YOUNG
Friends of the Earth Europe

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Brussels, 25th February 2013

Shale gas – another false solution and independent energy illusion?

"Who would want to live in a world which is just not quite fatal?" Paul Shepard

Dear
The President of the Republic of Lithuania Dalia Grybauskaitė
The Prime Minister Algirdas Butkevičius
The Minister of Environment Valentinas Mazuronis

We, representatives of Young Friends of the Earth Europe, a European environmental youth network uniting 15 youth member groups across Europe, express our support to Lithuanian NGOs and local communities in their efforts to stop shale gas exploration and possible exploitation in south western Lithuanian regions. We, as young people, claim our rights to a safe living environment, safe drinking water, and clean soil and call you to act on implementing sustainable development goals instead of rushing toward another false energy solution.

Our main concern is that shale gas exploration represents high risks to the environment, human health and biodiversity. A number of investigations, peer-reviewed scientific studies and European Parliament reports, conclude that shale gas exploration and extraction pose high risks to the environment and living organisms, including human kind:

Ground water pollution: About 75% of wells sampled within 1 kilometre of gas drilling in the Marcellus shale in Pennsylvania were contaminated with methane from the deep shale formations[(1)]. Fracturing operations in deep shale formations might create fractures that extend well beyond the target formation to water aquifers, allowing methane, contaminants naturally occurring in formation water, and fracturing fluids to migrate from the target formation into drinking water supplies[(2)]. The chemicals that are used for fracking have high uncertainty in identification, which limits application of Water Framework Directive and the Groundwater Directive[(3)]. Also, the wells of shale gas require long-term monitoring which enhance long-term pollution risk.

Waste water: Fracking uses an average of 20 million litres of water for one injection to a well[(1)]. The water is mixed with chemicals, and only one fifth of it is pumped to the surface with high concentrations of salts, naturally occurring radioactive material, heavy metals, and other contaminants including arsenic, benzene, and mercury[(2,4)]. In New York and Pennsylvania, tributaries of the Ohio River were contaminated with barium, strontium and bromides because of insufficient treatment of fracking fluid in municipal sewage plants[(5)]. Moreover, chemicals used for fracking are potentially carcinogenic, allergenic and mutagenic[(6)]. The storage, transportation and treatment of contaminated waste water put high demands on local infrastructure and increases environmental impact.

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Air pollution: Volatile organic compounds and other pollutants associated with natural gas and fracturing fluids enter the air from wells, evaporation pits, working operations and gas processing[2,4,6]. In Texas, after many complaints of human illnesses and animal deaths, high concentrations of carcinogenic and neurotoxin compounds in ambient air and residential properties were detected in the regions of production of shale gas[6].

Emissions: Shale gas is another fossil fuel with high risk footprint. Over a 20-year time period, the greenhouse-gas footprint of shale gas is worse than that for coal or oil, where carbon dioxide (CO_2) and methane (CH_4) emissions have particularly potential for increased fugitive CH_4 emissions[1,7]. Also, large-scale extraction of shale gas cannot be reconciled with the latest international climate change commitments, where Lithuania commits reduction of its green-house gas emissions 20% by 2020.

Legislation: Current European Union legislation does not have standards and safety measures for shale gas extraction[3], while current Lithuanian state regulations are insufficient to estimate, measure and control such highly polluting activity.

Local economy: Declarations that shale gas exploration and exploitation will create new jobs in the region are overly optimistic. These activities only require high-skilled and migrant workers and would therefore insignificantly impact on the local job market. The unsustainable boom-and-bust cycles inherent in shale gas activities could actually even deteriorate economic development at the local level. Instead, investment in local renewable energy sources and development of tourism and organic agriculture would create long-term incentives and responsibility for local people to live in clean environment of their region.

The evidences of damage and potential **risks cannot be outweighed by economic benefits**, which could be weak if hidden and environmental costs are included, especially considering the major geological differences between the US and Europe. Claims that high technological standards and responsible maintenance can reduce the risks do not mean that current economic incentives are sufficient to enforce such improvements. South western Lithuania is a region of dispersed population and agricultural lands, has specific geology, soil type, limited waste water cleaning capacities and weak pollution control facilities, as well as gaps in enforcing regulatory policies. Potential contamination of south western Lithuanian regions might have drastic consequences to local and neighbouring communities, their further existence in the region and natural environment.

Therefore, we, as young people, who work on creating a sustainable future, **drive your attention to the roots of the problem and urge you to:**

- **Provide full information of potential risks** of shale gas exploitation and enter in dialogue with local communities and to serve peoples' interests, not multinational corporation's which leave local communities with tremendous environmental and health damage around the world.

- Implement sustainable development goals and commitments to Kyoto Protocol by **enforcing long-term development of renewable energy** policy and sources in Lithuania while current practices are limiting investments in sun, wind, geothermal, marine and limited amount of

sustainable biomass energy. Local and sustainable energy sources only can ensure energy independence for Lithuania.

- Highly **improve energy efficiency** in household, public and industrial sectors, and create economic incentives to reduce energy waste as well as energy use accounting according to individual consumption.

- Set **guidelines to shift** the whole system of energy production and consumption towards being more environmentally sound, climate fair and socially just.

- Finally, to **stop shale-gas development in Lithuania** until better scientific knowledge of the cumulative risks to water and air quality, our global climate and the long term consequences is conducted and regulatory legislation is enforced.

Yours sincerely,
Young Friends of the Earth Europe

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References:

1. *R. W. Howarth, A. Ingraffea, and T. Engelder. 2011. Should fracking stop? Nature 477: 271-275.*
2. *M. Zoback, S. Kitasei, and B. Copithorne. 2010. Addressing the environmental risks from shale gas development.*
3. *European Parliament. 2012. Impacts of shale gas extraction on the environment and on human health – 2012 update (PE 462.485).*
4. *D. M. Kargbo, R. G. Wilhelm, and D. J. Campbell. 2010. Natural Gas Plays in the Marcellus Shale: Challenges and Potential Opportunities. Environmental Science and Technology 44: 5679–84.*
5. *C. D. Volz, K. Ferrar, D. Michanowicz, C. Christen, Sh. Kearney, M. Kelso, and S. Malone. 2011. Contaminant Characterization of Effluent from Pennsylvania Brine Treatment Inc., Josephine Facility Being Released into Blacklick Creek, Indiana County, Pennsylvania.*
6. *European Parliament. 2011. Impacts of shale gas and shale oil extraction on the environment and on human health (IP/A/ENVI/ST/2011-07).*
7. *British Geological Survey. 2011. Environmental impacts of shale gas extraction.*