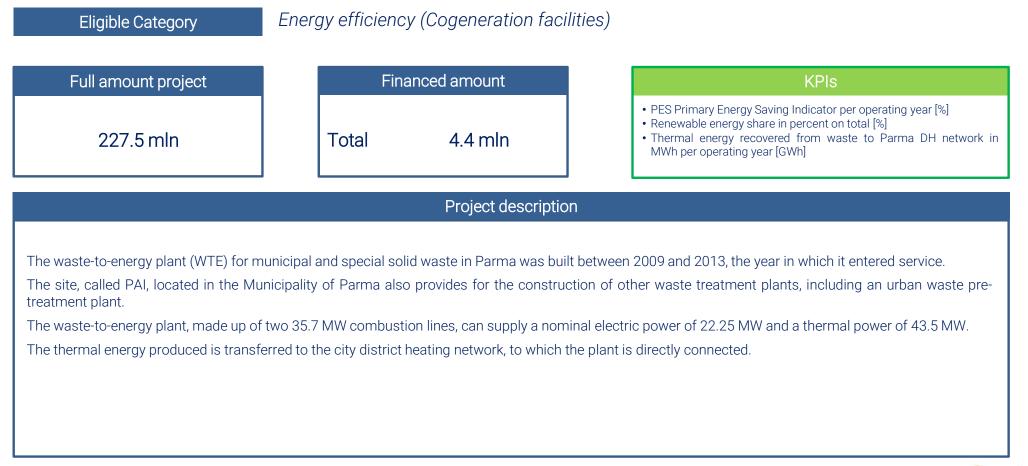
Green Bond Project (post issue) ISSUED 2019-MATURITY 2029 (ISIN XS2065601937)

March 2023

Waste to energy plant for heat production in Parma

1 WASTE MANAGEMENT BU Ref.: project 1-ISIN XS1704789590





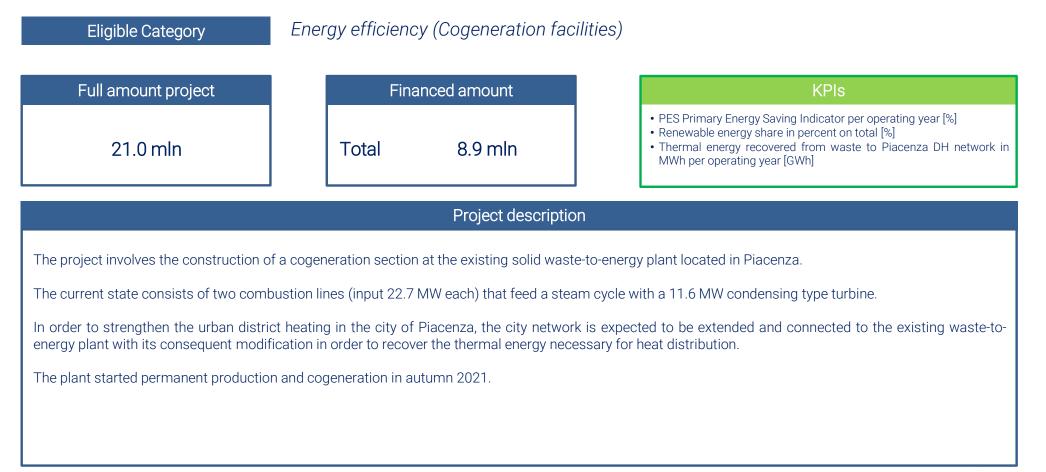


ISIN XS2065601937

Waste to energy plant for heat production in Piacenza

2 WASTE MANAGEMENT BU Ref.: project 2-ISIN XS1704789590







Development of separate waste collection services

3 WASTE MANAGEMENT BU Ref.: project 3-ISIN XS1704789590



 Eligible Category
 Waste management efficiency and recycling (Waste collection and sorting upgrades)

 Full amount project
 Financed amount
 KPIs

 101.0 mln
 Total
 19.7 mln
 • Total of non sorted waste collection [%]

Project description

The project concerns the development of separate waste collection through:

