Fracking — An Alternative to Alternatives?

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Program Description

New technological advancements in hydraulic fracture drilling and horizontal drilling have led to rapid growth in unconventional energy production. By injecting highly pressurized fluids into the ground to fracture rock formations, companies are tapping previously unavailable sources of natural gas and oil. In some markets, fracking is raising hopes of a new economic boom and major turnaround in domestic energy production. Yet, concerns related to possible seismic impacts, contamination of ground water, and health effects from air and ground pollutants have resulted in greater regulatory scrutiny, with some countries suspending and even banning the practice. With supplies of easily accessible fossil fuels dwindling, and renewable energies challenged by viability and scalability, can fracking provide an alternative energy revolution to meet current and predicted global energy demands? This panel will explore how fracking fits within the energy industry, international trade, and international environmental law.

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Poland

By Wojciech Bagiński, LL.M.

1. Some key data about the Polish gas market

- Domestic gas production in 2011 – around 4.03 Bcm.
- Imports of gas in 2010 – 10.77 Bcm.
  - 9.0 Bcm annually comes from Russia (90% of total imports).
  - Long term contract between PGNiG and Gazprom Eksport – up to 31 December 2022.
- In 2010 imports covered approx. 63% of domestic gas consumption.
- Demand for gas continues to grow. In 2010, the consumption of gas reached around 15.0 Bcm. In 2030, it is forecasted to reach 20.4 Bcm.

2. Shale gas in Poland - Prospects

- U.S. Energy Information Administration (EIA), April, 2011 - 5,3 Tcm.
- Polish Geological Institute - 21 March 2012 – 346-768 Bcm - and up to 2 Tcm of gas (Estimated Ultimate Recovery).
- Based on wells drilled in 1950-1990. Current data are not yet available.
- The report will be updated every 2 years.
- The estimates are predicted to increase as the report did not cover all of Poland’s territory.
- Covers around 65 years of current demand and 200 years of current production.

3. Concession holders

- Map of distributed concessions for exploration and prospecting (shale gas in red) as of February 28, 2013. Source: Ministry of Environment in Poland [Figure 1 on the next page].
- As of March 1, 2013 - 109 concessions for prospecting and exploration of shale gas were granted.
- 19 capital groups.
- PGNiG, Orlen and Grupa Lotos – state-owned companies that hold directly 32 concessions.

**Figure 1: Distributed concessions in Poland (shale gas in red)**

4. **Concessions for prospecting and exploration - not yet for production!**
   - Poland is still at the exploration stage.
   - According to PGNiG, commercial production will commence in 2015/2016.

5. **What is the current situation?**
   - Poland is at the exploration stage. Test wells are being drilled.
   - As of March 4, 2013 – 42 wells drilled.
• 128 wells are planned to be drilled up to 2017.
• Hydraulic Fracturing – e.g. Lane Energy, PGNiG. Halliburton executed first fracking operation in Poland.
• The government is working on a new specific shale gas law.
• Friendly political climate. A lot of investment opportunities but also a lot of risk.

6. Real Property – land rights in a nutshell in Poland.

A. Most important concepts re. shale gas operations
   • Full ownership - własność – the oil and gas company purchases the property and has full ownership rights to its surface.
   • Tenancy - dzierżawa - Landowner has full ownership rights to the property and leases by way of tenancy his land to the oil and gas company for the purpose of drilling.

B. Main features of a Tenancy contract in Poland
   • Contractual relationship (this is the main difference with ususfruct which is a right in rem)
   • Tenant may use and collect fruits of the property for definite or indefinite time, and the tenant shall assume the obligation to pay to the landlord the rent agreed upon.
   • Tenant’s right to collect fruits of the subject of the tenancy is the main difference with a lease contract. Another difference is that the period for which the tenancy can be entered into without its automatic transformation into a tenancy for an indefinite period of time is longer – it is 30 years as opposed to 10 in leases where one party is not an entrepreneur.

   - Article 695 § 1 of the Polish Civil Code:
     • The tenancy concluded for a period longer than thirty years shall be deemed, after the lapse of that period, to be concluded for an indefinite time.

   • Granting clause.
   • Rent clause.
   • Term clause – usually up to 30 years.
   • These agreements will probably develop in the future, provided that shale gas is found and produced in Poland. It is foreseen that oil and gas companies will purchase properties in Poland rather than lease by way of tenancy. In some regions it might be hard to purchase property or even lease as there is strong community resistance – see for example PGNiG case and its problems with leasing/purchasing land in the Kaszuby region.
7. **New Legal Framework in Poland**

  
  **BUT**: The Ministry of Environment is currently working on amendments which will revolutionize the legal framework for shale gas in Poland.

  The first draft was released in February. The new law will probably come into force in mid/late 2014.

  *It is unclear how the new law will work in practice.*

8. **Current Legal Framework in Poland - Mineral rights**

- The State Treasury remains the owner of listed strategic resources – including hydrocarbons.
  
  - They are covered by the mining ownership ("własność górnicza") which vests with the State Treasury regardless of the location of the strategic resource.

- Other resources remain the property of the land owner.

- The State Treasury may dispose of the resources by establishing a **mining usufruct**.

- To establish a mining usufruct, the entrepreneur has to enter into an agreement with the State Treasury by executing it in Polish; otherwise, it is null and void.

- The term of the Agreement is for a definite period of time – up to 50 years.

- It has to specify the amount of remuneration of the State for the establishment of the mining usufruct and the way it is going to be paid. This is a separate fee that is in addition to the fee paid for the concession. The fee depends on the resource and land area involved. It is subject to negotiations.

- The scope of permitted activities is specified in the concession. The mining usufruct agreement does not permit uses that are contrary to the ones specified in the concession and generally the law.

- The law of tenancy will apply to the mining usufruct in cases not regulated under the Act.

- Two separate mining usufruct agreements will have to be entered into – one in regards to exploration and another regarding production.

