Impact of Green Economy on the Oil Prices and Production

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Abstract

Today, the green economy is a frequently encountered concept in the context of sustainable development, reductions of CO2 emissions from atmosphere and the efficient use of resources.

In this paper, we will focus on the impact of the green economy in the oil industry, more precisely on the price and production of oil at the global level. We looked at the green economy through the lens of global electric car sales, trying to determine whether they had a more significant impact than the novel coronavirus pandemic on oil prices and production.

We hope that the results of our research will show whether the green economy, in this nascent state, has a significant impact in the oil industry, or if it could have, under the conditions that cars with internal combustion engines would no longer be used.

Key words: green economy, oil industry, oil prices, oil production
J.E.L. classification: A10, P28

1. Introduction

Under the auspices of globalization, the expansion of markets and economic interactions between countries led to a strong intensification of economic activity and, naturally, to an acceleration of resource depletion and pollution.

Therefore, for several years now, the green economy has started to be a serious topic in the context of sustainable development for taking initiatives to use renewable natural resources and to reduction of CO2 emissions.

As expected, these measures have generated some advantages for certain industries, as well as some disadvantages for others, as is the case of the oil industry and the industry of internal combustion engine cars.

In these industries, with the aim of supporting sustainable development, the green economy discourages the use of cars with internal combustion engines in favor of cars with electric engines, which reduces CO2 emissions from the atmosphere and the depletion of oil resources, but with the risk of affecting the price and oil production.

2. Literature review

The green economy is a concept that was initially debated by the economist Pierce, who appreciated the immense material progress of industrialization but also highlighted the harmful impact of economic growth in that form on the environment. Pierce proposed a rethinking of how progress is measured as a country to include social and environmental growth in addition to economic growth (Pierce, 1989).

The clearest definition is provided by UNEF, according to which the green economy has its outcome in improving human well-being and social equity while reducing environmental risks. In this way, the green economy must be thought as an economy with low CO2 emissions, resource

efficient and socially inclusive (UNEP, 2011).

According to GEC, there are five general principles of the green economy.

The first is represented by the well-being principle. According to it, a green economy must enable all people to create and enjoy prosperity. From this point of view, wealth is not only financial, but also includes social and natural capital.

The second principle is the justice one, by which equity is promoted. In this way, the green economy is not discriminatory, aiming to generate an equal distribution of the opportunity and focuses on the long term, trying to create wealth for future generations as well.

The third principle is one of planetary boundaries, according to which the green economy focuses on nature and its values. In this case, the green economy is cautious to avoid the loss of natural capital by exceeding ecological limits.

The fourth principle is one of efficiency and sufficiency, through which the green economy aims to support sustainable consumption and production, being with low carbon emissions and saving resources.

The last principle is one of good governance, which actually ensures that the green economy is driven by integrated, accountable and resilient institutions and is also evidence-based (GEC, 2020).

3. Research methodology

In this paper we aim to find out whether the green economy has an impact on the price and production of oil, globally. As a research on the oil industry, we decided to look at the green economy from the perspective of global electric car sales and analyse whether there is a correlation between the evolution of electric car sales and the evolution of the price and production of oil globally.

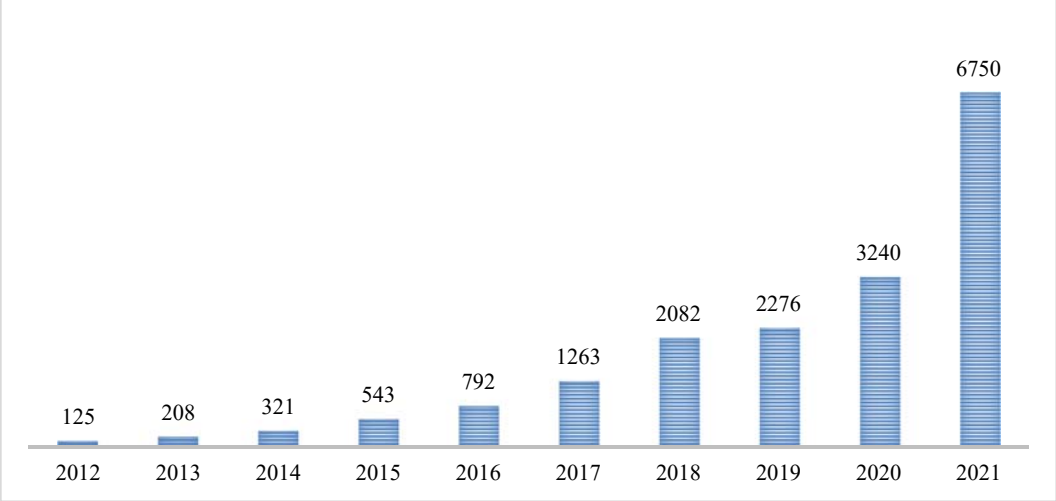
We thus propose a descriptive research through which we will collect and classify the data in order to analyze them in a historical context by comparison, to describe the correlations between them.

