resource for a circular economy



Biomethane is:

- ... A perfect example of circular economy which enables to reuse organic waste as an energy source
- ... Renewable, clean and sustainable energy. Its development will be crucial to reach the decarbonisation targets and the use of advanced biofuels in the transport sector, in the cheapest way



... a fully-renewable energy source

Flexible

For all energetic uses (including fuel for transport)

Programmable

Using existing natural gas transport and storage infrastructure

Efficient

Can be used also in the context of on-site generation (OSG)

Biomethane in Italy



- 75x less than the production potential
- **20% of gas demand** in the transport sector
- **80 plants** either connected or under connection to the grid
- 15-16% of tot domestic gas demand
- 16 mton/y of CO2
- €30 bn of potential investments



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Renovit: a new platform for energy efficiency



Snam and the CDP Group have launched Renovit, the new Italian energy efficiency platform for residential, industrial and the public administration which aims to enable further growth in the sector, promote sustainable development and the energy transition of the country

Different skills ...





Energy upgrade, management of the energy service and technological multiservice for public buildings, public lighting and water systems





Energy upgrade, carbon footprint reduction and construction of energy infrastructures for self-consumption (such as PV and cogeneration)





Energy upgrade and management of energy service of public and private buildings and offices

...with clear objectives (3 DS)



Decarbonization



Decentralization



Digitization



Renovit for businesses: Sustainable Energy Program



The Sustainable Energy Program is the path of sustainable innovation and continuous improvement through which Renovit accompanies the company in identifying and implementing solutions capable of:

- Reduce the impact of processes
- Reduce your energy bill
- Free up resources for new business developments

Objective

Increase the **competitiveness of companies**, supporting them in the development of new strategies aimed at a sustainable use of natural capital and the continuous improvement of energy and socio-environmental performance

Renovit, investment partner, helps the customer to act at the plant, management and business model level, according to ESG criteria through 3 phases that can be cyclically iterated

Main advantages



Better **environmental performance** and competitive repositioning



Greater **company safety** thanks to better management of environmental risks



Energy saving and greater efficiency of activities and processes



Contribution to the achievement of corporate objectives of **social responsibility and protection** of the territory



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Action levers of the Sustainable Energy Program



Renovit, through its subsidiary TEP, offers tailor-made solutions along **3 main intervention levers:**













Infrastructure provider: today's snapshot



S4M CONTRACTUALIZED STATIONS

- Signed contracts for 135 stations (ca.15% LNG), evenly distributed among northern, central and southern regions
- Commissioned 30 stations of which 5 LNG
- Increased the presence on the motorway segment (+20 vs 35 currently operational)
- Supported **CNG self-service launch**, first unmanned S4M site by Q2-21.
- Synergies with S4E to **promote Biomethane**
- Obtained EU CEF fundings for 17 LNG stations, 8 of which will provide a critical mass for Snam SSLNG plant in Caserta









Cubogas at a glance



Cubogas is a worldwide leader in providing compression solutions and technologies for natural gas with over 80 years experience



Continuous internationalization process focus to get new opportunities

export on total revenues

Top quality recognized in +40 Countries +3000 units installed Around 70 employee

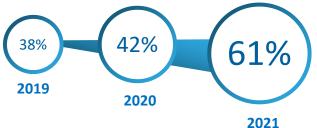
Market Share top 3 markets











Wide range of Products & Services

I. Large Compressors CNG



Main Applications: CNG, LNG boil-off recovery, Gas driven engine mother station, Biomethane compression

II. Fuelmakers



Phill



Small-Q



Big-Q

Applications: Plug & play solutions, easy to install for CNG private stations and fleet operations

III. Specialty products

Dispensers, Boosters, Chillers, Dryers, Storage Units, MRUs

IV. O&M Services

Snam Small Scale LNG Infrastructure



Truck loading service for LNG distribution at Panigaglia terminal

 Upgrading to provide truck loading service at LNG Panigaglia Terminal (La Spezia)

- Potential capacity: 200 ktpa
- Permitting process ongoing
- First LNG by 2022

LNG Bunkering service at LNG OLT¹ terminal

- New investments for bunker vessel loading at offshore terminal in Livorno
 - Potential capacity: 140 ktpa
 - Permitting process ongoing
 - Expected start within 2021

1) Snam takes joint control of the LNG OLT Offshore terminal in Toscana by 49% of the share capital





At Panigaglia terminal LNG Bunkering service for a «virtual pipeline» to Sardinia is at draft stage



Micro-liquefaction

- Construction of micro-liquefactors to produce LNG and Bio-LNG.
- First expected micro-liquefactor in Campania:
 - Capacity: 50 ktpa
 - Engineering completed
 - Permitting process ongoing
 - First LNG expected by 2022
- Forecasting the construction of new microliquefactors in Italy to further encourage and support the growing demand of LNG (e.g. Sicily)

Snam aims at making LNG and Bio-LNG available for the entire Country, replacing diesel road, sea and rail transport and targeting national and international environmental goals



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The role of hydrogen in the decarbonization



The «colours» of hydrogen

«Grey» Hydrogen «Blue» Hydrogen «Green» Hydrogen

Natural gas is separated into hydrogen and carbon dioxide (CO2) Natural gas is separated into hydrogen and carbon dioxide (CO2).

