

POLAND'S QUIET REVOLUTION: OF SHALE GAS EXPLORATION AND ITS DISCONTENTS IN POMERANIA

EDYTA MATERKA

ABSTRACT: This research highlights the unravelling of Poland's shale gas revolution and analyses the structural problems faced by villagers who oppose testing, drilling, wildcatting, and the production of shale gas in their rural communities in northern Poland. I argue that the bed-fellowship between global energy (oil and gas) companies¹ and the Polish government have ignored villagers' complaints and excluded the public from discussions on shale gas exploration and its ecological effects. Due to the lack government-sanctioned legal protections against shale gas exploration granted to villagers, the rural poor have been burdened with the task of reaching out to international organisations and the academic community to establish alliances and leverage influence in order to be heard by their own government. Lastly, I argue that the "transition" into the market economy for these villagers is over as they now have to fight for the very private property rights they fought for during Solidarity and are now entering into the larger, rural struggles on the global level against global companies' intrusion and dispossessing them of their natural environments, private property, and rural livelihoods. I urge post-socialist scholars, ethnographers, citizens, activists with access to such rural communities to help amplify their voices in the international sphere.

KEYWORDS: shale gas, oil companies, wildcatting, rural movements, Poland, transition

THE QUIET REVOLUTION: THE UNFOLDING OF SHALE
GAS EXPLORATION IN EASTERN EUROPE

A great injustice that has characterised the unfolding of the shale gas revolution in Poland since 2010 concerns the temporal disjuncture between when information is made public (about shale gas) versus

when that same information had already been known to private companies and the Polish government. Among the earliest media coverage of shale gas in Europe was released in December 2009 in which *The Economist*, basing its information on a fresh 2009 GASH² study on shale gas reserves in Europe, accurately predicted that ‘Across Europe, a stealthy land-grab is under way’ and stated that Tony Hayward, BP Executive, called the hushed encroachment of shale gas exploration in Europe a ‘quiet revolution.’³ In order for the shale gas revolution to be complete, the companies and their allied governments must act faster than European publics can organise, mobilise and counter them. In order for the revolution to work, companies and governments must be several pages ahead of public: concessions must be granted before a public agrees, companies must drill bore-holes before a public demands that more coherent shale gas laws be passed, companies must test shale gas with hydraulic fracturation (‘fracking’) before a public can ask what chemical concoction are being used in the process, companies must jump from site to site (‘wildcat’) before a public demands compensation for several-kilometre, deep bore-holes drilled in their backyards and contaminating their fields. The race against time is also against other organisations: the companies and the governments will have already done enough environmental damage before the European Union (EU) passes shale gas regulations mandating that operations must be monitored by outside organisations, before human rights groups demand that shale gas exploration be more transparent and that companies must be held accountable for ruining communities and environments and governments must be held accountable for squandering democratic debate and prioritising foreign company rights over citizens’ rights. Time translates into freedom and political leverage as a public plays ‘catch-up’ and gives a government and companies a vantage point to help steer the debate, create dead-ends for dissenters, and finish their revolution.

For example, in February 2011, the US Energy Information Administration (EIA) reported that Poland had a technically recoverable 187 trillion cubic feet⁴ of shale gas reserves, the largest in Europe, the ninth in the world, and enough to make the country gas independent for the next 300 years.⁵ It was the first time that the public was made aware how much shale gas had been located on Polish territory. By the time EIA report made its media splash and shale

gas entered national discourse, however, Poland's northern province (Pomeranian voivodship) had already been zoned into large concessions and global oil, energy and gas companies were granted exploration licenses by Poland's Ministry of Environment to jumpstart the exploration process. As early as October 2007, Lane Energy Poland – a subsidiary of 3LegsResources (UK) – had already been granted concessions from Poland's Ministry of Environment to explore shale gas in its Silurian gas shales.⁶ This has had environmental effects, as chemicals used during shale gas exploration had already been used on testing sites and environmental side-effects prior to public debate and outside monitoring by environmental groups. Several years later in July 2010, Poland joined the US led Global Shale Gas Initiative (GSGI), which opened the flood gates for more global shale gas exploration in northern Poland's Baltic Basin.⁷ As a GSGI member, Poland directly benefited from U.S. technical expertise to jumpstart exploration.⁸ Concessions granted by Poland's Ministry of Environment's Department of Geology and Geological Concessions⁹ were given to the global oil, gas, and energy companies: 3Legs Resources, BNK Petroleum, Cal Energy,¹⁰ Chevron,¹¹ ConocoPhillips,¹² ENI,¹³ ExxonMobil,¹⁴ Gas Plus,¹⁵ Lane Energy,¹⁶ Mac Oil,¹⁷ Marathon Oil, PGNiG, Realm Energy International, San Leon Energy,¹⁸ Saponis Investments,¹⁹ Silurian Hallwood, Talisman Energy, Total SA (TOT),²⁰ et al. By September 2010, just several months later after Poland's entrance into the GSGI, the Baltic Basin's first shale exploration wells had already been drilled by ConocoPhillips and 3Legs Resources in the villages of Lebien LEI and Łęgowo LEI.²¹ It is unclear just how early on the global companies and governments were aware of the shale gas reserves in Europe and in Poland before the news caught up with the public. Presumably, much of the research on shale gas undertaken by private companies has been behind closed doors; not publicly debated in the media or by activist groups on local, national or international levels. Global oil, energy and gas companies and the Polish government have acted in advance of the expected wave of public scrutiny, with little transparency, and at the expense of democratic, public debate and villagers' access to information on shale gas exploration in their backyards. In Poland, such exploration could have evaded the public eye because the government initially granted concessions on state property, thus avoiding the potentially risky process

of asking villagers to consent until after selected companies were comfortably present in the province. The speed of shale gas exploration over the past years has, therefore, been occurring at a faster rate than international organisations can report on.

CEJISS

1/2012

'ENERGY SECURITY' AS A GEOPOLITICAL FRAMEWORK

When Poland's shale gas revolution was exposed to public scrutiny, the government attempted to frame it as an opportunity to increase the country's prestige and power. In November 2011, during his acceptance speech after the Parliamentary Elections held in October 2011, Prime Minister Donald Tusk stated that shale gas exploration was Poland's chance to tap into 'our dreams of underground riches' which will contribute to future decisions on tax reliefs, new-born baby allowance, and a single, universal relief in the form of a pension fund.²² Shale gas enthusiasts – in the media and government – anticipated that shale gas economy could create up to 100,000 jobs and generate much needed export revenue that would solve *all* of Poland's economic problems with unemployment, low wages, lack of financial security for the future generations. Shale gas production would lower the cost of emissions, and clean up Poland's dependence on air-polluting and carcinogenic coals.²³ Exploration companies also advertised similar grand visions. The Polish-state owned PGNiG exploration company called the country's shale gas boom, 'a flame of hope,'²⁴ a cure-all to its economic challenges. According to Petroinvest president Bertrand Le Guern, Poland could even become a 'second Texas or Norway.'²⁵ Shale gas could be Poland's key to a re-branded, global economy less like EU member states and more like the US and economically like Norway.

