FRACK EU: UNCONVENTIONAL INTRIGUE IN POLAND



A Preliminary Investigation of the Fracking Assault on Poland



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January 23, 2012

(For the complete report chapters index, refer to the B.C. Tap Water Alliance website, under *Stop Fracking British Columbia*)

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4. GERMANY (DEUTSCHLAND) GETS GE-FRACKED FIRST (ERST)

A website entry in **German Energy Blog** ¹ dated October 5, 2009, summarized the contents of a German newspaper article from the Hannoversche Allgemeine: "**Exxon Mobil** announced test drilling in ten wells in Lower-Saxony in order to explore the shale gas deposits in the region. The announcement was made on the occasion of the visit of the Prime Minister of Lower-Saxony, Dr. Christian Wulff, in Houston, Texas."

What's that? Lower-Saxony's Prime Minister (March 2003 to June 2010), who assumed office as President of Germany on June 30, 2010, ² went to Houston, America's petroleum capital? Where exactly did he go? Who made the arrangements?



According to global giant ExxonMobil's European website, in 2007 ExxonMobil "was awarded

four exploration licenses by the Lower Saxony and North Rhine-Westphalia states, Germany, covering 1.3 million acres of the Lower Saxony Basin. ExxonMobil operates these licenses with a 67-percent interest." According to information from the AAPG (above), Exxon's other mystery shale gas partner was Royal **Dutch Shell**. In a October 2, 2009 article in DDP, "90 percent of Germany's conventional natural gas deposits" are in Lower Saxony, which are "expected to be used up in the next 20 to 30 years.... If successful, officials in Lower Saxony hope to make the state's capital Hannover a leading European centre for developing such types of gas reserves."

Map of Germany's states. The state of Lower Saxony is called Niedersachsen in the German language (medium brown), and the state of Westphalia is called Westfalen (light brown).

MAINZ = Landeshauptstadt Fürth = Sonstige Städte • Städte über 500.000 Einwohr NORDSEE Holstein Mecklenburg Hamburg Bremen NIEDER Niedersachsen Sachsen POTSDAM POLEN Brandenburg LANDE Nordrhein-Anhalt Westfalen BELGIEN Thüringen TSCHECHIEN Bayern STUTTGART FRANKREICH Württemberg ÖSTERREICH SCHWEIZ

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¹ The main authors of the website are Dr. Mattshias Lang, Rechtsanwalt, and professor R. U. Mutschler, Rechtsanwalt, honorary professor of FU Berlin.

² See Wikipedia, Christian Wulff.

In Ken Chew's ³ often cited March 1, 2010 article published by Hart Energy, *The shale frenzy comes to Europe*, Exxon "spud" Europe's first shale gas well in Germany some time in 2008, and Sweden got its first frack job in November 2009 by Royal Dutch Shell. Chew, who gave summary insights into all the initiating shale gas exploration activities throughout Europe, included three charts or tables that aroused a lot of interest by Hart Energy readership.



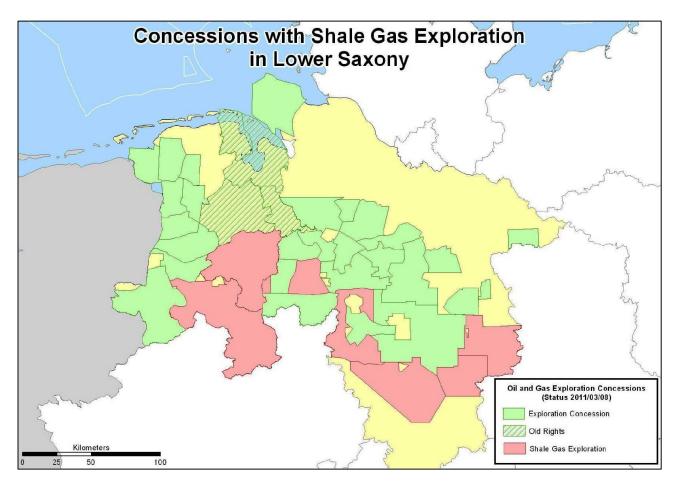
Segment from a larger map showing the land relief geography of Germany, in which the states of Lower Saxony (Niedersachsen) and northern Westphalia (Westfalen) are featured.

A petroleum industry promotional April 11, 2011 article in the *European Energy Review* noted a significant contrast between land ownership issues in America and Germany, and public opposition:

In the United States, the shale gas boom was helped by the fact that landowners also own the resources beneath the surface of their land. In Germany, those resources belong to the state. The story of American pensioners becoming rich thanks to shale gas exploration on their land won't be repeated here.

In highly environmentally conscious Germany, however, the hunt for shale gas has just begun, and that's when it's most vulnerable. Only ExxonMobil has drilled so far, and this company has now had to slow down activities due to opposition from the local public. The other companies haven't said when they'll start drilling on their concessions. At the moment, the industry is in a wait-and-see position. Regrettably ExxonMobil Europe rejected several requests from European Energy Review for an interview over its German shale gas activities.

³ According to a 2008 conference biography, Chew is the VP-Industry Performance for the Energy Division of IHS Inc., "and carries out analysis and consultancy based on the Energy Division's international E&P database, with particular emphasis on global hydrocarbon supply and resources."



Perhaps the company is too busy dealing with citizen movements such as 'Schönes Lünne' ('Beautiful Lünne'), an advocacy group that aims to prevent shale gas drilling near this small town in Lower Saxony. In neighbouring North Rhine-Westphalia, the state government, under pressure from local politicians, late last month imposed a moratorium on new shale gas drilling. ExxonMobil has tried to engage local advocacy groups via open roundtable discussions that started last week in Osnabrück. It's not expected to silence the opposition anytime soon.



'The political and public discussion is putting the brake on activities', Söntgerath, of the LBEG, tells EER. 'Companies are engaging the public right now, and they're carefully observing the negative publicity.'

Unlike the public, Söntgerath isn't worried about the environmental effects of shale gas exploration. 'Companies have been fracking here since 1977,' he says. In 2008, ExxonMobil conducted a shale gas frack at Damme in Lower Saxony, 'the only one we've had in Germany.' The frack was conducted at a depth of 1,100 meters and cracked the

rock horizontally for about 160 meters. 'Everything went as planned.'

At Damme, the groundwater table sits at a depth of 30-40 meters, Söntgerath says. 'So between the frack and the groundwater lie several hundred meters of rock and clay,' he says. 'It's virtually impossible that frack fluids make their way into the groundwater via the geological formation.'