9. **Current Legal Framework in Poland - Concessions**

- Mandatory, open and transparent tender procedure.

- Separate concession for exploration and prospecting and separate for production.
- The concession for exploration and prospecting may cover 1200 km².
- It is issued for 3 to 50 years.
- Mandatory consultations with local communes.

**Differences between US and PL**

- **in the US:**
  - Oil and gas law is well developed
  - Minerals such as shale gas are generally privately owned

- **in Poland:**
  - A lot of issues are relatively new and the application of the body of law regarding shale gas operations will gradually develop over time
  - Shale gas belongs to the State

*Figure 2: Differences between the United States and Poland*

10. **Risks for investors**

A. Legal:

- Concession for prospecting and exploration vs. concession for production
- Does the government have to grant a production concession to the entity that successfully prospected and explored the resource? There could be possible disputes here that could prolong the investment process.
  - The company that successfully prospected and explored the resource has the right to preferentially apply for a "production" mining usufruct before other companies. It does not have a preferential right to apply for a "production" concession. Hostile competing companies could also apply for such a concession. However, in order to be granted with a concession, the applicant must provide evidence of its right to use the resource. The hostile company would be unable to do this but could potentially try, which would result in disputes and lead to prolongation of the investment process.
- The scope of use of tenancy law in regards to the mining usufruct agreement. The uncertainty related to the content of the mining usufruct agreement could lead to possible disputes.
• Tax and Stamp duty.
  o Currently the company has to pay for each mining usufruct (the amount is dependent on the size of the territory), and there is a separate fee for the production of the resource – around 4,90 – 5,89 PLN for each 1000 m3 of gas. The government is planning to impose a separate tax. Information related to the new taxation of shale gas was released in February 2013 and is subject to discussion and criticism.
  o New Geological and Mining law is in place but is not fully tested.
    • Specific amendments already announced.
    • How will it work in practice?
    • Will it resolve the problems indicated by the industry? (e.g. the restrictions regarding exchange of shares between companies in the concessions they hold, re. obligatory tenders)

• Possible adverse EU regulations in the future. Improper implementation of EU Directive 94/22/EC in Poland?
  o Dispute between the EU Commission and Poland in the European Court of Justice re. improper implementation of the EU Directive 94/22/EC - generally the dispute relates to lack of regulations concerning mandatory tender proceedings in the concession granting process, in the period before the 2012 amendment to the Geological and Mining Law.

• BOTTOM LINE: Uncertainty.

B. Environmental

• Generally, the Polish system is based on the “polluter pays principle” expressed in EU Directive 2004/35/WE.

• The current framework for environmental protection in Poland is very complicated.
  o Regulated in around 45 Acts (including subsidiary legislation).

• Industry responses to environmental concerns:
  o Codes of best practices:
    • Issued by PGNiG.
    • Issued by The Polish Exploration and Production Industry Organization - Employers’ Union that was established by major E&P companies operating in Poland on June 29, 2010 in Warsaw.
      See: http://www.opppw.com/organization/important_documents
The Polish Exploration and Production Industry Organization announced that its members will voluntarily disclose the contents of fracking fluids. Fracking fluid contents have to be approved by appropriate authorities before they are used.

Campaigns to provide information, conferences and meetings with local communes.

My idea: Possible use of the B-Corporation concept to convince the public that the benefits of shale gas extraction outweigh the risks.

C. Infrastructure

- Underdeveloped pipeline and storage system
  - Ownership of land diversified in Poland
  - Potential problems with building new pipelines

Figure 3: Pipeline system in Europe.

Source: Image used with permission from Greg Pytel.
• How much gas do we really have? Is it worth it?
  o 15.06.2012 – ExxonMobil announced that it will not continue its shale gas operations in Poland.
  o Unprofitable?
    ▪ The most important factor is how much gas can you produce from the shale formation. If the percentage is too low, production may not be economical. Exploitation and destruction of shale formations in order to get only a fraction of the resource may trigger protests and could be regulated in the future.
    ▪ It may not be economical to produce shale gas in Poland if the price of gas in the international market falls beyond a certain level. This may happen if Ukraine and Germany start producing shale gas. American companies may leave Poland, but state companies will continue operating in order to reduce dependency on foreign energy sources.
  o April 2012 - agreement between ExxonMobil and Rosnieft to jointly produce gas and oil from Kara Sea and The Black Sea.
  o Will Talisman Energy exit Poland?

11. What does the future hold?

• Positive feedback from EU reports. Shale gas lobby should increase its efforts.
  o The Committee on the Environment, Public Health and Food Safety of European Parliament accepted the draft report on the environmental impacts of shale gas and shale oil extraction activities.
  o The Committee on Industry, Research and Energy of the European Parliament accepted the draft report on “The industrial, energy and other aspects of shale gas and oil”.
  o The EU Parliament voted in favor of both reports.
  o BUT: Not all reports conducted for the EU Commission are favorable.
• EU commission is currently analyzing feedback from public consultations regarding unconventional fossil fuels (e.g. shale gas) in Europe.
  o The methodology of the survey has been subject to criticism by the Polish members of the EU Parliament.
  o EU Commission has postponed the announcement of draft regulations related to environmental protection in shale gas operations.
    ▪ The draft regulations are expected to be published by the end of 2013.
Amendments to the Geological and Mining Law in Poland. The government did not decide – as it was announced earlier – to specifically regulate the shale gas industry in a separate new piece of legislation.

- First draft of the amendments was announced in February 2013. Public consultation period ended in March 2013. The draft is in its early legislative stage, and it is certain that there will be a lot of revisions to its current provisions.