Dreams aside, to convince Poland and the EU that shale gas exploration was necessary, the buzz term 'energy security'²⁶ emerged which encapsulated both the global companies' shale gas fever and the Polish state's geopolitical interests in cooperating with such companies. Its origins are traced to US Secretary of State, Hillary Clinton who instilled the US geopolitical vision of an energy secure Poland when she invited the latter to join the GSGI membership pool back in July 2010 during her trip to Poland to sign the US-Poland Bilateral Missile Defense Bill with Poland's Foreign Minister Radosław Sikorski. Clinton stated that the US wants to make

Poland 'energy independent' and 'a leader in Europe on energy alternatives.'²⁷ Currently, Poland imports two-thirds of its conventional gas, for annual consumption, from the Russian state-controlled giant Gazprom and its present contract will terminate in 2022. If Poland develops shale gas production by that date, it would not renew its contract with Russia and may even scoop up Russia's West European customers. In addition to Gazprom's Yamal-Europe pipeline that currently cuts horizontally across northern Poland into Germany, the Nord Stream pipeline, opened in August 2011, connecting Russia's conventional gas to France, Holland and Germany underscores the dependence of West Europe on Gazprom. In the past, to gain political leverage, Russia has bullied EU member states by threatening to sever gas supplies to European countries and seek markets in Asia.²⁸ Energy security in Poland represents an alternative to Gazprom for all European countries. Indeed, Poland's energy independence could bring regional geopolitical changes to related to alternative energy, within the EU. In sum, on the national and international levels, shale gas interests in Poland are an intersection of US geopolitical interests, global and national oil, energy, and gas companies' economic interests and the Polish governments' dream of prosperous Poland independent from Russia and a leader in the EU.

GREEN MATTERS: THE CONTESTED GREEN IDENTITY AND POLITICS OF HYDRAULIC FRACTURATION

Although shale gas is a geopolitical and economic panacea for both Poland and the EU, its technical execution has garnered acute international resistance. Shale gas has been branded as a 'clean' and alternative energy source to coal and crude oil.²⁹ On 25 January 2012, President Barack Obama, in his State of the Union Address, stated that

Our [American] experience with shale gas, our experience with natural gas, shows us that the payoffs on these public investments don't always come right away. Some technologies don't pan out; some companies fail. But I will not walk away from the promise of clean energy.³⁰

In reality however, the exploration, testing, and extraction of shale gas requires complicated methods dependant on high-quality

expertise, human capital, and a well-developed infrastructural system in and around the bases that ensures the efficiency of moving materials, extracting shale gas, disposing of wastewater and chemicals, and its production for consumers. First, exploration companies carry out seismological testing to detect shale gas in the rocks which, in densely populated areas, can create ground tremors and infrastructural damage. If shale gas is present then the company drills, several kilometre deep bore holes into the ground to tests the quality of the gas. The extraction of shale gas includes the controversial technique of hydraulic fracturation, or “fracking,” which, according to the US Energy Information Administration (EIA) website,

involves the infection or more than a million gallons of water, sand and chemicals at high pressure down and across into horizontally drilled wells as far as 10,000 feet below the surface. The pressurized mixture causes the rock layer ... to crack. These fissures are held open by the sand particles so that natural gas from the shale can flow up the well.³¹

The difference between the extraction of shale gas and conventional gas from kilometre underground is that: conventional gas deposits are pooled in a basin or rock fissures and require tapping into underground pools whereas shale deposits are trapped within the rock and involve the process of hydraulic fracturation to extract the shale gas from the rock itself.³² Thus, shale gas extraction requires fracking: controversial, since it is suspected of contaminating water-tables, generating fowl smells above-ground, the seeping of left-over chemicals to the surface, and generally damaging the ecosystem. The disposal of the contaminated, chemical water and sand also requires highly-monitored infrastructure to ensure that the chemicals do not leak into the environment. The long-term environmental effects are confounded by the process of ‘wildcatting,’ which means drilling bore holes, testing the shale gas, and leaving the bore-hole to explore at an alternate site as the property owner deals with the environmental effects of the bore-hole on his/her land. While Obama claimed that some ‘companies’ fail during the process of exploration, he did not mention that entire ecosystems fail as they are dispossessed of their environments in the process. Shale gas exploration

carries a tremendous environmental risk that is ignored through its branding 'clean energy.'

Environmentalists have demonstrated that water-table problems have been caused directly by fracking both in the US and Canada. In December 2011, a US Environmental Protection Agency (EPA) report claimed that fracking contributed to groundwater pollution in Wyoming,³³ however in all cases, the exploration companies have denied a direct relationship, claiming instead that contamination is due to natural processes unrelated to shale gas excavation, or had existed prior to the drilling. According to Greenpeace, hydraulic fracturation is 'wreaking havoc on communities all over the country, as well as on our climate.'³⁴ It argues that fracking includes over 260 chemicals in the fracking cocktail that toxic, carcinogenic and mutagenic and 'can contaminate groundwater due to failure of the integrity of the well bore and migration of contaminants through subsurface pathways.' When the fracking water is disposed of, 'The vapor that rises from the "evaporation pits" where fracking wastewater is often stored has been recorded as containing the potent carcinogen benzene' and lastly, 'when you include the full carbon footprint from fracking – from the production of the chemicals to the uncaptured emissions of gas into the atmosphere – the global warming pollution could be as bad or worse than coal.' For political, economic and environmental reasons, Gazprom also has taken a stand against shale gas exploration, indicating that 'The production of shale gas is associated with significant environmental risks, in particular the hazard of surface and underground water contamination with chemicals applied in the production process.'³⁵ It is 'a danger to drinking water.'³⁶ Indeed with respect to shale gas exploration in Europe and Poland, environmental groups and Gazprom have become allies. For such environmental concerns, moratoriums on shale gas exploration have been passed in France, the Province of Quebec (Canada), and New York State (partially lifted), Maryland, New Jersey and has met widespread resistance in the Netherlands, the UK while in Bulgaria, there were multiple protests in Sofia in (2011) calling for a moratorium on shale gas exploration.

Taking environmental dangers into account, European countries are split between the geopolitical versus environmental merits of shale gas exploration. While post-Soviet states support exploration and favour geopolitical over environmental arguments, West

Edyta Materka

European states have taken a reversed stance (although when shale gas is in production, those states will probably consume shale gas from Poland). The EU has been incredibly slow on this front. In June 2011, the European Parliament's Directorate General for Internal Policies released a report suggesting that the EU develop a comprehensive mining law, a publicly available regulatory framework on shale gas extraction, conduct of mandatory, on-site monitoring³⁷ of surface water flows and air emissions, statistics on complaints and accidents:

(b)ecause of the complex nature of possible impacts and risks to the environment to human health of hydraulic fracturing consideration should be given to developing a new directive at European level regulating all issues in this area comprehensively.³⁸

It claimed,

In many cases, mining rights are privileged over citizens' rights, and local political authorities often do not have an influence on possible projects or mining sites as these are granted by national or state governments and their authorities.³⁹

Shale gas exploration and extraction in Poland and other parts of Eastern Europe is the oil and energy companies' race against EU time. According to Maciej Olex-Szczytowski, special advisor to Poland's Ministry of Foreign Affairs, Poland will attempt to veto EU attempts at creating European-wide regulations on shale gas exploration. Claiming that shale gas exploration should be decided on the national-level rather than via Brussels, PGNiG's deputy chief executive Marek Karabula stated that shale gas exploration is 'an energy security issue'⁴⁰ for every country. Thus, Poland's investment in shale gas is so deep that it is willing to frame shale gas exploration as a national, rather than European issue, and vests it upon the very definition of what a sovereign nation can and cannot do in the EU. Thus, The future of shale gas is, therefore, facing grid-lock in the EU. Poland wants to develop shale gas independently without EU regulation because it believes that production will benefit the EU's position with regards to Gazprom; yet it is willing to do so by compromising its position in the EU and the EU's environmental record. West European countries seek a European solution to shale gas production to protect their environments but still face, as

individual countries, high prices and dependence on Russia's Gazprom. So, the time between now and when shale gas regulation is being voted on in Brussels, Poles who are against shale gas exploration are in a critical position to make their voices heard, to make environmental claims against such exploration and amplify their case through national and international discourses.