1) TRANSFORMATION OF THE SORTED WASTE COLLECTION SYSTEM

- TORINO: transformation of the separate collection system in Torino with the extension of home collection. The enhancement is realized through traditional internalized door-to-door models, with small-sized containers placed on private property, or through the use of large-sized smart containers placed on the public road, prodromal to the application of the punctual pricing
- EMILIA: Anticipating the regional planning, in the territories of the Emilian municipalities served by Iren, the Group has implemented a progressive transformation of waste collection services from the road model to the door-to-door model, with prodromal methods for the application of punctual pricing. The situation of the interventions is diversified in the 3 provinces

2) COLLECTION HUBS IN THE EMILIA AREA

It is the progressive extension to all collection hubs of a computerized system used for the registration of incoming users and for the control of delivered volumes in order to the application of a discount system. Following the identification by the user, a special device is used to input all the information relating to the contribution operation.



Biowaste recovery to produce compost and biomethane - Ferrania (SV)

Waste management efficiency and recycling (Waste collection and sorting upgrades)

Full amount project	Fina	anced amount	KPIs
25.5 mln	Total	8.8 mln	 Production of compost (% on organic fraction in input) [%] Production of biomethane [Msm³] Avoided CO₂ emissions from fossil sources per operating year [t] Primary energy saving per operating year [Toe]
		Project description	1
around 8.8 million Euros. The plant actually treats 30,000 t/y of bi	o-waste municipal wast	e which are turned into cor	OGIA, owner of an existing plant. The total cost of the acquisition is

In 2018, the local authority approved to increase the total amount of waste from 30,000 t/y to 60,000 t/y, to which 20,000 t/y of compostable waste are added for a total of 80,000 t/y. In meantime approved the production of Biomethane.

The aim of the project is the construction of a bio-waste treatment plant exploiting the organic and green waste collected in the Liguria region, in particular in the provinces of Savona and Genoa, and for remaining part the bio-waste available on the market. The proposed plant falls into the category of projects identified in Annex IV, Part Two of Legislative Decree 152/2006.

The Biomethane is produced in accord to the incentivisation law of the biofuel and biomethane, D.M. 2018/03/02.

The plant started commercial operation in July 2021

Eligible Category

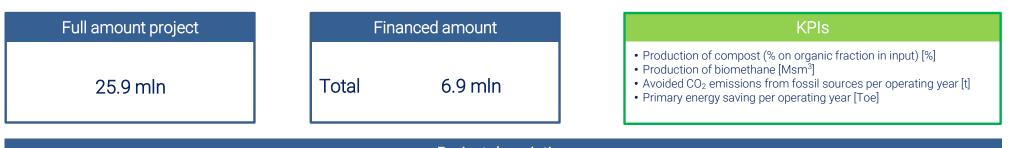


WASTE MANAGEMENT BU

4

Biowaste recovery to produce compost and biomethane – Santhia (TO)

Waste management efficiency and recycling (Waste collection and sorting upgrades)



Project description

In the month of July 2019, Iren Ambiente acquired the whole property of the company TERRITORIO E RISORSE, owner of an existing plant. The total cost of the acquisition is around 6.5 million Euros. The plant actually is authorized to treat 36,000 t/y of bio-waste municipal waste (26,000 t/y Bio-waste and 10,000 t/y Green waste) which are turned into compost.

In 2019, the local authority approved to increase the total amount of waste treated to 60.000 t/y of which 50,000 t/a (consisting of: 40,000 t/a of organic waste and 10.000 t / a of vegetable waste and ashes) and 10,000 t/a of organic waste storage.

In meantime the production of Biomethane.

Eligible Category

In July 2021 Authorities issued increase of capacity of biowaste to 68,000 t/y added to 10,000 t/y of green waste and 5,000 t/y of offal

The aim of the project is the construction of a bio-waste treatment plant exploiting the biowaste and green waste collected in the Piemonte region, in particular in the provinces of Vercelli, Novara, Verbano Cusio Ossola and Alessandria, and for remaining part the bio-waste available on the market. The proposed plant falls into the category of projects identified in Annex IV, Part Two of Legislative Decree 152/2006.

The Biomethane is produced in accord to the incentivisation law of the biofuel and biomethane, D.M. 2018/03/02.

Commercial operation of the 40,000 t/y capacity phase started at the end of 2021.

