Review of the natural gas carbon footprint for the motor fuel promotion

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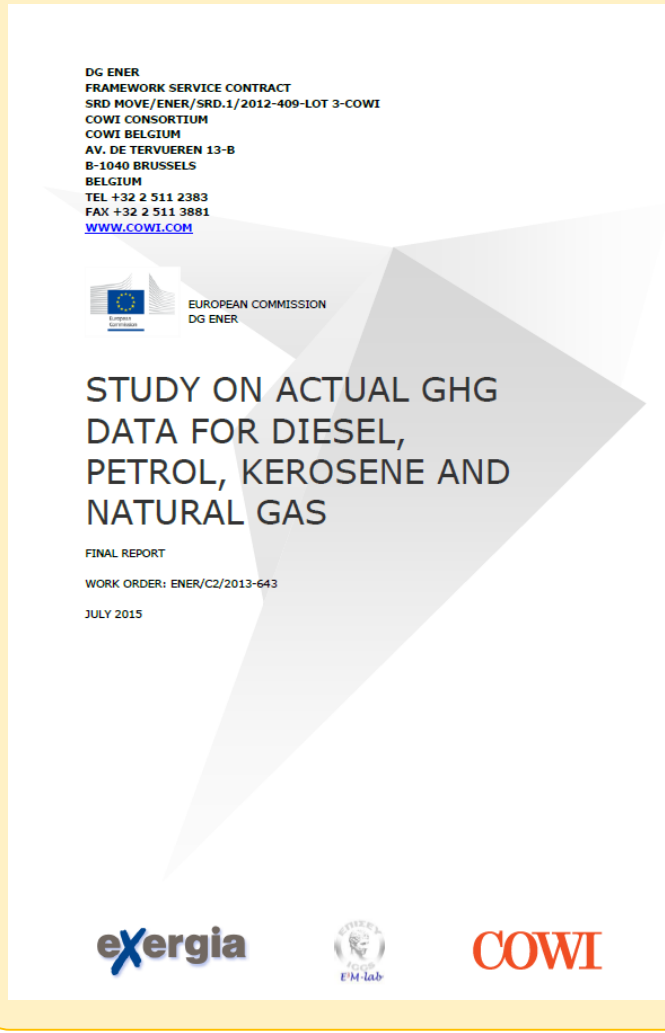
NEW STUDY ON ACTUAL GHG EMISSIONS