Poland's public favours the geopolitical rather than environmental vision of shale gas exploration. The latest statistics from September 2011 by the Public Opinion Research Centre (CBOS) show that 73% of Poles agree to shale gas drilling, 4% disagree, and 23% are unsure.⁴¹ However, when asked whether or not hydraulic fracturation was safe for the environment, 43% of Poles said it was safe, 16% said it was unsafe, and 41% were unsure.⁴² While most Poles want shale gas exploration they do so while not being convinced about its environmental merits as a 'clean energy.' And the 41% who are unsure about hydraulic fracturation reveal a considerable portion of the Polish public whose opinions could be still swayed.

Although the Polish government has accepted Poland's inevitable future as a prospective shale gas market, the reality is that the future of shale gas production remains uncertain. According to Stanisław Rychlicki, supervisory board chairman of Polish state-owned PGNiG which currently holds shale gas concessions in northern Poland, companies are still trying to figure out whether the quantity of reserves and costs of drilling and production will be cost-effective in the long-run.⁴³ Drilling costs in Poland (and Europe in general) are more expensive than in the US because shale gas is located deeper underground and more difficult to extract. Sinking one well in Poland costs about three and a half times more (about \$14 million) than in the US. Poland also does not have a robust shale gas extraction infrastructure and establishing an export market will require a great deal of infrastructural investment and development. Europe is also more densely populated, meaning that the environmental hazards caused by shale gas extraction are likely to affect more people even if exploration is contained within the territory of a single country. Also, while in the US the mineral rights are privately owned, in Europe and Poland, they are owned by the government, which means that government interests must correspond with those of the oil and gas companies. While the Polish government does not have a comprehensive shale gas law, its mineral

laws are based on the premise that geological formations constitute a 'public good' and the prioritisation of companies' interests over dissenting public interests over shale gas mean that the government is picking and choosing. The fact that mineral rights are national, not private, could imply that a well-organised public could lobby to augment those laws in their interests. At this point however, the Polish public is far from demanding a moratorium on shale gas exploration. Yet, these above-mentioned challenges for companies constitute the Achille's heel of shale gas exploration, a political site that villagers should capitalise if they wish to seriously jeopardise the unfolding of the shale gas boom.

SHALE GAS MANIA IN POMERANIA

Disconnection is a major theme underlying Poland's experience with shale gas exploration. The temporal disconnection between shale gas exploration and distribution of information to the public sphere, the disconnection between geopolitical and environmental discourses on the value of shale gas exploration to society, the policy disconnection between the EU and Poland, reveals disharmony on shale gas exploration while companies are degrading entire local environments. This work now turn to analysing the Polish villagers who encounter exploration. It covers the disconnection amongst and between Polish villagers, between villagers and their local and national government, and also their missed connections between both environmental activists in the European Commission and in Warsaw. The sites where connections will be forged in this shale gas mania will certainly be the most successful to purporting villagers' goals.

This quiet revolution has already caused irreparable damage to polish villages. Global companies' lack of responsibility for educating the public about the process of shale gas extraction at its speed of exploration and the Polish governments' lack of regard for educating its citizens and establishing a democratic debate about the shale exploration process. The movement for greater transparency, access to information, and the demands for public debates have had to occur from the ground-up, but lagging behind several years before the quiet revolution actually began. Private information about public goods (such as minerals, geology, environment)

lacks transparency and has stirred great confusion among villagers, environmental groups, local governments once they had discovered the elephant in the room: that their private properties are being degraded by the bed fellowship of global companies and the Polish government while they were not included in the initial talks nor do not they have access to detailed information of the process (blueprints, plans, chemicals, etc) itself.

Edyta Materka

The Structure of Local-level Dissent against Shale Gas Exploration

As of December 2011, 85% of the surface of northern Poland's Pomeranian Voivodship (henceforth: Pomerania) was covered by shale gas concessions.⁴⁴ In addition to the 104 concessions that the Ministry of Environment had already given out to 19 companies,⁴⁵ as of January 2012, shale gas licenses are continuously being granted and shale gas exploration looks set to remain in northern Poland.⁴⁶ Due to the spatial squeeze between the global companies and the predominantly rural province, the number of local problems and protests are growing; becoming a regional problem. While on the national level statistics show that Poles support shale gas, on the local and regional level, where exploration occurs, a different story unfolds.

As with any exploration frenzy expanding a vast geographical expanse, the stages during which different oil companies unroll their seismological and drill testing has been an uneven process. Some companies received concessions sooner and began earlier; others later. Some of the earlier starters were unsuccessful in their first bore-holes, and began at new sites. Thus, the feedback from the villagers in different areas of rural Pomerania has also been an uneven series of responses, based on complains to different stages of the exploration process. In general, this has made inter-village consensus difficult to obtain because not everyone is under the same concession and not facing the same geophysical services company. However, untouched villages are learning quickly from wildcatted villages and are building consensus among themselves; developing strategies to keep their villages free from exploration. That too has become a very uneven, messy process filled with contradictions, miscommunication, hyperboles, scapegoating, irresponsibility and confrontations with authorities that demonstrate clashing visions. Additionally, information is also distributed unevenly about the

villages through the media, with certain villages providing only pieces of the puzzle of this emerging, disorganised movement against exploration in the province.

CEJISS
1/2012

This uneven unraveling of shale gas exploration in northern Poland has generated organisational hurdles for villagers and a coherent, inter-village movement. Without a 'hub' or organisational core, dissent is coming in different forms of discussion and through different strategies, from individuals to informally organised groups of villagers, to formally organised villagers with local governments supporting their village-level moratoriums. Dissent is still located within separate territorial units of the rural counties (*gminy*) rather than in the form of an inter-village movement across the region. Moreover, local coverage of the villages is also very limited and bound to dramatic confrontations between villagers and companies in village meetings. The following sections seek to shed some light on these movements and their discontents.