Commercial operation of the expansion (to 68,000 t/y) is planned to start at the end of next summer.



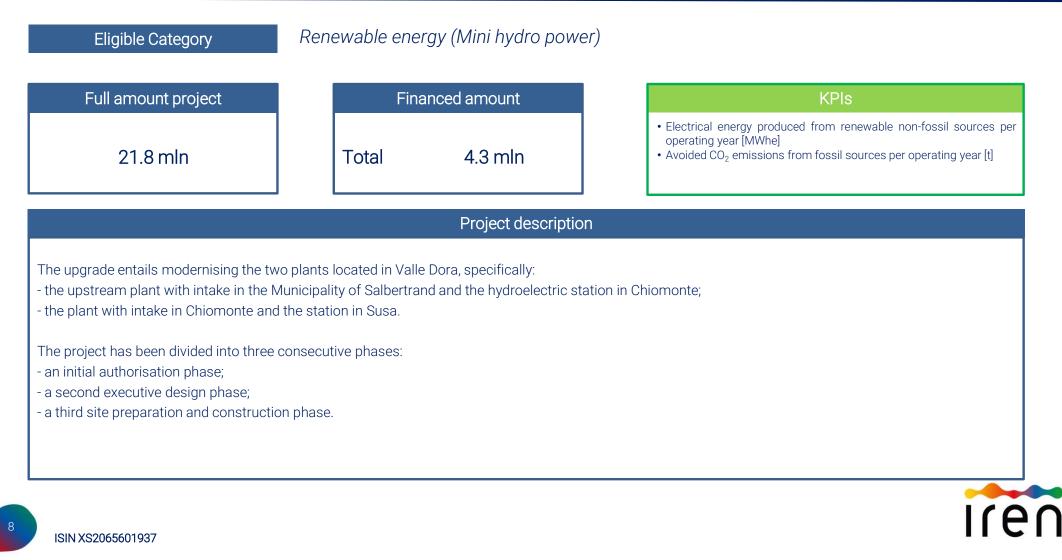
WASTE MANAGEMENT BU

ENERGY BU 6 Cogeneration plant Torino Nord Ref.: project 7-ISIN XS1881533563 Energy efficiency (Cogeneration facilities) **Eligible Category** Full amount project Financed amount **KPIs** • Electrical energy produced per operating year [MWhe] • Thermal energy produced per operating year [MWht] 351.9 mln Total 40.1 mln • Primary energy saving per operating year [MWh] • Avoided CO₂ emissions from fossil sources per operating year [t] Project description The Turin North Plant is an important electrical energy and heat production plant within the Turin metropolitan area and, together with the Moncalieri Plant, it forms the basis of the district heating system in the Turin metropolitan area. The start dates for the Plant's construction and operation are provided below. - 2010: start of construction of the Turin North Plant: 30 April 2012: start of commercial operation. The Plant is made up of the following production groups, functioning on natural gas only: 1 Combined-cycle cogeneration thermoelectric group (CCTG); - 3 Supplementary and reserve boilers; 1 Auxiliary boiler for starting the combined cycle; - 6 Heat accumulators: 1 Electrical energy storage system. Irer

