COGEN EUROPE

Fit for 55 Package & Cogeneration

COGEN EUROPE

Regional Approach Brussels - Energy Transition

30 March 2022

Members

National Associations

Corporate Members

Our Vision

The cogeneration sector is committed to creating a resilient, decentralised, carbon neutral European energy system by 2050, with cogeneration as its backbone:

- empowering European citizens and industry to generate their own efficient, reliable and affordable clean heat and power locally
- bringing together heat, electricity and gas networks, allowing the efficient integration of substantial amounts of renewable energy and providing energy when and where needed
- enabling an integrated energy system and a cost-effective transition towards a sustainable future

Cogeneration

Single Input

Two Outputs

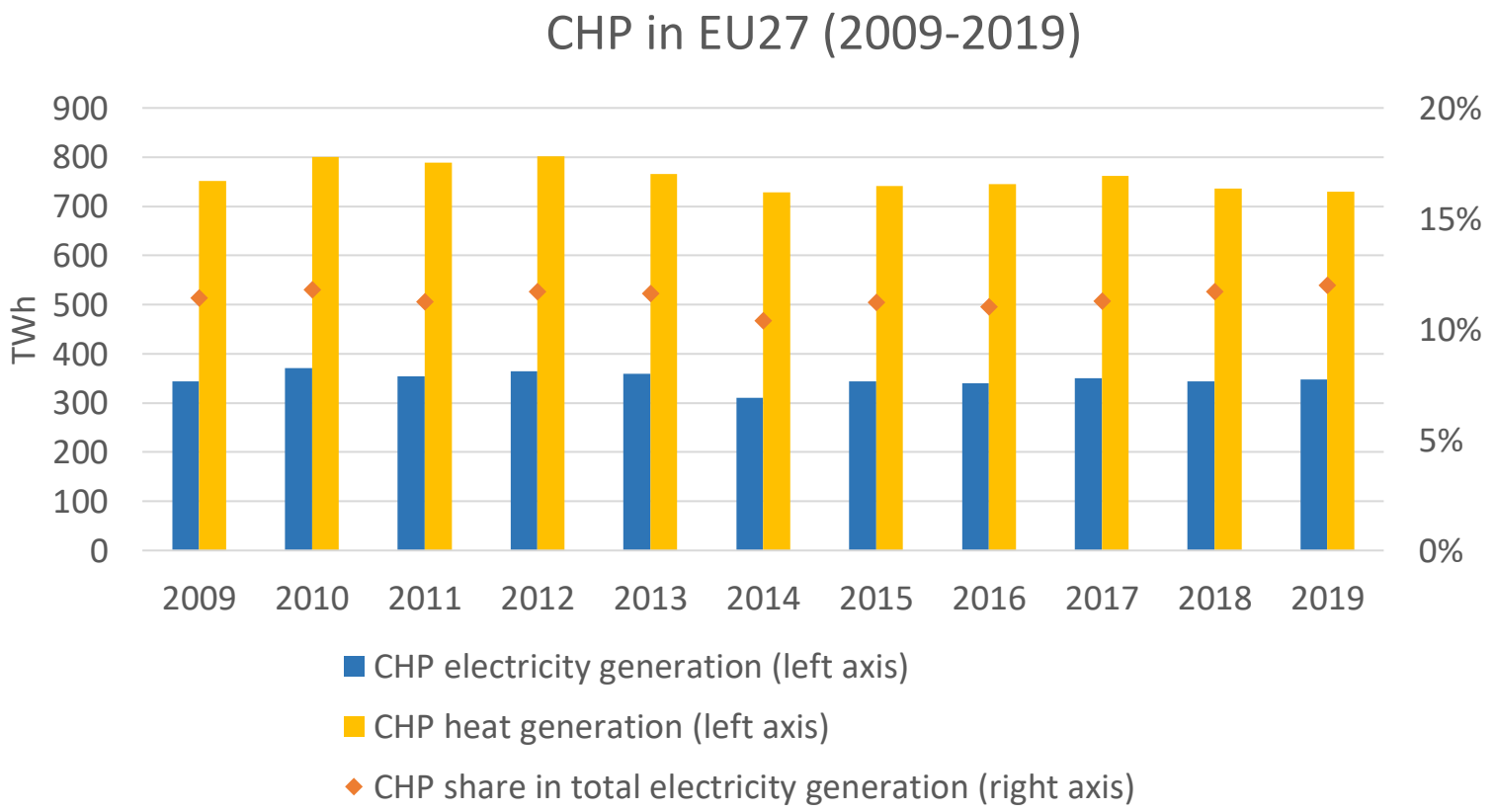
Cogeneration transforms 90% of the energy into useful heat and electricity for factories, offices, public buildings and homes.