Private Property Rights as Weapon against Dispossession and Organisational Tool

Mining laws in Poland are not privatised and all concessions are granted by the Ministry of the Environment. In cases where land has been deprivatised during the transition to a market economy, certain companies have been fortunate to simply gain consent from the national branch of government that contains the rights to that land. Other companies have to gain consent from the property owners themselves. Thus, private property rights, in a situation where the national government is on the side of the dispossessor, constitute an important weapon against shale gas exploration. Some villagers are only now being greeted by representatives for the first time, asking for consent to drill on their land. However, the experiences of villages which allowed shale gas exploration are setting the precedent for other village. One villager from Krępy, Ewa Wyrzykowska, stated that 'We know, that the testing is not the same as extraction, but if we do not allow for it, then sooner or later they will be drilling here.'⁴⁷ An increasing number of villagers are becoming conscious of the slippery slope of giving shale gas companies consent to explore (not even drill yet) their properties. If shale gas is found, then the village is likely to have to bear the presence

of a gas company for an indeterminate period of time. And, if the property owner does not sign a consent form for the company to search for shale on his property there is not much that can be done.

The reality is not so black and white especially when the economic stakes are so high. In the village of Niezabyszewa, farmer Werner Rutkowski is suing Geofizyka Toruń (GT) – a geophysical services company subcontracted by BNK Petroleum to conduct seismological testing and preliminary drilling – for breach of private property. Maria, his wife, claimed that the GT crew drove onto the property after the farmers had explicitly denied to give consent for the operation. GT apologised and claimed that there was a ‘human error’ involved and that such errors occur in large-scale exploration projects. However, the claim is still with the police who will decide whether or not this was an intentional breach of property, and if the documentation GT was using was falsified. According to the incident report, this was not the first time GT had been using suspicious techniques in Niezabyszewa.⁴⁸ In cases where the company had to provide compensation, it would go to the village representative and asked him to sign off on private residents’ compensation packages, to which he refused because he did not represent every single private person. Thus, many of the issues with the villagers and the GT company have been based on contractual signatures, and issues about private property. To villagers like Rutkowski who won their property rights during the transition from Communism, dispossession again, this time at the hands of global corporations, are frustrating thousands of residents who have had enough with dispossession and want to fight for their land, using their property rights.

To protect their land, entire neighbourhoods within villages have also filed collective petitions against encroachment on their properties. In Gołubie, a neighbourhood wrote a letter in solidarity with the other small villages in the county against shale gas exploration. The authors, villagers Małgorzata Prybylska-Pitak and Leszek Pitak, ‘The (GT) firm encroached without pardon onto the terrain of our neighbourhood, not warning us, setting up measuring poles on the terrain of the owners’ properties, if they were not fenced, and on the fences, wherever the family farms had them.’ In that case, the neighbourhoods are acting as a group to amplify their voices against what they collectively see as a breach of their individual private

properties. In a similar case, seventy-five Miszowo residents filed a complaint against BNK Polska and claimed ‘We do not have anything against shale gas exploration, but we do not want for this to be done in the vicinity of our homes.’⁴⁹

CEJISS
1/2012

In the case of Stężycza where a majority of the villagers are unified against shale gas exploration, the local mayor (wójt) of the village, Tomasz Brzoskowski took a public stand against such exploration, rejected the company’s compensation package and stated that as an entire village, ‘We are going to protect ourselves as far as the law allows.’⁵⁰ By sticking together, the villagers and their local government imposed an informal moratorium by blocking all their properties to any shale gas exploration on county territory.⁵¹ This is a much more successful strategy in which the villagers are protected by the local governments. Thus, the right to private property is an important medium of organising and voicing dissent on the individual, neighborhood, and village-wide levels. It can also be an effective one if practiced when villagers and local governments are aligned politically and economically.

Preservation of Pristine Environments as Expression of Tradition and Rural Heritage

Every villager dissenting to shale gas exploration hedges their arguments on an agrarianism and environmentalism that has allowed them to preserve the natural environment. In Nożynko, GT representatives went around gathering consent forms for a joint concession of the territory shared by Indiana Investments and BNK Polska (both subsidiaries of BNK Petroleum).⁵² The representatives went to the villagers during the afternoon and received approval from the elders while their middle-aged children were at work. With their signatures, the elderly sold out the next generation of farmers. When the younger generation had discovered what the elders signed, a meeting was set up in the village where 86 of the 116 total villagers filled out and signed a petition against shale gas exploration in their village. Such a petition reads like a manifesto that adequately encapsulates many of the villagers’ respect for the environment and the rural lifestyle in the province:

Nożynko is a beautiful, isolated place, surrounded by forests, lakes and expanses of fields and meadows. The

residents of Nożynko value quiet and peace, clean air, isolation from the urban areas, and most of all the protection of nature, which presents unusually accommodating conditions of life in this region...The exploration and extraction of shale gas fetters us, residents, into a series of burdens. We do not want in Nożynko and its environs increased movements of trucks and machines and with them, noise, pollution and dust. We reject the destruction of local roads from heavy transport of technology. We do not want to be fettered to the risk of cracked buildings from the effects of releasing seismic tremors. We will not allow for the destruction of the natural environment in Nożynko and in its neighbouring terrain ...The release of shale gas could ruin our water resources, which could be harmful to people and animals. We do not agree to enduring the noise of drilling machines and difficult lighting, and also breathing in emissions from generators by the drills. Emergencies and human recklessness on the terrains of extraction can lead to an unprecedented ecological catastrophe in our small fatherland. We have no guarantee, that in the case of destroyed buildings and agricultural land we will receive a healthy compensation.⁵³

The petitioners include that they fear how environmental degradation, landscape blight, will have on the health of their children and the environment.⁵⁴ Their petition demonstrates in detail the qualities of life the villagers value and the sacrifices they do not want to make in their lives for the territory that comes along with shale gas exploration. The petition was sent both to the local government administration and the Ministry of the Environment.⁵⁵ As of January 2012, Nożynko residents are waiting for a meeting with GT company and the county government.⁵⁶

Similarly, in the gmina of Karsin, thirty villagers from various villages signed a petition in which they claimed shale gas exploration would permanently ruin their environment and that they would prefer that the country invest in agro-tourism. The alternative of agro-tourism would be less environmentally damaging and could also bring in revenue for the country. The villagers claimed that underneath the village runs a fresh-water aquifer which they fear will become contaminated. They want to pass down that aquifer

untouched to the next generation, laying claim to pristine underground resources as being a testament to their responsibility as a people in preserving their rural heritage and respect for nature. Roman Burke, the county major, stated that 'For us, the will of our residents is the most important [...] that is why we sent their letter to the Ministry of the Environment, which is the organ that is leading this activity.'⁵⁷

Both Nożynko and Karsin reveal groups of villagers who are worried that shale gas exploration will not allow them to pass on a pristine environment to their children and future generations. In both cases, these villagers made their claims about their respect for the environment through the form of a letter/petition and sent it to the Ministry of Environment, a government organ that is supposed to be on their side, but is instead distributing the concessions. Thus, it is difficult to imagine that the Ministry of Environment will hear their voices and respond to them on favourable terms to the villagers. Those letters should be sent instead to environmental groups on the international sphere that do hold similar values. Thus, in comparison to the private property strategy discussed above, respect for the environment, tradition, and rural heritage is probably not enough to make a difference in these communities in the long-term.