Proposals:

- Introduction of NOKE (Narodowy Operator Kopalin Energetycznych) – a state public company that will participate in the E&P operations on the basis of a cooperation agreement (details of which will be specified in subsidiary regulations) executed with the concession holders.
- Concessions will be granted as a result of a tender proceeding to the company that inter alia will offer the best conditions for participation of NOKE.
- The new law lays the foundations for the Generation Fund (Fundusz Pokoleń), which is meant to invest some of NOKE’s proceeds in education and research & development.
- Government’s goals:
  - Modernization of the concession granting system, which will enable swift development of the Exploration & Production (E&P) sector, which in turn will give a boost to the economy and will provide benefits to the society.
    - For example, it will be possible to issue a concession to multiple entities who will function as an “exploitation consortium” (konsorcjum eksploatacyjne) created on the basis of the cooperation agreement between these parties and NOKE.
  - The enhancement of safety of the E&P operations,
  - Increased participation of local communes in the profits from concession fees and introduction of user friendly environmental procedures.
- Taxation of production of hydrocarbons will be regulated in a separate Act.
  - The new tax will probably take effect from 2015.
- PGNiG is preparing a consortium for the commercial production of shale gas.
  - 19.09.2012 - PGNiG and Grupa Lotos executed an agreement for mutual cooperation re. exploration and extraction of shale gas.
• 4.07.2012 – PGNiG, KGHM, PGE, ENEA, TAURON executed a framework agreement for mutual exploration and extraction of gas on one of the concessions. Execution of the final agreement has been postponed until the beginning of May 2013.

**BOTTOM LINE**: Poland will probably remain a pioneer and a testing ground for Oil and Gas Companies in Europe before the real global shale gas fever begins. **UNLESS**: Ukraine gets there first.

12. **Hot topics in the future in Poland**:

• M&A transactions in the energy sector
• Expropriation (potential litigation here) – mainly related to construction of pipes
• Transfer of technology agreements
• Environmental litigation
• Issues related to water management
Canada

By Alex MacWilliam, Dentons, Calgary, Alberta, Canada

1. The Context

- Huge deposits of oil and natural gas in low porosity/low permeability formations not producible using conventional drilling technology
- Combination of two existing technologies – horizontal drilling and hydraulic fracturing – allows for economic production of these resources
- Vertical wells vs. horizontal wells – horizontal drilling allows for far greater exposure to the productive formation
- Multi-stage hydraulic fracturing creates multiple artificial pathways to the wellbore and thus vastly increases recovery rates of the resource
- Essentially creates a reservoir in rock that would not have been previously considered to be commercially productive

2. The Process

- Hydraulic fracturing operations generally involve four steps:
  - Injecting fluids into the formation to pressurize the rock
  - Initiating and increasing fractures or fissures in the reservoir rock to create pathways from the wellbore into the formation to allow hydrocarbons to flow
  - Pumping sand or other “proppant” into the newly created fissures to prop open these pathways
  - Recovering back the fracturing fluid to surface and allowing hydrocarbons to flow to the wellbore
- Large, multi-stage horizontal fracking operations require significantly more equipment, water, sand etc. than previously used.

3. Legislative and Regulatory Management of Key Issues

- Increase in horizontal multi-stage fracturing operations has led to enhanced scrutiny of issues including:
  - Fracture fluid constituents (including disclosure to regulators and public)
  - Well integrity
  - Water usage (particularly in water stressed areas)
• Waste disposal by injection
• Issues have been recently considered by numerous U.S. and Canadian jurisdictions
  • Canadian oil and gas operations primarily regulated by provincial governments (i.e. no federal/national legislated standards)
  • Most mineral rights owned by “the Crown” (i.e. the provincial or federal governments on behalf of the people)
  • Some private mineral rights but not nearly as much as in United States
  • Some provinces have history of petroleum activities including regulation of drilling operations, including fracking
    • Alberta (over 100 years of drilling and 60 years of fracking)
    • Saskatchewan
    • British Columbia (more recent)
  • Other provinces are new to the game and are wary
    • Quebec
    • Nova Scotia

A. Fracking Fluid Disclosure

1. Method of Disclosure
  • Pre-2010 - minimal public access to information
  • 2010-2012 - many jurisdictions start to mandate disclosure
  • Competing models: direct public disclosure versus regulatory disclosure
  • Clear U.S. trend to direct public disclosure
    • http://fracfocus.org
    • Numerous states and Federal Bureau of Land Management now require disclosure - others are considering it
    • DOE Secretary of Energy Advisory Board Shale Gas Subcommittee has expressed support for public disclosure
  • 2011 British Columbia Regulations - direct public disclosure
    • http://fracfocus.ca
  • Alberta adopts FracFocus in December 2012
  • Industry association - Canadian Association of Petroleum Producers (CAPP) supports direct public disclosure model
2. **Degree of Required Disclosure**
   - Disclosure details vary among jurisdictions
   - U.S. trend – increased detail and rigour in disclosure
     - Public interest rationale
   - Volumes, compositions, concentrations of additives usually disclosed
     - Any ingredients versus “hazardous” ingredients only?
     - Formulary disclosure of chemical compounds used in fluid
   - 2011 BC Regulation – detailed disclosure required
   - Alberta – very general disclosure only
     - May change with direct public disclosure requirements

3. **Trade Secrets**
   - Protections recognize legitimacy of competitive advantage concerns of industry
     - May also be reflected in required disclosure details
   - Process for claiming trade secret protection varies
   - Challenges may be limited (e.g. Texas)
   - Common exemptions for emergency, medical response
   - 2011 BC Regulations incorporate trade secret protections
     - Defers determination to federal hazardous chemical regulator
   - Alberta may follow same path

4. **Timing of Disclosure**
   - Generally post-operation
     - For “tracking” purposes rather than direct control through permitting
     - Allows fluid design flexibility in field
   - Wyoming and New York proposed regulations are exceptions
     - Pre-operation disclosure and approval requirements
   - New York proposed regulations specifically prohibit deviation
     - Field flexibility concern
B. Well Integrity

