



**POLICY BRIEF** No 2019/28, MAY 2019

# **Carbon Emissions and Greek Passenger Vehicles**

Marianthi Pelekanaki

## **Key points**

The 13th of the Sustainable Development Goals of the United Nations about climate change caused a general motivation of the EU in order to achieve the goal until 2030 for reducing the greenhouse gas emissions. Greece has a serious problem on the transportation sector and primarily on the private passenger vehicles with their carbon emissions as many are diesel or petrol vehicles or too old for European standards. These emissions should be reduced for: a) people's health, b) the opening to new job opportunities and c) the enlargement of Greek economy. These will happen only with:

- the official withdrawal of old cars
- grants for the alteration of vehicles and
- incentives to both citizens and manufacturers for the new investment in electric or biofuelled cars.

*Marianthi Pelekanaki is an undergraduate student at the Department of International and European Studies, University of Piraeus.*

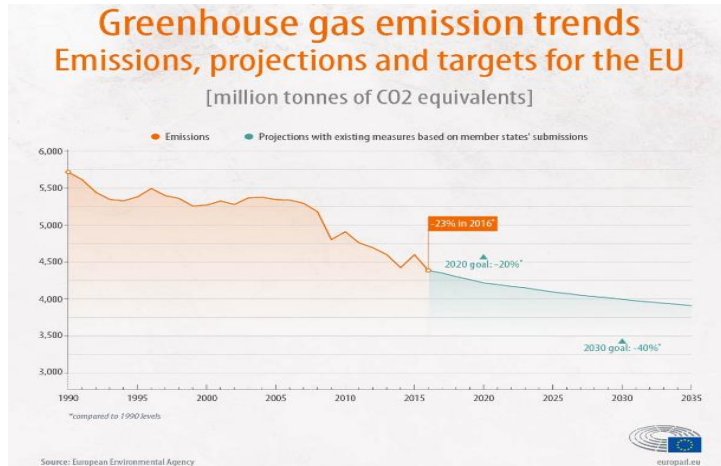
## **Introduction**

The issue of air pollution and carbon dioxide emissions has taken large dimensions nowadays as the global carbon emissions have increased by almost 50% in the three last decades and more rapidly in the decade of 2000'. The importance of the situation is proved by the establishment of the 13<sup>th</sup> Sustainable Development Goal of the United Nations for urgent activation against climate change until 2030. <sup>1</sup>

Thus, all members of the United Nations and certainly the EU members have been bound to undertake their responsibilities in the framework of the Paris Agreement for keeping in low levels the temperature of the earth.<sup>2</sup> For better functionality and responsiveness, the European Union has incorporated this agreement with the European Commission's Communication on November 22th of 2016: "Next steps for a sustainable European future - European action for sustainability"<sup>3</sup>. So, their members have committed to the reduction of emissions of greenhouse gases at least 20% until 2030 comparatively to

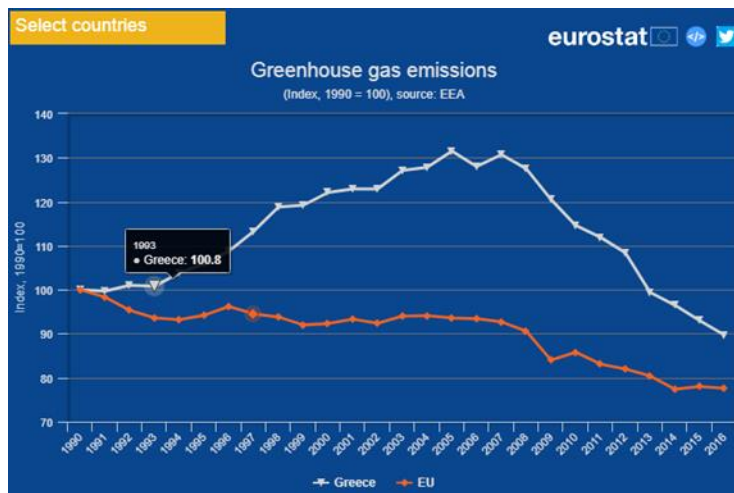


1990. Even though the proportions of the EU progress were optimistic until 2015, the early estimates about 2017 indicate the rising of greenhouse gas emissions again.<sup>4</sup>



Source: *European Environment Agency*

As far as Greece is concerned, it owes to be noticed that the country is really far away from European standards and progress relating to the greenhouse gas emissions despite the fact that it has acceded to the aforementioned treaties and it has taken on some responsibilities in this framework.