A Town-hall Meeting in Niestkowo between Villagers, Gmina and Company Representatives

While the above-mentioned villages (minus Nożynko) were protecting themselves against the first encounter with shale gas companies, the villagers of Niestkowo are attempting to reverse their consent forms which they had already signed. Although the villagers had signed the forms they were unhappy with the quality of life that the Canadian-Austrian-Italian company Saponis Investments had brought while drilling boreholes.⁵⁸ During an open town-hall meeting in Niestkowo, the majority of villagers voiced their disapproval of the drill testing. A reporter claimed that

The participants of the meeting were untrusting. They emphasised that no one consulted with them about jobs, which were already taken [by outsiders] during the course of exploratory testing. They complained about

annoyances, especially the noise, which made it difficult for them to sleep. Some even felt tremors during the drilling.⁵⁹

The issue of jobs that villagers brought up was important since all of the jobs currently on the drill bases are specialist jobs, none which the villagers could partake in, yet they are the ones going through the inconvenience, without compensation. The villagers are beginning to experience disconnect between the promise of jobs that shale gas exploration will bring to the region versus the reality on the ground: that the jobs are just being taken by foreigners who are specialists in the field. One villager at the town-hall meeting stood up and said:

We did not purchase allotment gardens (działki) and build homes for big sums of money in the village so that tranquility and peace would be taken from us. If you want to profit from extracting gas, do it in places where people do not live.⁶⁰

Villagers at the meeting were also concerned about the contamination of the soil and water; whether, throughout the extraction, there would be explosions and radioactive chemicals.⁶¹ Thus, they were quite aware that the chemicals in hydraulic fracturation would be dangerous to their environment and health.

The meeting was attended by several mayors from other areas as well as a representative from the California-based energy company BNK Petroleum (there to learn about the meetings). The vote at the end of the meeting saw the majority of villagers voting against drilling in their village.⁶² But, the drilling did not stop because the villagers had already signed consent forms to allow the drilling in the first place. Villager Jarosław complained 'They drill every day, even until night. I am not against drilling for gas, but I do not understand, why the drill tower is positioned between neighbourhoods, and not a kilometer farther.'⁶³ Until then, the drills will continue to finish their concession contracts.⁶⁴ Villagers are promised that the noise was only temporary and if shale gas entered into production, then there would only be pipes.⁶⁵ In addition, a representative from the National Geological Institute (Państwowy Instytut Geologiczny) pulled out the financial card and stated that 'If the gmina will not wish to have a drill on its terrain, then it

will probably be put outside of the border, but the gmina will not partake in the cutting of the “cake.”⁶⁶

Such ultimatums on the the promise of riches from shale gas profits are positioning the gmina and its constituency at odds with one another, as the gmina wants the additional revenues at the expense of the villagers. The mayor of Niestkowo said that ‘Local governments do not want to scare drilling companies away – it means infrastructure, property taxes and money.’⁶⁷ Even if no shale gas is found and the drilling leaves permanently, Niestkowo will have to deal with the potential environmental effects of the testing with no promise of compensation. But the events of the town-meeting show what sorts of tactics those who are in positions of power deploy to convince the villagers and their local governments to accept shale gas exploration on their land.

The Aftermath of Shale Gas Exploration: What Chevron’s Wildcatting Left Behind in Rogów

The environmental effects of wildcatting are beginning to show. In the village of Rogów, the drinking water has been contaminated in the wells and faucets. One villager explained that one day during seismological testing last year, the water from the sink came out black, smelly and gooey.⁶⁸ The results of tests came in and the water was highly contaminated with high amounts of iron, manganese and the coli bacteria. In that area, GT was subcontracted by the American giant Chevron.⁶⁹ The villagers, while they are sure that the seismological testing caused the water pollution, they have no proof because previous water tests had not been done prior to the seismological testing. Instead, GT sent personnel to help dig new wells for the villagers, which they now use. But the running water is not potable.⁷⁰ Due to the protests of the villagers, Chevron changed its location to another part of the gmina, but coincidentally, even though they denied that seismological testing caused the water contamination, Chevron changed the subcontractor from GT a new company, Nafta Piła.⁷¹ Without adequate research that supplements wildcatting, villagers have no way of holding the American oil company accountable and they do not have the support of their local governments to carry out an investigation. What they are left with are bore-holes and contaminated water. According to

Stephanie Price, Chevron representative, the water problems in Rogów are not caused by Chevron and that villagers had complained of dirty water months before exploration began. Her statement was supported by Tadeusz Solecki from GT, the services company.⁷² The case of Rogów shows how difficult it will be for villagers to prove their claims against the denial of both the oil companies and the geophysical companies that obviously degraded their land.

Whenever complaints from multiple villagers are voiced, they are simply struck down by two public relations representatives of the exploration company and the geological services company. Some companies have begun environmental testing, but for the wrong reasons. According to Bogusław Sonik, Civic Platform representative to the European Parliament,

Emotions around the extraction of shale gas are escalating. It is very important for the environment to be monitored closely during the works [...] It is easy to incite panic in the local community. This is water for the mill for activists against shale gas.⁷³ Thus, the trend of exploration companies conducting environmental tests is for future protection against villagers' claims, although even when culpable, it is unlikely that the companies would use their own private data against their economic interests.

The government is also developing an organising body to mediate the regional disputes; for all the wrong reasons. The regional level of Pomerania is attempting to claim that the source of disputes are the fault of both the villagers and the companies. Mieczysław Struk, the Pomeranian marshal claimed that the source of the problem was the lack of education of locals and the irresponsibility of the owners of the concessions.⁷⁴ He argued that villagers need to have more access to information about shale gas exploration in general.⁷⁵ The patronising assumption that villagers do not understand their the transformations in their environments is absurd. There is very little chance, that villagers will consent to shale gas exploration if they are 'enlightened' with the 'right' information. In other words, the regional government just needs to feed the right type of information to the villagers to win their consent. Starting 1 February 2012, the province will introduce a regional organisation (unnamed) to make information accessible on the internet and be a conflict-resolution team to solve environmental, geological, and

community issues.⁷⁶ The function of the organisation will be built on the premise that shale gas exploration is here to stay and that the adequate message needs to be developed, resistance diffused, in order for shale gas exploration to continue.⁷⁷ There is no option establishing a government organ that allows villagers to voice their total rejection of shale gas on their land. Therefore, if villagers still want to expunge companies from their country, they will need to establish much stronger networks and representation within the international community.

Time is especially oppressive to such rural, undeveloped, communities in provincial Poland who have only slowly entered the modern age while many do not use the internet, are not involved in civil society, are often immobile, and are normally apolitical. It is perhaps the first time since the Solidarity Movement in the 1980s that villagers are politically organising again on the local level, negotiating amongst themselves the common principles that their villages stand on, and developing strategies for expressing their rejection of shale gas exploration. This does not come without major challenges. Building networks in today's world means learning to use the internet, knowing the English language to build networks across national borders, accessing the EU 'out there,' and learning how to brand their struggles in a world where each country is faced with a population fighting against a global giant who is causing damage to their communities. For the generation of the Solidarity Movement, the world has changed, and thus the methods they must use to organise their dissent must be now fought on these different political sites (Brussels, the internet, networks with intellectual communities and activist organisations) that are invisible in their daily lives. They must transform into an organisation themselves and express their dissent to the local-level dispossession of their property rights on a multi-scalar level. The reasons for shedding light on these voices and their transformation are many serving as a public record for capturing the dissenting voices of the villagers against a quickly changing landscape, amplifying the multifarious struggles that are being drowned out by global and geopolitical interests from rural Poland to the international arena, and it urges scholars to both acknowledge that that post-socialism is entering a new phase in its relationship with the global that requires fresh analytical and theoretical investigation.

