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AmCham EU Position on Shale Gas Development in the EU

Shale gas could play an important role in the EU energy mix and policy-makers should consider its importance to the EU's energy security of supply, its economic competitiveness as well as its potential role in meeting its greenhouse gas (GHG) reduction objectives. Considering the fast-paced development in North America of new extraction technologies, it is also important that the EU remains technically aligned to achieve competitive advantages in Europe. The regulatory framework underlying shale gas exploration in EU Member States should be based on science-based facts and the role of subsidiarity.

Stakeholders will require clarity about the regulatory framework for unconventional gas, in particular how any EU regulation that is considered or introduced interacts with national legislation.

Background

- Unconventional gas is the collective term used to describe tight gas, shale gas and/or coal bed methane (CBM). Most unconventional gas production requires hydraulic fracturing stimulation to increase the interconnectivity between pore spaces in the formation, thereby allowing gas to flow to the well bore and be produced at the surface. There is no difference between 'unconventional' and 'conventional' gas – those terms refer to the production technologies used.
- The existence of shale gas, tight gas and CBM has been known for centuries, with the first shale gas wells drilled in the 1820s. However, it is only with the recent combination of two existing technologies – horizontal drilling and hydraulic fracturing – that extracting the resources has become an economically viable option.
- Hydraulic fracturing is the general term used for the completion process after a well is drilled, which involves pumping a pressurised mixture of water, sand and chemical additives down the well bore and into the targeted tight rock formations that contain natural gas. The water pressure creates minute fractures in the tight rock that are held open by, for example, grains of sand or ceramic particles, allowing the gas to flow out to the well bore.

Security of Supply

AmCham EU believes that Europe's future energy mix needs all energy sources, including renewables, nuclear, coal and oil and gas. All energy producers should all be allowed to compete and innovate with the market determining their appropriate role. A broad energy mix is necessary to ensure Europe's future energy security and economic vitality.

According to the International Energy Agency (IEA), globally there exists approximately 60 years of proven natural gas reserves at current demand levels, which could rise to more than 250 years if the unconventional gas potential is added. Europe is the world's second-largest natural gas market and demand is continuing to rise, particularly as a fuel for power generation.

AmCham EU believes that energy supply security requires a regulatory environment that promotes a liberalised market framework. When the market functions efficiently, supplies move, innovation is encouraged, and competition drives down consumer costs. Mandating a specific energy mix will limit innovation and could result in higher costs and reduced reliability.

The European Commission's JRC (Joint Research Centre) report confirmed that, drawing on the US experience and reviewing potential EU resources, and under a best case scenario, future shale gas production in Europe could help the EU maintain import dependency of natural gas at around 60%.

The regional gas markets of the past have been replaced by a truly global, interconnected market, thanks to improved pipeline infrastructure, the growing availability of liquefied natural gas (LNG) and technological progress allowing economic recovery of additional gas resources. Europe is well positioned to take advantage of this growing global market, but this will only be possible if officials and regulators develop policies that allow markets to work and the benefits to flow to both consumers and investors.

Shale Gas in Europe

AmCham EU supports stable and sensible policies that will allow all forms of natural gas supply to compete on a level playing field to help secure supplies of reliable, affordable energy to help boost the economy.

Potential for shale gas has been identified in numerous Member States such as Poland, Germany, France, the Netherlands, Sweden, Denmark, Hungary, Romania, Spain and the UK, as well as Turkey and the Ukraine. Given the increasing dependence of Europe on imported natural gas, the incentive to tap locally sourced unconventional gas is clear.

However, as exploration and extraction are still at an early stage, more work needs to be done to determine if commercial deposits are present, and if so, where the best sites are located. It will likely be years before the full potential of shale gas for Europe is realised. Hence it is important that companies should be allowed to conduct exploration in all prospective basins in order to:

- Gather geological data and evaluate the economic potential of the resource
- Support refinement of regulatory frameworks, if required
- Demonstrate industry good practices, and build government/public confidence

Europe's GHG Reduction Objectives

The EU is committed to reducing GHG emissions by 20% by 2020, based on 1990 levels. Additionally, the European Commission has also proposed in its 'Energy Roadmap' (December 2011) to reduce energy-related GHG emissions by 80% by 2050. We believe that EU policymakers need to consider further the value of shale gas in meeting this objective.