COGEN EUROPE

Overview of CHP in Europe

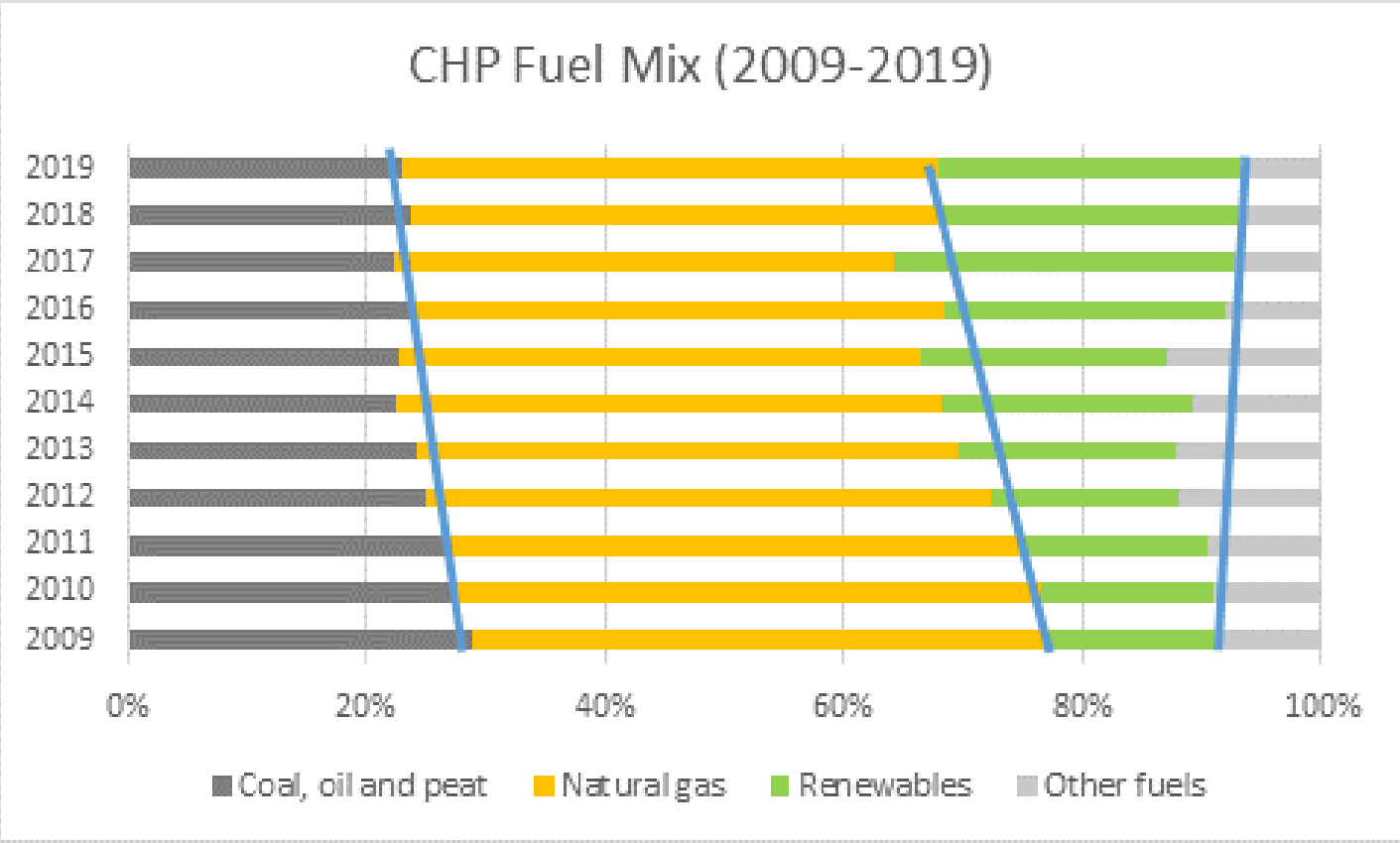
CHP in Europe - Overview

- 113 GWe of high efficiency CHP installed in 2019
- CHP represents 12% of total electricity and ~14% of the heat in EU27, with potential for it to double by 2030
- CHP across the EU reduces up to 150 Mt of CO2 & ~30 Mtoe of primary energy today (equivalent to the emissions of ~90 million cars)