Villagers in Pomeranian have a long way to go in terms of connecting their message to international advocacy groups and the EU. Not enough independent organisations are reaching out to these villagers and helping leverage their voice on the international sphere, to put pressure on the companies and the Polish government. Even when they do reach out, there appears to be disconnection between the heart of the movement by villagers and what Western Europeans know about Poland.

On 15 June, 2011 villagers from Grabowiec travelled to Warsaw to meet with José Bové, Vice-Chair of the Committee on Agriculture and Rural Development in the European Parliament and known alter-globalisation activist who fought against the Mcdonaldisation of France.⁷⁸ They had reached out to him when the GT company carried out seismological tests for Chevron and the American company decided that it wanted to drill tests on their agricultural land. The drills were located 250 meters from six private agricultural plots. The seismological testing had already polluted their water in the wells and made it undrinkable, some foundations in the homes have given out and other homes had cracked walls. The gmina roads were damaged, but it received compensation from the company. According to a statement issued by the GT representatives that are carrying out the seismological testing for Chevron in the gmina, the company has provided compensation to the residents, which is a 'routine operation during seismological testing' meaning that compensation was not out of the ordinary but that whereas once gas was extracted using dynamite, today the method of seismological testing is much more advanced and less invasive.⁷⁹ At the town-hall meeting between Chevron representatives, local government and the villagers, no consensus was reached. Thus, the villagers, 'stuck between hammer and anvil'⁸⁰ reached out to Bové with a letter to the Polish government. A day later, on 16 June 2011, the French activist met with Tusk and Vice-Prime Minister Waldemar Pawlak and the Agricultural Minister Mark Sawicki during which he presented a letter written by villagers against seismological testing which has already produced contaminated water.⁸¹ The letter was more a symbolic gesture, and did not produce any large-scale media attention or public discussion. A month later, however, on

6 July 2011, Bové and others issued a Written Declaration on shale and gas oil exploration in which indicates that Member States have been issuing shale gas exploration licenses. The declaration calls for an EU moratorium against shale gas, oil exploration and extraction, the suspension of licenses by EU states and start of environmental impact and climate studies by those states.⁸² Thus, while the people of Grabowiec might have contributed to Bové's declaration for a moratorium, the letter brought no short-term returns for the villagers.

By August 2011, in villages around gmina Grabowiec, farmers were still complaining that Chevron continued with testing and that the GT continued drilling wells which was causing tremors and had cracked more walls in the homes and ruined wells. Instead of reaching out to more international organisations, villagers have begun stealing cables and highly specialised equipment (28,000 złoty or about \$8,600 each)⁸³ to stop the drilling. Without continued international support by Bové, locals have begun using small acts of sabotage to stop the operations. What this case demonstrates is it is not enough for Western activists to swoop down to Poland and deliver letters, but that there needs to be a long-term plan of action that establishes a relationship between activists and villagers. If not, villagers will just be stealing cables.

Several months later, on 20 September, 2011, Bové participated in an anti-shale gas prospecting protests in Siekierki Wielkie located in Wielkopolskie voivodeship, directly south of the Pomeranian voivodeship in north-central Poland.⁸⁴ The protest however, was a gaffe a 'classic quid pro quo'⁸⁵ because that particular company at the site of the anti-shale protest was extracting conventional gas. The unnamed gas company stated in a report that no locals participated in the protest that the protesters had arrived from a recent anti-shale gas conference in Wrocław.⁸⁶ Organiser Marek Kryza confirmed that he brought the guests from the conference to the site because it was closer than the actual shale gas sites⁸⁷ and he wanted to raise awareness about the dangers of shale gas, including sinks catching fire, and dangerous chemicals that have an effect on the human nervous system.⁸⁸ The anti-shale gas protest gaffe was immediately criticised by the media not being adequately informed and was demonised for taking too much of their information from American Josh Fox's documentary *Gasland* (2010) on the effects of

shale gas extraction in the US Western, left-wing activists that are probably the villagers' most passionate allies in the international sphere have already been criticised for representing a disconnected form for activism that is easily ridiculed by the conservative, pro-shale, media outlets in Poland.⁸⁹ In order for the connection between villagers on the local level who are unaware of Western-style activism and international organisations who can help them but are unaware of their history and culture to work, both groups need to educate one another other about their methods of operation.

'BLACK PR' (CZARNA PR) AND THE POLISH FRACTIVISTS STORM WARSAW

There is some hope to the anti-shale gas movement in Poland. During the Shale Gas World Europe 2011 conference held at the Hilton Hotel in December 2011 with attendees such as Halliburton, Tamboran Resources, TXMOil & Gas Exploration Ltd among most of the others listed above met to discuss shale gas; yet the registration fees were so incredibly high (over £4,000⁹⁰) and the event was so exclusive that no one who would really be affected by the drilling would afford the transportation or the fees to attend such a conference filled with oil companies and geological services companies.⁹¹ Due to the closed-doors approach and lack of a healthy, public debate about the merits of drilling, a group of Polish 'fractivists' stormed the conference, sat on the stage and refused to leave.⁹² They told the audience of shale gas executives and dignitaries:

Distinguished guests, be warned! The residents of the following regions have already demonstrated that they will not allow their land to be exploited and they will fight any attempt at their dispossession. To name only a few of them: Zdunowice, Villeneuve-De-Berg, Sulęczyno, Syracuse, Stężyca, Sofia, Quebec, Rogów, RPA, Pittsburg, Nożynek, New York State, Niestkowo, Niezabyszewo, Nordrhein-Wesfalen, Nant, Maryland, Montelimar, Kamińska, Philadelphia, Buffalo, Albany, Ardeche, Warsaw and masses of other people in other cities.⁹³

What is interesting is that the group has expanded its networks from the villages to the residents who share the same type of drilling

problems produced by global energy companies in other countries. Companies streamline their activities across different countries, and produce a certain experience around those drill sites that can be shared across borders, and can be a site of political activity across languages and cultures and economic groups. Building solidarity across borders has become an interesting development, as Polish youth reach out across the global grid to help lobby their governments, change public opinion, and fight for their land on the local levels. The internet-savvy, educated, urban, Polish youth might be the missing key between villagers and the international community.