- Large volumes of fluid are used in fracturing operations, magnifying potential environmental risks
- Well integrity thus critical and is closely scrutinized
- Two basic concerns for all wells
  - Isolate the internal conduit of the well from the surface and sub-surface environment (particularly freshwater aquifers)
  - Isolate produced fluid to a production conduit within the well
- All jurisdictions seek to establish minimum standards for casing, cementing, ongoing testing/monitoring, and reporting
  - Specifics vary among jurisdictions
  - Standards and enforcement being reconsidered in fracturing context
- Different approaches to regulating well integrity exist along spectrum
  - General/purposive approach (reliance on regulator discretion) vs. detailed code
- Trend is toward more prescriptive detail in regulations and increased safety requirements
  - DOE “SEAB” Sub-Committee recommendation
- Some U.S. jurisdictions require heightened integrity assurances for fractured wells
  - Pennsylvania, New York proposed regulations
- British Columbia and Alberta have special rules for shallow fracturing

C. Water Usage

- Fracturing operations may require significant volumes of water
- Permits generally required for withdrawal of ground/surface water
  - Permitting process and degree of oversight/control varies widely by jurisdiction
  - In some, applicants required to provide operational details and specific justification for use request
- Trend toward more rigorous oversight, monitoring and disclosure
- Metering and reporting of water withdrawal becoming more common
- Recent suggestions to require public disclosure of fracturing water use
  - Canadian Association of Petroleum Producers
  - US Department of Energy “SEAB” Sub-Committee
D. Waste Disposal by Injection

- Operators seek to minimize need for fluid disposal by recycling – but some fluid will remain in need of disposal
- Means of disposal should not risk contamination of surface/ground water, subsurface reservoirs/other wells
- Deep well injection is often preferred method
- Regulation of waste disposal by injection varies by jurisdiction
  - US federal/state regulations: EPA Rules or State “Primacy”
  - Alberta
  - British Columbia
- Usual features of injection regulations/standards
  - Depth requirements
  - Confined formations
  - Well construction/integrity standards
  - Monitoring, reporting requirements
    - Disposal well and “area of review” wells
- Nature of regulatory requirements similar across jurisdictions
- U.S. EPA undertaking detailed review and reassessment (2014 reporting)
  - Increased standards expected
  - “Area of review”, other standards may change

4. Fracturing Litigation

A. Risks

- Producers face litigation risks from:
  - Landowners
  - Other producers
- Risks magnified where fracturing taking place:
  - On freehold (privately held) lands
  - Near urban areas
  - In jurisdictions with no history of oil and gas development (e.g. Quebec)
  - In jurisdictions without highly developed regulatory regimes
B. Litigation — Contexts and Triggers

- U.S. has significant volume of fracturing litigation in both landowner and producer contexts
  - Approx. 40 active private landowner lawsuits commenced
  - Also numerous lawsuits between producers
  - Significant body of law regarding rights and liabilities as between producers, particularly regarding subsurface trespass and “Rule of Capture”

- Canada has seen little fracturing litigation to date, all in Alberta
  - *Ernst v. EnCana et al* alleges contamination of a landowner’s water well from hydraulic fracturing operations
  - *Zimmerman v. Quicksilver* contains similar allegations regarding coal bed methane wells
  - *CrossAlta v. Bonavista Energy* alleges breach of a gas storage reservoir
  - All lawsuits at early stages

- Litigation commenced by private landowners
  - Typical causes of action: trespass, nuisance, strict liability (*Rylands v. Fletcher*), negligence, breach of contract
  - Potential emerging tort: strict liability for ultra-hazardous activities
  - Typical relief sought: compensatory/remediation damages, damages for diminution of property value/stigma claims, injury damages (environmental illness claims), future medical monitoring costs, injunctive relief, punitive damages

- Litigation commenced by neighbouring producers
  - Impacts alleged by other producers include
    - Impacts on adjacent wellbores
    - Reservoir damage
    - Subsurface trespass/drainage issues
  - Potential impacts on adjacent wellbores: increase in pressure, fracturing fluid in production; fluid-to-surface events including well “kick” and blow-out
  - Risk of reservoir damage remote, but theoretically possible
  - Canadian law regarding subsurface trespass/drainage issues is undeveloped
    - “Rule of Capture” recognized but not yet considered in relevant context
    - No definitive principles have emerged from U.S. cases
C. Issues of Proof and Damages

- Issues of proof may be challenging
  - Multiple producers operating in a relatively small area, subsurface “facts”, lack of baseline information, multiple exposures over many years
  - Fracturing fluid disclosure and baseline environmental assessments may simplify these issues
  - Effective record keeping and monitoring by producers may be critical to both sides
- Damages issues also problematic
  - Required level of reclamation
  - Future monitoring requirements
  - Predicting future impacts

5. Recent Canadian Developments (all in 2012)

- CAPP releases Hydraulic Fracturing Operating Practices guidelines
- British Columbia Oil and Gas Commission releases report linking fracturing operations in Horn River Basin to seismic events
- Authors also note that more than 8000 high-volume fracturing jobs have been done in NE BC with no associated anomalous seismicity
- New Quebec Natural Resources Minister says her government will never allow fracking – despite an ongoing inquiry into risks
- Ontario Government announces it requires scientific proof that fracking is safe before it will allow it

6. Public Perception

- Industry not out in front of the issue
- Opponents of fracking winning the public relations battle
  - "Gasland" documentary nominated for 2011 Academy Award
  - "Gasland 2" in development
- Hollywood also getting on the anti-fracking bandwagon
  - "Promised Land" released in December 2012
7. Lessons and Future Trends

- Hydraulic fracturing has been safely conducted in thousands of wells in Western Canada, suggesting there are no systemic or inherent risks associated with the process.

- Proliferation of horizontal multi-stage fracturing operations and heightened public scrutiny have resulted in regulatory re-evaluation and increased litigation risks for producers.

- Fracturing operations will likely be carefully scrutinized going forward, and subjected to increasingly rigorous regulation and government oversight.

