

Europe increasingly dependent on risky oil imports

July 2016

Summary

This briefing outlines the findings of a study commissioned by Transport & Environment and undertaken by Cambridge Econometrics on the EU's oil dependence. The study shows that the EU's dependence on crude oil and diesel imports has increased in the last 15 years (such that 88% of all crude oil is imported). In 2015 Europe spent in total around €215bn on crude oil and diesel imports.

The companies benefiting most from EU crude oil imports are Rosneft and Lukoil which together receive around a third of the revenues. Statoil and Saudi Aramco together take another 20%. Overall, non-European companies supply 80% of EU oil imports. The dependence on geopolitically risky countries, notably Russia, has also increased. The 'Visegrad' countries (Poland, Slovakia, Hungary, and the Czech Republic) plus Greece have a particularly high risk of disruption of their oil imports.

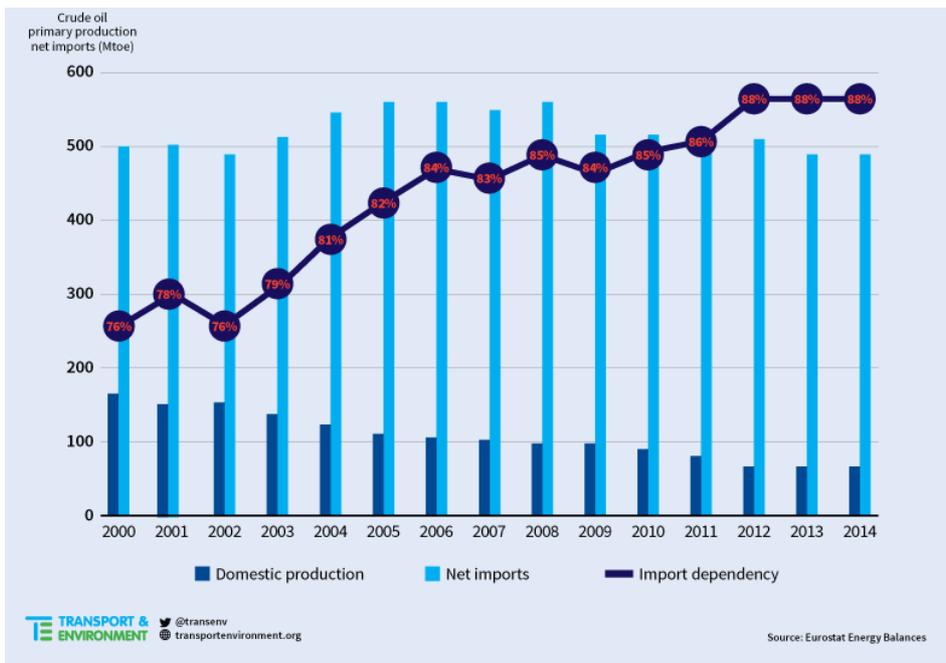
Two-thirds of final demand for oil is for transport. Reducing energy insecurity requires transport oil consumption to be reduced and a robust and ambitious framework to decarbonise transport will make a significant contribution to this. The upcoming European Strategy for Low Emissions Mobility can make a significant contribution towards this. Effective policies for this Strategy include CO2 standards for cars, vans and trucks in 2025; an integrated strategy to accelerate the electrification of transport that embraces mobility needs; the potential of mobility balancing smart, renewable grids; and an industrial policy that supports the shift to electric vehicles; and for the EU to go beyond global action in tackling CO2 emissions and oil use of aviation and shipping.

1. 1. EU oil imports: an increased dependency and a high bill

1.1. The EU's dependence on crude oil and diesel imports has increased

Since 2000, there has been a gradual decline in total final consumption of oil and petroleum products in the EU (on average a 1.1% reduction pa) thanks to reduction of oil demand outside the transport sector, improvements in vehicle efficiency, the blending of biofuels and, in more recent years, reduced demand following the recent global economic downturn.