The data on the evolution of global electric car sales, as well as the evolution of oil prices and production, will cover a period of 10 years, and in the interpretations we will also take into account the impact of the COVID-19 pandemic, from 2019-2021.

4. Findings

In the following we will present the data collected and interpret them, in order to carry out the comparative analysis through which we aim to describe the impact of green economy, seen through the evolution of sales of electric cars on the price and production of oil.

Figure no.1. Evolution of the sales of Plug-In Hybrids and Battery Electric Vehicles in 2012-2021 ('000s)

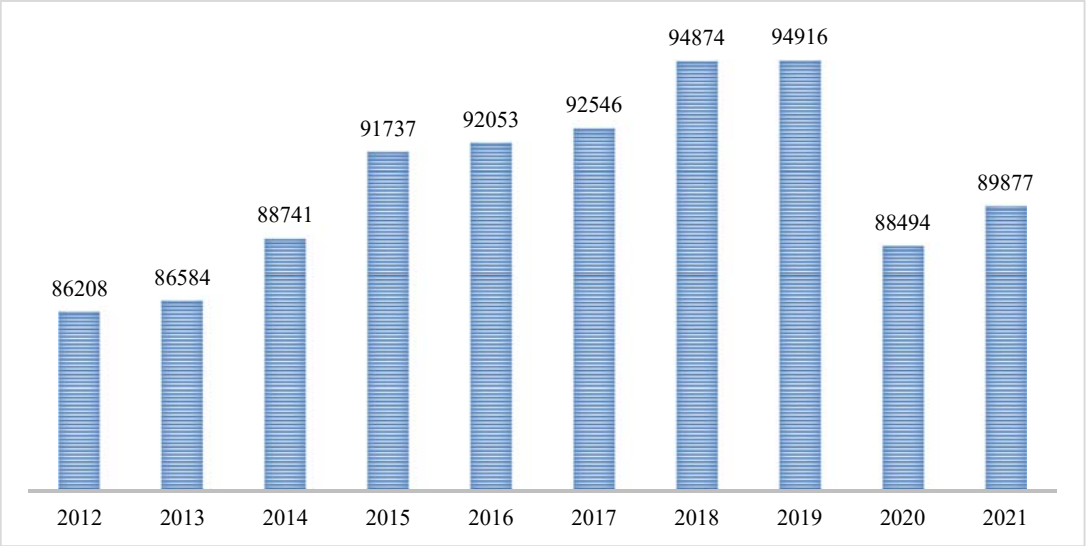


Source: Irle, R., EV-volumes.com, 2022.

According to Figure no.1., the evolution of the sales of Plug-In Hybrids and Battery Electric Vehicles in 2012-2021 followed an upward trend, recording year-on-year increases.

In 2013, it increased by 66%, in 2014 by 55%, in 2015 by 69%, in 2016 by 46%, in 2017 by 59%, in 2018 by 65%, in the pandemic year 2019, the growth slowed down significantly, being only 9%, in the pandemic year 2020, the increase returned to a percentage of 42%, and in the year 2021, the increase registered a significant percentage of 108%.

Figure no.2. Evolution of global oil production in thousands of barrels per day, in 2012-2021