- Guiding principles for legislative/regulatory reforms:
  - Elevation of best practices
  - Enforcement of best practices
  - Transparency in operations

- Producers will be well-served by establishing sound operational practices, adhering to or exceeding all regulatory requirements, and undertaking effective and detailed monitoring and record keeping.

- Producers and industry associations are starting to increase efforts to “set the record straight” about fracturing:
  - “FrackNation” released January 2013 - [http://fracknation.com](http://fracknation.com)

- International Energy Agency suggests operators follow “golden rule”:
  - Measure, disclose, engage
South Africa

By Lizel Oberholzer, Bowman Gilfillan, Cape Town, South Africa

Background

South Africa’s primary energy source has historically been coal. However, in light of rapidly declining coal reserves and international pressure to reduce its carbon footprint South Africa is looking to other resources such as gas to secure its long-term energy independence and security.

The United States Energy Information Administration has estimated that South Africa may have a technically recoverable shale gas resource of 485 trillion cubic feet (“tcf”) in the Karoo Basin, which is potentially the fifth largest resource of its kind in the world and the largest in Africa. Although major international oil companies have shown interest in South Africa’s shale gas resources, the South African Government has imposed a moratorium on shale gas exploration amid widespread public concern relating to the potential environmental and health impacts resulting from hydraulic fracturing (“fracking”). Consequently, South Africa is yet to have first-hand experience of fracking, but is in the fortunate position to benefit from the experiences of more established shale gas jurisdictions.

Overview of the South African framework for potential shale gas operations

The South African Mineral and Petroleum Resources Development Act ("MPRDA") was assented to by the President on the 3 October 2002 to make provision for the equitable and sustainable development of the nation’s mineral and petroleum resources, and to provide for matters connected therewith. Petroleum is defined to include natural oil and natural gas and is regulated separately from other minerals. The justification for separation or at least a measure of separation is that unlike most minerals, natural oil and natural gas are flowing and fugacious and accordingly do not honour land barriers.

The MPRDA cites as one of its objects, the recognition of the internationally accepted right of the State to exercise sovereignty over all mineral resources within the State’s jurisdiction. The MPRDA, however, stops short of vesting ownership of the minerals themselves in the State. It does not even reserve for the State the right to prospect and mine.

Permitting

The MPRDA provides that the mineral and petroleum resources are the common heritage of all the people of South Africa, that the State is the custodian of those resources for the benefit of all South Africans and that as custodian, the State acting through the Minister of Mineral Resources may grant, reconnaissance permits, technical co-operation permits (for desktop studies) and exploration and production rights.

Exploration and production rights are expressly stated to be limited real rights in respect of the petroleum and the land to which such rights relate, this being preferable to the provision merely of permits or licenses, which are founded in administrative law whereas the reference to rights adds a proprietary and contractual overlay to what would otherwise be a purely administrative instrument.

Land issues

As mentioned above, surface rights are held separately to sub-surface mineral and petroleum rights. In terms of the MPRDA there is no obligation to reach an agreement with landowners (there is only an obligation to notify and consult). However most rights holders do enter into agreements with landowners to regulate access to land forming part of the rights.
Should it prove necessary, in order to achieve the objects of the MPRDA, the Minister of Mineral Resources (“the Minister”) may expropriate any land or any right therein and pay compensation in respect thereof in accordance with the relevant provisions of the Constitution and the Expropriation Act 63 of 1975.

Further, rights holders are required to obtain land use planning approvals to have the land that is subject to their rights zoned appropriately or to obtain a departure from the zoning requirements prior to commencing any exploration or production operations.

**Environmental Obligations and Public Participation**

The MPRDA provides that applicants must submit environmental management plans (a basic environmental management assessment and plan for management of impacts at exploration stage) or programmes (a more detailed report for production operations) which must be approved prior to the grant of any right. Further the interpretation, administration and implementation of the environmental requirements of the MPRDA and carrying out all operations authorized in terms of the MPRDA is made expressly subject to the principles provided for in the national framework environmental legislation, the National Environmental Management 108 Act 1998 (“NEMA”).

In addition to the obligations provided for in the MPRDA and NEMA, further environmental obligations are imposed through a suite of national, provincial and local environmental legislation which regulates impacts on air, water, biodiversity, protected areas, coastal areas and impacts resulting from the disposal of waste. South Africa’s environmental legislation has adopted the internationally accepted polluter pays principle (i.e. that the cost of remediying pollution, environmental degradation, and consequent adverse health effects and of preventing, controlling or minimising further pollution, environmental damage or adverse health effects must be paid for by those responsible for harming the environment) and the primary mechanism for environmental administration and protection is through environmental impact assessment processes.

There are legal obligations providing for extensive public participation and comment on all environmental management plans, programmes and environmental impact assessments. The MPRDA provides specifically that “the participation of interested and affected parties in environmental governance must be promoted and all people must have the opportunity to develop the understanding, skills and capacity necessary for achieving equitable and effective participation”.
**Moratorium and new regulations**

On 1 February 2011, the Minister declared a moratorium, in terms of section 49 of the MPRDA, on the processing of new applications to explore for shale gas in the Karoo Basin. This moratorium did not apply to the three applications for exploration rights that were submitted prior to the date of publication of the notice. However, on 29 April 2011 the Minister announced that, in addition to the moratorium on new applications, the processing of existing applications would be suspended pending an investigation by a government task team of the implications of shale gas exploration and production using hydraulic fracturing in the Karoo Basin. This resulted in a *de facto* moratorium on existing applications although the moratorium has never been officially gazetted in terms of section 49 of the MPRDA.