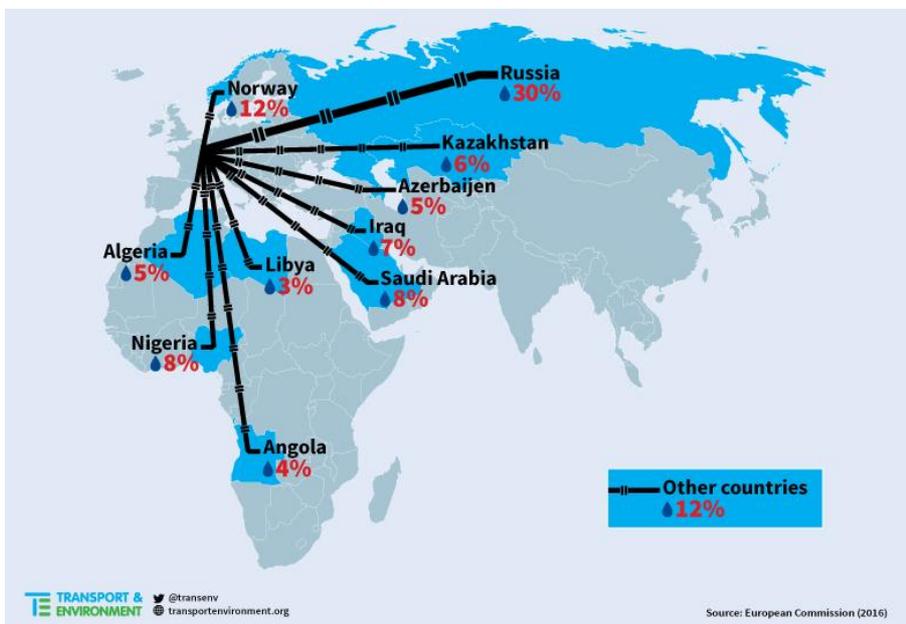
Despite this recent small decline in domestic energy demand crude oil imports to the EU have hardly changed since 2000 as the region as the EU has become increasingly dependent on crude oil imports.ⁱ These accounted for over 88% of the region's total oil consumption in 2014, compared to 76% in 2000. The EU is particularly dependent on diesel imports that doubled between 2001 and 2014, reaching an estimated value of €35 bn in 2014ⁱⁱ.



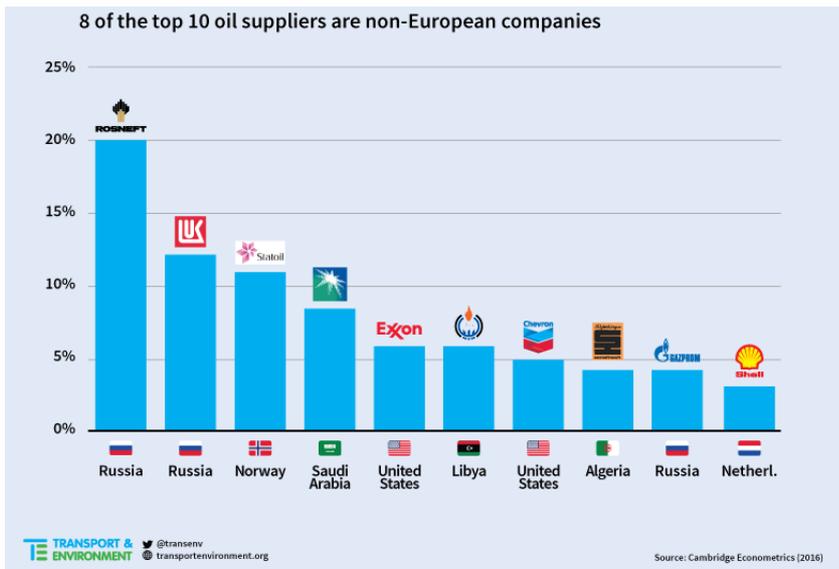
In 2015 (when the oil price was exceptionally lowⁱⁱⁱ), total spending on crude oil imports in the EU was €187 bn. Adding estimates for diesel imports yields a total of around €215 bn^{iv}, equivalent to €425 per capita. For comparison, the total EU expenditure on natural gas imports was €40bn in the same year. Tackling the EU’s dependence on oil and diesel should also be a focus of the discussions on energy security.

1.2. Russia, the main supplier of crude oil to the EU

Russia accounted for one third of EU imports (around €50 bn) as illustrated in the map below that shows the main suppliers of crude oil to the EU in 2015. The EU’s dependence on Russian imports has increased over the last 15 years, from 22% in 2001 to 30% in 2015.