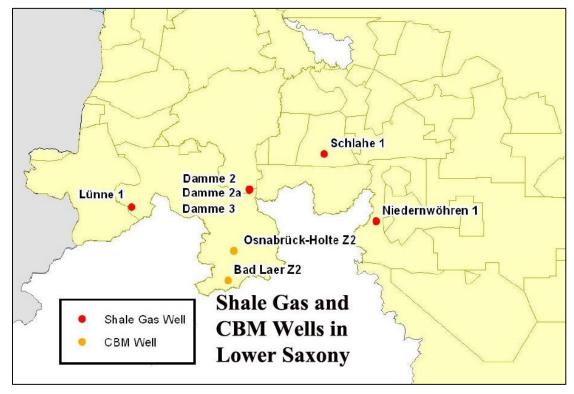
So what if Germany, or even the whole of Europe, turns out to be too hostile to shale gas exploration? The oil companies will simply move somewhere else, says Blakey from Eurogas. 'They will look to Indonesia, or China or Australia.'

Shale Gas Exploration

Name of the well	Licence Holder	Well drilled in	Special Operation Schedules for	Situation of the Activities	
Damme 2	EMPG	2008	Drilling	drilled	
Damme 3	EMPG	2008	Drilling Fracing	drilled, fraced in October 2008	
Niedernwöhren 1	EMPG	2009	Drilling	drilled	
Nöpke 2	EMPG	ā	Drilling	Location preparation finished but no drilling activities	
Schlahe 1	EMPG	2009	Drilling	drilled	
Lünne 1 und 1a	EMPG		Drilling Drilling of 2nd hole	Drilling of 2nd, horizontal hole	
Osnabrück-Holte Z2	EMPG	2010/2011	Drilling	drilled	
Bad Laer Z2	EMPG	2010	Drilling	drilled	



Data and map locations of shale gas wells in Lower Saxony from Klaus Sontgerath's March 14, 2011 presentation to the Atlantic Council (there were two meetings in Brussels and Washington, D.C., on the theme: *European Unconventional Gas Developments*). Sontgerath is with Lower Saxony's State Authority for Mining, Energy and Geology. The Concessions map on the previous page is also from Klaus' presentation document.



The concerns about future public protests in Lower Saxony regarding fracking operations is something that ExxonMobil was undoubtedly aware of heading into its shale gas concessions in Germany, seeing that the state "was one of the origins of the German environmentalist movement in reaction to the state government's support for underground nuclear waste disposal" and "led to the formation of the German Green Party in 1980." ⁴ Since Lower Saxony's establishment as a state in December 1946, it wasn't until June 1, 1993 that a "new Lower Saxon constitution entered force" enabling "referenda and plebiscites and environmental protection as a fundamental state principle." 68 percent of Lower Saxony's population abide by various Christian Church faiths, with the Evangelical Church in Germany representing 51 percent of the population. ⁵

The Wall Street Journal reported on November 11, 2009, WSJ: Exxon Lured by Gas Potential, that Exxon's Lower Saxony interests also included large reserves of coal bed methane:

Exxon Mobil's new coalbed-methane acreage in Lower Saxony and North Rhine-Westphalia in Germany marks the first attempt of a U.S. major oil company to unlock such resources in Europe, where demand for gas is expected to grow vigorously just as countries intensify their efforts to reduce their dependence on Russia as a supplier.

Exxon Mobil's coalbed-methane interest in Germany complements its existing shale positions in the Lower Saxony Basin. The Irving, Texas, company also has tight-gas interest in Hungary and shale-gas acreage in Poland.



The arrow in this Google Earth photo points to ExxonMobil's corporate headquarters in Irving, Texas.

⁴ Politics of Lower Saxony, Wikipedia, Lower Saxony.

⁵ Ibid.

Wikimapia has the following description when the cursor is doubleclicked on Exxon's headquarters: ExxonMobil's corporate headquarters are located in the Las Colinas development of Irving, Texas. Exxon's corporate headquarters were moved to Irving in the early 1990s from its famous location in Rockefeller Plaza in Manhattan. The site is now home to the offices of the corporation's senior executives, senior functional executives (Public Affairs, Human Resources, Treasurers, Controllers), and a small planning staff. Most employees of the corporation have never seen its headquarters, much less set foot on the site. During the tenure of Lee R. Raymond as Chairman of the Board,



the executive floor became known in the financial press as The God Pod because of Raymond's exclusive nature.

4-(1). Into the Rabbit Hole Hole: ExxonMobil Lures Herr Wulff to Houston's Energy Forum Think Tank Baker Institute

Irving, Texas, the location of ExxonMobil corporate headquarters, is just west of Dallas, and about

400 kilometres north of the Gulf Coast city of Houston, the U.S. petroleum capital, and where Germany Prime Minister of Lower Saxony Christian Wulff spoke at Rice University's James Baker III Institute for Public Policy on October 1, 2009.



The Baker Institute, "with generous sponsorship by ExxonMobil," fronted the short conference at the James A. Baker III Hall, called *Technology to Help Meet Germany's Cleaner Energy Future*. Heralded by the Institute some two months later, ExxonMobil would make an eye-popping \$41 billion deal in acquiring Forth Worth-based XTO, a major U.S. natural gas producer. A March 7, 2010 article in the Financial Times, *Europe the New Frontier in Shale Gas Rush*, states that "ExxonMobil is counting on the XTO deal to allow it to lead the charge into European shale."

Event Description

Germany is increasingly recognizing the importance of domestic unconventional resources and renewable energy to enhance its energy security and reliability of supply. Lower Saxony takes a distinctive leadership role in the development of German domestic energy. One-hundred fifty years after the discovery of oil in Lower Saxony, the region provides more than 90 percent of Germany's domestic natural gas production and is a leader in the use of wind energy. This event will explore the potential for unconventional resources and renewable energy as part of Germany's future while focusing on Lower Saxony's important role as a center for research and development, as well as energy production and innovation.

