

# «Economic instruments and transition pathways to a low carbon economy in the industrial sectors»

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# About Unione Petrolifera



**Unione Petrolifera** represents oil industries operating in Italy in oil downstream sector.

Unione Petrolifera, has 39 associated companies e 11 aggregated.

Environmental protection, safety, research and innovation are the fundamental values for Unione Petrolifera to serve a modern and vital industrial sector.

## The Italian Oil sector:

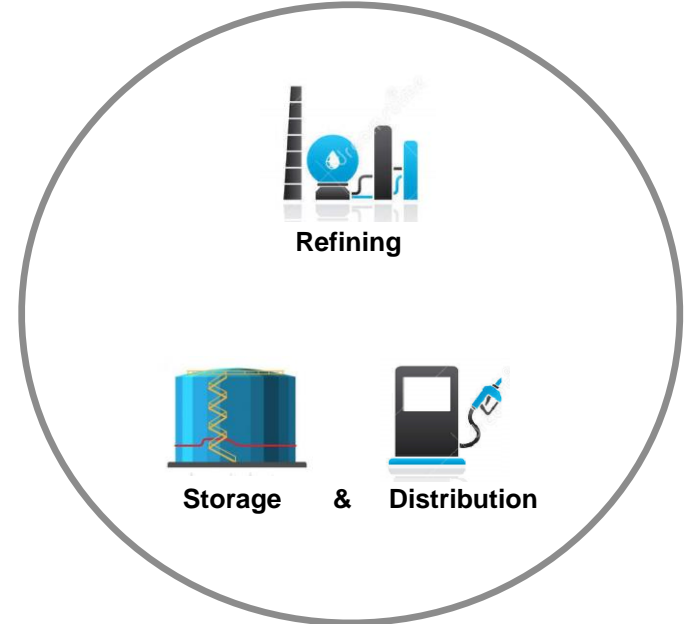
- **13 refineries** located on the whole country, of which **2 biorefineries**.
- A **logistic and distribution system diffused** on the territory, with 20.750 point of sales, about 100 depots over 3.000 mc e hundreds of small depots, over 2.700 km di oil pipeline.
- **21.000 employed directly** (20% graduated) and others **130.000 indirectly**.
- An important technological contribution with over **1.000 patents registered**.

From an **economic point of view**, the oil sector:

Produces 100 billions of euro in terms of annual revenues

Collects on behalf of State about 38 billions of euro (VAT and excises)

Contributes to the Italian trade balance with 13 billions of euro deriving from refined products export

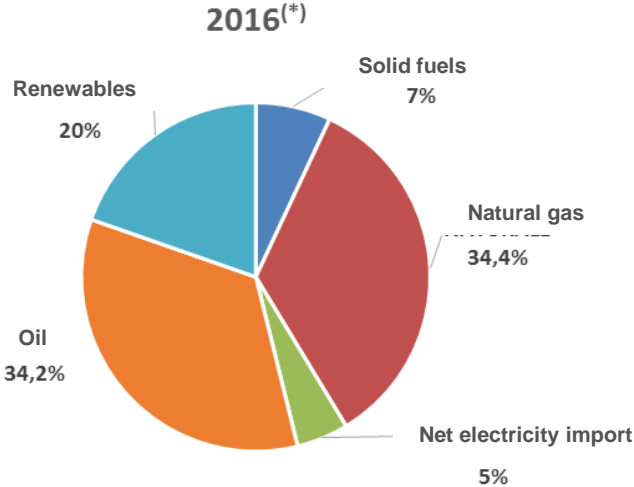


## The Oil Downstream

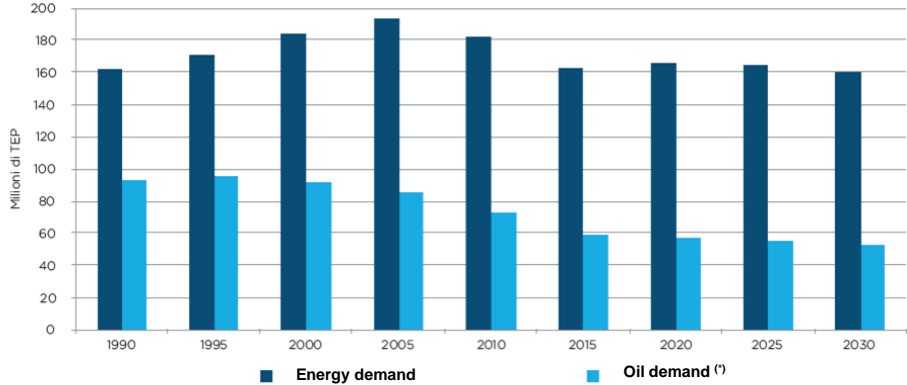
# Italian Energy Demand Overview



Italian energy demand (weight %)



