



North American  
COALBED METHANE FORUM

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## **MARK YOUR CALENDARS**

The North American Coalbed Methane Forum will hold its 56<sup>th</sup> session on Tuesday May 17, 2016 at the Hilton Garden Inn at Southpointe. Presentations will include legal updates and international coal seam gas activities; coal to liquids and advances in coal degasification; update on the Nora coalbed methane producing field and satellite control of CBM wells. Luncheon keynote speaker will be Mr. Chris Hamilton of West Virginia Coal Association. For presentation and registration information, please contact Dr. Kashy Aminian at 304-293-3964 ([kaminian@wvu.edu](mailto:kaminian@wvu.edu)). For forum sponsorship information, please contact Ms. Beth De Maagd at 412-389-8467 ([demaagdconsulting@gmail.com](mailto:demaagdconsulting@gmail.com)).

## **ENERGY OUTLOOK TO 2035**

According to BP's Energy Outlook, fossil fuels will continue to provide most of the world's energy, providing almost 80 percent of global supply in 2035. Renewable energy, is expected to almost triple its share by 2035, but still only represent just 8 percent of the global supply. Shares of primary energy in 2035 are expected to be as follows: coal – 25 percent; hydroelectric power – 8 percent; natural gas – 25 percent; nuclear – 5 percent; oil - 29 percent and renewables 8 percent. Globally, coal was the fastest growing fossil fuel since 2000 but between 2013 2035, BP expects it to be the slowest growing fuel, growing at 0.8 percent per year, mainly due to the slowing of coal based industrialization in Asia, the impact of environmental regulations in many countries, and low natural gas prices in major markets. Natural gas will become the fastest growing fossil fuel, growing at 1.9 percent per year. Similar to coal, oil will grow at just 0.8 percent per year. In percentage terms, the fastest growing will be non – hydroelectric renewable energy, growing at 6.3 percent. Nuclear will grow at 1.8 percent and hydroelectric at 1.7 percent per year.

## **FOSSIL FUELS, NUCLEAR AND RENEWABLES: ALL HAVE A ROLE**

With the projected global growth for energy demand, the world will need all energy sources to meet the demand and satisfy certain political criteria: national security – homegrown energy sources; low cost for competitive purposes and environmentally safe for political reasons. Fossil fuels can continue to be used safely to the extent that their carbon dioxide emissions, which have decreasing, are captured and stored underground. Nuclear energy can continue to be used safely with improvements in nuclear technology. Renewables, including solar and wind, are falling in cost and are expanding in application. It is imperative that the world leaders, including the leaders of US political parties, move beyond the sterile defense of one energy source vs. the others and instead embrace homegrown, low-cost and low emission energy from fossil fuels, renewables and nuclear power. (The Wall Street Journal January 2-3, 2016, p. C 22).

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## **GLOBAL WARMING VS. CLIMATE CHANGE**

### **(WHEN DID GLOBAL WARMING END AND CLIMATE CHANGE BEGIN?)**

#### **ANTARCTIC ICE SHEET EXPANSION**

Some Antarctic ice sheets have been found to be growing faster than shrinking on the frozen continent. NASA findings seem to contradict earlier studies that suggested melting Antarctic glaciers are contributing to global sea level rise. According to glaciologist Jay Zwally, “the scientists are in agreement that there is an increase in ice discharge in the Antarctic Peninsula and the Thwaites and Pine Island region of West Antarctica, but our main disagreement is for East Antarctica and the interior of West Antarctica: there we see an ice gain that exceeds the losses in the other areas.”

(The Pittsburgh Tribune Review, November 15, 2015 p. A14)

#### **PERIOD OF SOARING EMISSIONS MAY BE ENDING**

The industrial emissions of greenhouse gases rose only slightly, by 0.6 percent, in 2014 and appear to be on track to decline in 2015. The decline raises the possibility that the period of rapid global emissions growth may be coming to an end. The projected decline of 0.6 percent in 2015, suggests that global emissions have already peaked and may be starting a long term decline or a lower growth rate of emissions for years to come. (The New York Times, December 8, 2015 p. A11)

#### **WARMER ALASKA: 69 MILLION YEARS AGO**

Researchers have found a new species of dinosaur that lived 69 million years ago above the Arctic circle, the farthest north that dinosaurs have been found. The dinosaur, named *Ugrunaaluk kuukpikensis* belongs to the hadrosaur group of duck-billed, plant eating dinosaurs. The climate when *U. kuukpikensis* flourished was much warmer than today, with average temperatures in the low 40s. According to the researchers “these are not the same species as at the lower latitudes. What we have is a unique community of dinosaurs that lived in the polar regions when the world was a very different place”. (The New York Times, September 29, 2015 p. D5)

#### **PRESIDENT PUTIN ON GLOBAL WARMING**

Russian President Vladimir Putin says global warming is a “fraud” and a ruse to keep Russia from tapping its vast oil and natural gas reserves. Putin believes man-made global warming is an attempt “to restrain the industrial development of several countries,” including his own. According to Stanislav Belkovsky, a political analyst and a Putin critic, the Russian media’s skepticism of climate change stems from Putin’s laissez faire attitude toward global warming and climate change. (The Pittsburgh Tribune Review, October 30, 2015 p. A4)

### **LIGHTER SIDE OF METHANE**

#### **NATURAL GAS FROM HOG MANURE**

One of the largest biogas projects of its kind in the US is being installed in the northern Missouri to convert manure from about 2 million hogs into renewable natural gas. The joint project, involving Roeslein Alternative Energy and Smithfield Food Hogs Production, will work with hogs from nine farms. Developers expect to produce about 2.2 billion cubic feet of pipeline quality natural gas providing an alternative energy source and keeping the methane from escaping into the atmosphere. (The Pittsburgh Post Gazette, November 16, 2015 p. A7)