The James Baker Institute is sponsored by some heavy weights from the petroleum industry. In a May 2009 Baker Institute report, *Russia, Central Asia, and the Caspian: How Important is the Energy and Security Trade-Off?*, it lists the Energy Forum members of the Baker Institute for that year. They include:

- Anadarko Petroleum Corporation;
- Apache Corporation;
- Baker Hughes Incorporated;
- BP;
- Chevron Corporation;
- ConocoPhillips;
- Duke Energy International:
- ExxonMobil Corporation;
- Kinder Morgan;
- Kuwait Petroleum Corporation;
- Marathon Oil Corporation;
- Schlumberger;
- Shell Oil Company;
- Shell Exploration & Production Co.;
- Total E&P New Ventures Inc.;
- Total E&P USA Inc.



headquarters.

Not mentioned on the Institute's website in the current biography of its founding and still active 70-year old director, ("ambassador") Edward P. Djerejian, is his former directorship of Baker Hughes Inc. from 2001 to April 28, 2011, when Prime Minister Wulff arrived in Houston.

Baker Hughes provides the world's oil and gas industry with products and services for drilling, formation evaluation, completion, production and reservoir consulting. Baker Hughes operates in over 90 countries worldwide mainly based in countries with a mature petroleum industry as is the case with most oil & gas service companies. Baker Hughes operates worldwide with major offices in Liverpool (United Kingdom), Singapore, Dubai, Research & Maintenance Facility in Celle (Germany), Lafayette (Louisiana), Houston (Texas), Pescara (Italy), and Kuala Lampur (Malaysia). (Source: Wikipedia)



Baker Hughes's facility in Celle, Germany, a town with a population of about 71,000, is located in the state of Lower Saxony - Wulff's home state - and even has a street named after its location, the Baker Hughes Street (Strasse):

The town is not really known for heavy industry, but many businesses which have started up in Celle and some, such as Rosa Graf Cosmetics, have reached the world market. Celle does have some links to the oil industry, though, particularly firms engineering parts for drilling; notably Baker Hughes (INTEQ and Hughes Christensen divisions; oil and gas industry service companies specialising in MWD, Wireline, Drill-bits, Drilling Applications Engineering, etc.), Cameron (global provider of pressure control, processing, flow control and compression systems as well as project management and aftermarket services for the oil and gas and process industries), and ITAG (drilling contractors and manufacturing plant). Halliburton, founded in 1919, is one of the world's largest providers of products and services to the energy industry and has an office in Celle. There is also a school for advance drilling techniques. ⁶

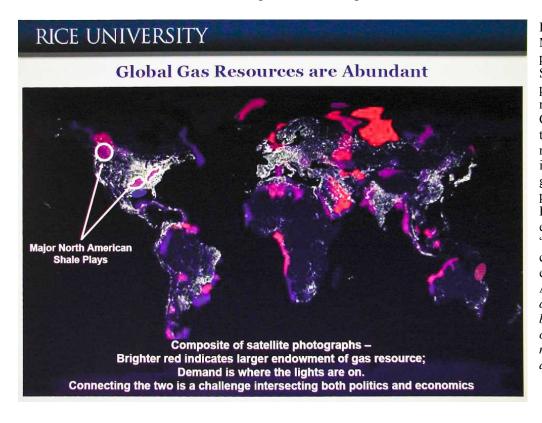
Some of the same sponsor members of the James Baker Institute - Shell, Chevron, ConocoPhillips, ExxonMobil, and Marathon - had the first deep shale gas exploration permits and fracks in Europe. Stated in the opening of the May 2009 report:

The mission of the (Institute's) Energy Forum is to promote the development of informed and realistic public policy choices in the energy area by educating policymakers and the public about important trends - both regional and global - that shape the nature of global energy markets and influence the quantity and security of vital supplies needed to fuel world economic growth and prosperity.

⁶ Source: Wikipedia, Celle, Germany.

The one-day energy conference forum in Baker Hall's Kelly International Conference room with Wulff didn't have a lot of substance. Perhaps it was organized mainly for show and tell: time to have some private chats, and to promote shale gas development in Germany, and, of course, to promote development in Europe through the local and American energy industry media.

Along with Wulff, ExxonMobil's Exploration Company president **Tim Cejka** and Baker Hughes vice president of Marketing **Friedhelm Makohl** made brief presentations. So did the Institute's fellow **Kenneth B. Medlock III** (the third) who gave the same power point he delivered the day before at the Northeast British Columbia Natural Gas Summit (where the petroleum industry fracking front was just gearing up) on the theme of global energy security and refocused interdevelopment strategies. The "cleaner energy future" theme for Germany included shale gas and coal bed methane developments, a shale gas theme which other academics at Cornell University later argued against in late 2010 and early 2011. The petroleum industry's big initial pitch for Europe, and for that matter, the world, was to promote shale gas as a "cleaner" alternative to coal.



Left: one of Medlock's powerpoint slides from his September 30th presentation in northeast British Columbia. He makes the pitch to look at natural gas from an integrated "global" geopolitical perspective. For British Columbia, he emphasized that its "supply potential" could be aimed as an export LNG market to Asia, as "BC is a basis disadvantaged market, but selling to Asia could provide much more value to developers."

Energy forum fellow Medlock published a small conference follow-up media report on October 6, 2009, *Shale Gas: A Game-Changer with Global Implications*, which included the following:

On Oct. 1, 2009, Christian Wulff, prime minister of Lower Saxony, Germany, visited the Baker Institute and discussed his interest in developing shale gas in Lower Saxony. ExxonMobil Exploration Company executive Tim Cejka told the audience at the event that ExxonMobil hoped to identify shale gas resources in Germany and other large end-use markets. Moreover, he believed that the shale gas potential outside the United States was substantial.

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⁷ The other important energy fellow is Amy Jaffe. Medlock's biography is at the Institute's link - http://www.bakerinstitute.org/personnel/fellows-scholars/kmedlock

4-(2). OCTOBER 19, 2011: BAKER BOYS' POLAND INVITATIONAL

As narrated in following chapters of this report, the October 1, 2009 Baker Institute event was merely an initiating sequence in a larger strategy for US-based and EU-based petroleum corporations through new US-EU energy negotiations to frack the EU. The wheels of this new engine were being greased, in part, through the added influence of one of the petroleum industry's political golden boys, **David Goldwyn**, newly appointed in August 2009 by U.S. Secretary of State Hillary Clinton as her special international energy envoy and advisor. As that story unfolds in chapters 7, 8, and 11, readers may wish to take a second look at some of the speakers the Baker Institute invited in hosting another event that occurred on October 19, 2011. That one-day energy forum was called, *Poland's Natural Gas Revolution: Energy, Security and Geopolitics*.

