**AAPG European Region Annual Conference**
**Paris-Malmaison, France**
**23-24 November 2009**

# Which FUTURE for the USE of COAL?

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Coal is the fossil fuel which is the most abundant on the planet. It still contributes to nearly 30% of the primary energy consumption worldwide. Its proven reserves amounted to 847 Gt in 2005 as estimated by the World Energy Council thus representing 145 years of consumption at the end of 2005.
In addition to that, coal is reputed to be evenly distributed leading to a limited commercial exchange representing only 15% of the total quantity consumed worldwide.

Since 2005, a sharp increase in the coal demand has occurred mainly driven by China whose consumption strikingly increased from 1Gt in 2000 to 2.5Gt in 2007 representing in itself more than the total consumption of the US, the EU and Japan all together.

With 450GW coal fuelled power plants in place and another 1200GW to be built by 2030 (the pace of building new coal power plants which was in 2007 of the order of three 600MW power plants per week) this trend will not come to an end. China reserves are rapidly decreasing representing in 2005 only 47 years of consumption according to BP statistics review and are decreasing more than one year per year since then.

For the first time in 2007 China became a net importer of coal.

Considering the shortage of oil reserves, some countries including China are even considering using coal for producing synthetic fuels as it has been the case for decades in South Africa. Considering all these features: increase of the power plant capacities, new utilizations of coal, this could create some swing effect in the worldwide coal demand and supply.

The replacement of coal reserves is of outmost importance for sustaining the production and calls for a large exploration effort.

But simultaneously, another challenge needs to be addressed. As coal is responsible for 40% of the total fossil fuel emissions, the implementation of CO2 capture and storage on all coal based energy system (starting with coal fuelled power plants) is mandated.

## Reference

F. Kalaydjian and S. Cornot-Gandolphe, La nouvelle donne du charbon, Ed. Technip, (2008) (in French, English translation to come)