The carbon dioxide is stored and reused

Water is separated into hydrogen and oxygen molecules thanks to the use of electricity from renewable sources

CO₂ emitted into the atmosphere

CO₂ captured and reused

No CO₂ emitted

Why hydrogen?

- It can be produced **carbon-neutrally** through RES and can **support the development of a decarbonised economy**
- It can be used to transport and store energy, but also in end uses. Will enable sector coupling
- Can be used in existing infrastructure

BU Hydrogen

Created in 2019, Snam BUH2 is focused on different kind of activities: scouting of hydrogen-related technologies, designing of innovative business models and definition of business cases for the utilization of hydrogen in different sectors: mobility, industry, energy, services



H2 for Sector coupling and RES integration

Solutions for innovative utilities and sector coupling



H2 for Industry

Supply for green industrial processes



H2 for Transportation

Solutions for sustainable mobility systems



H2 for Commercial Use

Supply for green industrial processes



29

The Hydrogen opportunity



Asset Readiness

- Pipelines: network is largely hydrogen ready, key reason to underpin replacement
- Components: gas chromatographs and other minor instruments would need replacing (<1% RAB)
- Gas compressor units: testing the impact of a 5-10% blend
- Geological storage sites: ongoing analysis and research
- Ongoing assessment of use of membranes to separate NG and H2 out of NGH2 blend

2 System design

- Long-term scenarios: Expected key role of hydrogen in the energy mix
- Grid evolution: Development of pathway analyses with increasing share of green gasses
- Technical standards: involvement in focus groups to develop common rules on H2 in Italy and Europe

3 Value chain development

- Evaluating potential opportunities/pilot projects to scale up clean H2 production and use
- Partnership with other operators of the value chain
- Scouting for promising technologies

Negligible investment to reach 5-10% NGH2 readiness Ongoing investment in the grid «Hy-ready»

Ongoing work to support long-term grid planning

Scouting the market for investment opportunities and partnership







An Expanding Ecosystem

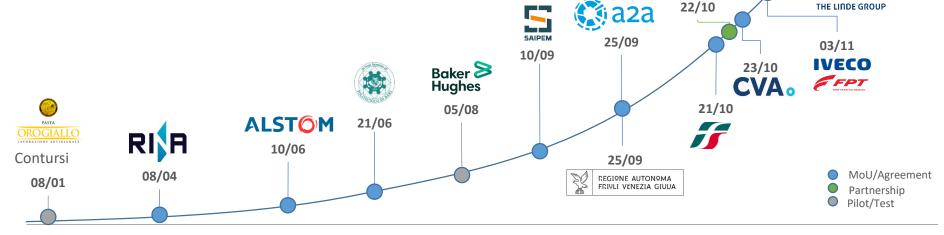
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- 3 pilot project for H2NG blend
- 11 MoU for the development of the value chain
- 2 Partnership with technology providers







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H2: Partnership with De Nora and ITM to get technological edge on electrolyzers



De Nora is at the heart of the electrolyzer process and supplies global top licensors of Alkaline water electrolyzers





Courtesy of McPhy

- >€ 0.4bn investment (37% stake), appoint 3 Board Members, and representation on Strategic and Technical Committees
- De Nora enjoys **exceptional business profile** being a leading company in Chlor-Alkali, electronics and surface finishing and in water and waste water treatment segment
- ... with strong hydrogen upside
 - Fast-growing H2 electrodes business (key component of electrolyzers)
 - 34% of the JV with Thyssenkrupp co-develops, assembles and installs electrolyzers and plants
 - Joint Development Agreement with fuel cell specialist AFC Energy to develop alkaline electrodes for alkaline fuel cells

Partnership with ITM Power, leader in PEM technology



- €30m GBP investments in ITM Power capital increase
- Presence in key technical and strategic committees (Strategic Advisory Committee and Technology Management Committee) and secondment of resources
- Soft commitment for up to 100MW of electrolyzers of "membrane" technology (PEM - Proton Exchange Membrane) to be used in Snam pipeline of projects











Back up



Investment plan 2020-2024