Energy demand evolution and oil contribution (1990-2030)



(\*) Except biofuels

Source: UP on MISE data

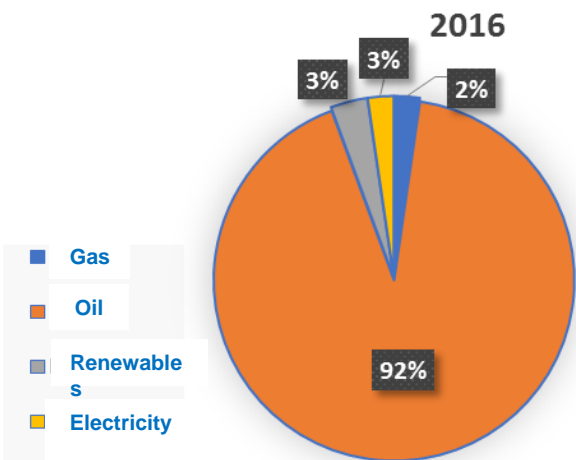
\* To convert kWh in Tep it was used the thermoelectric coefficient of each year

Source: UP, Previsioni di domanda energetica e petrolifera italiana 2017-2030

# The central role of oil in the future of transport



Transport: energy demand by source (weight %)



Source: UP on MISE data

Evolution of energy demand in transport sector (2005-2030)

	Millions/tonn					
	2005	2010	2016	2020	2025	2030
Lpg	1,0	1,2	1,7	1,7	1,6	1,5
Jet fuel	3,8	3,9	4,1	4,3	4,5	4,6
Gasoline*	13,5	10,0	7,6	7,0	6,8	7,0
Diesel*	24,4	25,3	23,2	23,5	23,2	21,3
Marine and farms gasoil	2,6	2,3	2,2	2,2	2,2	2,1
<b>Total</b>	<b>45,3</b>	<b>42,7</b>	<b>38,8</b>	<b>38,7</b>	<b>38,3</b>	<b>36,5</b>

\*biofuels included

Source: UP, Previsioni di domanda energetica e petrolifera italiana 2017-2030

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- As stated in “The Energy Union” package, a sustainable energy strategy must address three main objectives:
  - To guarantee a reliable and affordable energy supply
  - To create a competitive energy market with sustainable prices
  - To achieve environmental targets
- Oil industry needs to change continuously to adapt its configuration to the new demand profile, maintaining higher operating standards and reliability

- **We need to clearly identify what we are talking about:**

### Reduction of CO2 (Paris agreement, COP21)

*The purpose of COP21 agreement is to fight long term climate change. It requests global measures and involvement of each world Government.*



**Energy-Climate Package**  
EU Strategy «Low Carbon Mobility»

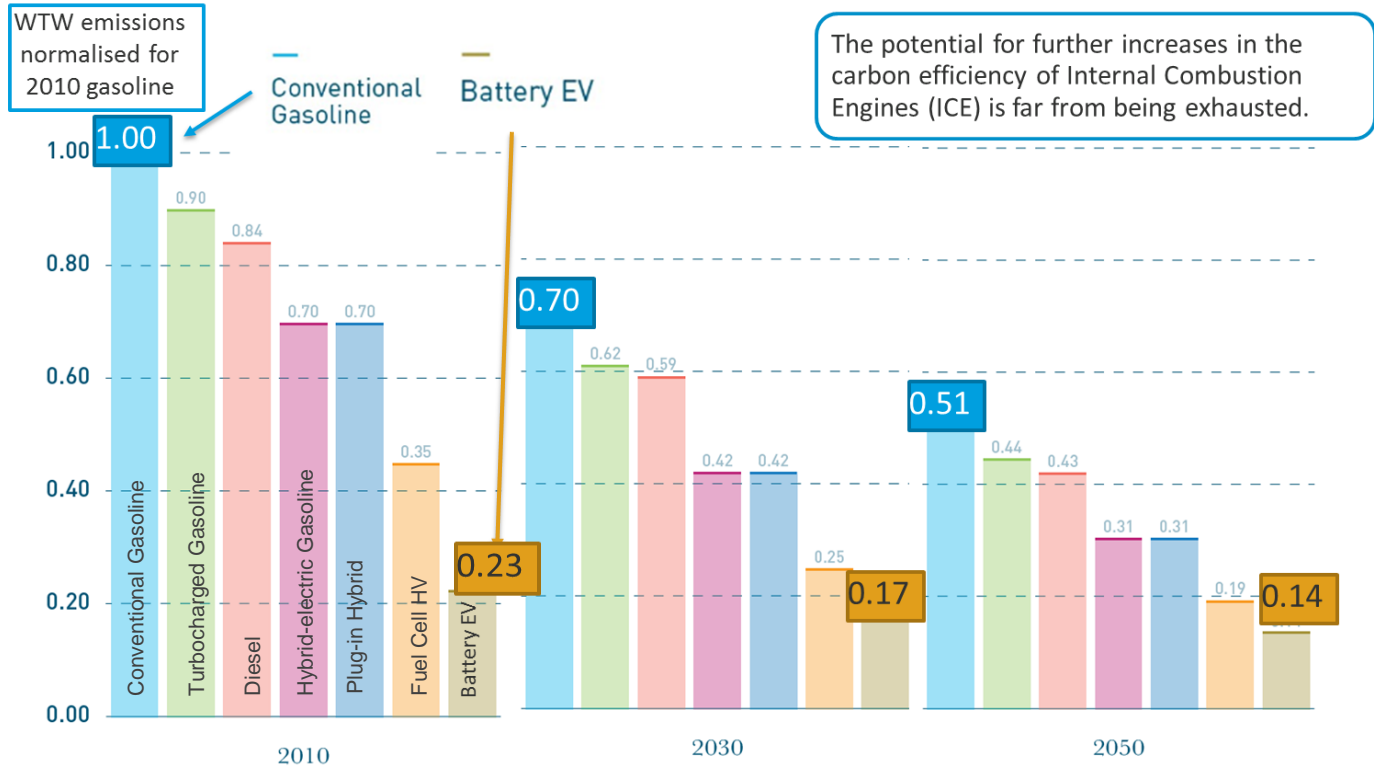
### Improvement of air quality in big town

