

# Natural gas and climate change

## A call for tender by Friends of the Earth Europe

Date for submission of proposals: 4 November 2016

Terms of Reference

### Background and context

Over the last few years, European institutions and European Member States have taken various commitments to fight climate change and, in order to do so, must phase out their dependence on fossil fuels. With binding objectives to develop renewable sources of energy, implement energy efficiency policies and reduce CO<sub>2</sub> emissions, the European Union aims at reducing greenhouse gas emissions to 80-95% below 1990 levels by 2050. The recent Paris agreement now commits countries to keep the global temperature rise “well below 2°C”, which can only happen with a rapid decarbonisation of the economy.

Meanwhile, one the fossil fuels, natural gas, has been receiving a strong and growing support by political leaders in Europe. Touted as “clean” compared to other fossil fuels, it is now presented as a “bridging fuel” allegedly able to play a crucial role in the transition towards a decarbonized economy and as a complement for renewable energy sources.

The publicity has attracted a lot of attention and consideration of a number of national and European decision-makers and of public and private investors. This promotion is also at the origin of a large support in favor of a shale gas development in Europe at the beginning of the 2010's, and of the construction of numerous new projects (mega-pipelines, interconnectors, LNG Terminals) able to bring more gas in Europe, to “diversify gas suppliers” and this reduce European dependence to Russian gas.

Beyond the environmental impacts and degradations that these projects would be likely to generate, little evidence has however been gathered by the gas proponents regarding the climate benefits gas could really bring. On the contrary, a long series of recent findings seem to question this belief. The controversy about shale gas extraction in the US, for instance, has pushed the scientific community to explore and document the issue of methane leakages all along gas lifecycle, and the notion of “gas as climate-friendly” narrative.

At the EU level, there is currently limited information available about the carbon footprint of the different sources of gas consumed in Europe and about the compatibility between the objective of staying “well below a 2°C” temperature rise and a heavy use of gas for the decades to come.

### Objective

The purpose of the analysis is to provide a good set of data about the carbon footprint of the gas consumed in Europe, looking not only at the combustion of gas but at all the CO<sub>2</sub> and methane emitted all along its lifecycle (production, transportation, consumption). The analysis should describe and document the climate change impact of methane, review the recent scientific literature on methane emissions in the gas sector, and on carbon footprint of current and future gas supply chains to the EU (ex: Russia, US, Australia, Qatar).

These findings will be put in perspective, in the context of the recent Paris Agreement commitment to stay well below 2°C, and of the existing climate targets set at the EU level, with the objectives to analyze what is Europe's maximum Paris Agreement compatible gas consumption.

## Research questions

1. What is the climate change impact of methane?
2. What is the state of play of the scientific research on methane emissions in the gas sector and on its consequences on climate change?
3. What is the CO<sub>2</sub> footprint of (4 or 6) current and future EU gas supply chains? How much methane leaks in the gas sector, particularly for gas sources consumed in Europe?
4. How does Europe account the emissions in the supply chain of the gas consumed in Europe?
5. In comparison with the EU's own climate commitments and the Paris Agreement carbon budget trajectories ("well below 2°C" and 1.5°C), what is Europe's maximum compatible gas consumption?

## Deliverables

The main question that the piece of research has to answer to is "What is the role of gas in Europe compatible with Paris Agreement's objective to avoid an increase of more than 1.5°C temperature rise?"

The consultant(s) will deliver a main study (in English) answering all the research questions and an executive summary (~ 3/4 pages) highlighting the main findings.

## Timeframe and budget

The deadline for the delivery of the proposal is 4 November 2016.

Please send your proposal to: Antoine Simon ([antoine.simon@foeeurope.org](mailto:antoine.simon@foeeurope.org)) and Colin Roche ([colin.roche@foeeurope.org](mailto:colin.roche@foeeurope.org)).

The proposal should include an explanation on how the consultant plans to implement the terms of reference, a description of the data that will be used for the analysis, justification on why you are qualified to implement the research (including the expertise and experience on the consultant(s) in the topic), a presentation of the results at a workshop (in Brussels) and a financial breakdown of the project costs. FoEE selection committee will assess the quality and merits of the application as well as value for money.

The study should be completed by March 24<sup>th</sup> 2017 at the latest, unless agreed otherwise. Consultants should present a draft of the results at a meeting or conference call with Friends of the Earth Europe three weeks before the deadline, unless agreed otherwise.