Source: Eurostat (2021)

Cogeneration Fuel Mix



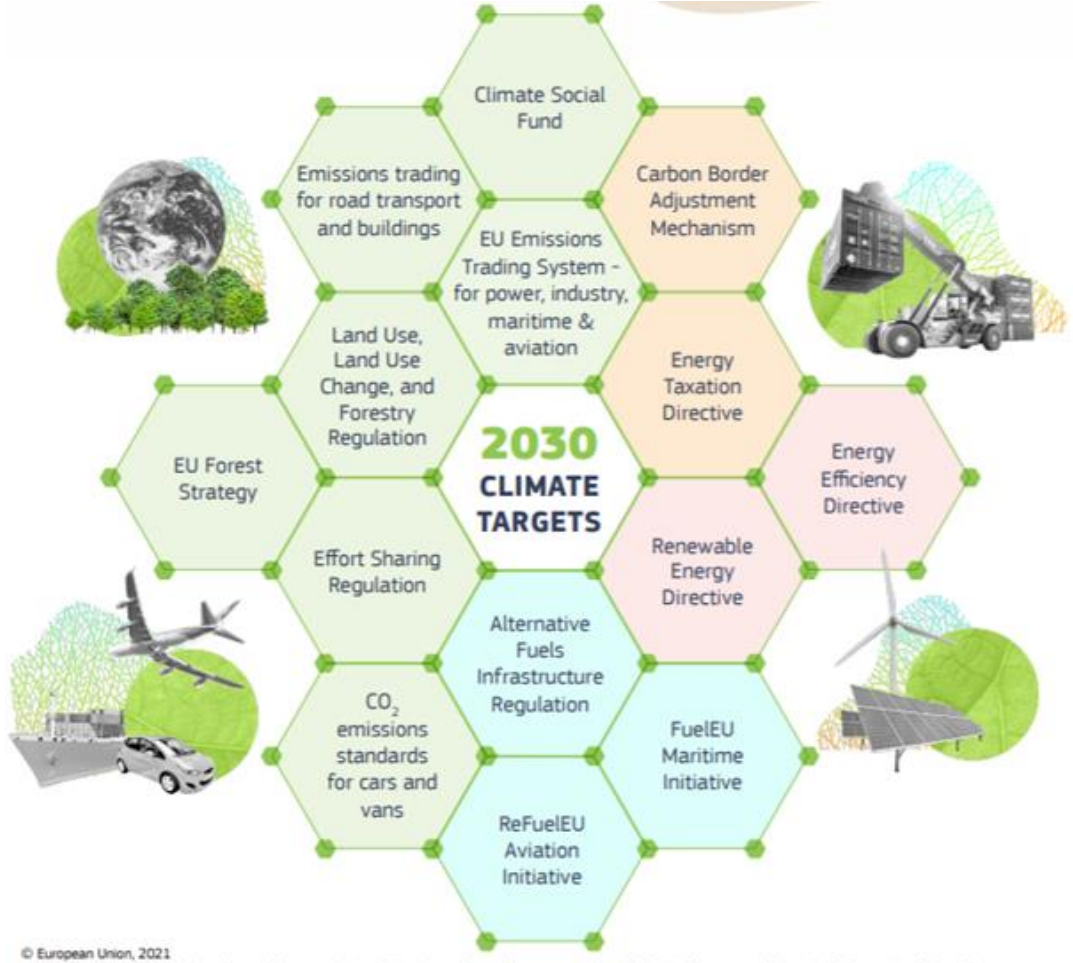
Source: Eurostat (2021)

CHP fuel mix influenced by fuel price dynamics, support schemes and availability of renewable fuels at local level.

- Stable share of natural gas use in CHP.
- Rapid increase of RES, reaching close to 26% in 2019 (from 13% in 2009).
- Steady decline in solid fossil fuels and oil use in CHP.