VDE hydroelectric plant (Chiomonte-Susa) Repowering project

7 ENERGY BU Ref.: project 9-ISIN XS1881533563



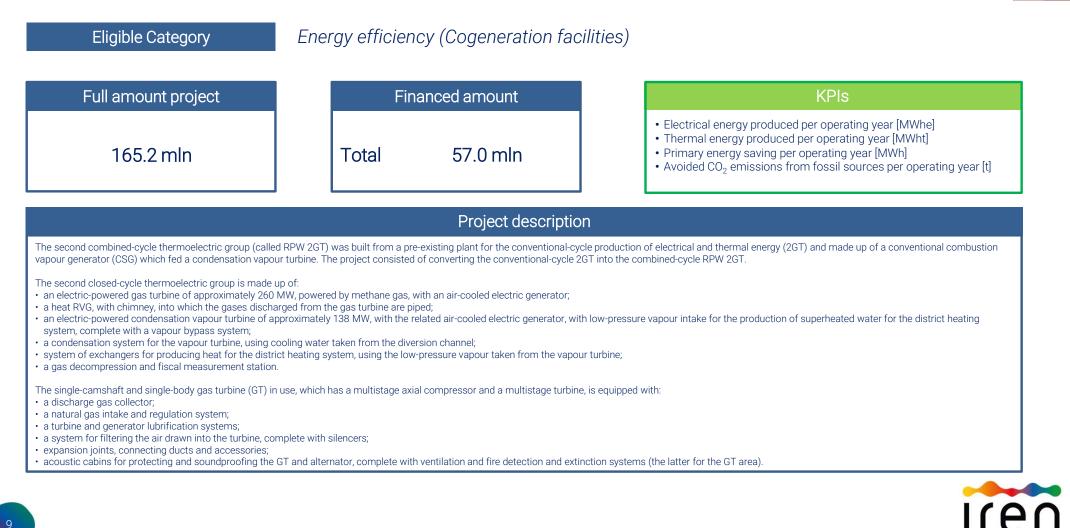


Cogeneration plant Moncalieri-GT2 RPW

8 ENERGY BU

Ref.: project 10-ISIN XS1881533563





Eligible Category Energy efficiency (Energy distribution and management) Full amount project Financed amount **KPIs** • Primary energy saving per operating year [MWh] • Avoided CO_2 emissions from fossil sources per operating year [t] 22.1 mln Total 13.0 mln **Project description** Since 1986, Turin's public lighting service is operated by the Iren Group: the installations consist of approximately 98,500 lighting points, the total luminous flux is 1,530 million lumens. The electricity grid extension is over 2,800 km, the total electrical power is 11.118 MW. The project consisted of two phases. Phase 1, started in 2015 and ended in 2017, led to the replacement of approximately 54,000 public lighting points, or 54% of the city's lighting fixtures, with LED lights, with important benefits on the economic and environmental front; its main objectives were to achieve significant energy and economic savings, as well as important benefits on the environmental front. Phase 2, called 'Light Changes the City', was the natural continuation of the TO LED 1 project initiated in 2015 with the City of Turin. In the second phase of the project, work was carried out on the lighting fixtures of the city's main subpass and high-power lighting fixtures (formerly 400 W lamps). The project included the replacement of around 900 high-powered lighting devices and 6,000 lighting devices in the city's subpass (Bramante, Lingotto, Mortara, Oddone, Repubblica, Rivoli, Spezia). The efficiency and reliability of the new LED lighting, in addition to night dimming, ensured a reduction of approximately 64% in the electricity consumption of the public lighting installations affected by the intervention. The new LED lights installed in the public lighting systems emit a pleasant white light (neutral white or warm white, depending on the urban context of use) and also have greater control in the emission of the luminous flux, directed only to the area to be illuminated: they guarantee greater luminous coverage of the streets, increasing the perception of safety for the citizens who cross them and reducing light pollution at night. Phase 3 of the Torino LED Project is currently being evaluated and will involve the remaining lighting fixtures (historical, street furniture, globes, light towers, street lighting for series installations).



ENERGY BU

9

ISIN XS2065601937

Torino LED (I and II phases)

Smart solutions Energy efficiency (Energy distribution and management) **Eligible Category** Financed amount Full amount project **KPIs** • Avoided CO₂ emissions from fossil sources per operating year [t] • Primary energy saving per operating year [Toe] 46.3 mln 19.8 mln Total **Project description** The energy efficiency project produces positive impacts in terms of reducing electricity and thermal consumption, thanks to the activities developed in 3 areas of intervention: 1) Public lighting Municipality of Fidenza: redevelopment and energy efficiency interventions of the city's public lighting system with the replacement of 6,174 lighting fixtures with new LED technology fixtures; refurbishment of switchboards; implementation of remote control on switchboards and in the luminaires in the city centre; smart city interventions: digital screens to promote events, city access points, wi-fi, etc; 2) Technological renewal of thermal power stations of municipal buildings in Turin: energy pre-intervention redevelopment diagnoses and Energy Performance Certificates; installation of high efficiency boilers in 224 municipal buildings; EPC contracts to guarantee efficiency gains. 3) Interventions to improve the energy efficiency of technological systems • Teatro Regio: replacement of 10 AHU fan motors; centralized cooling and heat recovery with the installation of 4 latest-generation refrigeration units and replacement of the cooling towers. installation of an energy recovery system consisting of a heat pump for heat recovery from tower water; redevelopment of the water plant by installing two new boilers served by two newly installed exchangers; thermal power plant regualification; installation of 6 condensing thermal groups of 840 kW; building management system with the implementation of a new automation system of the BACS type. Thermal power plant regualification of the Scenography Warehouse Strada Settimo: installation of 2 condensing thermal groups of 900 kW • Municipality of Grugliasco: insulation of the opaque building envelope; replacement of windows and doors; installation of a new heat recovery building air conditioning system; installation of an energy supervision system; local re-lamping (replacement of existing lamps with LED technology elements); installation of a new photovoltaic system. ILEU

