

## Responsible Energy Policies Are Not A Zero-Sum Game

*Law360, New York (September 18, 2013, 6:13 PM ET)* -- According to the International Energy Agency, the U.S. is poised to be nearly energy self-sufficient by 2035.<sup>[1]</sup> An increase in domestic production by a record 766,000 barrels a day has driven the share of demand satisfied by net petroleum imports down 20 percent since 2005.<sup>[2]</sup>

This growth has led to calls for Congress to lift the limit on oil exports that it enacted in the 1970s, driven by an Arab oil embargo that showed how truly vulnerable the U.S. was to the vicissitudes of Middle East politics.<sup>[3]</sup> America's move toward energy independence is welcome news with the world on the brink of intervention in the Syrian civil war.<sup>[4]</sup>

Two polarizing flashpoints have emerged in this domestic energy revolution: hydraulic fracturing and the Keystone XL pipeline. A lot of spectacle and misinformation has been spread about these, from images of flaming faucets<sup>[5]</sup> to giant, inflatable pipes,<sup>[6]</sup> in an effort to ban them outright.

Calls for a ban on these projects, however, ignore the fundamental fact that it is simply not possible for the U.S. to abruptly pivot to an all-renewable energy policy. Only a dialogue based on facts, making realistic assumptions, can generate the precise and nuanced energy policy necessary to achieve significant pollution reductions in the real world.

### Fracking

Fracking is the high-pressure injection of a mix of fluids and substances called "proppants" into an oil or gas reservoir. The mix, injected under pressure, fractures the reservoir rock, allowing oil or natural gas to flow back to the well.<sup>[7]</sup>

Opponents of the process obfuscate the issues by lumping together many different extraction-related processes<sup>[8]</sup> and further ignore the variations in hydraulic fracturing operations located in different states.<sup>[9]</sup> They also ignore the facts that hydraulic fracturing is undertaken within a well-regulated field of state and local laws,<sup>[10]</sup> many studies show there is no danger of contamination of either groundwater or air,<sup>[11]</sup> and hydraulic fracturing has been in operation in California for over 30 years with no reported environmental damage.<sup>[12]</sup>

Even accepting a small risk that rogue operators will endanger the environment with remediable releases, the true value of hydraulic fracturing appears when compared to the alternative. Hydraulic fracturing continues to unlock “unconventional” sources of hydrocarbons and boosted U.S. natural gas reserves by 90 percent.[13]

It is estimated that replacing coal with natural gas worldwide would cut about 40 percent of carbon emissions linked to global warming, and the transition away from coal to gas power has already reduced U.S. carbon dioxide emissions by 200 million tons over the last several years.[14]

### **The Keystone XL Pipeline**

Another flashpoint issue in the debate on how to shape energy policy is the proposed Keystone XL pipeline, the fourth phase of a larger pipeline project that aims to provide a path for oil from Canadian tar sands and the Bakken shale to refineries in Nebraska and Texas.[15]

Debates balance the possible environmental effects of the pipeline[16] with the safety measures implemented[17] and the economic boost the pipeline will generate.[18] What is less considered, however, are the alternatives to building the pipeline.

One researcher has stated that coal presents a climate challenge 1,500 times greater than that presented by crude from Canadian tar sands.[19] Because of the rising demand for fuel in Asia, Canada’s tar sands will be exploited whether the pipeline is built or not. If not by pipeline, these resources can be transported by train or boat.[20]

Further, the Canadian government has begun exploring alternatives that would ship the oil to the Canadian coast, from there to be refined in China.[21] As compared to the U.S., Chinese refineries are often antiquated,[22] and Chinese oil firms are subjected to much less state protection and much less oversight.[23] And moving the tar sands to the West Coast, where they will be shipped to other countries, is not a net benefit to the climate.

