

## TORINO LED (I AND II PHASES)

### CATEGORY

Energy efficiency (*Energy distribution and management*)

### LOCATION



### DESCRIPTION

Since 1986, the public lighting service in Turin has been managed by the Iren Group: the plant consists of around 98,000 lighting points, the total luminous flux is 1,530 million lumens. The electricity network that powers the light centers extends for 2,800 km, the total electrical power is 18,900 kW.

The project was divided into two phases. The first phase, started in 2015 and concluded in 2017, led to the replacement of approximately 53,000 public lighting points, equal to 53% of the lighting fixtures in the city, with LED lights, with important benefits on the economic and environmental front.

The territory of Turin was divided into five lots, about 11,000 appliances for each lot.

The efficiency and reliability of the new LED lamps guarantee a reduction of over 50% in the electricity consumption of the plants affected by the intervention. The new LED lamps installed with a color temperature of 3,000 and 4,000 kelvin emit a pleasant white light and moreover the luminaires have a greater control in the emission of the luminous flux, offering a greater luminous coverage of the streets and increasing the perception of safety for the citizens who travel through them. Furthermore, the new lighting fixtures with LED technology do not contain polluting substances and, by not producing light scattered upwards, they also reduce light pollution. The second phase of the project, during the start-up phase, involves intervention in the following areas:

- lighting systems for the main city underpasses and high-power lighting devices
- traffic light systems.

The replacement of approximately 900 high-power lighting fixtures and 3,500 fixtures in the city underpasses (Bramante, Lingotto, Mortara, Oddone, Repubblica, Rivoli, Spezia) is expected, as well as 13,000 traffic lights and 414 traffic light regulators. The efficiency and reliability of the new LED lamps guarantee a reduction of approximately 50% in the electricity consumption of the public lighting systems affected by the intervention and of about 85% of the consumption of the traffic light systems. The replacement plan, which will involve all the city districts at the same time, started in 2019 and for public lighting has completed in 2020 and for traffic light systems will be completed by 2022.

### AMOUNT

Full project amount (€ millions)	Financed amount (€ millions)
17.6	4.6 (GB4)
	13.0 (GB3)



### ENVIRONMENTAL PERFORMANCE INDICATORS

KPI	UM	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Primary energy saving per operating year	MWh					23,700	45,300	45,300	51,498	55,008	65,500	67,700
Avoided CO2 emissions from fossil sources per operating year	t					5,600	10,300	10,000	11,347	11,565	14,400	14,900