On 18 September 2012 government task team released the findings of its investigation entitled “Report on [the] Investigation of Hydraulic Fracturing in the Karoo Basin of South Africa” (“the Fracking Report”). The Fracking Report recommends that the government:

- allows normal exploration (excluding the actual hydraulic fracturing) such as geological field mapping and data gathering activities (e.g. hydrological studies) to proceed under the existing regulatory framework;
- constitutes a monitoring committee to ensure that comprehensive and coordinates the augmentation of the regulatory framework and the supervision of operations;
- augments the current regulatory framework by the establishment of appropriate regulations, controls and coordination systems; and
- authorise hydraulic fracturing under strict supervision of the monitory committee, once all the proceedings and actions above have been completed so that in the event of any unacceptable outcomes the process may be halted.

In spite of the recommendations in the report no further processing of applications has taken place and the Minister decided, instead, to prepare regulations governing hydraulic fracturing, based on international best practice, prior to the processing of any new or existing applications. These regulations are expected to be released for public comment in July 2013. We expect that they will cover similar
aspects to other best practice regulations around the world such as the disclosure of the chemicals used in hydraulic fracturing, casing of wells, water use and wastewater disposal.

**Litigation**

Environmental and land owner groups have threatened legal action to review and set aside the grant of any rights to explore for shale gas in the Karoo Basin. It remains to be seen whether their concerns will be adequately addressed by the proposed regulations and the threat of litigation will be averted.

In time, South Africa is likely to experience litigation similar to other established shale gas jurisdictions such as regulatory enforcement litigation and delictual (tort) claims based on damage to environmental and health impacts. In addition, it is worth noting that although South Africa tends to be far less litigious than countries like America, there appears to be a trend of increasing class action suits, particularly as a result of the extended standing provisions, provided for in the Constitution of the Republic of South Africa of 1996, for the protection and enforcement of the rights in the Bill of Rights.

**Conclusion**

South Africa is an emerging shale gas jurisdiction with much to learn. This means that it is an exciting time to be involved in South Africa’s gas sector and creates the potential for novel legal developments as international best practice is adapted to South Africa’s physical and legal environments.
Biographies
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Ken Komoroski is a partner in the greater Pittsburgh area (Washington County) office of Fulbright & Jaworski L.L.P. He has active oil & gas and environmental practices. In his oil & gas practice, he represents producers of oil and gas and pipeline companies in a variety of areas including land use and zoning, permitting, environmental, water usage, wastewater treatment, litigation and local ordinances.

Ken has represented oil and gas exploration and production and midstream companies in Pennsylvania, Ohio, West Virginia, New York and Maryland for more than twenty years. He has played a key role over the past seven years with the development of the Marcellus and Utica Shales.

Ken's environmental practice involves permitting, negotiation of compliance issues with state and federal environmental agencies, representation of businesses before environmental boards, and the assessment and negotiation of environmental issues on behalf of buyers and sellers of industrial properties.

He has negotiated permitting and/or compliance matters with, among others, EPA headquarters and Regions I, II, III, IV, V, VI, VIII and IX; and state agencies in Pennsylvania; West Virginia; Ohio; New Jersey; Texas; Indiana; Illinois; Kentucky; New York, Connecticut, Colorado, California, Arkansas, South Carolina and Florida.

Ken was previously employed by a major chemical company, where he was the supervisor of waste programs. Subsequently, he was the operations foreman of the wastewater treatment unit at a large chemical production facility, and was later a compliance specialist at the plant, handling air, water and waste issues.

Publications


Education

- 1988 - J.D., University of Pittsburgh School of Law
- 1977 - B.S., Environmental Engineering, Water and Wastewater Treatment Specialization, Pennsylvania State University

Professional Qualifications / Bar Admissions

- District of Columbia
- Ohio
- Pennsylvania
- West Virginia

Professional Honors


Civic Involvement

Ken was elected Chairman of the Ohio River Valley Water Sanitation Commission ("ORSANCO") on July 1, 2012. Ken was appointed to the Commission in 2003 by former President George W. Bush. He has also served as Commission vice chairman, secretary-treasurer and chair of the Pollution Control Standards Committee.

Ken recruited and oversaw the 2005 Bassmaster Classic and the 2009 Forrest Wood Cup professional bass tournaments on the Three Rivers.
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Wojciech Baginski is an international lawyer based in Poland in the offices of Siemiątkowski & Davies. His work focuses on cross-border real estate transactions, M&A, contracts, and energy law. His professional experiences include practicing in a boutique law firm in Manhattan, working for an international law firm in Poland, and working in a solo practitioner’s office, as well as having internships in various courts and providing services through a pro-bono legal clinic.

Wojciech is a co-founder of the Business&Law portal - [http://businesslawblog.eu](http://businesslawblog.eu) - where he publishes news, notes, and articles concerning legal and economic aspects of shale gas operations in Poland.

He is a member of the faculty at the Kozminski University in Warsaw, where he provides lectures on law to postgraduate students.

He frequently publishes articles in renowned newspapers and legal journals in Poland and in the United States.

**Recent Publications**

- *Guide to Cross Border Real Estate Transactions in Poland and Guide to Commercial Leasing in Poland*. Publications prepared for the American Bar Association’s Cross Border Real Estate Transactions Committee (which he is a member of).
- *Learning from mistakes of others* – published in Italy (*AgiEnergia*) and in Poland (*Gazeta Finansowa*) – 24.03.2012.

**Education**

- LL.M. degree, University of Virginia
- Master's degree, University of Warsaw Faculty of Law and Administration

**Professional Qualifications / Bar Admissions**

- Poland
- New York, United States
- England and Wales (currently not practicing)

**Professional Activities**

Wojciech is also an active member of numerous international professional associations and groups (e.g. ABA, NYSBA, Polish Advocates Bar and Young International Arbitration Group within the LCIA court).
Lizel Oberholzer is a director and holds a B.Proc and LLB from the University of Potchefstoom and a LLM (the law of contract) from the University of Pretoria and furthered her oil and gas studies in the United States. She is a member of the Association of International Petroleum Negotiators. She completed her articles and was admitted as an attorney, acted as a public prosecutor, whereafter she was employed by a well known oil and gas company as a legal advisor. In 2006 she was employed as a legal advisor by the South African Petroleum Agency and joined Bowman Gilfillan in 2007.