ENERGY BU

10

Improvement of Genova plants Ref.: project 17-ISIN XS1704789590 R **Eligible Category** Waste water treatment (Wastewater treatment plant upgrades) Full amount project Financed amount **KPIs** • Treated population equivalent (potential) [N] 156.2 mln Total 18.4 mln **Project description** The project includes interventions on different plants: revamping of the purification plant in the Municipality of Recco and of the wastewater collecting system from the Municipalities of Camogli, Pieve and Sori; 1. construction of the sea pipeline of the Darsena purifier; 2. construction of the new water treatment plant in the central area of Genoa; 3 adjustment of the treatment plant at the service of the Municipality of S. Margherita Ligure with the construction of a modern membrane system; 4 adjustment of the treatment plant at the service of the Municipality of Rapallo with the construction of a modern membrane system; 5 rationalization of the purification system in Chiavari and Ramaia; 6. new purification plant at the service of the capital and some neighbouring fractions of the Municipality of Torriglia. 7. ILEI ISIN XS2065601937

NETWORKS BU

Eligible Category Waste water treatment (Wastewater treatment plant upgrades) Full amount project Financed amount **KPIs** • Treated population equivalent (potential) [N] 4.6 mln Total 0.7 mln **Project description** The project includes interventions on different plants: 1. Monchio purifier: replacement of two imhoff pits (I level) with a last generation MBR plant 2. Vestola purifier: replacement of an imhoff pit (I level) with a biodisk (II level) plant 3. complete revamping of the purification plant located in the Municipality of Sorbolo (PR) iren ISIN XS2065601937

Improvement of Parma plants

9 KEEDER INVISION MICHARGEREACTOR

NETWORKS BU

Ref.: project 20-ISIN XS1704789590

13 **NETWORKS BU** Cogeneration turboexpansion plant "Celsius" Ref.: project 21-ISIN XS1704789590 Energy efficiency (Cogeneration facilities) **Eligible Category** Full amount project Financed amount **KPIs** • Net produced electricity from renewable non-fossil sources per operating year [kWh] • Avoided CO_2 emissions from fossil sources per operating year [t] 3.0 mln Total 1.5 mln **Project description** Cogeneration turboexpansion plant for the exploitation of the pressure drop between the national and city gas distribution networks in the methane arrival cabin of Genoa Gavette. Combined electricity production (1 MW power production) and heat. iren ISIN XS2065601937