Source: *Sustainable Development Goals – Overview- Eurostat*

Particularly, the problem in Greece is the carbon dioxide emissions (one of greenhouse gases) of the transportation sector which in European level represents about a quarter of the overall CO<sub>2</sub> emissions.<sup>5</sup> Moreover, according to the Account of Gas Emissions of ELSTAT for the years 2008-2015<sup>6</sup>, the sector of transportation is the 3<sup>rd</sup> sector of economy that participated in CO<sub>2</sub> emissions with 7,47 % in 2008 and the proportion of 8,85% in 2015. Consequently, transports constitute one of the main responsible factors firstly for



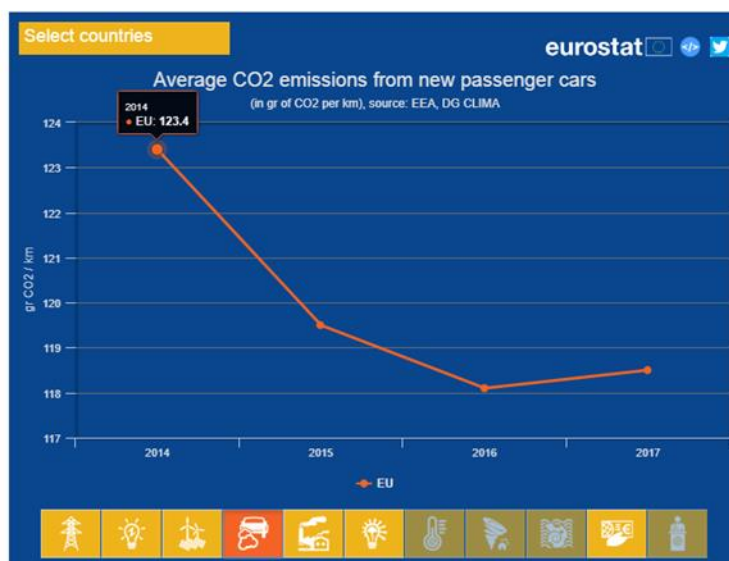
Greece's progress in the “green” European Union and then for the quality of its civils' life and its economy.

However, the part of transports that must be emphasized is that of the private passenger vehicles and not the public transportation because Greece already owns the newest fleet in European level<sup>7</sup>. Nevertheless, the problem of the carbon dioxide emissions and air pollution still remains in cities because of the passenger cars while they function with petrol or diesel with a decade's before technology which means that they are not eligible for the renewed and adapted standards of the European Union.

As there are thousands of passenger cars in crowded cities in Greece and specially in Athens, the problem of air pollution and the deterioration of the atmosphere can be easily perceived. So, the energy modification of diesel or petrol cars is risen as an important issue to be progressed and solved in order to improve citizens' life and health, country's economy and the (European) environment generally.

## Policy Analysis

Due to the mandatory limits that are set by European Commission even since 2011 to the member states for a competitive economy of low carbon dioxide emissions and the preservation of global climate change below 2°C<sup>8</sup>, Europe has made a remarkable progress in years until 2016 in the reduction of CO<sub>2</sub> emissions from (new) passenger cars. Nevertheless, the proportions tend to be increasing since 2017 until today again reminding to all that keeping the climate change in low levels and reducing carbon emissions constitutes a burning issue for all European economies and a multilevel policy on an ongoing basis.



Source: Sustainable Development Goals – Overview- Eurostat



Concerning Greece, it is worth to be mentioned that in latest measurements the country belongs to the lowest CO<sub>2</sub> emissions member states of European Union in regard to those emissions of the new passenger cars.