Lizel has 10 years of experience in the energy sector which includes the regulatory field of petroleum and mineral rights, mine health and safety matters and the negotiating and drafting of various oil and gas contracts. She has extensive knowledge of the mineral and petroleum legislation in South Africa such as the Mineral Petroleum Resources Development Act, the Mineral and Petroleum and Resources Royalty Act, the Petroleum Products Act, the Petroleum Pipelines Act, the Gas Act and regularly advises various local and international clients on these acts.

She advised on the first exploration and production rights granted offshore South Africa as well as the first shale gas applications in South Africa. Her experience extends beyond the borders of South Africa into i.e. Mozambique, Botswana and Namibia. Lizel’s experience in the energy sector together with the good relationships she has established with key figures is invaluable when advising and representing clients.

She forms part of the core team awarded the Oil and Gas Deal of the Year Award for 2010 by African Investor and is a co-author of the Juta Publication - Mineral and Petroleum Law of South Africa. She contributes to legal knowledge in the public domain by authoring articles on the need for shale gas legislation in South Africa, the changing royalty regime and other regulatory related articles.

**Practice Highlights**

- Regulatory compliance in the Democratic Republic of the Congo, Namibia and Botswana;
- Application for exploration rights and regulatory compliance in Namibia;
- Drafting and negotiating Participating and Joint Operating Agreements based on the AIPN Model Contracts and the related cession and assignment of rights and relevant Ministerial approvals, in South Africa and Tanzania and Kenya;
- Drilling and related contracts in Mozambique;
- Applications for the Conversion of OP26 subleases to exploration and production rights and the negotiations of the related contracts with government;
The application for the first exploration and production rights offshore and onshore and the negotiation of the related contracts with government;

Compliance with the Mining Charter and the Liquid fuels Charter, drafting and negotiation of related contracts;

Oil & Gas due diligence investigations;

Negotiating and drafting of Fiscal Stability Agreements;

The first applications for technical co-operation permits and exploration rights relating to shale gas in South Africa;

Gas pipeline negotiations and applications and related servitude agreements;

Participating and Joint Operating Agreements based on the Association of International Petroleum Negotiators, “AIPN” Model Contracts and the related cession and assignment of rights and relevant Ministerial approvals;

Negotiations and drafting of contracts relating to access of land for purposes of exploration and production;

Applications for the consolidation of exploration rights;

Import, storage and transportation of petroleum products;

Listing of an Australian Company on the AXE in order to raise money for exploration in South Africa; and

Due diligence investigation regarding regulatory compliance of a petroleum refinery.

Education

B.Proc and LLB, University of Potchefstroom

LLM (Law of contract), University of Pretoria

Professional Activities

Association of International Petroleum Negotiators (AIPN)

Board Member

Onshore Petroleum Association of South Africa (ONPASA)

Founding member - Secretary

Cape Law Society

Awards & Rankings

Oil & Gas Deal of the Year Award for 2010
Alex MacWilliam is Chair of the firm’s National Environmental Law Group and focuses on advising clients on all legal issues relating to the environment. These include regulatory approvals, compliance, contaminated land, climate change, dealing with regulatory agencies, responses to government policies and the development of internal environmental practices and systems. In 2012, Alex was re-appointed by the Government of Alberta to the Environmental Appeals Board.

Alex is widely regarded as one of the leading environmental law practitioners in Alberta.

He is recommended by Chambers Global as a leading lawyer in the area of Environmental Law. He is profiled in The LEXPERT American Lawyer Media Guide to the Leading 500 Lawyers in Canada, Who’s Who Legal, and in Best Lawyers and is rated by Practical Law Company as a recommended Environmental Lawyer. He has appeared before the Alberta Environmental Appeals Board, Alberta Energy Resources Conservation Board, Natural Resources Conservation Board, Information and Privacy Commissioner, Federal Court of Canada and all levels of Court in Alberta.

Alex advises the firm’s clients in respect of all matters of an environmental nature, including the management and minimization of liability arising from environmental risks, environmental management systems and other risk management tools. When environmental incidents do occur, Alex is experienced in the legal aspects of emergency response and crisis management and has extensive experience in resolving disputes arising from such incidents through negotiation, mediation, arbitration and litigation.

Alex is frequently involved in major national and cross-border transactions in respect of the environmental due diligence arising in asset and share transactions, public offerings and financings. He works closely with the M&A, banking and securities lawyers at Dentons to ensure that any environmental issues are identified and properly assessed.

Professional Honors

- Recognized by Who’s Who Legal: Canada 2012 as a leading lawyer in the area of Environment
- Recommended by Best Lawyers in Canada 2013 as one of Canada’s leading lawyers in the areas of Environmental and Transportation Law
- Most frequently recommended by The Canadian Legal LEXPERT Directory 2010, 2011 and 2012 as one of Canada’s best lawyers in the areas of Environmental Law and Transportation Law
• Recognized by the 2012 International Who's Who of Business Lawyers ("Who's Who Legal") in the area of Environmental Law

• Featured in The 2010 LEXPERT/American Lawyer Media Guide to the Top 500 Lawyers in Canada

• Nominated by peers for inclusion in Who’s Who Legal: Canada 2010

• Recommended by PLC Which Lawyer? 2009 as one of Canada’s pre-eminent Environmental Lawyers

• Included in the Practical Law Company's PLC Which Lawyer? Guide to the Leading Environmental Lawyers in 37 jurisdictions around the world

• Selected by Best Lawyers, a well-respected legal rankings publication, as a leading Environmental Lawyer in Canada

**Education**

• University of British Columbia, LL.B

• University of Calgary, B.A. (Economics)

**Professional Activities**

• Member of Advisory Board of The Institute for Energy Law, Plano, Texas

• Member of Environment, Energy & Resources Law Section and International Section of American Bar Association

• Member of Energy & Environment Committee and Climate Change Subcommittee of the Canadian Chamber of Commerce

• Past President of Calgary Bar Association

• Past President of Canadian Transport Lawyers’ Association

• Member of Calgary Petroleum Club

• Member of the Rocky Mountain Mineral Law Foundation
Dr. Irina Paliashvili began her private practice by founding one of the first private law firms in Kiev and expanded by co-founding a private law firm in Moscow. She then founded the Washington-based RULG-Ukrainian Legal Group, P.A., where she serves as the President and Senior Counsel.