Event Description.

Poland's unconventional reserves offer the country a unique opportunity for business, trade and energy security. The United States, too, has a strong interest regarding the future of Poland's energy industry. Energy trade and investment between the United States and Poland can enhance the already strong economic, political and security relationships that exist between the two nations. As strong allies, the two countries can work together in diversifying and securing Poland's energy future. The conference "Poland's Natural Gas Revolution: Energy Markets, Security and Geopolitics" brings together high-level Polish and U.S. government officials, industry experts, policymakers and academic specialists to address the opportunities for natural gas production, diversification of supply sources, expansion of underground storage capacity and development of necessary infrastructure in Poland. Experts will address the technological, political and regulatory developments that need to be considered as Poland's energy sector faces a new future.

The Baker Institute would like to thank **Marathon Oil Corporation** and **ConocoPhillips** for their generous support of this event.

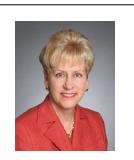
On the scheduled speakers list for the Poland conference were:

- Poland's U.S. ambassador **Robert Kupiecki**;
- Poland's Undersecretary of State **Beata Stelmach**;
- U.S. State Department's Special Envoy for Eurasian Energy, **Richard Morningstar**;
- senior fellow of the International Security Program with the **Atlantic Council**, **Ian Brzezinski**;
- U.S. Department of Energy's deputy assistant secretary for oil and natural gas, **Christopher Smith**:
- U.S. Department of Energy deputy assistant secretary for Petroleum Reserves, **David Johnson**:
- president of Strategy and Corporate Development with **Halliburton** Company, Timothy J. Probert:
- **PGNiG**'s deputy chairman of Shale Gas Task Team, Pawel Jgosiak;
- **PKN ORLEN**'s executive director for Strategy & Project Portfolio Management, Andrzej J. Kozlowski
- Marathon Oil Corporation's senior vice president for Exploration, Annell R. Bay;
- American Council on Renewable Energy's principal of Wood3 Resources, Pat Wood III;
- board member of **PERN**, Jerzy Melaniuk;
- ceo and president of **Grupa LOTOS**, Pawel Olechnowicz.

In anticipation of this international conference event on Poland, and its significance on influencing politicians and investors in the EU, the Baker Institute released an October 2011 report (number 49), *Shale Gas and U.S. National Security*, a report "sponsored by the U.S. Department of Energy." The document has a revised and more refined clinical approach by the petroleum industry to market its new shale gas product globally, with carefully crafted language, particularly as it relates to environmental concerns. Here are a few quotes from that report:

Since 2000, startling growth in the production of natural gas from shale formations in North America has dramatically altered the global natural gas market landscape. Indeed, the emergence of shale gas is perhaps the most intriguing development in global energy markets in recent memory.

In both the United States and abroad, the promise of growing shale gas production has raised the prospects for greater use of natural gas, an outcome with significant implications for global environmental objectives since lower-cost natural gas can displace fuels associated with higher air pollution and greater carbon intensity, such as coal and oil.



Linnet Deily is a director of Chevron Corporation and Honeywell International, and is on the Baker Institute's Board of Advisors. Chevron wants to frack Poland.

Clarence P. Cazalot
Jr. is president and
ceo of **Marathon Oil Corporation**, and on
the Baker Institute's
Board of Advisors.

Marathon wants to

It should be pointed out that the sustained, rapid development of shale gas is not a certainty. A stable regulatory environment that fosters responsible development of domestic resources is critical to achieving the potential benefits presented by shale. There are several factors that could stymie development not only in the United States, but also elsewhere in the world.... In particular, environmental concerns regarding the use and potential contamination of water resources have recently dominated the news headlines in the United States and France and, therefore, are among the kinds of major issues that will need to be addressed before governments will allow full realization of shale's growth potential.

Our study finds that under scenarios where environmental and other political factors inhibit the development of shale gas resources north of Virginia, ⁸ U.S. natural gas production will see

less growth over time and import requirements will be substantially higher after 2030....

More generally, the United States has a well-developed, competitive regulatory framework governing natural gas infrastructure development, transportation services, marketing, and mineral rights ownership and acreage position. This environment has promoted the rapid development of shale resources, and it may not be fully or quickly replicable in other markets around the globe where state involvement in resource development and transportation is more prevalent. For example, investor access to shale resources is likely to be more heavily controlled in China and most European countries, where land ownership is

⁸ The authors are referring to the controversial developments in the Marcellus shales of northeast U.S.

generally distinct from the ownership of mineral rights, than in the United States, where landowners can directly negotiate terms for access to minerals under their acreage.

The dramatic lessening of Europe's dependence on Russian gas will likely reduce Russia's ability to unduly influence political outcomes.... a more energy-independent Europe will be better positioned to join with the United States in global matters that might not have the full support of Russia.... To tap this benefit, it will be essential for the United States to promote a stable investment climate with regulatory certainty.

Exactly one week before the Baker Institute's promotional conference of shale gas developments in Poland, on October 12, 2011 the New York Times published a story, *Oil Executive Promotes Shale Gas to Europeans*. It was an announcement by Andrew P. Swiger, Exxon's senior vice president, with the following lead-in title: "A senior executive from Exxon Mobil warned Wednesday that Europe could miss a chance to reduce its dependence on imported energy by making it too difficult to develop shale gas and so-called unconventional resources."



Steven L. Miller, former president, ceo, and chairman of **Shell Oil Company**, now the chair and president of **SLM Discovery Ventures**, is on the Baker Institute's Board of Advisors. Shell wants to frack Germany, Poland, and the Ukraine, and wanted to frack Sweden.



Andrew P. Swiger, senior vice president of **Exxon-Mobil**. Swiger stated at the 21st World Energy Congress in Montreal, Quebec: Canada's stable policies and respect for the law have encouraged advances in another area important to expanding global energy supplies: unconventional sources of natural gas. Exxon wants to frack Germany and Poland.

"By 2030, Europeans are expected to be significantly more reliant on imports of natural gas than they are today," Mr. Swiger said in London at the Oil and Money conference, which is jointly organized by The International Herald Tribune and Energy Intelligence. "Europe's unconventional natural resources can provide the opportunity to offset this changing mix with domestic supplies," he said.

One of the main obstacles to drilling for gas trapped in fine-grained shale rock is the growing public skepticism about the environmental impact of "fracking," using pressurized water, sand and chemicals to release the gas.

