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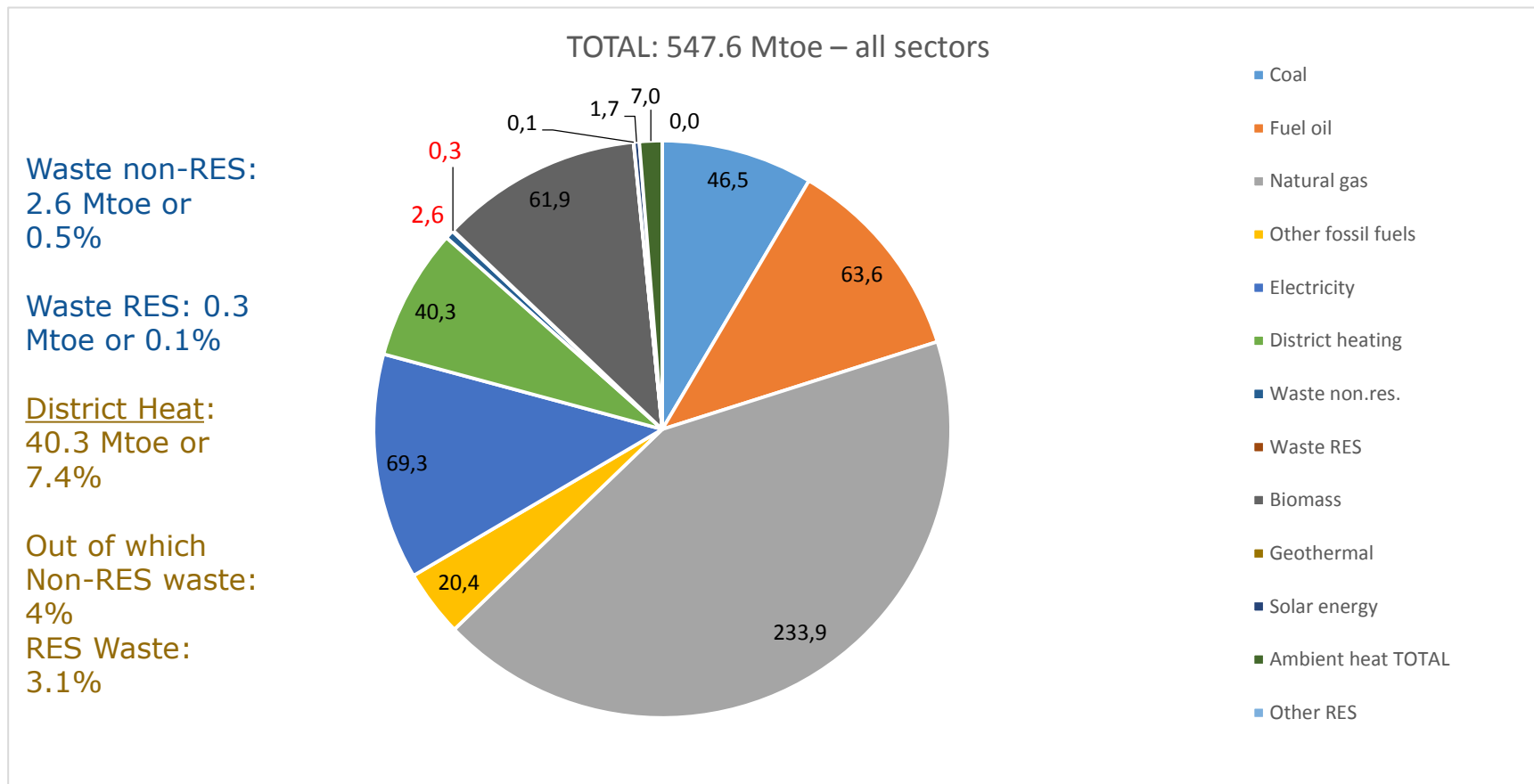
## Waste-to-Energy: Key principles

**Residual non-recyclable waste can be a source of primary energy saving and renewable energy if used for highly efficient energy recovery through:**

- ❖ **High-efficiency cogeneration (and trigeneration)**
- ❖ **Efficient district heating & cooling networks**
- ❖ **Waste reprocessing into solid, liquid & gaseous fuels that can be used through e.g. high-efficiency cogeneration, heat pumps and other advanced high efficiency technologies**

**to produce heat/cold & power**

## Final energy consumption for heating and cooling (2012)



Source: Mapping and analyses of the current and future (2020 - 2030) heating/cooling fuel deployment (fossil/renewables), N°ENER/C2/2014-641

## Key principles supported in the Energy Efficiency Directive and the Renewable Energy Directive I&II

### Energy Efficiency Directive:

- ❑ Comprehensive Assessment of HE CHP and EDHC potentials based on CBA methodology (Art. 14, Annex VIII, IX)
- ❑ Mapping of potential heating & cooling supply points, incl. waste incineration plants
- ❑ Integrated approach, national, regional and local geographies
- ❑ If economic potential, MS must take measures to develop it

### Renewable Energy Directive:

- ❑ Planning, building, renovating urban, industrial and residential areas and energy infrastructures, i.e. electricity, DHC, gas, alternatives (Art.15)
- ❑ RES H&C increase endeavour requirement of 1 ppt/year (Art. 23)
- ❑ District heating, cooling (Art. 24)
- ❑ RES waste, advanced biofuels and waste based fuels

**Key principles applicable for waste-to-energy  
Clean Energy Package, Energy Union, Energy Efficiency Directive,  
Renewable Energy Directive (RED I and RED II)**

**Efficient district heating and cooling is an enabler of renewable energy and energy efficiency and a tool to mainstream renewables and energy efficiency in heating and cooling**

**Waste-to-energy:**

- ❑ To be connected to district heating and cooling network**
- ❑ To use high-efficiency cogeneration and other efficient technologies**
- ❑ To be developed within an integrated energy approach, including at local and regional levels, which aims to:**
  - ❖ Utilise local renewable and other sustainable energy resources**
  - ❖ Optimising the use of local energy and other resources**
  - ❖ Primary energy savings and GHG reductions**
  - ❖ Supply security and stable competitive energy prices**
  - ❖ Local jobs**
  - ❖ Empowerment of consumers**
  - ❖ Energy communities**



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# THANK YOU!

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