Electricity and heat are essential in our modern society. We use it to power lights, computers and washing machines and to keep our homes warm. Electricity and especially heat are crucial for European industry, which needs reliable and affordable heat and electricity, for example to produce paper, food, drinks, ceramics and chemicals.

**WHAT IS COGENERATION?**

Cogeneration (also known as CHP or combined heat and power) is the simultaneous production of heat and electricity, maximising the full potential of the different energy sources used. It captures the heat that is released during the production of electricity. Cogeneration transforms 90% of the energy into heating, hot water, and cooling for factories, offices, public buildings and homes. A conventional power plant only transforms 30-40% of the energy into useful electricity and heat. Thus, up to 60-70% of the energy input is wasted.

**The European Union is building a new energy system. In 2030, cogeneration could generate 20% of the EU’s electricity and 25% of the EU’s heat. Cogeneration is:**

**FLEXIBLE**

Cogeneration responds to flexibility challenge in EU’s energy system, providing reliable generation capacity to balance supply and demand at local level, allowing to integrate more renewable energy. It is smart grid ready and has heat storage capabilities allowing to leverage the synergy benefits between different energy networks and sectors, while helping decarbonise and make our energy system more efficient.

**CONSUMER DRIVEN**

100,000 Europeans already self-generate their heat and power thanks to on-site CHP installations, being the active beneficiaries of the energy transition towards a decentralised energy system.

**INCREASINGLY RENEWABLE**

Cogeneration enables more renewable energy in our energy system, increasingly using renewable fuels while integrating more intermittent renewables like wind and solar. In the last ten years, renewable cogeneration has doubled, reaching 20% of today’s cogeneration fuel mix.

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1 According to CODE 2 (Cogeneration Observatory and Dissemination Europe)
WHO USES COGENERATION?

Many industries today use some of the largest cogeneration installations, including in the production of paper, ceramics, food & drink, chemicals and petroleum refining.

Today more than 90 million European households rely on cogeneration as part of their district heating network. 70% of all district heating networks across Europe use cogeneration. In addition, more than 100,000 Europeans self-generate their heat and power.

Some well-known and iconic buildings use cogeneration for their heat and electricity. Examples include the European Commission headquarters in Brussels and Buckingham Palace in London.

About COGEN Europe

COGEN Europe is the European association representing the cogeneration sector. COGEN Europe has over 60 members: 13 national associations and 50 organisations spanning the entire energy value chain from technology manufacturers and users to consultancies and national cogeneration associations.

Our aim is to promote the benefits and wider use of cogeneration in the EU and wider Europe. We work with EU institutions, Member States and other stakeholders to develop sustainable energy policies that enable the increased use of efficiently produced and affordable electricity and heat through cogeneration.

Cogeneration in the EU

Some Key Statistics

- COGEN Europe has over 60 members representing the entire energy value chain.
- Cogeneration directly employs 100,000 people in the EU.
- Cogeneration provides 11% of all electricity and 15% of all heat in the EU.

COGEN Europe has experience coordinating EU-funded projects, such as CODE, CODE 2, and more recently ene.field and PACE (ongoing).