Fit for 55 Package

Fit for 55: Overview



- *"Package of proposals to make the EU's climate, energy, land use, transport and taxation **policies fit for reducing net greenhouse gas emissions by at least 55% by 2030**, compared to 1990 levels."*

Fit for 55: COGEN Europe's Positions

Mainstream Energy Efficiency First Principle

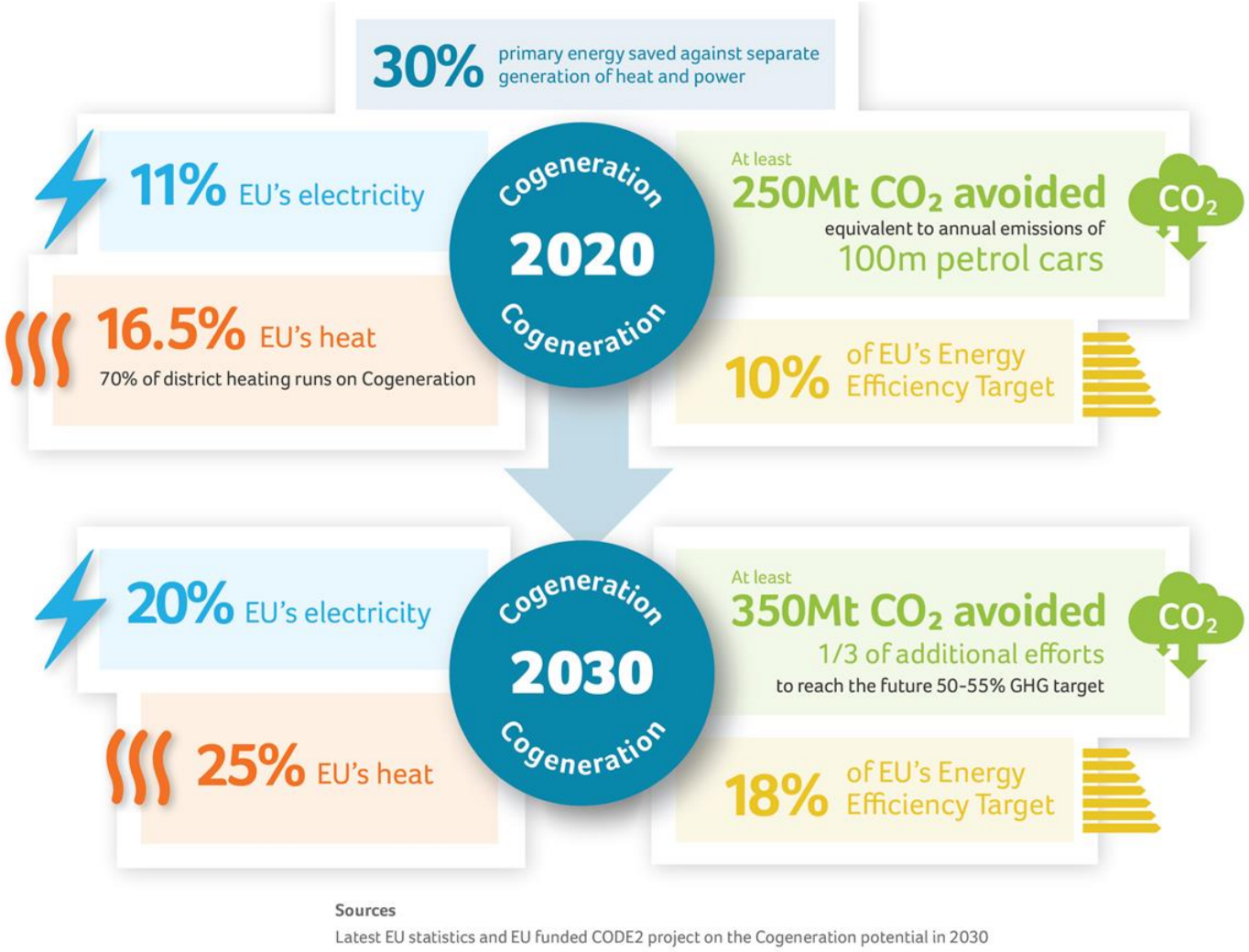
Foster the Efficiency, Availability and Affordability of Renewable Energy

