



EVENT REPORT:

Shale Gas Fracking – Bubble, Scare or Solution?

Zurich, April 1, 2014

Hydraulic fracturing – or “fracking” – of shale gas is a highly controversial, contemporary topic in politics, society and business alike. As a main finance and trading hub for commodities, Switzerland plays a key role herein. The Club of Rome, Commodity Club, GreenBuzz and myblueplanet joined forces to set up a high-calibre panel discussion where both proponents and opponents discussed the subject and delivered a diversity of perspectives on the issue in Europe and globally.

Following a brief welcome to the 150 participants hosted at a University of Zurich auditorium, the event started with a brief introduction by ETH-Zurich researcher Dr. Markus Hänchen, who highlighting the technical and chemical qualities of shale gas and the method that is used for fracking. Hydraulic fracturing, or “fracking”, is a method of extracting oil and gas deposits that are inaccessible by conventional drilling. Fracking has become increasingly common in the United States over the past decade and is largely responsible for the current energy boom in North America.

The panel discussion was moderated by Rolf Probala, former head of “Tagesschau” (SF) and former Head for Corporate Communications of ETH Zurich, now active at the popular ETH public science program “Treffpunkt Science City”.

Aline Trede (Member of the Swiss National Council, Member of the Green Party) argued that fracking harms the environment greatly through poor practices, which leads to water and air pollution, the industrialisation of the countryside, gas leakage from wells and distribution systems, potential seismic activity and other serious environmental risks. She mentioned that shale gas is frequently subsidised. The real price of shale gas, if it includes the costs of environmental externality effects is in reality much higher. Furthermore, fracking in Switzerland should be opposed as big investments would be made in fossil fuel rather than renewable energy. Rather than representing a bridge technology, shale gas fracking would make Switzerland continuously dependent on fossil fuels. This would be a dangerous detour from developing a 100% non-fossil, sustainable energy policy. At the moment in Switzerland, cantons currently have different regulations on fracking. Therefore, a national policy opposing fracking is needed now.

Michele Della Vigna (Managing Director and Head of Energy Equity Research, Goldman Sachs, London, UK) stated that rather than being a bubble, shale gas fracking had an enormous potential for investors and society. Fracking is a key bridge technology towards a sustainable future, i.e. the clear goal of renewables as the main source of energy. At present, weather-dependant renewables are not sufficiently reliable a source of energy compared to shale gas and other conventional energy sources. In addition, the production of shale gas could lead to job creation and the reduction of CO₂-emissions if replacing coal. Although energy generation is generally capital-intensive, fracking is commercially viable already now. To ensure that shale gas fracking occurs safely and responsibly by companies, governments need to establish the necessary legislation and control measures.

Dr. Peter Burri (President of the Swiss Association of Energy Geoscientists SASEG) acknowledged that fracking had some consequences to the environment. However, all forms of energy production at a larger scale had some impact – including renewables. He emphasized that technical and legal improvements had taken place over the past years, making fracking a comparatively safe and CO₂-friendly technology for the future – in particular, when compared



to coal. He emphasized that fracking, if regulated responsibly, was a key technology to meet rising global energy demands and create jobs. The U.S. already had massively moved from coal to shale gas. At a time when emission-free renewable energy sources did not have the capacity to fully take over societal energy needs yet, it is necessary to weigh the relative environmental footprint of various fuels against their relative availability, cost and reliability. According to Dr. Burri, with far less emissions than coal and manageable environmental risks, fracking presents a key bridge technology to a renewable energy future. What was needed now is the development and implementation of regulatory regimes based on best practices.

Prof. Stefan Wiemer (Director of the Swiss Seismological Service and Professor of Seismology, ETH Zurich) emphasized that all forms of energy generation provide challenges, yet that the key issue is that societies must decide whether they want to keep relying on fossil fuel in the future. The environmental impact of fracking depends on the specific situation. The risk of causing small-scale earthquakes is undeniable, as is the potential for water contamination and related conflict in areas of high water stress. On general terms, to ensure a reliable supply of energy requires investment in diversified energy resources. There is a consensus that renewable energy sources should be the preferred choice of the future. However, the key question is at which point in time energy demands could be met accordingly.

Voices from the audience highlighted the following arguments, including:

- “Although the technology of fracking had improved, bad implementation was the problem. In the state of Pennsylvania for example, although strict legislation existed to control fracking, in 2006 alone, around 1600 breaches of law were reported. The question was which regulations should be implemented to ensure that there are no breaches.”
- “The process of fracking itself with potential methane leakages - as a side product of the drilling process - makes fracking a far greater threat to climate stability than proponents would admit. Methane has a 28 times higher greenhouse gas effect than CO₂. Therefore, shale gas may effectively even have more negative effects on climate change than coal.”
- “Continuous investment in shale gas could create a technological fossil fuel ‘lock-in’ for the next 50 years. This will result in high, long-term costs in terms of its impact on the global climate.”
- “Rather than considering new options to fill rising energy demands, there is a need to reduce energy consumption. This could be done for example by increasing the cost for carbon, e.g. by introducing a carbon tax or a working market for carbon emission certificates that reflects the welfare costs of burning fossil fuels.”
- “The shale gas boom could be the next financial bubble with low investment returns and high rates of depletion. Some figures suggest that, for example, the average rate of depletion of the Bakken formation in the US is 69 % in the first year and 94% over the first five years. For now at least, the number of wells and cost of production can keep pace with profits because of the higher oil prices. But what happens when the prices come down?”
- “Fracking involves various challenges: There is the problem of land use, water use, additives and chemicals as well as the issue of leakage in the production process (30%).”
- “Rapidly decreasing oil and gas output per rig brings the need for new drilling, making the production extremely expensive. However, US companies show that the profitability is given even at a very low gas price (USD 3-4).”
- “There are huge untouched shale gas reservoirs available in China and Russia, and possibly India. These will probably be developed by 2020 – and we will need to be prepared for this.”



- “Switzerland has almost no shale gas reserves, while for other European countries (e.g. Germany) shale gas production is politically not feasible. Countries at the periphery – like Poland or the Ukraine – might be the first countries to start production in Europe.”

Organizers:

Club of Rome

The Club of Rome was founded in 1968 as an informal association of independent leading personalities from politics, business and science with a common concern for the future of humanity and the planet; long-term thinkers, interested in a systemic interdisciplinary and holistic manner to a better world.

www.clubofrome.org

The Commodity Club

The Commodity Club is a centre of Competence that aims to bring together business professionals and leaders who are actively involved in the commodity industry in Switzerland. The commodity club fosters the exchange of interdisciplinary know-how and innovative ideas.

www.commodityclub.ch

GreenBuzz

The association GreenBuzz is a community of 1'000+ professionals involved and interested in sustainability across all industries and sectors. GreenBuzz organizes events and enables multipliers and changemakers to learn, connect and be most effective in positioning the business logic of sustainability. Sign up for the newsletter to be informed of upcoming events.

www.greenbuzz.ch

myblueplanet

myblueplanet is a Swiss non-profit, volunteer-based organization dedicated to fighting climate change. They work to inspire, empower, mobilise and unite people of all backgrounds and ages to take positive action on climate change at local level. Their motto is: together, with multiple dedicated actions, we can change the face of the world.

www.myblueplanet.ch

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The event was kindly hosted by:



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Impressions:

Photographs by Karin Witschi

