

**Let us speak about « *Big Brother* » and Energy security**

Independent since 1768, but stuck between the two emerging superpowers (China & India) without any mineral resources or access to the sea, Nepal is one of the poorest countries in the world.

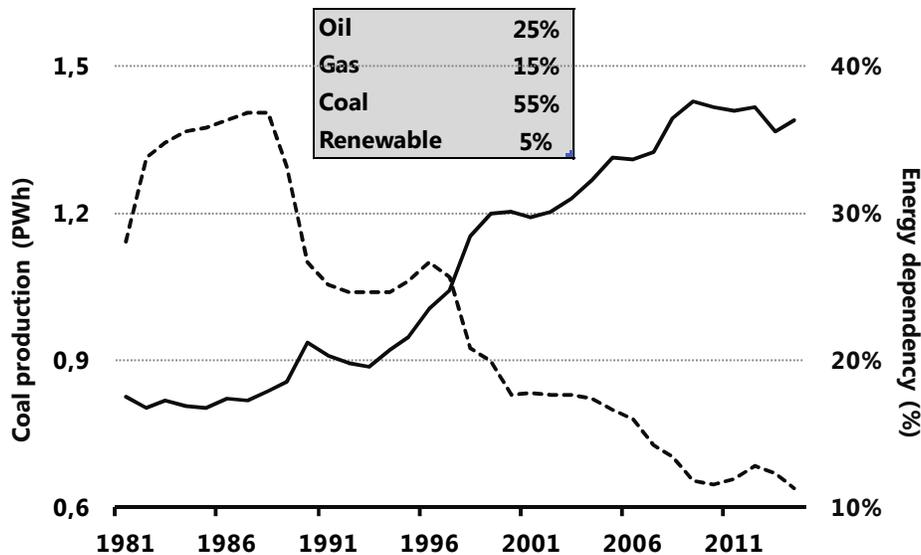
Most of its population lives below the poverty line with less than 2€/day. Access to energy (gas and oil), which is entirely dependent on the goodwill of the "Great Indian Brother" has become a particularly acute problem for the new government of Oli Sharman whose policy is not fully aligned ... with the vision of the Indian authorities. Under the sacred and classical "defense of Indian minorities", India has put Nepal under oil and gas embargo. The result is a humanitarian crisis. Power shutdowns, lack of heating and long queues at fuel distribution points have become the day to day life of the Nepalese. After the catastrophic earthquake of 25 April 2015 (7.8 on the Richter scale, 8,000 dead, 14,000 injured, 8 million homeless) that ravaged part of the country, this energy embargo is killing tourism which represents the main source of Nepal currency and a significant share of its GDP. Apart from a short-term trading with Indian authorities to solve the current crisis, Nepal needs to diversify its oil imports by developing an appropriate strategy with China. Not simple insofar as the Himalaya represents a huge logistical challenge requiring the development of tremendous and expensive infrastructure (roads, tunnel, pipeline systems, storage). Nepal should also further develop its hydropower capacity by privatizing the energy sector a key issue in a still neo-Marxist culture.

Blackmailing the "cheeky little brother" using energy is unfortunately a historical constant. The dispute between Nepal and India is only a "cut and paste" of the quarrel between Russia and Ukraine whose energy supply depends entirely on the great Russia. Recall that President Yanukovitch set up by the Kremlin had strictly applied the policy imposed by Putin's administration. After Yanukovich ousted, the new president Petro Poroshenko tried to take distance with Moscow and develop stronger relationship with the European Union. We know the rest. Putin got hold of Crimea populated by Russians. And if ever "the sound of boots" were not enough, threaten to cut off the gas tap in a country where temperatures drop in winter below -30 ° C is certainly extremely effective to force the Ukrainians to return the row.

For former Warsaw Pact countries like Poland or the freshly emancipated Baltic countries within the European Union, energy independence vis-à-vis the "Russian big brother" is today priority.