Mr. Swiger's remarks came after a decision this summer by the French Parliament to revoke permits from companies using the method. Since then, health and environmental activists have stepped up efforts to extend similar restrictions across the European Union.

Europe is far from united against gas fracking. Poland and Bulgaria are among the countries enthusiastically developing shale gas, partly as a counterweight to mounting anxiety about depending on Russia for natural gas.

Mr. Swiger said fracking could be done safely and cleanly, and he said local regulators should be permitted to decide whether to permit the technique in their communities. He said Europe's shale resources,

although different in some ways from the resources in North America, "may prove to be significant," partly because of rapidly evolving drilling and extraction techniques.

Since 2008, Exxon has drilled a number of exploratory wells in Germany for shale gas and for coal-bed methane, which is found in coal seams or in the surrounding rock, Exxon officials said. The company is still analyzing those results to establish their commercial potential, the officials said.

Michelle Michot Foss, chief energy economist and head of the Center for Energy Economics, part of the Bureau of Economic Geology at the University of Texas at Austin, said companies looking for opportunities in shale gas were undeterred — for now.

"You go where you can go, and Eastern Europe seems to be more the place where everybody can go right now," Ms. Foss said. "The question will be whether they get enough drilling and commercial success in Poland and other places to make it worthwhile."





Edward P. Djerejian (left) and Charles W. Duncan Jr. (right) are on the Baker Institute's Board of Advisors. Duncan is the former president of the Coca-Cola Company and former **U.S. Secretary of Energy**, and now chairman of **Duncan Interests**. They both want Shell, Chevron, and ExxonMobil, and the other corporations, to frack up Europe, 'responsibly'.

4-(2a). What They Said and Didn't Say in Houston

The October 19, 2011 day-long conference event at the Baker Institute was divided into four sessions. Here are some of the day's highlights.

Djerejian

Edward Djerejian gave the conference introduction. With his background since the mid-1990s as a director in top petroleum and petroleum service corporations (see chapter 5), he summarized from prepared notes his pro-corporate take on the 'success' of 'America's' aggressive strides to produce unconventional shale gas since 2000, suggesting indirectly that America's glut of gas could supply Europe with exported LNG (i.e., better profits to be made from higher gas prices):

The emergence of shale gas is perhaps the most intriguing development in global energy markets in recent memory. ... In-depth studies are underway to fully assess the shale gas resource potential in Europe, Asia and Australia. Indeed, rising shale gas production has

already delivered large economic and geopolitical benefits - and this is only the beginning. In the United States, ample shale gas means requirements for imported liquefied natural gas will be negligible, giving America both security of supply and economic benefits. In Europe, local shale gas and rising supplies of displaced liquefied natural gas, LNG, will give consumers an alternative to Russian pipeline supplies and a benefit of diverse supply.

Our work at the Baker Institute indicates there are large shale gas reserves to be tapped in Europe of roughly 220 trillion cubic feet, split between Sweden, Poland, Austria and Germany. Poland stands to play a leading role. It houses perhaps 55 percent of the shale resources expected to be developed in Europe.



Thus, with Poland set to play a major role in the energy equation of Europe, we convene today to discuss the opportunities before us. ... There is no doubt that the shale gas revolution has begun, and it is already shaping global energy markets.

Still, environmental protection and infrastructure development are of the kind of major issues that will have to be addressed, and I hope addressed intelligently....

Given the reprehensible manner in which the multi-developments of unconventional oil and gas were undertaken throughout the numerous jurisdictions in the United States and Canada since the 1980s, some of the stories of which are introduced in chapters 10, 12 and 14, Djerejian's reference to the 'intelligent' development of fracking in Europe may be interpreted as being a cynical comment.

Ambassador Robert Kupiecki

There is perhaps nothing more important at this time to increase the public education, the education of our elites, the education of our population about the opportunities and about the reality, the reality of the business, as mythology, as myths surrounding the shale



gas development as spreading around Europe, also in my country. But, it's also an optimistic factor, phenomenon that the support for this kind of, let's say production engagement, industrial engagement, exploration and future production of shale gas enjoys wide-spread support in Poland. And we would like to keep up with this, and to pursue our

public activities in the field of shale gas, in the field of energy development, in an open and transparent manner.

Poland Undersecretary of State Beata Stelmach

A new key added onto the growing pro-fracking administrative political key chain in Poland's government, was Prime Minister Donald Tusk's appointment of Beata Stelmach as Foreign Affairs undersecretary of state on May 1, 2011, just over two weeks before the May 18th shale gas conference in Warsaw (see chapter 11-10), where Poland announced its pro-fracking political platform two months before its ascendency to the Presidency of the EU.

Stelmach, who obtained her MBA from the University of Calgary, resigned as vice-president of **MCI Management SA Warsaw** and board member of SCI Capital TFI SA on April 1, 2011 "due to personal reasons." Bloomberg reports that Stelmach "served as the Head of Business Development & Communication and Investment Partner at MCI Management," was originally "employed in the Enforcement Department of the Polish Securities Commission," and a former "consultant of the World Bank for the development of the capital markets in the Ukraine in 1996 and Russia in 1997." She was the president of the Warsaw Commodity Board of Trade, 2000-2001.

The Warsaw Journal published an interview with Stelmach on June 27th, *Foreign Ministry looks to become an ambassador of Polish business*, just days before Poland's six-month term at the EU Presidency.



Ms Stelmach intends to use Poland's Presidency of the EU Council to Promote Polish companies and shale gas exploration.

As I came to the Ministry of Foreign Affairs from the business community, I believe it is easier for me to understand the needs of our businesses. I want to combine the language of diplomacy with the language of business.

One of the most important matters that we now have ahead of us is the exploration and future production of shale gas in Poland, and we are in the middle of EU discussions regarding this. It is not only an economic issue, but also a strategic one for Poland, so our diplomatic involvement is urgently needed.

In the European Union arguments for and against such exploitation have already appeared and false claims have been raised about possible damage which could be done to the environment. Our duty in economic and diplomatic strategy is to present the truth about such exploration, which will not negatively affect the environment, and to defend our right to use our shale gas resources.

Future exploration of shale gas will not only provide Poland with energy independence, but by exporting it we may raise the level of energy security for the whole of the EU.