### **A Balanced Way Forward**

Renewable energy sources, such as wind and solar power, present viable technologies for reducing U.S. greenhouse gas emissions and are necessary for long-term U.S. energy independence.[24] Unlike activists opposing hydraulic fracturing and the Keystone XL pipeline, federal renewable energy generation[25] and consumption targets[26] recognize that renewable energy sources have limitations of their own, including intermittency and expense,[27] lack of infrastructure[28] and challenges from cultural or environmental groups[29] and neighboring landowners engaged in NIMBYism.[30]

In order for the U.S. to move toward renewable energy while preserving economic growth, the government must adopt a precise set of priorities that sets a positive path forward economically and environmentally. We offer the following proposal as a concrete, economically viable and rational means

towards these goals.

Energy policy for the U.S. should be directed by the federal government, which can preempt state and local meddling, streamline infrastructure approvals and create consistency where none presently exists. Thus, we call upon Congress and the president to act on these policies in short order.

1. The federal government should approve the Keystone XL pipeline project and eliminate all hydraulic fracturing moratoria, thus increasing the supply of domestic oil and natural gas and insulating the U.S. economy and U.S. energy efficiency measures from geopolitical shocks.
2. Legislation should be enacted to streamline the permitting process for renewable energy projects.[31]
3. Legislation should be approved that grants subsidies to utilities to revamp existing energy grids in order to facilitate integration with new renewable projects.
4. Legislative incentives should be offered to continually phase out coal-fired power generators as possible, replacing them with natural gas.[32]
5. Implement staged nationwide emissions standards for existing sources of greenhouse gases, in line with recommendations from a comprehensive, independent study that considers both environmental and economic effects to generate emissions targets (for various sources, from electric plants to automobiles) that are spread out at five- and 10-year intervals with a reasonable emissions goal set for 2035.
6. Implement staged nationwide energy efficiency measures for buildings, industry and transport, in line with recommendations from the above study.
7. Achieve the administration's target of 20 percent of government power sourced from renewable sources by 2020.
8. Achieve energy independence by 2035 through a combination of renewable energy sources (the percentage of which should continue to grow), natural gas and, to a lesser extent, other fossil fuels.

### **It Worked in Los Angeles**

A similarly comprehensive and nuanced plan incorporating technological innovation, emission reduction standards and other long-term measures[33] has allowed Los Angeles to grow exponentially while significantly reducing air pollutants.[34]

This balancing act, allowing for growth while gradually replacing the largest pollution producers through reasonable technological mandates, is exactly what is needed to put the U.S. on an economically stable and energy-independent path toward a cleaner future.

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[1] See International Energy Agency, North America Leads Shift in Global Energy Balance, IEA Says in Latest World Energy Outlook (November 12, 2012), available at <http://www.iea.org/newsroomandevents/pressreleases/2012/november/name,33015,en.html> (last accessed August 28, 2013).

[2] See Jim Efstathiou and Jim Snyder, U.S. Considers Exporting More Oil for First Time Since '70s (Bloomberg, June 18, 2013), available at <http://www.bloomberg.com/news/2013-06-18/americans-exporting-more-oil-first-time-since-70s.html> (last accessed August 28, 2013).

[3] See *Id.*

[4] See Paul Lewis, Iran Warns West Against Military Intervention in Syria (The Guardian, August 26, 2013), available at <http://www.theguardian.com/world/2013/aug/26/syria-us-un-inspection-kerry> (last accessed August 28, 2013).

[5] See Groundtruthing Academy Award Nominee 'Gasland,' (The New York Times, February 24, 2011), available at <http://www.nytimes.com/gwire/2011/02/24/24greenwire-groundtruthing-academy-award-nominee-gasland-33228.html?pagewanted=all> (last accessed August 28, 2013).

[6] See Keystone XL Pipeline Protesters Encircle White House (BBC News, November 7, 2011), available at <http://www.bbc.co.uk/news/world-us-canada-15618697> (last accessed August 28, 2013).

