

INTERREG Alpine Space

**“e-mobility SMART grid for passengers and last mile freight
transports in the Alpine Space – e-SMART”**

Best Practice

September 2021

Best Practice

1. General Information		
Title of the practice	Electric Buses in the TPL of Turin and charging stations infrastructures	
Main institution involved	Metropolitan city of Turin	
Location of the practice	Country	Italy
	Region/City	Piemonte
2. Detailed Description		
Detailed information on the practice	<p><i>Turin, in order to become a greener city, has started a path to encourage the spread of electric vehicles, to develop a more sustainable mobility in the municipality. The revolution of the electric car, whose pioneering attempts date back more than a century ago, is advancing on the market through the increase of car manufacturers offering new models of hybrid or 100% electric cars. In a city that has to deal, almost daily, with the problem of air pollution and related traffic blocks, using electric cars can be the right answer in terms of respect for the environment and freedom of movement. In order to allow the use of these zero emission vehicles, it is necessary to build a network of charging infrastructures throughout the territory. Additionally, particular attention should be paid to the Local Public Transport vehicles.</i></p> <p><i>Public transport in the city of Turin is managed by a municipalized company of the metropolitan city of Turin. The experience in the field of electric vehicles of the company in charge lasts for several years and is particularly interesting. A first precursor project initially involved two lines and twenty quite small vehicles, which foresaw the substitution of the battery of existing vehicles from lead to lithium. It was possible in this way to keep the vehicles alive for a long time with the use of induction stations at the terminus. Charging took about 15 minutes. Now the transition to electric vehicles has been undertaken. Fifty electric vehicles have been acquired out of a total fleet of 900 vehicles. The purchased buses have a length of about 18 meters and a range of 270 km using conductive charging stations.</i></p>	

	<p><i>This type of charging infrastructure is much more economical and can optimize charging times while increasing efficiency. It was also possible to include two additional charging stations for private electric vehicles. An estimated 1.5 megawatts is needed, charging vehicles in 2.5 hours each with 4-5 charging cycles per night. Currently, there are about 400 recharging stations in the city, some of which are fast, with power ranging from 75 to 100 kilowatts per station. To activate a series of actions able to encourage the installation of electric vehicle charging stations throughout the City of Turin, since 2018 the City of Turin has been committed to support relevant actions through the launch of expression of interest that enabled the activation of the procedure for requesting the installation of the charging infrastructures in a free market regime by citizens and economic operators, with simplification of administrative practices.</i></p>
Timescale (start/end date)	<p>2018</p>
Evidence of success (results achieved)	<p><i>The city of Turin has managed to install a large number of recharging infrastructures capable of meeting demand. To date, the city has installed the maximum number of columns considering the constraints and regulations of the territory</i></p>
Difficulties encountered/ lessons learned	<p><i>The greatest criticality is the availability of energy, having sufficient power to recharge vehicles. Another critical issue is the location of the recharging points, also due to the large number of constraints related to the installation of recharging infrastructure. The municipality of Turin has installed 400 stations, saturating the municipal stations. A further critical element for the diffusion of electric vehicles was the absence of state contributions and the lack of incentives for purchase. The situation has improved with the introduction of the new government incentives.</i></p>
Potential for learning or transfer	<p><i>This practice could provide information to Public Administrations dealing with electric transport and charging station infrastructures to propose possible solutions for planning charging infrastructure in the City in particular regarding the launch of expression of interest that enabled the activation of the procedure for requesting the installation of the charging infrastructures and the planning of these infrastructure.</i></p>

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