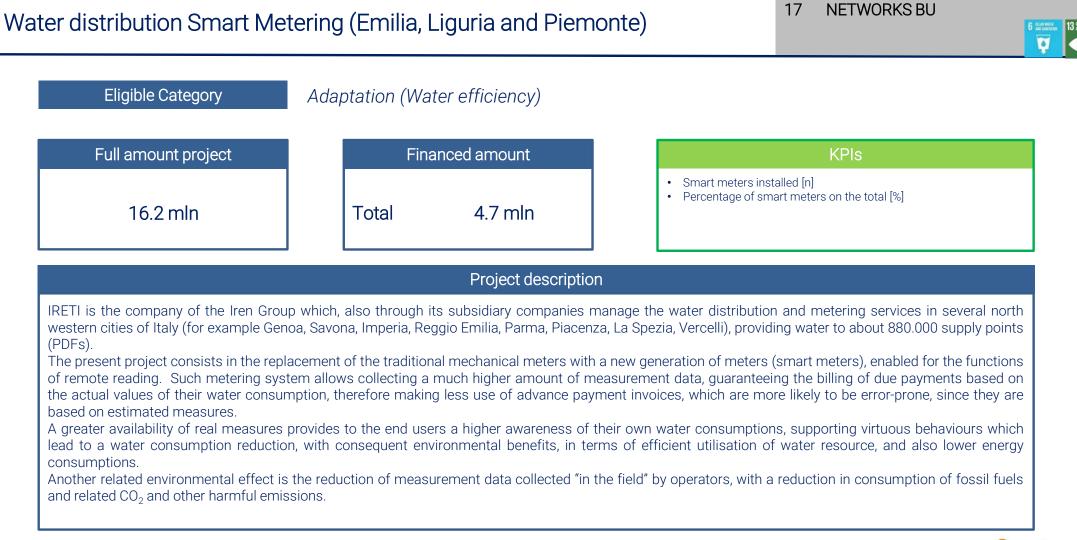


Investments in drainage and purification (La Spezia - Liguria)

NETWORKS BU 15



NETWORKS BU 16 Electricity distribution investments Ref.: project 16-ISIN XS1881533563 Energy efficiency (Energy distribution and management) **Eligible Category** Full amount project Financed amount **KPIs** Network leaks [%] • Electricity fed into the network [GWh] 185.1 mln Total 55.9 mln Project description Territori di Torino e Parma MV Underground Cables: project to renew the electricity distribution network's MV lines to improve the qualitative and technical levels of the network structure. In particular, through the renewal of the MV backbone cables and the laying of 22 kV MV cabling (approximately 400 km), the project will make it possible to: • Renew network assets that finish their useful operating life or are inadequate compared with the required level of operation; Rationalise the layout and structure of existing networks; Reduce the energy losses in the network; • Improve the guality of the service, as instructed by ARERA [the Italian Regulatory Authority for Electricity Gas and Water], in terms of both number (therefore reducing the failure rate) and duration. During the course of 2022, approximately 55 km of MV cables were laid. LV Network: project to renew the electricity distribution network's LV lines to improve the qualitative and technical levels of the network structure. In particular, the project will make it possible to: • Resolve the critical issues present in the LV distribution network; • Adapt the lines that are no longer suitable for the load that they have to support; • Electrify new areas in order to adapt the network at the request of new users. During 2022, 32 km of LV network cabling were laid. Irer