[7] See California Department of Conservation, Division of Oil, Gas, and Geothermal Resources (DOGGR), Narrative Description of Hydraulic Fracturing Draft Regulations, available at [http://www.conservation.ca.gov/dog/general\\_information/Documents/121712NarrativeforHFregs.pdf](http://www.conservation.ca.gov/dog/general_information/Documents/121712NarrativeforHFregs.pdf) (last accessed August 28, 2013).

[8] These include wastewater injection, Secondary resource recovery (including "waterflooding" a geologic formation), Enhanced Oil Recovery (tertiary recovery that can involve thermal, microbial, acoustic, chemical, or electromagnetic methods), water and steam flooding, Gravel Packing, high volume hydraulic fracturing, and Carbon Capture and Storage (through injection). See National Academy of Sciences, Induced Seismicity Potential in Energy Technologies, (National Academies Press, 2013), available at [http://www.nap.edu/catalog.php?record\\_id=13355](http://www.nap.edu/catalog.php?record_id=13355) (last accessed August 28, 2013); see also Hydraulic Fracturing Study: PXP Inglewood Oil Field (October 10, 2012), available at

<http://www.inglewoodoilfield.com/res/docs/102012study/Hydraulic%20Fracturing%20Study%20Inglewood%20Field10102012.pdf> (last accessed August 28, 2013).

[9] Michael J. Mishak, Oil Extraction Method Widely Used in California with Little Oversight (Los Angeles Times, March 14, 2012), available at <http://articles.latimes.com/2012/mar/14/local/la-me-oil-fracking-20120315> (last accessed August 28, 2013).

[10] Opponents also claim fracking is unregulated, which is completely erroneous because hydraulic fracturing (either expressly or through more general oil and gas well standards) is subject to federal, state, and local regulation. See Aileen Hooks, Debunking the Myth of Hydraulic Fracturing (Law360, August 12, 2013), available at <http://www.law360.com/articles/460795/debunking-the-myth-of-hydraulic-fracturing> (last accessed August 28, 2013).

[11] For example, a one-year study of the Inglewood Oil Field in Los Angeles, at which hydraulic fracturing was conducted, found “no detectable effect on ground movement or subsidence,” emissions were “within standards set by the regional air quality regulations of the SCAQMD,” before and after groundwater testing “did not show impacts,” and that it was “reasonable to conclude that the conduct of hydraulic fracturing during the analyzed period did not contribute or create abnormal health risks.” See Cardno Entrix, Hydraulic Fracturing Study: PXP Inglewood Oil Field (October 10, 2012), available at <http://www.inglewoodoilfield.com/res/docs/102012study/Hydraulic%20Fracturing%20Study%20Inglewood%20Field10102012.pdf> (last accessed August 28, 2013). Another study has found no evidence of chemicals contaminating drinking water aquifers around the Marcellus shale. See Kevin Begos, DOE Study: Fracking Chemicals Didn’t Taint Water (USA Today, July 19, 2013), available at <http://www.usatoday.com/story/money/business/2013/07/19/doe-study-fracking-didnt-taint/2567721/> (reporting on a Department of Energy Study of eight wells in the Marcellus shale that found no chemical migration into drinking water) (last accessed August 28, 2013). Supporting this safety record, a National Academy of Sciences study found only one case of induced seismicity suspected, but not confirmed, to be linked to hydraulic fracturing among the estimated 35,000 hydraulically fractured wells in the U.S. See National Academy of Sciences, Induced Seismicity Potential in Energy Technologies, (National Academies Press, 2013), available at [http://www.nap.edu/catalog.php?record\\_id=13355](http://www.nap.edu/catalog.php?record_id=13355) (last accessed August 28, 2013). Finally, the EPA is currently undertaking a long-term study of hydraulic fracturing’s impact on underground drinking water. See U.S. EPA, Study of the Potential Impacts of Hydraulic Fracturing on Drinking Water Resources: Progress Report, Executive Summary (December 2012), available at <http://www2.epa.gov/sites/production/files/documents/hf-progress-report-exec-summary20121214.pdf>

[12] DOGGR, Hydraulic Fracturing in California, available at [http://www.conservation.ca.gov/dog/general\\_information/Pages/HydraulicFracturing.aspx](http://www.conservation.ca.gov/dog/general_information/Pages/HydraulicFracturing.aspx) (last accessed August 28, 2013).