Unlock Energy Flexibility, Security and Resiliency

Accelerate Predictable and Cost-effective Emission Reductions

Create a Stable Framework for Green Investments

CHP's Contribution to Fit for 55



Sources

Latest EU statistics and EU funded CODE2 project on the Cogeneration potential in 2030

REPowerEU

Concrete Steps to Deliver REPowerEU

Take an integrated systems' approach to maximise energy efficiency, flexibility and renewables across all energy vectors, systems and technologies:

- Accelerate the uptake of renewable gases and H2 in all sectors to ensure they become affordable sooner;
- Promote system flexibility thorough efficient gas use in DHC and buildings; and
- Prioritise only smart electrification, where feasible with renewable and efficient power, to avoid increasing gas use upstream.

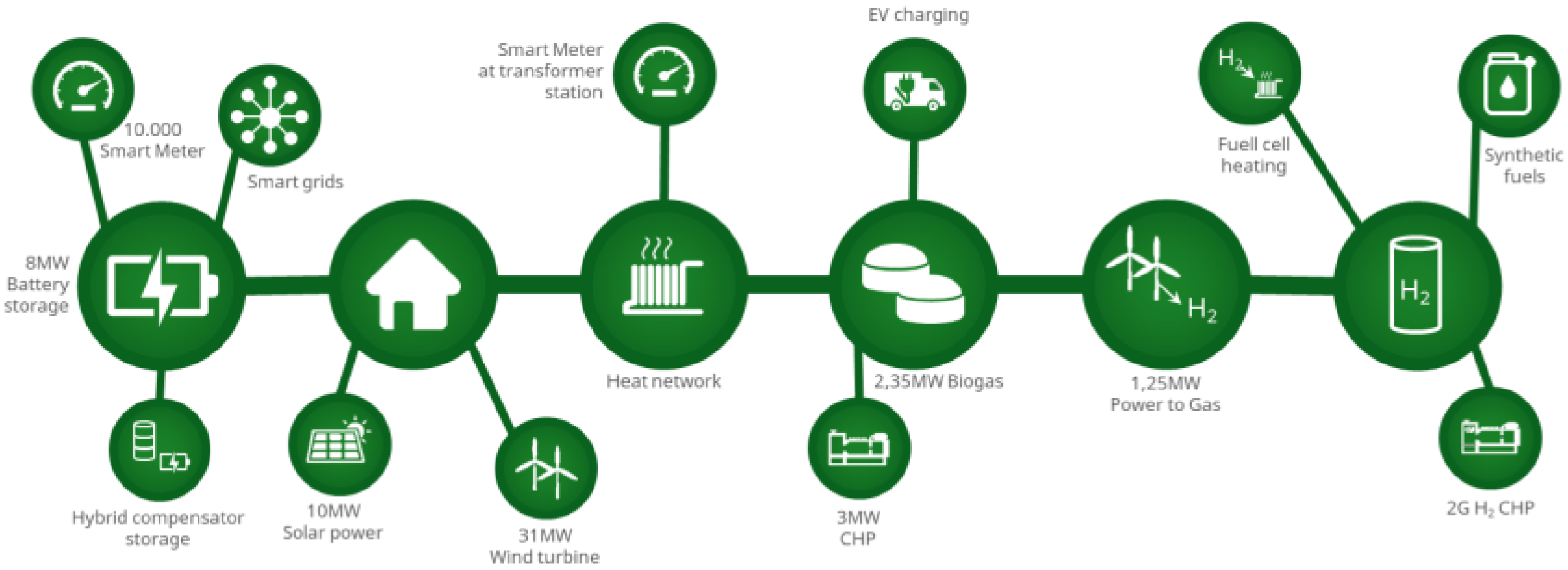
Focus on both demand side efficiency and efficiency of supply, to reduce energy waste in energy production, transmission, distribution and final use:

- EU's power-only plants waste ~200 Mtoe of heat through cooling towers. Recovering that heat via CHP would be sufficient to cover all of EU's heat demand in buildings (~195 Mtoe); and
- Example: Installing 6 GW of CHP per year in Germany, would reduce its dependence on gas imports by 10%.

Diversify gas supply, with a priority for their efficient use and locally produced renewable gases/H2:

- Valuable gas should be used with priority in efficient CHP, ensuring the optimal output of flexible power for the grids and efficient heat for DHC, industrial and residential consumers: and
- Separate use of gas in power-only plants and gas boilers should be allowed only when CHP is technically not feasible.