*This is a problem to be solved at local level with instruments working effectively in short time with involvement of city Authorities*



**Air quality Directive**  
Infringement procedure about PM e NO<sub>x</sub> in 12 Italy areas

# The potential development of ICE is far from being exhausted



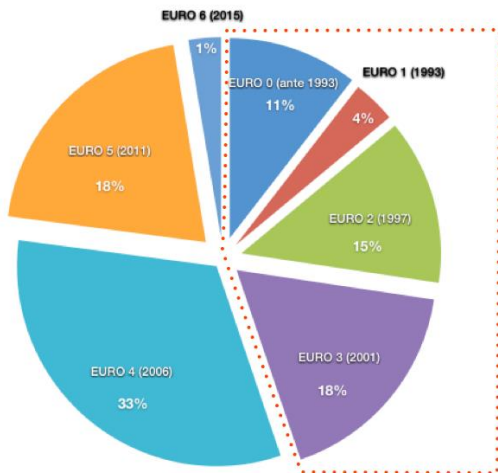
Source: J. B. Heywood, On the Road towards 2050, Massachusetts Institute of Technology, November 2015

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# 2030 CO<sub>2</sub> target can be achieved through car fleet renewal



Car fleet 2015 (33,7 millions of cars)



45% of car fleet is ante Euro 4

	anno 2005: 31,6 milioni di vetture		anno 2015: 33,7 milioni di vetture		anno 2030: 33,7 milioni vetture	
	% ripartizione parco	stima emissioni CO <sub>2</sub>	% ripartizione parco	stima emissioni CO <sub>2</sub>	% ripartizione parco	stima emissioni CO <sub>2</sub>
Euro 0	23%		11 %		-	
Euro 1	17%		4 %		-	
Euro 2	26%	170 g/km	13 %	170 g/km	-	
Euro 3	34%		17 %		-	
Euro 4	-		32 %	140 g/Km	11 %	140 g/km
Euro 5			20 %			120 g/Km
Euro 6			3 %	120 g/Km	30 %	120 g/Km
Post Euro 6			-		59 %	94,2 g/km
		170,0 g/Km		159,2 g/Km		106,9 g/Km
						emissioni medie parco
						- 37%
						var. rispetto a 2005

Elaborazione UP su dati ANFIA

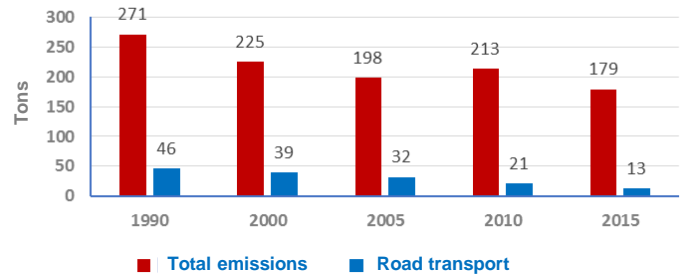
Source: UP on Anfia data



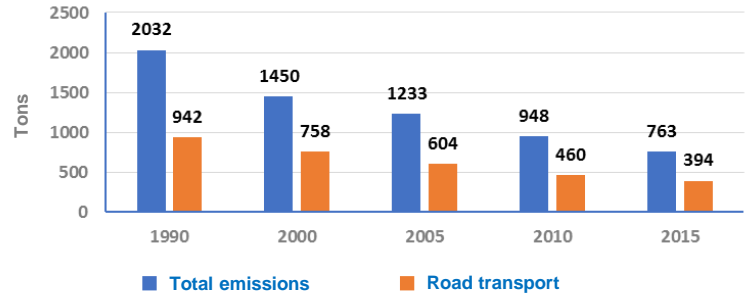
# The impact of traffic emissions has progressively reduced



