

11 October 2022

# Call to Prioritise Efficient Power and Heat Production to Ensure Affordable, Secure and Clean Energy for all Europeans

Dear Executive Vice President Timmermans, Dear Commissioner Simson,

Europe is facing an unprecedented energy crisis, which threatens the essential supply of affordable, secure and clean power and heat for European industry, SMEs and citizens. Today, more than ever before, Europe cannot afford to waste valuable energy. As leaders of major companies and associations representing key sectors that are vital for Europe's economy, we are calling on the European Union and its member states to prioritise the efficient production of power and heat as part of locally integrated and diversified energy systems.

The EU Green Deal prioritises energy efficiency as the key driver for a faster and more cost-effective path to carbon neutrality. The 'Save Gas for a Safe Winter' Plan further establishes the importance of energy savings in order to secure and maintain Europeans' continued access to energy in the coming months and years. Despite the high-level support for energy efficiency, avoidable energy losses in energy conversion, transmission and distribution have been severely neglected as well as the key role of supply-side efficiency in reducing the waste of valuable energy [1].

Cogeneration is a future proof, flexible and renewables-ready efficiency solution, which can be deployed now in order to ensure the cost-effective transition to an increasingly electrified, renewable and resilient energy system on the path to net-zero emissions by 2050:

Already today, cogeneration delivers 12% of the electricity and 16% of the heat used in Europe across key industries, in district heating networks and individual buildings. High efficiency cogeneration complies with ambitious EU standards, thus saving at least 10% and, in many cases, up to 30% of energy compared to less efficient and more polluting power-only plants and heat-only boilers. Cogeneration systems installed in district heating, industrial sites and buildings, enable significant energy savings equivalent to more than 30 bcm per year, of which 15 bcm are directly linked to natural gas savings [2].

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- Across 2050 net-zero emissions scenarios, thermal power generation is identified as essential to provide electricity and heat, whenever intermittent wind and solar energy is insufficient to cover demand. In such cases, cogeneration is the most sustainable option to supply dispatchable power as well as efficient and secure heat to consumers. Cogeneration plants built today will shift to renewable sources, as these become increasingly available and affordable. Facilitating the optimal deployment of cogeneration capacity as part of resilient integrated energy systems could help Europe decarbonise at lower cost, ensuring savings of €4.1-€8.2 billion annually by 2050 [3].
- While the present energy crisis may significantly impact assumptions for future scenarios, the role of cogeneration will remain important and even increase for some applications because of its energy efficiency and resiliency benefits. The European Commission's own 2050 scenarios count on cogeneration optimising energy efficiency across an increasingly diversified, renewable and carbon neutral energy mix, with up to 15% of total electricity and 64% of district heating potentially relying on cogeneration by 2050 [4].
- The cogeneration sector has a strong manufacturing base in Europe, showcasing leadership in innovation and boosting European competitiveness through state-of-the-art solutions for industry, district heating, buildings and SMEs [5].

Deep decarbonisation can only be achieved at the lowest cost for industry, SMEs and citizens with cogeneration to enable higher energy efficiency and the integration of energy systems at local level. To deliver this vision, we recommend the following actions to be urgently implemented at EU, national and local levels:

- Apply energy efficiency first: Energy savings must be incentivised across the entire energy value chain - not only in final energy consumption, but also in energy conversion, before the energy reaches final consumers. In addition to promoting heat pumps for the most efficient use of electricity to heat homes, high efficiency cogeneration must be promoted to maximise the use of all thermal energy in the mix, from conventional sources to hydrogen, bioenergy, waste heat, geothermal, residual waste and many more. Cogeneration significantly reduces energy waste, and must therefore be prioritised over less efficient, more polluting and costlier thermal power-only plants and heat-only boilers.
- Enable resilient and locally integrated energy systems: Promote integrated energy systems which utilize cogeneration to flexibly and efficiently link power and heat, as well as gas systems, at local level, close to end-users. Cogeneration must be recognised and rewarded as the cleanest way to supply reliable energy where and when needed, supporting the integration of electricity from intermittent sources. Decentralized cogeneration installed alongside district heating and/or in buildings will complement growing electrical demand (e.g. from EV and heat pumps), enhancing resiliency. Flexible cogeneration can be further enabled through heat storage and digitalisation to optimally respond to shortages or oversupply of intermittent renewable power.
- Foster competitive, secure and clean energy for industry: The availability and affordability of clean and efficient energy sources is key to maintaining industry in Europe and preserving its competitiveness. Major energy intensive industries, such as the chemical sector, alumina/aluminium, pharmaceutical, pulp and paper, primary food processors, ceramics and many more, rely on cogeneration for the continuous supply of process heat. Any potential disruption of these processes could lead to an adverse value chain impact, causing significant long-term damage to the EU economy, and increasing EU's import dependence. Therefore, EU energy and climate policies must continue to enable the efficient use of energy sources via cogeneration for on-site production.

In the context of ongoing discussions on 'Fit for 55' and REPowerEU, we assure you of our commitment to engage in constructive dialogue with EU policymakers and contribute positively to the critical debate on the future of Europe's energy systems.

Yours sincerely,

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Marco Pezzaglia Chair COGEN Europe

Hans Korteweg Managing Director COGEN Europe

CC to: Executive Vice-President Vestager, Commissioner Breton and Commissioner Sinkevičius

[1] According to Eurostat, EU's electricity sector wastes more than 200 Mtoe of primary energy in energy conversion, as heat dispersed into the atmosphere. An additional 20 Mtoe is wasted as power grid losses. This is equivalent to EU's entire domestic heat demand. In the heating sector, old or inefficient boilers are the norm in supplying both residential and industrial heat.

[2] Eurostat, 2021. <u>Combined Heat and Power (CHP) data 2005-2019</u> & COGEN Europe estimates based on Eurostat.

[3] Artelys, 2020. Towards an efficient, integrated and cost-effective net-zero energy system in 2050. The role of cogeneration.

[4] European Commission, 2021. EU Reference Scenario 2020. Energy, transport and GHG emissions - Trends to 2050.

[5] Innovative cogeneration include stationary <u>fuel cells</u>, renewables- and <u>hydrogen-ready CHPs</u>, waste heatbased solutions and many more. CHP systems provides heat and /or cooling for domestic and office uses and are at the core of key energy intensive industries to provide process steam, hot water and electricity.

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