Before going into private practice, she served as General Counsel (International) to two major companies in Ukraine. During that time, Irina completed a six-month assignment with a prominent Chicago law firm as a part of the ABA Internship Program followed by a four-month assignment working with a leading German law firm in Frankfurt. She has also served as a Professor of Law at the Kiev State University Law School.

Irina frequently speaks at international conferences and publishes on the legal and business climates in Ukraine and other countries of the CIS economic region. She is licensed to practice Ukrainian law as a Special Legal Consultant in the District of Columbia and is a member of the Kiev Bar and several distinguished professional organizations. She serves as Chair of the Legal Affairs Group of the U.S.-Ukraine Business Council, Vice-Chair of the Russia/Eurasia Committee of the ABA's International Law Section and member of the Advisory Board of Best Lawyers. She also serves on the Board of Trustees of the Kiev School of Economics (KSE).

Irina is the founder and Co-Chair of the CIS Local Counsel Forum, the informal network of managing and senior partners of leading business law firms from the CIS economic region. She currently holds the rotating chairmanship of the CIS Leading Counsel Network (LCN). Irina was included in the Hundred Best Lawyers of Ukraine (Clients' Choice) based on the survey conducted by Yurydychna Gazeta, a leading legal publication in Ukraine. She was also individually designated as a recommended corporate and M&A practitioner in Ukraine by PLC Which Lawyer? and included in the Best Lawyers list of solicitors for the Ukraine in the specialties of Antitrust, Arbitration and Mediation, Corporate, Energy and Natural Resources Law and Mergers and Acquisitions.

In addition to general corporate and transactional expertise, she has special experience in the areas of oil and gas, intellectual property protection, antimonopoly law, commercial dispute settlement and mediation. She is a mediator trained and certified by the CPR Institute for Dispute Resolution in New York and a member of its International Panel of Distinguished Neutrals. She divides her working time between Washington and Kiev.

Education

- Kiev State University School of International Law
- Ph.D. in Private International Law, Kiev State University School of International Law
• LL.M. in International and Comparative Law, George Washington University

Languages

• English
• Ukrainian
• Russian
• Georgian
• Spanish
Sacha A. Kathuria
Associate
Babst, Calland, Clements and Zomnir, P.C,
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Sacha Kathuria is an associate in the Business Services and Energy & Natural Resources groups of Babst Calland. Her practice focuses on counseling various energy, oil, gas and mineral-related clients on transaction matters, including title examination, curative matters, contractual issues, due diligence, and oil and gas opinions.

Prior to joining Babst Calland, Ms. Kathuria worked for a large oil and gas company where she reviewed and analyzed title issues. She also has experience in matters involving commercial contracts and international trade.

While in law school she interned with the District Attorney of Allegheny County, The Honorable Judge Christopher A. Feliciani of the Court of Common Pleas in Westmoreland County, The Honorable Judge David S. Cercone of the U.S. District Court of the Western District of Pennsylvania, the Office of the Chapter 13 Bankruptcy Trustee of the Western District of Pennsylvania and the U.S. Department of State.

During graduate school, Ms. Kathuria was involved with the Ridgway Center for International Security Studies and interned at the Nixon Center (now the Center for the National Interest), the Hudson Institute and the New America Foundation.

Ms. Kathuria is also an adjunct faculty member of the McKenna School of Business, Economics, and Government at Saint Vincent College.

Professional Qualifications / Bar Admissions

- Pennsylvania
- District of Columbia

Professional Memberships

- American Bar Association
- American Society of International Law

Education

- J.D., Duquesne University School of Law
Associate Copy Editor, *Duquesne Criminal Law Journal*

Study Abroad, Queens University Belfast in Northern Ireland

Study Abroad, University College Dublin in Ireland

- B.A., International Affairs & History (with honors), The George Washington University’s Elliott School of International Affairs (ESIA)
  - Minor in German Language and Literature
- Master of Public and International Affairs (MPIA), University of Pittsburgh’s Graduate School of Public and International Affairs (GSPIA)
- Graduate Certificate of Advanced West European Studies, European Union Center of Excellence (EUCE)

**Languages**

- Urdu
- German
- French

**Publications**

Renee Dopplick works at ACM as a senior public policy analyst on technology-related issues. She is Co-Chair of the International Energy and Natural Resources Committee of the ABA Section of International Law.

She previously worked at the World Wildlife Fund on issues related to energy, endangered marine mammals, and international law. In 2010, she assisted WWF, the Deepwater Horizon Study Group, and other nonprofits with their submissions to the Presidential Oil Spill Commission. The Deepwater Horizon Study Group was a global expert group organized by the Center for Catastrophic Risk Management at the University of California, Berkeley.

She also has worked as a consultant with the U.S. Institute of Peace (USIP), the National Institutes of Health (NIH), and the National Oceanic and Atmospheric Administration (NOAA).

During the Abuja Peace Talks on the North/South conflict in the Sudan, she worked at the Embassy of the Sudan in Washington, D.C.

Education

- Georgetown University Law Center, J.D., cum laude
- Michigan State University, Master of Science
- University of California, Los Angeles, Bachelor of Science

Professional Qualifications / Bar Admissions

- District of Columbia
- Maryland

Publications

Continuing Legal Education Materials

Fracking — An Alternative to Alternatives?
April 24, 2013

American Bar Association
Section of International Law
Spring Meeting 2013