

## 5. ACCUMULATORS DISTRICT HEATING IN REGGIO EMILIA (RE)

### CATEGORY

Energy efficiency (Energy Distribution and Management)

### LOCATION



### DESCRIPTION

Heat accumulation system serving the Reggio Emilia district heating network. This network is made up of approximately 219 km of double pipelines and heats approximately 13.3 million m<sup>3</sup> (figures from December 2016).

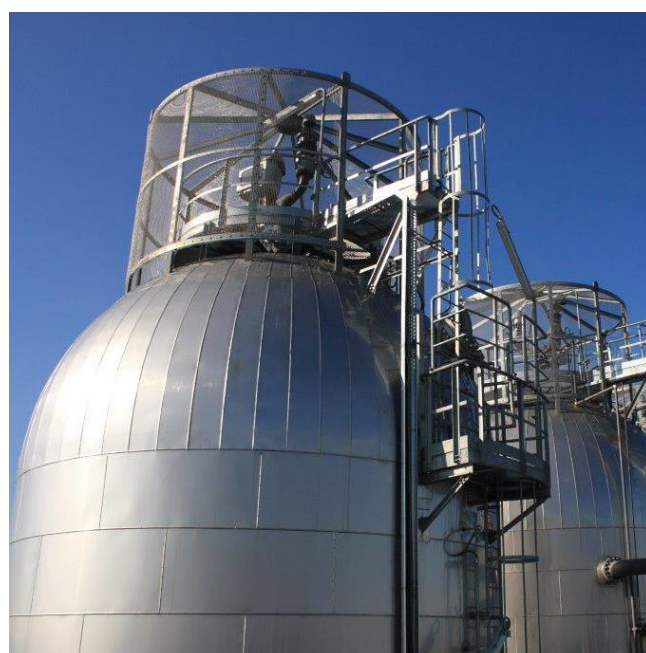
The Reggio Emilia district heating network is fed by a cogeneration section and supplementary and reserve boilers in the north-east area of the network (Energy Hub), the supplementary and reserve boilers in the south-west (Network 1 Plant), south-east (Pappagnocca Plant) and north-east (Via Sardegna Plant) areas of the network. A 1,600 m<sup>3</sup> accumulation system is already installed in the Reggio Emilia district heating network at the Energy Hub, with a daily loading/unloading operation during the heating season.

The new accumulator system being planned has a volume of 1,200 m<sup>3</sup> and will be installed at the Via Sardegna Plant. The function of the accumulation system is to store the thermal energy produced by the cogeneration thermal power plants when heat demand is lower, in order to transfer it later, when the district heating network is operating with its maximum load, thus reducing the use of supplementary boilers.

The energy contributed by the accumulation system makes it possible to achieve objectives such as increased operating flexibility and commissioning speed, increased flexibility in managing thermal energy flows, saving primary sources and reducing greenhouse gases.

### AMOUNT

| Full project amount (2008-2019) (€ millions) | Financeable amount (€ millions) | Financed amount (€ millions)    |
|--|---------------------------------|---------------------------------|
| 2.2  | 2.2                             | 2008-2018: - mln<br>2019: - mln |
|  |                                 | Total - mln                     |



### ENVIRONMENTAL PERFORMANCE INDICATORS

| KPI  | Unit of measure | 2017 | 2018 | 2019 | 2020   | 2021   | 2022   |
|--|-----------------|------|------|------|--------|--------|--------|
| Primary energy saving per operating year                                 | MWh             |      |      |      | 10,407 | 10,407 | 10,407 |
| Avoided CO <sub>2</sub> emissions from fossil sources per operating year | t               |      |      |      | 2,046  | 2,046  | 2,046  |