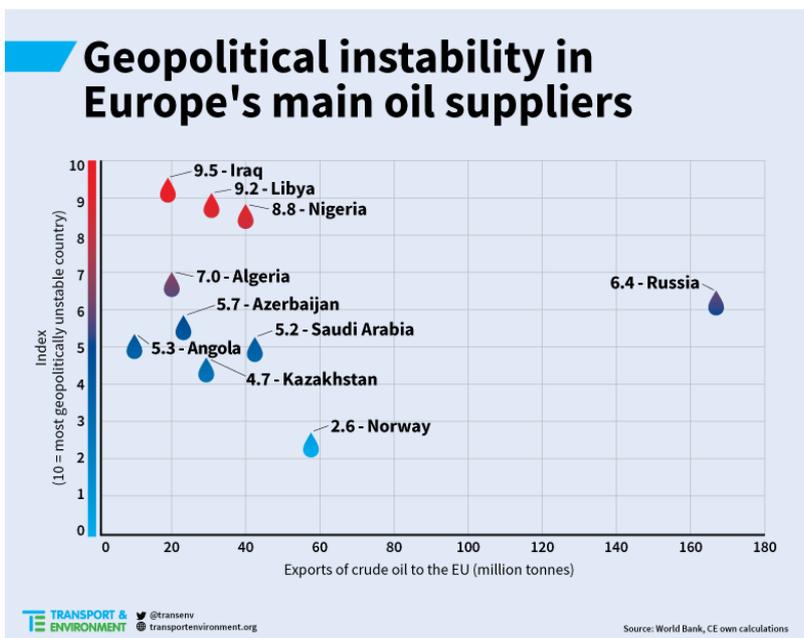
1.3. Non-European companies benefit most from EU oil imports



The report also assesses for the first time what *companies* instead of *countries* benefit from the EU's oil imports. Over 80% of the imported crude oil in 2014 was supplied by non-European companies. Rosneft and Lukoil are the biggest beneficiaries, together they receive around a third of the EU's oil import revenues or over €60bn.

2. EU oil imports are not safe imports

Through its imports, the EU is highly dependent on regions with high geopolitical instability. According to data published by the World Bank, Northern Africa is the region with greatest geopolitical risk^v, closely followed by Russia and the Middle East. Iraq, Libya and Nigeria are among the countries with the highest risk of geopolitical instability that also export large volumes of crude oil to the EU. Russia, which has the highest share of EU oil imports (30%), has a geopolitical instability figure in the middle-upper range. The graph below shows the geopolitical instability in countries exporting oil to the EU.



The EU's exposure to countries with higher geopolitical risks has increased in recent years. This is partly because supply from more stable countries has declined. For example, the share of oil from Norway fell by 45% in the period 2001-15.

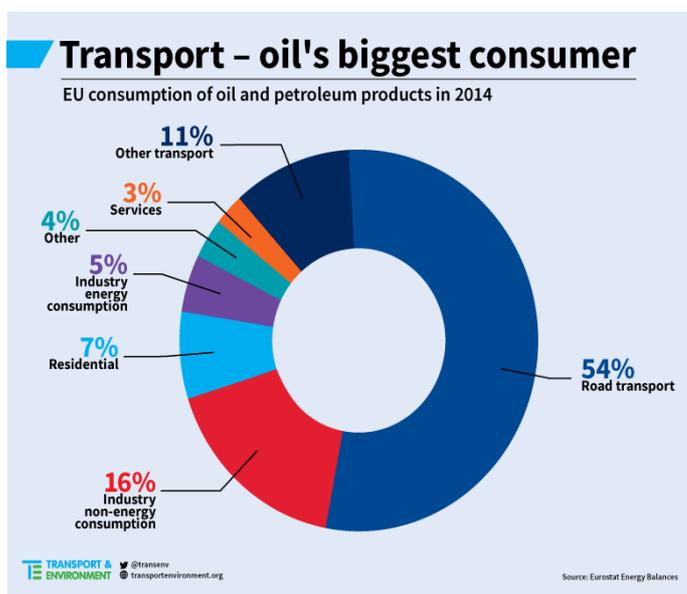
3. Eastern EU countries more exposed to a security of supply risk

Whilst the current discussions of EU energy security as part of the Energy Union package focus mainly on gas, there is also a security of supply risk for some EU countries when it comes to oil imports. According to CE's report^{vi}, the current risk of security of supply for crude oil is the highest in the 'Visegrad' countries (Poland, Slovakia, Hungary, and the Czech Republic) and Greece. These countries are highly exposed to the risk of supply disruption for their oil imports because of high dependence on oil supplied by pipeline from one single supplier (Russia). Greece is also exposed to a relatively high security of supply risk, due to heavy reliance on oil imports from geopolitically unstable regions (in 2014, Greece imported almost 40% of its oil from Iraq). Western European countries such as France or the Netherlands are not exposed to a high risk because their oil suppliers are more diverse, and they have large import terminals that enable them to switch more easily to alternative sources of supply.