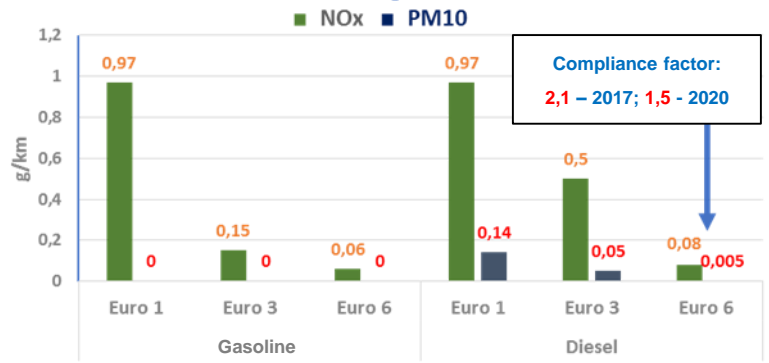
PM10 (primary) emission in Italy – ISPRA inventory



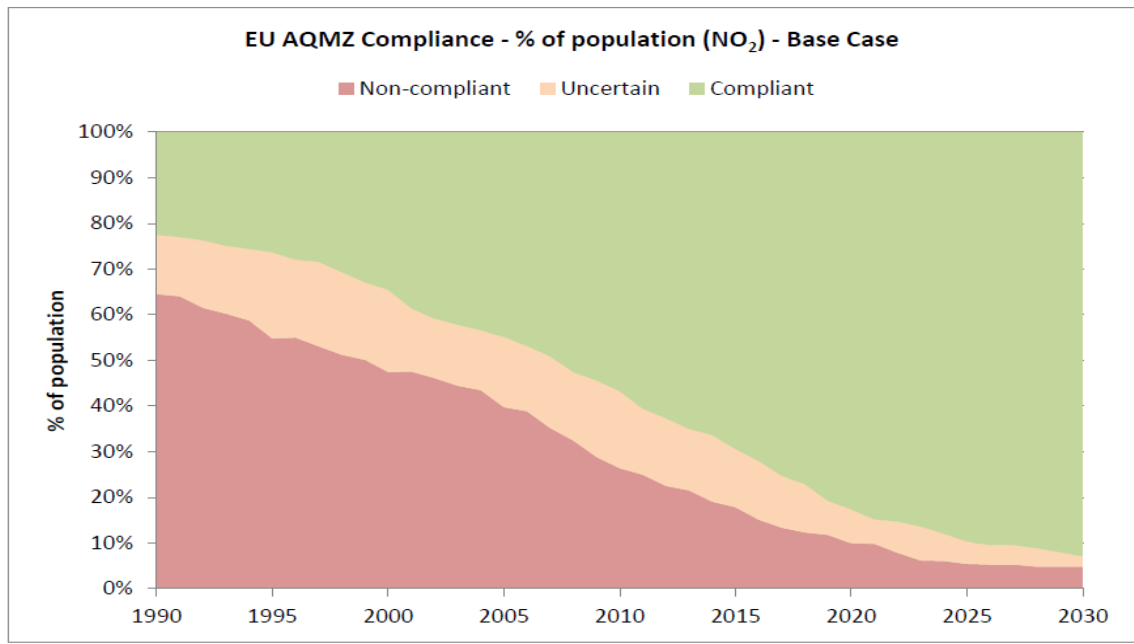
NOx emission in Italy – ISPRA inventory



Cars certification values



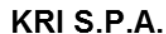
- The level of population living by 2030 in “likely compliant” areas increases to 93%



Source: Concawe - Aeris Europe, Urban Air Quality Study, March 2016

- Petroleum products are and will remain **essential to cover energy demand for transport**.
- Next decade main challenge in energy sector will be to meet **Environmental Targets** by ensuring **Security of Supply** at **Competitive Costs**.
- **Technological research will provide the most efficient path** to pass and the time it takes.
- Any choice must be **based on technological neutral approach** and be valued with accurate cost/benefit analysis over the **entire cycle of life (LCA)**.
- The **tremendous successful in emission reductions achieved today derive from the combination of continuous technology advancements** in the internal combustion engine and of affordable and high quality liquid fuels.
- The **extensive research of oil industry** to formulate gasoline and diesel that increase modern engine efficiency while lowering emissions, also allow fundamental research **to develop new solutions**, such as **advanced biofuels** and the use of hydrogen.

# I nostri Associati



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**Thank you for your attention**



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[unione petrolifera.it](http://unione petrolifera.it)