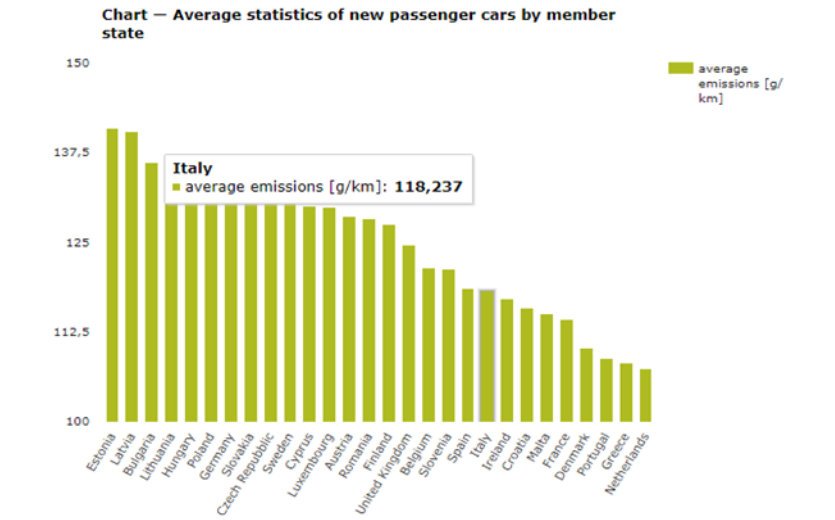


Figure 1

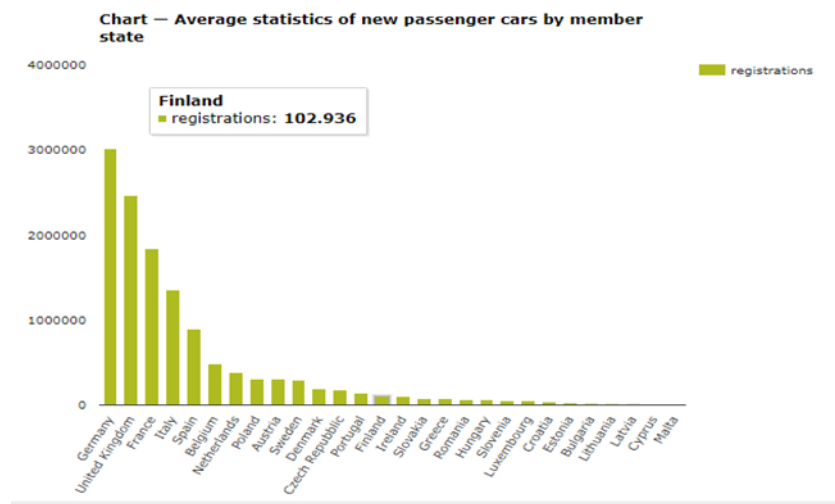


Figure 2 European Environment Agency (2016)

The numbers of the Figure 1 might be misleading if those of the Figure 2 are not taken into consideration. As there are not so many registrations of new passenger cars (with the last eco-european technology) in Greece (Figure 1), the carbon emissions of the country naturally remain in low level (Figure 2) concerning the data above and country's population comparatively to other member states. However, the fact that there are not plenty of new registered cars (with the new technical requirements)<sup>9</sup> is on its own an evidence that Greek passenger cars are not of an eco-friendly technology and renewed



under the last European standards. So, carbon emissions in deed keep being a problem for Greek society and need to be reduced.

## Arguments

Carbon emissions of Greek passenger cars need to be reduced while it will benefit many domestic economy sectors. First and foremost, the quality of citizens' life will be upgraded. As the atmospheric air in big cities and especially in Athens is being deteriorating more and more nowadays due to the daily congestion of vehicles on the roads of the capital which emit not only CO<sub>2</sub> but other greenhouse gases<sup>10</sup>, many respiratory diseases have come up or have increased the risk for people with a pre-existing problem making their life quality worse or even causing their premature death (5.000 deaths per year in Europe)<sup>11</sup>. In Athens, the percentages of air pollution generally are moderate\* (56.60), but with the trend to increase<sup>12</sup>. Hence, the daily life in capital and other cities will change even though there is traffic jam but there are not unpleasant smells and “black” clouds above people walking.

About the Air Quality Levels

AQI	Air Pollution Level	Health Implications	Cautionary Statement (for PM2.5)
0 - 50	Good	Air quality is considered satisfactory, and air pollution poses little or no risk	None
51 -100	Moderate	Air quality is acceptable; however, for some pollutants there may be a moderate health concern for a very small number of people who are unusually sensitive to air pollution.	Active children and adults, and people with respiratory disease, such as asthma, should limit prolonged outdoor exertion.
101-150	Unhealthy for Sensitive Groups	Members of sensitive groups may experience health effects. The general public is not likely to be affected.	Active children and adults, and people with respiratory disease, such as asthma, should limit prolonged outdoor exertion.
151-200	Unhealthy	Everyone may begin to experience health effects; members of sensitive groups may experience more serious health effects	Active children and adults, and people with respiratory disease, such as asthma, should avoid prolonged outdoor exertion; everyone else, especially children, should limit prolonged outdoor exertion