[13] See Bernice Napach, Fracking: Road to Energy Independence or Road to Ruin? (Yahoo! Finance, June 21, 2013), available at <http://finance.yahoo.com/blogs/daily-ticker/fracking-road-energy-independence-road-ruin-135819559.html> (last accessed August 28, 2013).

[14] See International Energy Agency, Four Energy Policies Can Keep the 2 °C Climate Goal Alive (June 10, 2013), available at <http://www.iea.org/newsroomandevents/pressreleases/2013/june/name,38773,en.html> (last accessed August 28, 2013); see also From Coal to Gas: The Potential Risks and Rewards (NPR, July 15, 2012), available at <http://www.npr.org/2012/07/15/156814490/from-coal-to-gas-the-potential-risks-and-rewards> (last accessed August 28, 2013).

[15] See Juliet Eilperin, The Keystone XL Pipeline and its Politics, Explained (Washington Post, April 3, 2013), available at <http://www.washingtonpost.com/blogs/the-fix/wp/2013/04/03/the-keystone-xl-pipeline-and-its-politics-explained/> (last accessed August 28, 2013).

[16] These include possible contamination along the pipeline route and an increase in Canadian tar sand extraction. See Alex Rogers, Another Day in Washington: About 50 Arrested At Keystone XL Protest (Time, July 26, 2013), available at <http://swampland.time.com/2013/07/26/another-day-in-washington-about-50-arrested-at-keystone-xl-protest/> (last accessed August 28, 2013).

[17] See Mark Dunn, Keystone XI the “Safest Pipeline Ever” (Sun News, December 2, 2011), available at <http://www.sunnewsnetwork.ca/sunnews/world/archives/2011/12/20111202-162023.html> (last accessed August 28, 2013) (noting that Alberta-based TransCanada Corp. has adopted 57 additional safety measures, including 21,000 censors linked to satellites to detect problems, along with a censor every 167 meters to monitor pressure, flow rates and to identify leaks); see also Claudia Cattaneo, TransCanada in the Eye of the Storm (Financial Post, November 9, 2008), available at <http://business.financialpost.com/2011/09/08/transcanada-in-eye-of-the-storm/> (last accessed August 28, 2013).

[18] See Juliet Eilperin, The Keystone XL Pipeline and its Politics, Explained (Washington Post, April 3, 2013), available at <http://www.washingtonpost.com/blogs/the-fix/wp/2013/04/03/the-keystone-xl-pipeline-and-its-politics-explained/> (last accessed August 28, 2013).

[19] See Andrew Weaver, New Study: Coal is 1500 Times Worse for the Environment than Oil Sands(Huffington Post, February 21, 2012), available at [http://www.huffingtonpost.com/andrew-weaver/the-alberta-tar-sands-and\\_b\\_1288264.html](http://www.huffingtonpost.com/andrew-weaver/the-alberta-tar-sands-and_b_1288264.html) (last accessed August 28, 2013).

[20] See, e.g., Shawn McCarthy, ‘Trains or Pipelines,’ Doer Warns U.S. Over Keystone (The Globe and Mail, July 28, 2013), available at <http://www.theglobeandmail.com/report-on-business/industry-news/energy-and-resources/transcanada-says-keystone-xl-will-create-many-jobs-despite-obama-interview/article13471894/> (last accessed August 28, 2013) (noting: “The risks of the growing volume of oil being shipped around North America by rail was highlighted this month with the derailment and explosion of a crude-carrying train in Lac-Mégantic, Que., killing 47 people.”).