At the conference, a large banner hung from the railing on which there was a fist with a middle finger pointing up depicting an oil rig and the sign read 'Frack you.' Eleven people were arrested demanding a public discussion and moratorium on shale gas exploration and are now faced with up to a year in prison. The Polish Flash-Mobbers released a short documentary of their own which seeks to show the voices of the villagers, which it claimed are being ignored. In one point, a villager states 'Where are we? In the banana republic, I think' referring to the peripheralisation and dispossession of their voices. The documentarian claimed that there is a lack of public discussion in Poland and that there is a mythical dream being propagated that Poland will become a wealthy, gas-rich country. They released a statement,

From Pomerania to Philadelphia, from Syracuse to Sulęcyno, from Lewino to Lancashire, residents of drilling towns have experienced the consequences of hydraulic fracturing and are demanding the same thing: an end to their dispossession and a halt to the tragic degradation of the environment.⁹⁴

In Poland, the residents of drilling sites are becoming increasingly covered by the local, regional and national media. The subversive narrative led by villagers and environmentalists has been coined as 'black PR' (czarny PR) by the Polish government. Poland's Foreign Prime Minister Radosław Sikorski responded to a reporter's question about the origin of 'Black PR' with "You try to guess" and then continued to explain that the locals have to become better informed about the process: 'We just have to keep explaining to environmentalists and local people what it's about.'⁹⁵ On the local level,

villagers have reportedly begun sabotaging drilling sites, with stealing seismic cables and machinery, blocking roads to drilling sites.⁹⁶ Black PR is a site of agitation for the Polish government and Bernard Błaszczak, Vice-Minister of the Environment in Poland stated that ‘We will do everything to ensure that protests are not able to stop shale gas exploration in Poland.’⁹⁷ To stop the escalating public disapproval of shale gas exploration and the European Parliament’s impending vote on shale gas exploration, the Polish government-controlled PGNiG SA that holds shale-gas concessions bought out full-page ads in two of the country’s most circulated newspapers urging readers to ‘Don’t put out the flame of home’ and contact Members of the European Parliament to urge them to reject EU action at passing shale gas regulations.⁹⁸ Thus, the Polish government is actively attempting to pit Poles for shale gas against villagers against shale-gas exploration on the EU-level in Brussels.⁹⁹ Overall public opposition to the government’s enthusiasm for shale gas exploration at the expense of the villagers is building. As one *Polityka* article on 24 January 2012 claimed ‘The [Polish] government is pushing for gas. In 2–3 years the production of shale gas is expected to commence in Poland. Are we building an empire or an illusion?’¹⁰⁰ While the public opposition is slowly snowballing, it is only by a couple of protesters in Warsaw or several journalists in the media. It is not enough of a movement that will bring major results in this race against time.

TOWARDS A POST-TRANSITION PERSPECTIVE OF THE GLOBAL-LOCAL ENCOUNTER IN EASTERN EUROPE

The international campaign for ‘alternative’ fuel sources and green energy does not necessarily mean that the environmental, economic, and political issues faced by villagers faced with its production in their backyards will be any less filled with injustice, frustration, silencing, and sense of powerlessness. Villagers’ complaints are countered with public relations representatives simply stating that the villagers’ comments have no merit, are ‘backwards,’ or based on assumptions due to lack of knowledge about the ‘routine process’ of shale gas exploration. Rather than the burden being on the companies to demonstrate that hydraulic fracturation is bad for the environment, the burden is on the villagers to muster up the

international attention, academic studies to produce the evidence against the shale gas revolution. Villagers' complaints about what they see in their environments where they have dwelled for decades holds no value or legitimacy in the public sphere dominated by pro-shale gas exploration coverage sponsored by the government and the exploration companies. In order to be heard, these villagers will have to build strong, multi-scalar alliances on the local, regional, national and international spheres of government and civil society in order to gain political leverage on the local level. It is a steep and dangerous mountain to climb. As the last section demonstrated, the youth are key in bridging the gap between villagers and the international audience.

These sets of encounters between prospecting companies and the villagers demonstrate post-socialist subjects are no longer focusing on the 'transition' between socialism and the market economy, but are rather much more complexly implicated in the sets of relations that come with the territory of globalisation. In this new position as a multi-scalar actor, the villager of today no longer fits into the category of 'post-socialist subject.' The encounter places villagers into the global dialogue with at least people in other rapidly-developing countries. This is the case for why we as scholars need to look beyond postsocialism by focusing on the transition to a global market economy, and to zoom in on villager's voices and transformation in this new encounter with the global. It is in that way we can truly amplify their voices.

≈ EDYTA MATERKA is affiliated to the Department of Geography and Environment at the London School of Economics and Political Science and may be reached at e.materka@lse.ac.uk

NOTES TO PAGE 189-213

- 1 Furman and Oksińska (2011), 'Firmy energetyczne włączą się do szukania gazu łupkowego.'
- 2 In September 2008, the GFZ German Research Centre for Geosciences, Helmholtz Centre Potsdam was just setting up its Shale Gas in Europe (GASH) research agenda that later led to the widely distributed studies on shale gas reserves in Europe in 2009 See: Helmholtz Centre Potsdam (2009), 'Shale Gas in Europe: A Future Source of Energy?'. It

appears that the Polish government was aware that shale gas existed in its rocks before any major studies were published.

- 3 'The hunt for shale gas in Europe: Bubbling under,' p. 1.
- 4 5.3 trillion cubic meters.
- 5 US Energy Information Administration, 'World Shale Gas Resources: An Initial Assessment,' Table 1-3. Risked Gas In-Place and Technically Recoverable Shale Gas Resources: 32 Countries.
- 6 Horsfield and Schulz, 'Gash Shales in Europe: an industry project... now open for participation,' 3. Also, the Polish government still owns a great deal of unprivatised state farms, thus the shale gas testing could have been completed without the consent of private property owners.
- 7 The Baltic Basin in the north cuts across state lines covering 102,000 square miles in Poland, Lithuania, Russia, Latvia, Sweden, and the Baltic Sea. Source: U.S. Energy Information Administration, 'World Shale Gas Resources: An Initial Assessment,' V-3.
- 8 Office of the Coordinator for International Energy Affairs, 'Global Shale Gas Initiative (GSGI).'
- 9 'Na Pomorzu jest gaz z łupków.'
- 10 BNK Petroleum, 'Poland Projects.'
- 11 'PGNiG: zasoby gazu łupkowego na koncesjach spółki ok. 900 mld. m. sześć.'
- 12 Ibid.
- 13 Marecki, 'Polska ma gazu łupkowego na 300 lat!'
- 14 'PGNiG: zasoby gazu łupkowego na koncesjach spółki ok. 900 mld. m. sześć.'
- 15 BNK Petroleum, 'Poland Projects.'
- 16 'W 2012r na rynek trafi gaz łupkowy z odwiertów na Pomorzu.'
- 17 'Włosi będą szukać gazu z łupków w Trojmiescie.'
- 18 Duszczyk, 'Koncerty wydobywcze rywalizują o kolejne koncesje łupkowe.'
- 19 Others, like the Japanese firm Mitsui & Co. Ltd. have acquiring stakes in Poland's shale gas concessions through the oil companies (Kruk, 'Japanese Firms Eye Deals in Poland.')
- 20 Kruk, Marynia. 'Poland to Veto EU-Level Attempts to Regulate Shale Gas' (done)
- 21 'World Shale Gas Resources: An Initial Assessment.' V-6.
- 22 'Tusk's speech: Reform in Poland, at last?,' p. 4.
- 23 Cienski, 'Poland hopes to tap big reserves for shale gas.'
- 24 Sobczyk, 'Polish Firm Lobbies Against EU-Wide Shale Gas Ban.'
- 25 Petrolinvest: Poland a second Texas for shale gas' and Grzeszak and Łakoma, 'Budujemy drugą Norwegię: Czy gaz łupkowy odmieni Polskę.'
- 26 Dixon, 'Polish PGNiG, KGHM, PGE, Tauron join forces on shale gas.'