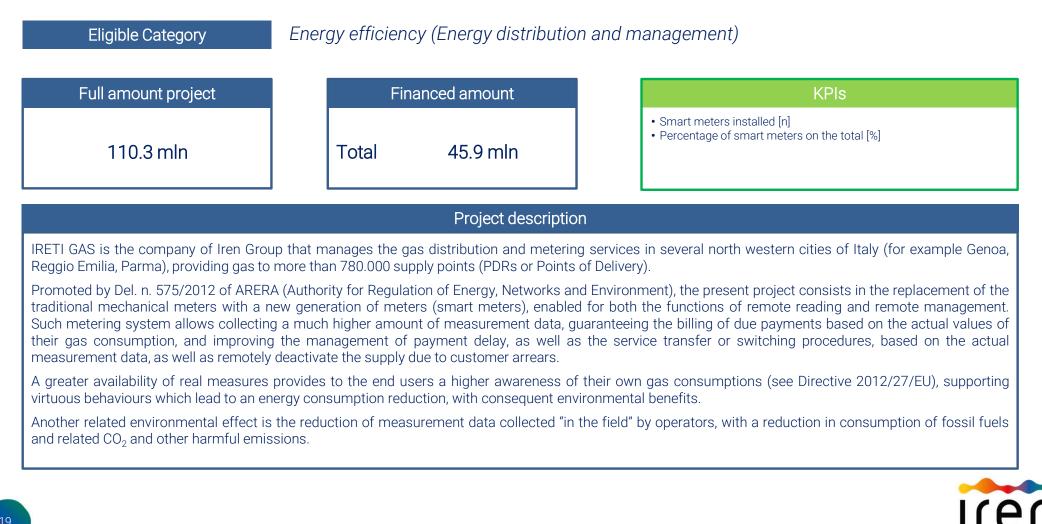


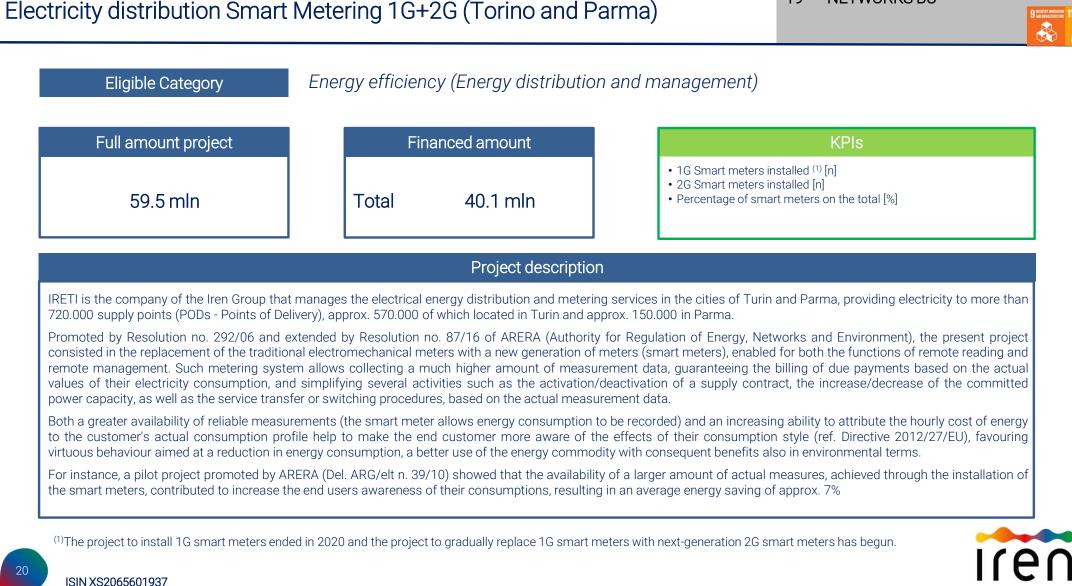


Gas distribution Smart Metering (Emilia and Liguria)

18 NETWORKS BU





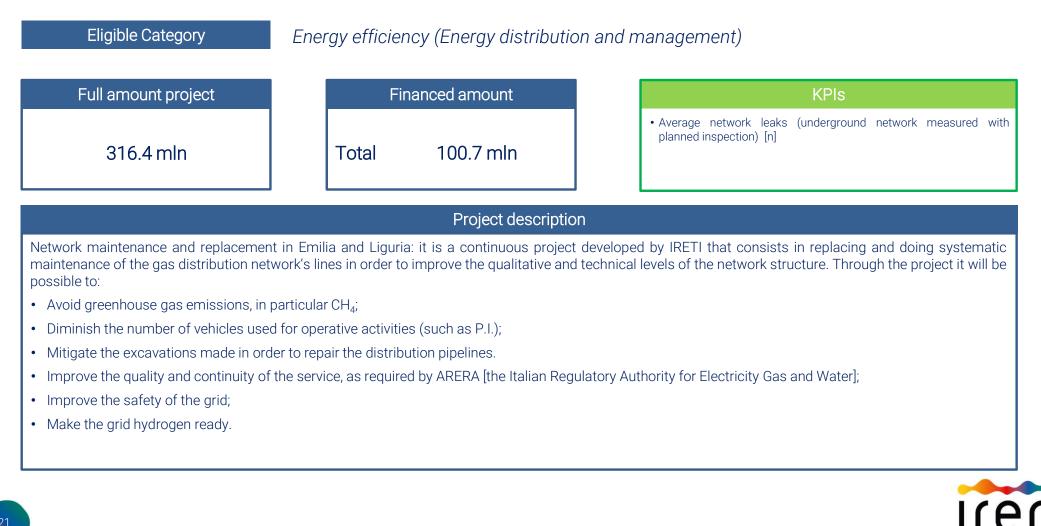


NETWORKS BU

Replacement of gas distribution networks

20 NETWORKS BU





ISIN XS2065601937

E-mobility initiatives in the Iren offices

21 MARKET BU

Ref.: project 14-ISIN XS1881533563