[21] See Juliet Eilperin, The Keystone XL Pipeline and its Politics, Explained (Washington Post, April 3, 2013), available at <http://www.washingtonpost.com/blogs/the-fix/wp/2013/04/03/the-keystone-xl-pipeline-and-its-politics-explained/>

[pipeline-and-its-politics-explained/](#) (last accessed August 28, 2013); see also Yadullah Hussain, Alberta Exploring at Least Two Oil Pipeline Projects to North (Financial Post, April 13, 2013), available at [http://business.financialpost.com/2013/04/25/alberta-nwt-oil-pipeline/?\\_\\_lsa=d943-8e98](http://business.financialpost.com/2013/04/25/alberta-nwt-oil-pipeline/?__lsa=d943-8e98) (last accessed August 28, 2013).

[22] See, e.g., Smog and Mirrors: Sinopec's Big Plans Hit An Obstacle (The Economist, February 16, 2013), available at <http://www.economist.com/news/business/21571939-sinopecs-big-plans-hit-obstacle-smog-and-mirrors> (last accessed August 28, 2013)

[23] See, e.g., Id. ("As an arm of the state (and a more powerful one than the environmental-protection ministry) [Sinopec] has a lot of say in writing its own rules. That is perhaps why in much of China regulations allow the sulphur content in petrol to be as high as 150 parts per million, whereas European standards cap it at 10 ppm"); see also Ivan Watson, Chinese Police Crack Down on Anti-Refinery Protests (CNN, May 16, 2013), available at <http://www.cnn.com/2013/05/16/world/asia/china-protests> (last accessed August 28, 2013) (reporting on Chinese authorities' forceful response to protests); Jonathan Watts, Chinese Oil Spill Half the Size of London Went Unreported for a Month (The Guardian, July 7, 2011), available at <http://www.theguardian.com/environment/blog/2011/jul/07/china-oil-spill-cover-up-bohai-sea> (last accessed August 28, 2013) (reporting on an unreported 840 square kilometer oil spill).

[24] See Kevin Bullis, Shale Oil Will Boost U.S. Production, But It Won't Bring Energy Independence (MIT Technology Review, November 15, 2012), available at <http://www.technologyreview.com/news/507446/shale-oil-will-boost-us-production-but-it-wont-bring-energy-independence/> (last accessed August 28, 2013).

[25] See President Obama's Plan to Fight Climate Change (The White House, June 25, 2013), available at <http://www.whitehouse.gov/share/climate-action-plan> (last accessed August 28, 2013) (setting a goal to double the amount of power generated by wind and solar energy by 2020).

[26] The President has set a goal that the federal government will obtain 20% of its electricity from renewable sources by 2020. See Remarks by the President on Climate Change (The White House, Office of the Press Secretary, June 25, 2013), available at <http://www.whitehouse.gov/the-press-office/2013/06/25/remarks-president-climate-change> (last accessed August 28, 2013). This also echoes state energy targets. See President Obama's Plan to Fight Climate Change (The White House, June 25, 2013), available at <http://www.whitehouse.gov/share/climate-action-plan> (last accessed August 28, 2013) (noting 35 states have renewable energy targets and more than 25 have set energy efficiency targets).

[27] See Schalk Cloete, The Fundamental Limitations of Renewable Energy (The Energy Collective, August 6, 2013), available at <http://theenergycollective.com/schalk-cloete/257351/fundamental-limitations-renewable-energy>

[28] U.S. EPA, Renewable Energy (last updated August 6, 2013), available at <http://www.epa.gov/statelocalclimate/state/topics/renewable.html> (last accessed August 28, 2013)

(noting that it is sometimes difficult to store renewable energy, transport it from remote generation locations, or integrate it into existing electrical grids).