\* Source: World Air Quality

In addition, the restriction of CO<sub>2</sub> emissions of passenger cars will benefit also the Greek economy in all levels. Firstly, Greek consumers will have noteworthy fuel cost savings as long as oil imports into the EU will be reduced respectively. Moreover, this reduction will be succeeded only with the implementation of new technologies which means that the sector of research will be opened and job opportunities will be enlarged in Greece and the EU<sup>13</sup>. Finally, as well as the petrol or diesel will tend to have restricted use, a turning to alternative energies such as biofuels or electricity will happen. This means that new industrial branches will be developed and others will need to be transformed under the



umbrella of the European Union, whose structural funds support countries and enterprises in all levels for a low-carbon economy.<sup>14</sup>

Last but not least, changing the sector of transportation, which is a significant sector of Greece's economy, and turning it to a "green" direction sets the foundations of a sustainable growth and circular economy to thrive in Greece. So, this is an opportunity for Greece to enhance its status and prestige among the member states in the EU starting the shift of economy by the environment.

### **Recommendations**

Consequently, for the reduction of gases emissions by passenger cars it seems mandatory some necessary arrangements will be received as soon as possible.

At the initial stage, the speeding up of the withdrawal of diesel cars from city roads is necessary. Especially, cars of Euro 5 (a decade's) technology and before should be withdrawn as they emit gases beyond the valid limit. The problem has been already solved in Germany with a court judgment which prohibits the movement of old cars (below Euro 5 technology).<sup>15</sup> So, why Greece could not be the next?

Furthermore, financings of the EU should be utilized appropriately and grants should be given to Greek citizens for the progressive replacement of old vehicles with new (Euro 6+) or even for their alteration to electricity in the framework of the low-emission mobility of the EU<sup>16</sup>. This modification of the market will be achieved in stages within at least ten years according to the National Plan for Energy and Climate.

Finally, except the grants, the procedure would be materialized in a better way if some "packets of incentives" are proposed to great automobile industries by Greece for turning their production to electricity or alternative energies to multiply their investments here. Incentives could be a special taxation for those companies, an important reduction on taxes of their vehicles for the consumers and the implementation of the appropriate infrastructure on the roads of Greece.<sup>17</sup>