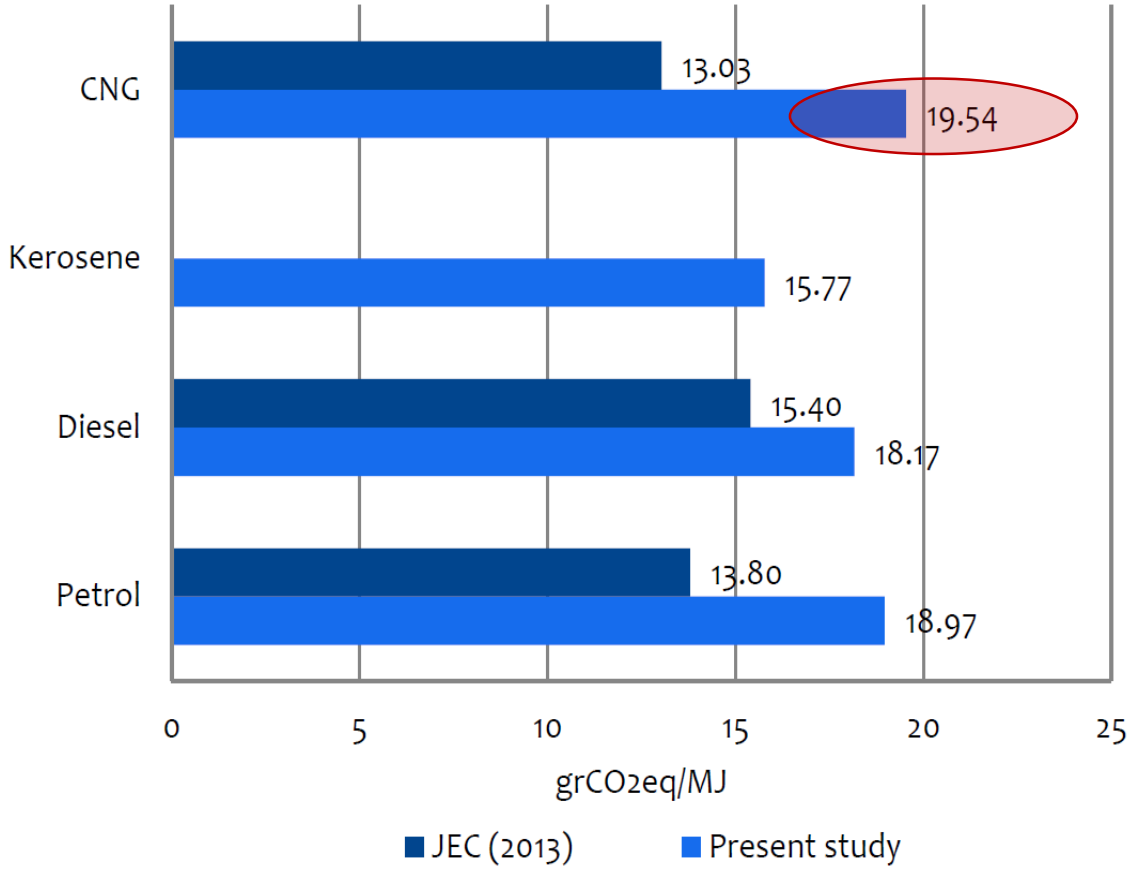


The overall objective is to provide information about the lifecycle GHG emissions of fossil fuels used in transport

In this study, the lifecycle Carbon Intensity (CI) of petrol, diesel, kerosene and natural gas have been assessed in a "Well-To-Tank" approach. A chain of significant process stages of oil and gas, such as exploration, exploitation, upgrading, transportation, transmission, refining, distribution, dispensing etc. are considered; thus excluding the final stage of combustion in the vehicle internal combustion engines

Finally, 105 streams (35 for each one of diesel oil, petrol, kerosene) of oil products are considered in the downstream stage up to the tank of transport means

COMPARISON OF AVERAGE CARBON INTENSITY OF OIL PRODUCTS AND GAS STREAMS WITH JEC VALUES



The previous version of this report has been published by the JEC Consortium in July 2013 (JRC - EU Commission's Joint Research Centre, EUCAR - the European Council for Automotive R&D and CONCAWE – the oil companies' European association for environment, health and safety in refining and distribution)

Conclusions of the study:

The Fuel Quality Directive could be eventually revised to include a maximum value of Carbon Intensity of fossil fuels that would be allowed to be used in the EU

For any future policy development in this sector it will be necessary to develop a robust certification and verification system for all fossil fuels used in the EU similar to that developed for biofuels and bioliquids under the Renewable Energy Directive and the Fuel Quality Directive

COMPARISON OF AVERAGE CARBON INTENSITY WITH PREVIOUS STUDIES

Natural gas suppliers	Exergia et al. (kg CO_2-eq./ GJ)	BDEW + GEMIS (kg CO_2-eq./GJ)	Value change
Germany	15,2	12,1	1,3
Russia	35,9	22,9	1,6
the Netherlands	8,3	7,1	1,2
Norway	12,6	8,2	1,5
Denmark	11,3	9,98	1,1
Great Britain	13,3	11,9	1,1
AVERAGE	19,4	13,3	1,5

Conclusions: according to the study the natural gas suppliers have disimpoved last years

METHANE EMISSIONS

activities * **IPCC coefficients**
(*production, transportation*,…) (for developing countries and countries in transition)

measurements + energy budget

Russian energy sector: **gas** (2013)

All stationary sources of all industries
Russian statistic service (2013)

Gazprom (2013)

12,7 mln ton

3,4 mln ton

1,5 mln ton

UNFCCC Communication
(Russian service for hydrometeorology)

National environment report

Gazprom report

EC Study (ENER/C2/2013-643)

payments for emissions, CDP, articles

COMPARISON OF DATA

	Input data in EC Study		Gazprom data
		methane emissions, ton	
Production	**2 375 880** 100 %		**69 949** 74 % production
		methane emissions, ton	
Transportation	**4 823 670** 100 %		**1 329 294** 100 %
		specific energy consumption J/J×km	
Energy use	**0,000045**		**0,000024**
"The compressor ratio of gas in Russia is higher than in comparable foreign systems and thus results in higher energy needs. The lower compression of gas in foreign systems is due to the larger diameter of pipelines" ???	**1,45** **(Russia)**	compressor ratio of gas	**1,3 – 1,36** **(Russia)**
	1,3 – 1,35 **(foreign systems)**		

Ø 1200-1400 (Russia) > Ø 700-1000 (foreign systems)

GAS INDUSTRY RESPONSE TO THE NEW STUDY

The date due, set by the EU for the updated/corrected data submission

November 16, 2015

Meeting of the Director General for Energy with the gas industry representatives to discuss the correctness of the study conclusions

September 1, 2015

Joint letter of European associations of Marcogaz, Eurogas, GERG, GIE, IOGP and NGVA addressing the Director General of the European Commission Dominique Ristori with a request of involving gas industry representatives into the study

July 8, 2015

Directorate General for Energy of the European Commissions presents the draft version of the Study on Actual GHG Data for Diesel, Petrol, Kerosene and Natural Gas

Thank you for attention!