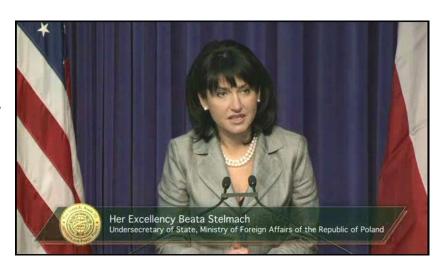
The technology for searching and later exploring shale gas comes from American firms, because the US, as well as Canada, are the only countries in the world which possess such technology.

The Polish government has taken legal steps at the highest political level to secure our interests in exploring shale gas. In December last year, during President Komorowski's visit to the US, a memorandum of understanding was signed, which is the basis for Polish-American cooperation regarding shale gas in Poland.

Within this framework Polish scientists and representatives of energy firms will have the opportunity to learn about American technology and how to apply it in Poland. Concessions and exploration licenses were issued by the Environment Ministry to American firms such as Chevron and Exxon Mobil, Polish companies including Orlen and PGNiG, and international consortium Marathon Oil. In total, more than 80 concessions for research have been given.

Stelmach stated the following at the Baker Institute's conference from her prepared script, in which she unfolded a new and formidable American/European inter-corporate vision for Poland as an exporter, facilitator and partner stronghold of unconventional shale gas:

The absolute shift away from fossil fuels and coal will be an extremely difficult task. Therefore, the key challenge will be to develop such an energy policy which would ensure resources and environmental sustainability, and, at the same time, preserve stability of the energy sector and industrial competitiveness.



New drilling technologies have opened up potential for new supplies of natural gas and oil once thought to be difficult to be extracted. ... In this new context, changes that are shaping today's energy require flexible, innovative and adaptive solutions. And, shale gas might be one of them.

Poland's shale gas sector is growing with high dynamics with over 100 exploration concessions granted so far. Almost 30 companies, including American major ones, as ExxonMobil, Chevron, ConocoPhillips, and Marathon Oil are drilling in Poland.

According to the Energy Information Administration, Poland may have about 5.3 trillion of technically recoverable shale gas. This means, at current consumption levels, it could satisfy Poland's gas needs for over 300 years. Prospects for development of unconventional gas in Poland correspond with global trends in energy markets. According to the scenarios of the International Energy Agency, the forthcoming decade will be known as the golden age of gas in which unconventional gas resources will contribute significantly to the world's long-term energy mix.

Ladies and gentlemen, the Polish government fully supports shale gas developments as unconventional gas might provide us with a unique opportunity to successfully achieve several policy goals including energy, environmental, and economic ones. Poland is at a cross-road of the next wave of gas revolution.

According to the recent Baker Institute study on Shale Gas and U.S. National Security, the position of Russia will change significantly. And moreover, decreasing share of Russian gas in the European gas market rises the chance of deepening European Union/USA political cooperation. Therefore, we hope that shale gas will further strengthen an overall American presence in Europe that has been crucial for maintaining strategic position and for ensuring balance of powers. The growing energy cooperation between Poland and the United States could, and should, be the driving force of the Trans-Atlantic dialogue.

The Polish story of the next decade might be one of rapid expansion of gas and gas-related sectors and massive energy innovation. Some companies and experts start talking about Poland being potentially a new gas exporter, and who would have seen that coming even five years ago? ... For that reason, Poland is determined to develop it's own LNG capacity with the LNG terminal in Swinoujscie.

Ladies and gentlemen. Almost 20 years ago, Secretary of State James Baker opened this Institute to integrate people from around the world into innovative activities and build a bridge between the world of ideas and a world of action. I am very much convinced that we will be able to move with our long-lasting and mutually beneficial energy projects, projects which will bring ever-closer our governments, Polish and American business community, and energy analysts.

There is only one thing that can guarantee our failure, and that is if we quit.

Poland's Washington, D.C. Embassy reported on its website, *A delegation from Poland visits Texas*, that for the Baker Institute conference event a delegation from Poland "visited the U.S. (on) October 16-20 to deepen cooperation on exploration and extraction of shale gas, and learn about strategic petroleum reserves. The delegation comprised representatives from Poland's Ministry of Foreign Affairs, including Undersecretary of State Beata Stelmach, representatives from Polish businesses (PGNiG, PKN Orlen, PERN and Lotos Group) and Polish media." The published page included photos of the delegation visiting "a strategic oil reserve storage site in Big Hill, Texas," (photo to right) and a photo of Stelmach and Kupiecki with Chesapeake Energy Corporation representatives at a "shale gas extraction site in Fort Worth, Texas."





Poland's Ministry of Foreign Affairs website reported on November 29, 2011 that undersecretary of state Stelmach attended the meeting of the EU-US Energy Council held in Washington, D.C. on

November 28, 2011. The EU-US Energy Council was formed in November, 2009. (For more, see chapter 11-12.)

The meeting was co-chaired by US Secretary of State H. Clinton, US Energy Secretary S. Chu, the EU High Representative for Foreign Affairs and Security Policy C. Ashton and the EU Commissioner for Energy G. Oettinger. The Polish Presidency was represented by Deputy Foreign Minister Beata Stelmach, Undersecretary of State at the Ministry of Foreign Affairs.

The talks focused on the strategic aspects of energy policy, relations with main outside partners (producer and transit states) as well as cooperation in sustainable and clean energy technologies. The delegates also discussed ways of further development of unconventional gas sources. Deputy Foreign



We believe that if people do not understand, or, if people have too little information, they are afraid, and if they are afraid then they might be against (shale gas). So, our strategy, as the Polish government, is to offer the open dialogue, and to transmit all the information needed, true information, not misleading, but true information, sometimes bad, sometimes good, all the information as transparent as possible, and to deliver the message to the public opinion in order to let them feel comfortable with the level of knowledge they have.

Minister Stelmach underlined its crucial role for the strengthening of both Transatlantic relations and the EU energy security: "Poland uses the knowledge and experience of the US in exploring unconventional energy sources in a safe, sustainable and environmentally friendly way (...) Cooperation between the EU and US in this respect should be beneficial for both parties". Deputy Foreign Minister Stelmach also declared Poland's readiness to actively participate in a Transatlantic dialogue on shale gas.