## References

- 1 United Nations Sustainable Development. (2018). *Climate Change - United Nations Sustainable Development*. Available at: <https://www.un.org/sustainabledevelopment/climate-change-2/> [2/1/2019]
- 2 Unfccc.int. (2018). *The Paris Agreement | UNFCCC*. Available at: <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement> [2/1/2019]
- 3 Ec.europa.eu. (2016). Available at: [https://ec.europa.eu/europeaid/sites/devco/files/communication-next-steps-sustainable-europe-20161122\\_en.pdf](https://ec.europa.eu/europeaid/sites/devco/files/communication-next-steps-sustainable-europe-20161122_en.pdf) [2/1/2019]
- 4 Europarl.europa.eu. (2018). *EU progress towards its climate change goals (infographic) | News | European Parliament*. Available at: <http://www.europarl.europa.eu/news/en/headlines/society/20180706STO07407/eu-progress-towards-its-climate-change-goals-infographic> [2/1/2019]
- 5 Eur-lex.europa.eu. (2016). *EUR-Lex - 52016DC0501 - EN - EUR-Lex*. Available at: <https://eur-lex.europa.eu/legal-content/en/TXT/?uri=CELEX:52016DC0501#footnote1> , p.1. [2/1/2019]
- 6 Statistics.gr. (2018). Available at: [http://www.statistics.gr/el/statistics?p\\_p\\_id=documents\\_WAR\\_publicationsportlet\\_INSTANCE\\_qDQ8fBKKo4IN&p\\_p\\_ifecycle=2&p\\_p\\_state=normal&p\\_p\\_mode=view&p\\_p\\_cacheability=cacheLevelPage&p\\_p\\_col\\_id=column-2&p\\_p\\_col\\_count=4&p\\_p\\_col\\_pos=1&documents\\_WAR\\_publicationsportlet\\_INSTANCE\\_qDQ8fBKKo4IN\\_javax.faces.resource=document&documents\\_WAR\\_publicationsportlet\\_INSTANCE\\_qDQ8fBKKo4IN\\_in=downloadResources&documents\\_WAR\\_publicationsportlet\\_INSTANCE\\_qDQ8fBKKo4IN\\_documentID=325396&documents\\_WAR\\_publicationsportlet\\_INSTANCE\\_qDQ8fBKKo4IN\\_locale=el](http://www.statistics.gr/el/statistics?p_p_id=documents_WAR_publicationsportlet_INSTANCE_qDQ8fBKKo4IN&p_p_ifecycle=2&p_p_state=normal&p_p_mode=view&p_p_cacheability=cacheLevelPage&p_p_col_id=column-2&p_p_col_count=4&p_p_col_pos=1&documents_WAR_publicationsportlet_INSTANCE_qDQ8fBKKo4IN_javax.faces.resource=document&documents_WAR_publicationsportlet_INSTANCE_qDQ8fBKKo4IN_in=downloadResources&documents_WAR_publicationsportlet_INSTANCE_qDQ8fBKKo4IN_documentID=325396&documents_WAR_publicationsportlet_INSTANCE_qDQ8fBKKo4IN_locale=el) [2/1/2019]
- 7 Oasa.gr. (2018). *Environmental policy*. Available at: <http://www.oasa.gr/content.php?id=peribpol&lang=en> [2/1/2019]
- 8 . Eur-lex.europa.eu. (2011). *EUR-Lex - 52011DC0112 - EN - EUR-Lex*. Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52011DC0112> [2/1/2019]
- 9 Council of the European Union (2018). *CO2 emission standards for cars and vans: Council agrees its position - Consilium*. Consilium.europa.eu. Available at: <https://www.consilium.europa.eu/en/press/press-releases/2018/10/10/co2-emission-standards-for-cars-and-vans-council-agrees-its-position/> [2/1/2019]
- 10 project, T. (2018). *Nitrogen Dioxide (NO2) in our atmosphere*. aqicn.org. Available at: <http://aqicn.org/faq/2017-01-10/nitrogen-dioxide-no2-in-our-atmosphere/> [2/1/2019]
- 11 AFP, S. (2017). *Diesel emissions may be responsible for 5,000 deaths in Europe every year*. TheJournal.ie. Available at: <https://www.thejournal.ie/diesel-emission-deaths-europe-3603213-Sep2017/> [2/1/2019]
- 12 Numbeo.com. (2018). *Pollution in Athens*. Available at: <https://www.numbeo.com/pollution/in/Athens> [2/1/2019]
- 13 Tietge, U. · Zacharov, N. · Mock, P. · Franco, V. · German, J. · Bandivadekar, A. · Ligterink, N.E. · Lambrecht, U. (2015). *From Laboratory to Road. A 2015 update of official and real-world fuel consumption and CO2 values for passenger cars in Europe*. Berlin: International Council on Clean Transportation Europe, p.1. Available at: <https://repository.tudelft.nl/view/tno/uuid%3A4c1c4480-b38b-40ee-ad53-c9203a27ff82> [2/1/2019]
- 14 Climate Action - European Commission. (2019). *EU funds - Climate Action - European Commission*. [online] Available at: [https://ec.europa.eu/clima/policies/adaptation/financing/funds\\_en](https://ec.europa.eu/clima/policies/adaptation/financing/funds_en) [2/1/2019]



- 15 Kathimerini.gr. (2018). *Γερμανία: Η δικαιοσύνη ανοίγει τον δρόμο για απαγόρευση των ντιζέλ οχημάτων στις πόλεις* | Kathimerini. Available at: <http://www.kathimerini.gr/950917/article/epikairothta/kosmos/germania-h-dikaiosynh-anoizei-ton-dromo-gia-apagoreysh-twn-ntizel-oxhmatwn-stis-poleis> [2/1/2019]
- 16 Eur-lex.europa.eu. (2019). EUR-Lex - 52016DC0501 - EN - EUR-Lex. Available at: <https://eur-lex.europa.eu/legal-content/en/TXT/?uri=CELEX:52016DC0501#footnote10> [2/1/2019]
- 17 CNN.gr. (2018). «Βόμβα»: Τέλος τα diesel αυτοκίνητα από Αθήνα, Θεσσαλονίκη και άλλες μεγάλες πόλεις. Available at: <https://www.cnn.gr/news/ellada/story/154226/vomva-telos-ta-diesel-aytokinita-apo-athina-thessaloniki-kai-alles-megales-poleis> [2/1/2019]