Best Practice: CHP Completes the System Integration Chain (Haßfurt, Germany)



Source: 2G, 2021. [Energy transition: Hydrogen CHP completes storage chain]

Cogeneration in 2050

CHP: Beneficial to Consumers in All Sectors

CHP enables the **most energy-efficient** & **cost-effective** pathways to decarbonisation in a **consumer-empowering** way.

220 TWH

OF PRIMARY ENERGY SAVINGS

OR **2.5 x annual electricity consumption of Belgium***

5.5 MT

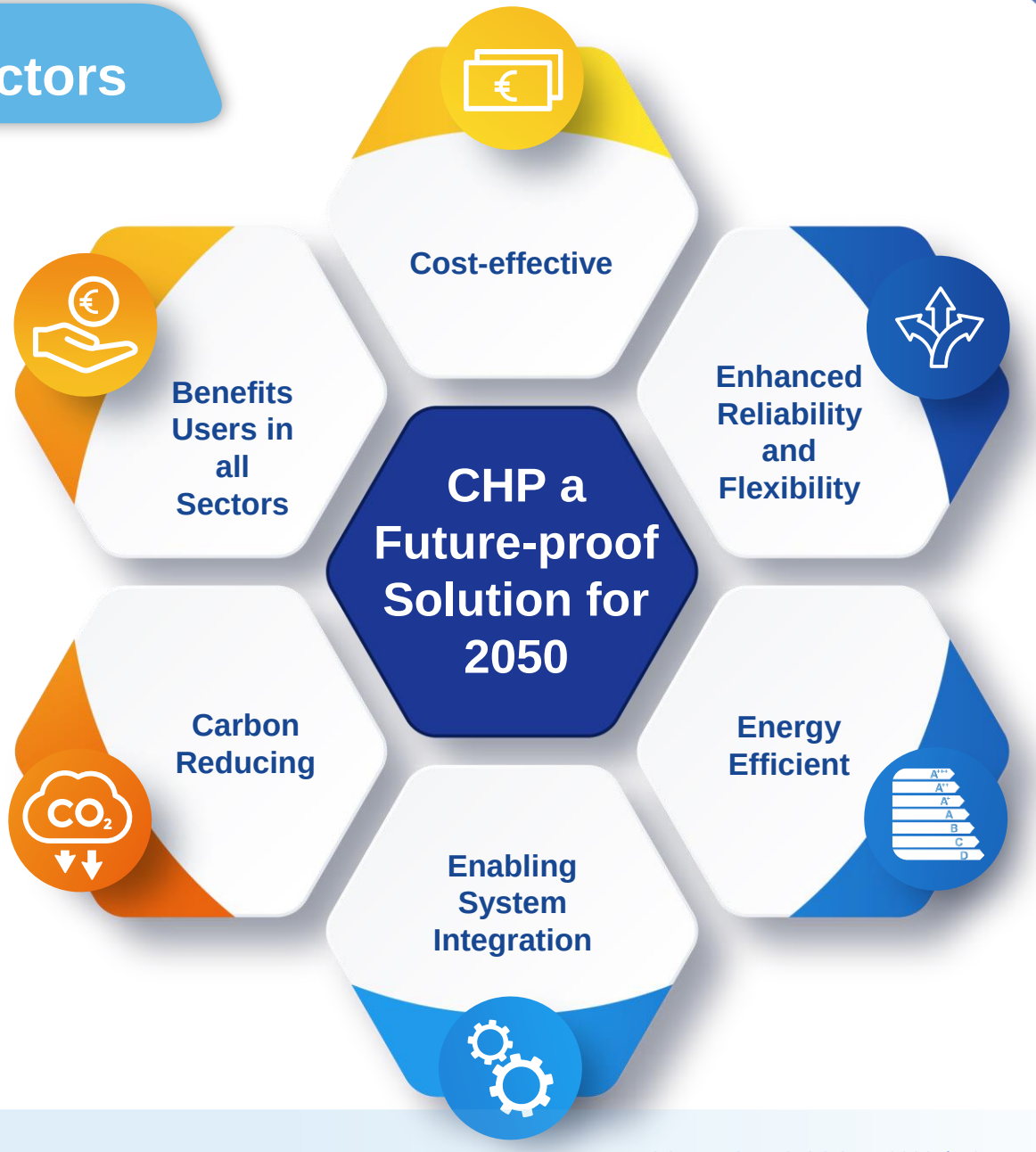
OF REMAINING CO_2 EMISSIONS AVOIDED

OR **Annual CO_2 emissions of 3 million petrol cars**

8.2 BN €

SAVED YEARLY

OR **9.5 x of LIFE Climate Action funding**

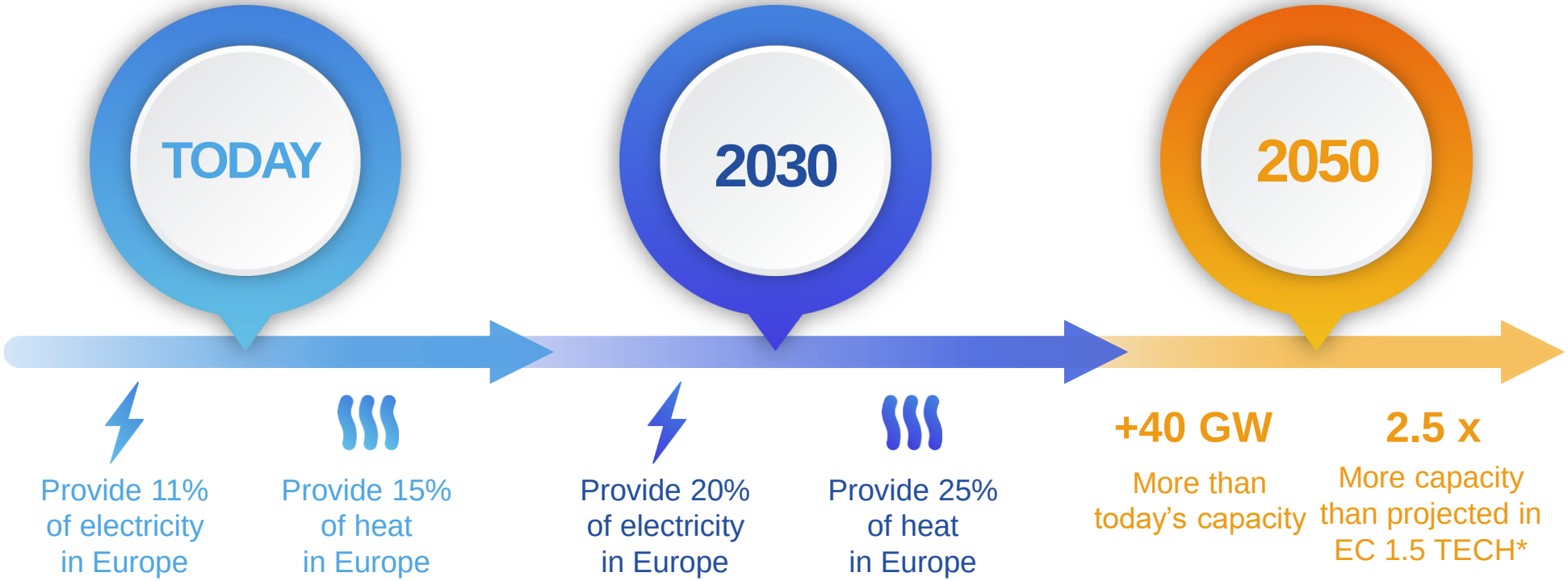


** IEA 2019*

Our Call to Action

An **ambitious and predictable regulatory framework** must be set in place to fully reap the benefits of cogeneration for citizens, businesses and the energy system between now and 2050.

Prioristise cogeneration for all thermally generated heat and power, to avoid wasting valuable energy.



Hans Korteweg
Managing Director – COGEN Europe
E-mail: hans.korteweg@cogeneurope.eu
Phone: +32 (0)2 772 82 90
Website: www.cogeneurope.eu
Twitter: @CogenEurope

COGEN Europe • The European Association for the Promotion of Cogeneration
Avenue des Arts 3-4-5, 1210 Brussels, Belgium • T +32 (0)2 772 82 90 F +32 (0)2 772 50 44 info@cogeneurope.eu • www.cogeneurope.eu

COGEN
EUROPE