It was reported in a November 14, 2011 Spanish article, (translated) *Growing interest in new oil and gas deposits in Spain*, that Beata Stelmach participated in a Polish EU-Presidency-sponsored **private meeting** held in Madrid's Ministry of Industry's headquarters, with Spain's secretary of state for energy Fabrizio Hernandez (see chapter 7), vice president of European Parliament Alejo Vidal-Quadras, BNK president Wolf E. Regener, and executives from **ExxonMobil** and **Repsol**. The article explained that spokesmen from Spanish multinational Repsol's **YPF** subsidiary in Argentina recently announced that Spain is a new candidate for deep shale gas fracking, particularly in the Upper Ebro, Cantabria and Aragon areas where previously drilled conventional gas wells are located. The International Energy Agency identified Spain as one of a number of potential shale gas areas in Europe.

In other news headlines, it was announced in early November 2011 that Repsol's YPF found large deposits of unconventional shale oil and gas in Argentina's **Loma La Lata** area of **Vac Muerta** ("dead cow") onshore shales. Large petroleum companies such as **Apache**, **ExxonMobil** and **Total** have also make investments in Argentina. Repsol YPF has also made investments in Brazil, Venezuela and Latin America. In 2010, China's **Sinopec** petroleum company paid out \$7.1 billion for 40 percent of Repsol's Brazil holdings. Latin America and South America are the new fracking battlefront territories, where energy companies are poising to take control of the unconventional spoils.

"We" and "Them" in Richard Morningstar

U.S. State Department Eurasia Energy Envoy Richard Morningstar has played a central role in the

defence and promotion of fracking Poland's, EU's, and Eurasia's unconventional shales, and is mentioned numerous times in this report (chapters 5, 7, 8, and 11).

Morningstar made a critical assessment of the political fracking front in Europe, if not globally, in the opening part of his presentation:



Poland's very active participation is probably the most active participant in our Global Shale (Gas) Initiative, which continues to be a very important part of the relationship.

He then posed the question: "Why should we here in the United States care about Poland's energy security, as well as overall European energy security?" Among other answers to his own question, he said "Poland is our friend," "we want to help," and "it's our business to help people like Poland." Who exactly is the "we," and the "our?" As America's contracted Eurasian energy spokesman, Morningstar never defines who 'he' is actually representing, and most likely is implying that it is the international corporations based in the U.S. and their multiple interests and diverse representatives and agents that represent the "we" in America. And, as implied in Beata Stelmach's

presentation, U.S. corporations and the U.S. State Department are intending to continue to redirect and influence the EU's energy directives, using Poland as its portal voice to do so.

I want to stress again how important I think it is that Poland be a leader in Europe, and in the region.

It's important to ensure that any new regulations that are developed in Brussels, whether it relates to shale, nuclear or other areas, be reasonable, objective, constructive. Recognize: yes the critical importance of safety and environmental regulations, but not to be so totally stifling that development can't take place. Gas, as the undersecretary mentioned, is going to be critically important to the development of European energy security, as well as global energy security.... And yes it has to be managed, shale has to be managed, it should be managed and not just thrown overboard so early just because of fears.



Our Russian friends are very smart, and they know what shale can do. And, I think if there is a competitive market threat, it will be Russia developing it's own shale! Don't think for a minute that they are not looking at that. And that's okay. That's what markets are all about.

With regard to the EU-US Energy Council, Morningstar said: "As part of our energy policy working group, shale should become a major area that we work together with Brussels as part of the Energy Council."

Christopher Smith and the Crystal Fracking Ball

In September 2009, the U.S. Secretary of Energy appointed Christopher Smith as the Deputy Secretary for Oil and Natural Gas. Smith has an engineering management degree from West Point, the US military academy in Fort Worth, Texas. He worked for Citibank and JP Morgan before his eleven years with Texaco and then with Chevron. Smith stated the following:

It's the regulatory challenge that is truly difficult. The regulatory challenge is not only in the way that we regulate shale gas development that is primarily on private land, which means it is regulated by the States, 32 different oil and gas producing States here in the United States, that have different sets of standards, and regulations, and budgets for inspectors, and permitting processes. So, within each one of those States you've got a myriad of counties and cities and municipalities, all with different rules. So, the regulatory challenge here is

very complex, it's a different type of resource to develop in terms of the way that you develop it. Once you find it, once you get good at developing a play it does turn into something like a manufacturing process that involves a continuous drilling process. And, it's a resource that we are developing in areas which in many cases the people that live there are not used to oil and gas production. And, that causes some challenges.

How do we ensure that we are developing this resource in such a way that we've got the right kind of environmental sustainability, the right type of safety? Certainly, if



My interaction I've had with American companies investing in Poland is that the ball is really moving in the right direction, so I think that is really encouraging.

you look back at the mandate that we've been given at the Department of Energy, in terms of managing a portfolio of research projects to help us do this well, we've got a clear goal and a clear mandate of making sure we can do this safe, that is environmentally sustainable. And, that is something we can do. There have been a couple of studies that have occurred parallel with NPC's (National Petroleum Council's) study ⁹ that I just mentioned: one of them was the Secretary of Energy's Advisory Board which independently came up with a lot of recommendations that were fairly closely paralleled with the recommendations that came out of the NPC study, in terms of what are the types of Best Practices that need to be employed, how do you make sure that you are addressing the concerns that communities do have.

Taking what can be an emotional conversation and turning it into a scientific conversation, doing the work to quantify the risks and evaluate the claims that are being made, and making sure that the regulations are in place match the risks that are inherent in operations,

⁹ National Petroleum Council, *Prudent Development of North America's Oil & Gas Resources*, September 15, 2011. Refer to chapter 14-1 for a brief discussion of the report.

is going to be something that is very useful in moving this forward and gaining the confidence of communities so that we can **prudently** develop this resource.

We understand that for the national security of the country and for the economic well-being of our economy, that oil and gas is going to continue to be extremely important for the foreseeable future. And, so the challenges that we face in terms that we can **prudently** develop the resource, that we can do it as well as possible, that we can get the most out of the resource, that's going to be extremely important for national security, it's going to be important for our economy, it's going to be important for building jobs. We've spent a fair amount of time looking at international issues in terms of providing support to other nations. And, not only sharing what we've learned, and some of our _____ steps here in the United States, but also looking for opportunities for American companies to invest abroad in a way that is mutually beneficial for American companies and for the economies in which we are investing. We see the shale gas story as being something of great importance throughout the world.