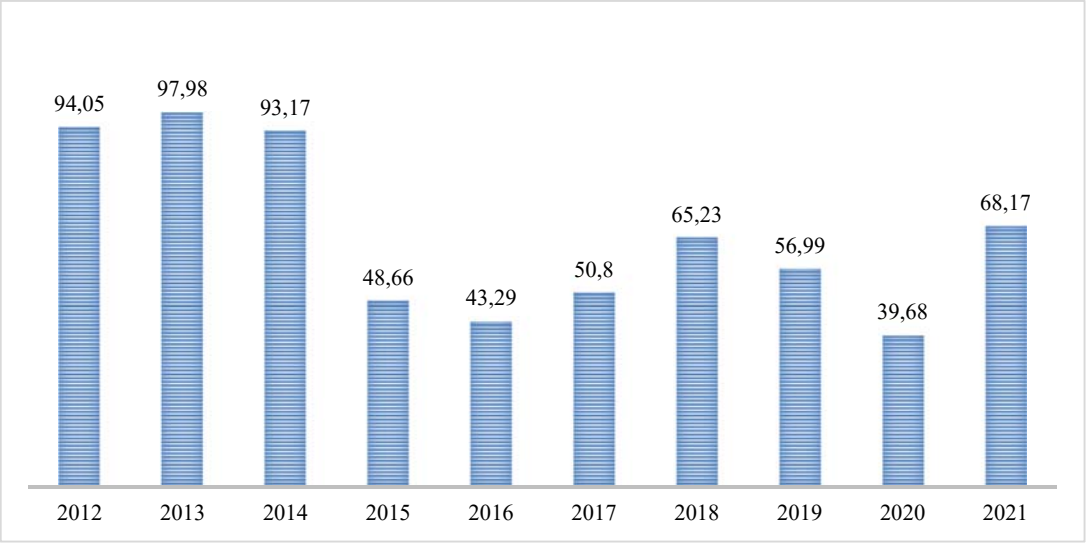


Source: BP, 2022.

According to Figure no.2., the evolution of global oil production in thousands of barrels per day, in 2012-2021, determined an upward trend until 2019, recording year-on-year increases. Since 2020, it has registered a significant decrease.

In 2013, it increased by 0.5%, in 2014 by 2.5%, in 2015 by 3.5%, in 2016 by 0.5%, in 2017 by 0.5%, in 2018 by 2.5%, in the pandemic year 2019 by 0.05%. In the pandemic year 2020, respectively the year with the most traffic restrictions, it decreased with 7.5% and finally, in 2021, it increased by 1.5%.

Figure no.3. Evolution of the average price of oil barrel in 2012-2021, in USD



Source: macrotrends, 2022.

According to Figure no.3., the evolution of the average price of oil barrel in 2012-2021 was an oscillating one during the period. The lowest value was recorded in the pandemic year 2020, when there were also the most traffic restrictions.

In 2013, it increased by 4%, in 2014 it decreased by 4.5%, in 2015 it decreased by 48%, in 2016 it decreased by 11%, in 2017 it increased by 17.5%, in 2018 it increased by 28.5%, in the pandemic year 2019 it decreased by 14.5%. In the pandemic year 2020, respectively the year with the most traffic restrictions, it decreased with 30.5% and finally, in 2021, it increased by 72%.

5. Conclusions

As we set out from the beginning, the purpose of the paper was to determine whether the green economy, viewed from the perspective of electric car sales, had an impact on the price and production of oil. In this sense, according to the analyzed data, we can conclude as follows:

Before the COVID-19 pandemic, sales of electric cars have increased from year to year, with significant percentages (46-66%), oil production has also increased from year to year but with percentages between 0.5-3.5%. As for regarding the price of the barrel of oil, it had an oscillating evolution but with a tendency to decrease.

In this context, starting from the idea that the increase in sales of electric cars should reduce the demand for fuels and, implicitly, oil production, the green economy viewed from the perspective of electric car sales has not had a significant impact on oil production, both of them have seen increases, but could have an impact on oil prices if the drop in oil prices is due to a supply excess.

During the COVID-19 pandemic, sales of electric cars continued to grow in 2019-2020, but oil production saw significant declines compared to the previous period, and so did the price of oil. In this context, the reduction of oil production and prices have been influenced perhaps not so strongly by the sales and use of electric cars to the detriment of those with internal combustion engines, but certainly the movement restrictions caused by the COVID-19 revealed the impact that not using combustion engine cars could have on the oil industry.

After the COVID-19 pandemic, in the year 2021, sales of electric cars registered significant increases of 108%, while oil production increased by a percentage of less than 1.5%, which also contributed to a slight increase in the price, given the new need for consumption after the pandemic.

Given these results, we can conclude that the green economy seen through the sales of electric cars, in this nascent state, has not managed to have an impact on the evolution of the price and production of oil at the global level as the pandemic has. But the pandemic has shown us what can happen to the supply and demand of oil in the absence of large-scale use of internal combustion engine cars.

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