Edyta Materka

- 27 U.S. Department of State, 'Interview With TVP's Tomasz Lis. Hillary Rodham Clinton Interview.'
- 28 Milner, 'Gazprom threatens Europe's gas supply.'
- 29 According to U.S. Energy Information Administration (EIA) projections, 14% of total global gas supplies will be represented by shale gas by the year 2030¹⁵ (Office of the Coordinator for International Energy Affairs, 'Global Shale Gas Initiative (GSGI).')
- 30 Obama, 'State of the Union Address 2012,' 29:53.
- 31 Newell, 'Shale Gas and the Outlook for U.S. Natural Gas Markets and Global Gas Resources.'
- 32 Kruk, 'Poland Sees Clearer Picture on Shale.'
- 33 United States Environmental Protection Agency, 'Investigation of Ground Water Contamination near Pavillion, Wyoming,' pp. 33-39.
- 34 Greenpeace, 'Fracking.'
- 35 Gronholt-Pedersen, 'Russia Sounds Alarm on Shale Gas' and Kublik, 'Gazprom atakuje łupki.'
- 36 Sobczyk, 'Resistance to Poland's Shale Gas Exploration Plans Emerging.'
- 37 As of November 2011 data, Chevron, PGNiG and Orlen conduct their own water monitoring testing at the drill sites. Duszczuk, 'Chevron, PGNiG i Orlen sprawdzą jakość wod w odwiertach.'
- 38 European Parliament's Directorate General for Internal Policies, 'Impacts of shale gas and shale oil exploration on the environment and on human health,' p. 79.
- 39 Ibid, p. 77.
- 40 Kruk, 'Shale Gas Should Be Regulated by Countries, Not Brussels, Polish Firm Says.'
- 41 CBOS Centrum Badania Opinii Społecznej, 'Wydobywać? Polacy o Gazie Łupkowym,' p. 3.
- 42 Ibid.
- 43 Kruk, 'Poland Sees Clearer Picture on Shale.'
- 44 'Pomorze: Kampania informacyjna dotycząca poszukiwań gazu z łupków.'
- 45 'Trzęsą ziemią, bo szukają gazu łupkowego.'
- 46 'PGNiG wants more shale gas exploration licenses' and Kruk, 'Gas Powers Wrestle in Poland.'
- 47 Radomski, 'W podśląskiej Krępie nie chcą poszukiwań gazu łupkowego.'
- 48 Szymanowski, 'Pow. bytowski: Rolnik złożył doniesienie na poszukiwaczy gazu.'
- 49 Marecki, 'W Miszewie nie chcą poszukiwania gazu łupkowego w pobliżu wsi.'

- 50 Cirocki, 'Gmina Stężycza nie chce zysków z gazu łupkowego.'
- 51 'Stężycza: Nie chcą u siebie eksploatacji gazu łupkowego.'
- 52 'Gmina Czarna Dąbrowka. Mówią "nie" gazowi łupkowemu. Domagają się konsultacji społecznych.'
- 53 Ibid.
- 54 Ibid.
- 55 Szymanowski, 'Pow. bytowski: Rolnik złożył doniesienie na poszukiwaczy gazu.'
- 56 Gurba, 'Protest przeciwko poszukiwaniom gazu łupkowego.'
- 57 Okoniewska, 'Gmina Karsin: Mieszkańcy przeciwni poszukiwaniom ropy i gazu.'
- 58 Trubicka-Czapka, 'Gaz łupkowy na Pomorzu: Saponis kontynuuje badania w okolicach Niestkowa.'
- 59 Marecki, 'Mieszkańcy Niestkowa nie chcą, aby tu wydobywano gaz łupkowy.'
- 60 Ibid.
- 61 Ibid.
- 62 Ibid.
- 63 Gębuś, 'Gmina Ustka: Mieszkańcy protestują, a wiercenia idą pełną parą.'
- 64 Ibid.
- 65 Ibid.
- 66 Ibid.
- 67 Ibid.
- 68 Szewc, 'Nie będą już szukać gazu łupkowego. Mieszkańcy: Woda nie nadaje się do picia.'
- 69 Ibid.
- 70 Ibid.
- 71 Ibid.
- 72 Duszczyk, 'Koncerny wydobywcze rywalizują o kolejne koncesje łupkowe.'
- 73 Duszczyk, 'Koncerny łupkowe będą musiały badać jakość wody.'
- 74 'Pomorze: Kampania informacyjna dotycząca poszukiwań gazu z łupków.'
- 75 Ibid.
- 76 Netka, 'Problem z gazem łupkowym rozwiążą zespoły regionalne.'
- 77 Duszczyk, 'Gaz łupkowy już w tym roku ogrzeje domy na Pomorzu.'
- 78 Wojtkowski, 'Gaz łupkowy dzieli mieszkańców gminy Grabowiec.'
- 79 'Zieloni mówią o szkodach związanych z łupkami, Geofizyka zaprzecza.'
- 80 Wojtkowski, 'Gaz łupkowy dzieli mieszkańców gminy Grabowiec.'
- 81 'Nici z łupków? Unia rzuca Polsce kłody pod nogi.'

- 82 Juvin, Bove, Estrela, et al., 'Written Declaration pursuant to Rule 123 of the Rules of Procedure on shale gas and oil exploration.'
- 83 'Gaz łupkowy na Lubelszczyźnie: Protesty rolników i kradzieże kabla.'
- 84 Kamińska, 'Protest przeciw łupkom: "uczestniczyli w nim tylko przyjezdni.'
- 85 'Nie chcą gazu z łupkow – protest w Gowarzewie.'
- 86 Ibid.
- 87 Ibid.
- 88 'Protest przeciw gazowi łupkowemu: "Woda się zapali".'
- 89 Ciepiera, 'Protesty społecznie nie powinny powstrzymać wydobycia gazu łupkowego.'
- 90 About 10,000 złoty, whereas most Poles earn about 1,000 złoty per month.
- 91 Shale Gas World Europe Website, 'Strategy and opportunity for Europe's gas producers.'
- 92 Phillips, 'Polish Fractivists Occupy European Shale Gas Conference.'
- 93 Frack you pl., "Polska Delta Nigru-zablokowana konferencja "Shale Gas World Europe 2011," 03.25-04.05.
- 94 'Poland: Fracking opponents block "Shale Gas World Europe 2011" conference.'
- 95 Kruk, 'Gas Powers Wrestle in Poland.'
- 96 'Poland: Fracking opponents block "Shale Gas World Europe 2011" conference.'
- 97 Ciepiera, 'Protesty społecznie nie powinny powstrzymać wydobycia gazu łupkowego.'
- 98 Sobczyk, 'Polish Firm Lobbies Against EU-Wide Shale Gas Ban.'
- 99 A similar pattern is occurring in the United States with energy companies injecting money into campaigns and lobbies to try to reverse moratoriums in certain states like New York. Source: Johnson, 'Energy Companies Throw \$3.2 Million Into Latest Pro-Fracking Push.'
- 100 Grzeszak and Łakoma, 'Budujemy drugą Norwegię: Czy gaz łupkowy odmieni Polskę.'