Andrzej J. Kozlowski - ORLEN and the New Era of Gas (Be Careful What You Wish For)

Andrzej Kozlowski is the executive director for strategy and project portfolio management for PKN ORLEN. Here is what he said:

A couple of words about ORLEN, for those of you who don't know the company. ORLEN is the leading producer and dealer of refined products, petrochemical products, in the Central and Eastern Europe. We operate 7 refineries in Poland, Czech Republic, and Lithuania. We also have the largest retail network. The service station network in Central and Eastern Europe, it's about 2,700 filling stations. We are a listed company. The largest shareholder of ORLEN is the Polish State, which holds some 27.5% of the shares. The remaining shares are free-floated. We are also one of the largest companies in the Central and Eastern Europe, in terms of revenues. Last year we recorded 27.7 billion U.S. dollars, that was our turnover. Some people don't know, but we are actually also one of the major consumers of Russian crude oil. We buy each year some 11-13% of the total production of REPCO, of the Russian Federation, which makes us one of the biggest customers of Russia.

So far, we have been purely a downstream company. I like one of the comments made today, that the new era begins, the era of gas. So, we all know, coming from the refining industry, that the golden years of refining are over. But, at ORLEN, we want to be part of this new era, we want to be part of the golden years of gas! So, in a couple of years, I would like to come here and say, that I am from ORLEN, a gas and oil company! And, I'm sure that this will happen. So, in our strategy, that we defined back in 2008, we defined two new business segments that we want to develop, and those are actually upstream and power generation. And when I say upstream, I mean we really count on shale gas.

There is also a number of diversification projects going on, in progress. One project that was mentioned is the construction of an LNG terminal, and the deployment of that terminal is planned for 2015.

There was a question about opinions, what Polish society thinks about shale gas, and, here is the answer. The recent poles conducted by a company called CBOS show that, I mean 73% say yes to shale gas in Poland. Of course, the picture is not so rosy if you ask those



people questions, I mean, do you mind if we build the rig next to your household. I mean, then the majority of people say no. But, to be honest with you, I'm not surprised, this is nothing unusual, and I think it's just a matter of proper communication to convince those who are afraid that's it's actually not so scary. And, I saw a number of examples here in Texas on the Barnett Shale where you actually have rigs next to the Starbucks, next to the filling station, next to the schools, next to the golf courses. I mean, I think we can deal with that in Poland.

In terms of the challenges and the risks that we (ORLEN) see. Of course, there is a long way to go, and in my opinion, the future of shale gas is still uncertain. There are lots of issues that we need to deal with. ... We also have to think about regulatory and environmental issues, infrastructure, tax, and all those things. There was also a comment made today that the industry expects government to step in and to work on the regulations. This is not true. This is not how it should work. It's actually industry, in my opinion, is responsible for coming up with those regulations, or the proposal of proper regulations, and help and give a hand to the government to implement those quicker. And, this is actually the way it works. We have an organization that represents the industry, ¹⁰ and we are working close with the government. So, I'm pretty sure we can come up with decent regulations that will limit your risk as the investors.

Halliburton's Timothy J. Probert

Timothy Probert is Halliburton Company's president of Strategy and Corporate Development:

In addition to our exposure here in North America, in all the major shales here, unconventional development is starting to move rapidly internationally. Whether that's in Mexico,

Argentina, Australia, or indeed in Poland, where we're delighted to be a part of the



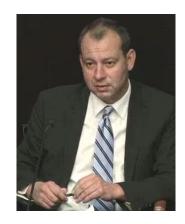
¹⁰ Kozlowski is most likely referring to the OPPPW, the Polish Exploration and Production Industry Organization, or **Organizacja Polskiego Przemysłu Poszukiwawczo-Wydobywczego**. There is a brief description of the OPPPW at the end of chapter 10-1. As of September 2011, the OPPPW had 14 petroleum corporations as members, and 6 as observer members. The OPPPW was formed in June 2010, the same month the U.S.-Poland Business Council was formed.

exploration and appraisal phases, I will call it, as we start to get into early parts of full-field development in Poland.

Pawel Jgosiak

Pawel Jgosiak is Polish-based PGNiG's deputy chairman of Shale Gas Task Team.

It's the same situation in all of continental Europe (regarding) mineral rights. Two metres below the surface, everything below two metres it is the state treasury. The owner of land has no rights to any hydrocarbons produced. The only way (for the landowner) is to compensate the usage of the terrain, or buy the land, that's the way. It is definitely different than the USA.



Patrick Wood III - Mr. Deregulation and the Pope

Patrick Wood was a former attorney with the Baker & Botts firm in Washington, D.C., a former advisor to federal Energy Regulator Commissioner Jerry Langdon, and a former legal counsel to Texas Railroad Commissioner Barry Williamson. Wood has been credited as the "longest-serving appointee of George W. Bush, who as governor of Texas in 1995 appointed him to the PUC of Texas, which regulates the state's electricity and telecommunications industry." ¹¹ Another source ¹² states that the former head of Enron Corporation Ken Lay asked Governor Bush to appoint Wood to the Texas Public Utility Commission, where Wood pursued a controversial policy of deregulation, Wood's personal and political forte. After the PUC, Ken Lay once again asked Bush, now the U.S. President, to appoint Wood as the head or chairman of the Federal Energy Regulatory Commission (FERC), which he served from June 2001 to June 2005. Among many decisions made with FERC, Wood was credited in helping to certify 4,154 miles of new interstate natural gas pipelines and 128 billion cubic feet of new natural gas storage. For his conference opener, Wood attempted to link Poland's Catholicism, via former Polish Pope John Paul, to the natural gas "revolution."



It's interesting, today. My kids go to Catholic school here in town. When I picked them up on Monday, the number two son goes, "Dad, do you know what great event happened 33 years ago yesterday?" I sat there, and I did the math, and said, okay, I was a junior in high school. He knows he can always stomp me, but he didn't this time. Because I remember, it was a great day. I was sweaty after track practice at high school, came in and sat down in the car, turned on the radio, waited for my friend. It was announced at that time that white smoke went over the Vatican, and this announcement came over loud on the radio and he said the name Karol Wojtyla. And

everybody in the world was like stumped for about 20 seconds. And we figured out that the Polish guy got elected Pope. So, the Catholic school kids all celebrated still here in Houston, so I thought my Polish friends would like to know that. But, how appropriate that Poland and revolution are on the same line today here in the context of natural gas.

¹¹ FERC Chairman Pat Wood, III Announces Resignation, April 7, 2005.

¹² www.nolng.org/articles/fercchairman.htm