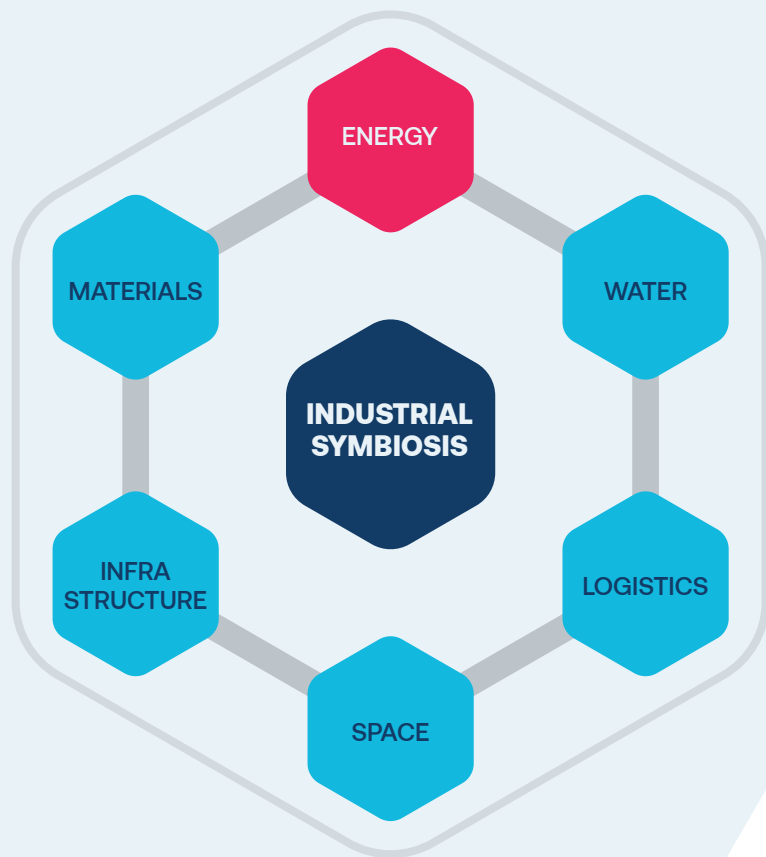




What is Energy based industrial symbiosis

Energy-based industrial symbiosis implementation enables the decoupling of economic growth from non-renewable resource exploitation, by dealing with the usage of wasted energetic resources of an industry or industrial process as a substitute to the traditionally used by another industrial process.

Energy symbiosis (ES) implementation contributes to reduced industrial fossil fuels dependency and to the achievement of the decarbonisation goals of eco-industrial parks in Europe, while helping industries transition towards a more resilient, competitive and sustainable industrial model.





Energy-based industrial symbiosis can be classified into two separate categories:

1. **Waste heat/cold exchange.** Excess heat from a process is used by another process, in the same industry or neighbouring one. Also, excess heat can be reused as space heating in urban areas.
2. **Bioenergy production.** This synergy occurs when organic wastes are used to produce bioenergy or biofuels (biogas, biomass combustion...).

The end goal of ES is to solve inefficiencies in the consumption of energetic resources and energy handling that companies internally do no use on their own:

- Useless (biological by-products)
- Lost (excess heat or cold in the form of steam or other fluids)
- Not used or sharable (existing piping or boilers infrastructure that can be reused, or rooftops for photovoltaic or thermal cells).