Among fossil fuels, natural gas remains the energy source that emits the least GHG. In this regard, shale gas could also help meet Europe's GHG reduction targets reinforcing security of energy supply and market competitiveness.

Natural gas can be used to serve base load as well as to provide back-up for variable energy sources, such as wind and solar, reducing the technical challenges of grid balancing. Gas is also an efficient fuel for heating/cooling and numerous other industrial uses.

It is therefore important to develop combined solutions encompassing all the different sources of energy available, within which shale gas could play a relevant role due to its potential availability in Europe.

Potential Economic Benefits:

Although Europe's gas resources may not be of a similar magnitude as those of the US, the economic benefits in the US are indicative of the impact a growing gas industry in Europe could have. Five years ago the US was underestimating the potential gas resources at its disposal. Today it holds reserves that could serve its current needs for 100 years.

The recent meeting (December 5, 2012) of the High level EU-US Energy Council explicitly recognised this expansion of shale gas and shale oil production in the United States, which is having a profound impact on global energy markets.

A recent study (*The Economic and Employment Contributions of Shale Gas in the United States*; IHS Global Insight June 2012) concluded that this striking shift in the availability of natural gas is having a dramatic impact on the US economy in terms of stimulating job creation and economic growth. Among the study's key findings were:

- Nearly \$3.2 trillion in cumulative investments in the development of unconventional gas are expected to fuel the increase in production between 2010 and 2035.
- 1 million workers supported this rapid expansion in unconventional activity in 2010; by 2015 the number will have climbed to nearly 1.5 million and by 2035 will reach more than 2.4 million.
- The unconventional gas contribution to the US gross domestic product (GDP) was more than \$133.4 billion in 2010; in 2015 it will be \$196.5 billion and will reach \$331.7 billion in 2035
- Government revenue from unconventional gas activity was \$33.7 billion in 2010 and is projected to reach more than \$49 billion annually by 2015 and will continue to rise, to just over \$85 billion by 2035.
- Over the study's entire 25-year horizon, unconventional gas is expected to generate nearly \$1.5 trillion in total government revenue.

Shale gas will provide the EU Member States and the EU as a whole a real chance to diversify their energy supply and so would provide a real boost to the development of the internal energy market, which is one of the EU's key energy policy objectives

Preparing the infrastructure – Connecting Europe Facility

Ready and transparent access to gas transportation infrastructure will be critical in a success case. It will require open, interconnected (both inter- and intra-EU) gas supply distribution and export markets. Provisions to that end should be included in the Connecting Europe Facility plans.

Environmental Considerations

Although hydraulic fracturing is a proven technology that has been used safely in more than two million wells worldwide since the 1940s, governments and the public have expressed concerns about safety and environmental aspects of producing gas through 'unconventional' drilling techniques.

AmCham EU believes that unconventional gas represents an opportunity, and that it can be produced in a safe and environmentally sound manner; operators should be held to the highest standards. AmCham EU supports

carrying out independent baseline studies so that environmental effects can be accurately measured and tracked.

We recognise the need for civil society and local communities to be reassured that the production of shale gas is being properly regulated with regard to environmental and social impacts.

Transatlantic Technical Alignment

The High level EU-US Energy Council meeting also acknowledged the continued importance of exchanging information on best practices and regulatory requirements, in particular within the framework of the high level platform on unconventional gas best practices planned by the International Energy Agency.

Due to the relative lack of equipment and personnel in Europe for large-scale unconventional exploration and development, it will be important that there are no undue restrictions on the import of equipment and/or services into the EU, or the ability to move these quickly from one country to another within the EU.

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AmCham EU speaks for American companies committed to Europe on trade, investment and competitiveness issues. It aims to ensure a growth-orientated business and investment climate in Europe. AmCham EU facilitates the resolution of transatlantic issues that impact business and plays a role in creating better understanding of EU and US positions on business matters. Aggregate U.S. investment in Europe totaled €1.7 trillion in 2010 and directly supports more than 4.2 million jobs in Europe.

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POSITION STATEMENT