[29] See, e.g. Kenneth Artz, Proposed Wyoming Wind Farm Draws Environmentalist Opposition (The Heartland Institute, December 3, 2012), available at <http://news.heartland.org/newspaper-article/2012/12/03/proposed-wyoming-wind-farm-draws-environmentalist-opposition> (last accessed August 28, 2013) (noting groups opposing a wind farm in southern Wyoming that may disrupt a sage grouse nesting ground); see also, e.g., Amid Protests, Solar Companies Plan Desert Projects (The New York Times, September 23, 2008), available at <http://www.nytimes.com/2008/09/24/business/businessspecial2/24shrike.html?pagewanted=all> (last accessed August 28, 2013) (quoting the chairman of the Sierra Club's California/Nevada desert committee as stating: "Remote solar arrays destroy all native resources on site, and have indirect and irreversible impacts on surrounding wildernesses."); see also Edward Helmore, Solar Power Firms in Mojave Desert Feel Glare of Tribes and Environmentalists (The Guardian, March 11, 2012), available at <http://www.theguardian.com/environment/2012/mar/11/solar-power-mojave-desert-tribes> (last accessed August 28, 2013).

[30] See, e.g., Tom Zeller, Jr., Cape Wind: Regulation, Litigation and the Struggle to Develop Offshore Wind Power in the U.S. (Huffington Post, February 23, 2013), available at [http://www.huffingtonpost.com/2013/02/23/cape-wind-regulation-liti\\_n\\_2736008.html](http://www.huffingtonpost.com/2013/02/23/cape-wind-regulation-liti_n_2736008.html) (last accessed August 28, 2013) (describing the Cape Wind project as "stuck in a briar patch of legal challenges to its siting, mostly filed by a small but determined coalition of local residents and unusually wealthy property owners in the area who have no incentive to relent.").

[31] Jeffrey Thaler, a professor of energy policy, law and ethics at the University of Maine, has noted that there are currently as many as "50 different federal environmental and wildlife statutes and executive orders, largely enacted or promulgated since 1980 that create a daunting gauntlet of regulatory hurdles" to renewable energy projects. See Jeffrey Thaler, Fiddling as the World Floods and Burns: How Climate Change Urgently Requires A Paradigm Shift in the Permitting of Renewable Energy Projects, 42 Environmental L. J. 1101 (December 2012).

[32] This has also been proposed as a key move toward reducing global greenhouse gas emissions by the international community. See International Energy Agency, Four Energy Policies Can Keep the 2 °C Climate Goal Alive (June 10, 2013), available at <http://www.iea.org/newsroomandevents/pressreleases/2013/june/name,38773,en.html> (last accessed August 28, 2013).

[33] See The Southland's War on Smog: Fifty Years of Progress Toward Clean Air (Los Angeles County Air Pollution Control District, May 1997), available at <http://www.aqmd.gov/news1/archives/history/marchcov.html#The Arrival of Air Pollution> (last accessed August 28, 2013).

[34] For example, some automobile-related air pollutant levels have dropped by 98%. See National

Oceanic and Atmospheric Administration, NOAA, Partners Find 50-Year Decline in Some Los Angeles Vehicle-Related Pollutants (August 9, 2012), available at [http://www.noaanews.noaa.gov/stories2012/20120809\\_laairqualitystudy.html](http://www.noaanews.noaa.gov/stories2012/20120809_laairqualitystudy.html) (last accessed August 28, 2013); see also *Id.* (noting volatile organic compounds in the air have dropped by half); Los Angeles Air Pollution Declining, Losing its Sting, Says New CRES Study (University of Colorado-Boulder, June 4, 2013), available at <http://www.colorado.edu/news/releases/2013/06/04/los-angeles-air-pollution-declining-losing-its-sting-says-new-cires-study> (last accessed August 28, 2013) (describing a decrease in eye-stinging organic nitrate in the air).

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