Poland and Russia have always maintained stormy relations whose wounds are still not healed. Political rhetoric in Poland and Russia refers constantly to the past and feeds the memory of bloody conflicts which have opposed the two countries over their History. Poland and Russia have always competed in Central and Eastern Europe. Lithuania, Belarus and part of Ukraine have been during hundreds of years Polish territories. The Russians have the memory of the year 1612 when the Polish army occupied the Kremlin while the Polish remember that in the eighteenth century when Poland was dismantled in favor of Russia, Prussia and Austria. Polish remember their victory in 1921 against the Bolsheviks but also the fatal treaty of August 23 1939 when Ribbentrop and Molotov decreed the "fourth partition of Poland." Finally, the Polish cannot forget their subservience to Moscow during the Cold War. The argument is not that political. Historically, Poland is the vanguard of Christianity and practice a traditional Catholicism hostile to Russian Orthodoxy. The collapse of the Soviet Union has been experienced by Polish as a miracle occurred after three centuries of threat and dependence. Without waiting, they threw themselves into the arms of Americans, have joined NATO and became EU member. For Russians, the dismantling of the Soviet Union was seen as a disaster. Putin's dream of restoring the empire remains a fantasy for the Russian and for the Polish a permanent source of anxiety.

Poland, whose energy mix is made up of 95% of fossil fuels has always been a coal country rich of its famous mines of Silesia. But from the second half of the 1990s, it has seen its production decline from 120Mtoe in 1990 to 55Mtoe (**Figure 1**). It remains the first European producer of coal and the second largest consumer after Germany. Coal accounts for 54% of its primary energy mix and 84% of its electricity mix. Coal is for Poland a major main element of energy independence. With its coal, Poland has an energy dependency of only 35%, one of the lowest in the European Union. However, to cope with the decline of its coal production, Poland started since the mid-1990s to massively import Russian gas which covers today 80% of its needs. Poland does not produce neither nuclear nor solar photovoltaic. Its wind capacity is only 4GW. The priority of the Polish agenda is therefore to reduce this dependence by all means.



**Figure 1 – Coal production and development of the Energy dependence of Poland vis-à-vis Russia**

*Source of data: BP 2015 outlook*

Three scenarios are considered by the Polish government (1) a continuation of the current scheme i.e. substitute coal downward along a gas ramp-up (2) a scenario based on an aggressive rise of nuclear (3) a scheme based on a nuclear portion and a renewable part.

The choice of the scenario will be strongly influenced by its ability to produce (or not) its domestic reserves of unconventional gas: Pomerania shale gas and coal bed methane from Silesia. The shale exploration program for the past 5 years resulted in the drilling of 70 exploratory wells, including 16 horizontal wells. The result was very disappointing: the best well only produced a peak of 25000m<sup>3</sup>/day. Consequently, in 2013, the EIA lowered its very optimistic initial estimates of 2011. The willingness of Polish remain however intact: public opinion is favorable to more than 80% in a country where the extraction of mineral resources is a cultural tradition. Resources are under the authority of the Ministry of Environment which oversees the management of granted licenses as wells as the environmental and geological monitoring.

The attempt to develop shale gas not having yet succeeded, Polish opened the way to other sources gas through the Swinoujscie LNG terminal recently opened on the Baltic coast. Compared to Nepal, Poland has indeed the decisive advantage of access to the sea.

So we readily understand why Silesia mine coal production will remain the foundation of the Polish energy security. Despite the decline in its production, Poland has sufficient coal to meet its needs for over forty years.

It also includes the initiative of the new President of the European Council Donald Tusk who in May 2014 proposed to create the European Union Energy.

Finally we understand why Jerzy Buzek, former president of the European parliament, told us recently during a conference in Brussels that "for Europe in general and Poland in particular, the energy transition can not be restricted only to the reduction of GHG. Energy independence must be the first pillar.

For Polish, displacing coal to gas cannot be envisaged via an increase of Russian gas dependency. This has a price: the CO<sub>2</sub> impact of a Polish citizen is of the order of 8.5 t/capita\*year well above the European average. One example among others that History and Geopolitics far outweigh the environmental objectives. Reducing greenhouse gas emissions is a secondary target for the Polish. It will wait!