To address concerns around security of supply, the EU has adopted the Oil Stocks Directive that requires EU Member States to hold oil stocks to address potential supply shortages. However, the EU will need to reduce its overall use of oil if it wants to reduce the economy's exposure to oil supply risks, especially in high risk countries illustrated in the graph. For more information about EU country-specific imports, an interactive map tool is available [here](#).

4. Conclusion: Reducing the EU's energy insecurity and decarbonising transport – two sides of one coin

The transport sector is the biggest driver of oil demand at EU level – two-thirds of final demand for oil comes from transport. Transport is also the [biggest emitter of CO2 and greenhouse gases in Europe](#). CO2 and oil consumption are directly related, with 1 kg of petrol, diesel and kerosene leading to around 3.15 kg of CO2 emissions when burned. In 2014, road transport accounted for 54% of final demand for petroleum products. Other types of transport, mainly aviation and shipping, accounted for 11% of the EU oil demand, yielding 65% in total. (Oil used for refining crude oil for transport is contained under the heading 'industry energy consumption' and should be added to the 65% share of the transport sector.) To reduce dependence on oil imports, the EU will have to decrease oil consumption in transport through actions to increase efficiency, decarbonise and reduce mobility.



Reducing the EU's energy dependency and decarbonising transport are two sides of the same coin. The EU needs to reduce its demand for crude oil and petroleum products in the transport sector if it wants to reduce its energy bill and its reliance on geopolitically and environmentally risky oil imports. Implementing a strong decarbonisation strategy for transport will not only permit the EU to address energy insecurity it will also bring climate, environmental and economic benefits for the long-term. The European Commission is

preparing a strategy for decarbonising transport, expected later this summer. In order to reduce CO2 and oil imports simultaneously, this strategy must include:

- New CO2 standards for new cars, vans and trucks for 2025;
- An integrated strategy to accelerate the electrification of transport that embraces mobility needs; the potential of mobility balancing smart, renewable grids; and an industrial policy that supports the shift to electric vehicles;
- Committing to go beyond global action in tackling CO2 emissions and oil use of aviation and shipping.

Improved transport efficiency would also deliver substantial economic and environmental benefits. For instance, the take-up of electric vehicles and 2025 standards for cars is estimated to lead to a 1% increase in EU GDP, up to 2 million additional jobs and a 93% reduction in GHG emissions from cars and vans, by 2050^{vii}.

Further information

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Endnotes

ⁱ Of the total volume of petroleum products imported to the EU, the majority (79%, 532 Mt) is imports of primary crude oil, which is used as feedstocks for EU refineries.

ⁱⁱ This is associated with total gross imports, not net imports.

ⁱⁱⁱ <http://www.bp.com/en/global/corporate/energy-economics/statistical-review-of-world-energy/oil/oil-prices.html>

^{iv} Most recent estimate on value for diesel imports is available in the study for the year 2014 at € 35 bn. To enable the use of an estimate for 2015, T&E used a lower figure - € 28 bn. Looking specifically at the transport sector, which consumes around two-thirds of oil imports, the cost of crude oil and diesel imports for transport is equivalent to around €300 per citizen.

^v Assessment of geopolitical instability is based on the 2014 indicator for “Political Stability and Absence of Violence” developed by the World Bank.

^{vi} Cambridge Econometrics developed an indicator to capture the exposure of individual EU Member States to a risk of crude oil supply disruption. This indicator incorporates information about the current diversification of oil supplies, the risk of political instability in the countries supplying the oil, the proportion of total supply that is imported and also the possibility to switch to alternative supply routes. To capture the differences between Member States on the ability to switch to alternative supply routes, countries have been differentiated depending on whether they had huge volumes of oil coming by sea or not. For more see report by Cambridge Econometrics.

^{vii} Cambridge Econometrics and Ricardo AEA (2012), ‘Fuelling Europe’s Future’. Available online at: http://www.camecon.com/Libraries/Downloadable_Files/Fuelling_Europe_s_Future-How_auto_innovation_leads_to_EU_jobs.sflb.ashx