

## Foreign energy independence and common defense policy: Chile's option

Our present energy crisis has awoken Chile: as of year 2006, domestic energy production –essentially hydroelectricity - represented 24% of total domestic energy consumption, another 24% - natural gas - was supplied from Argentina, a neighboring country, and the rest – 52%- came from multiple foreign coal and oil producers. In that same year, this country consumed 27.9 million tones oil equivalent (mtoe), or less than 0.3% of world primary energy consumption which reached 10,878 mtoe[1]. One year later, natural gas flows coming from Argentina were reduced to a minimum level because of their purely domestic and self created market disruption: the government arbitrarily fixed natural gas prices too low, thereby causing underinvestment, less supply and overconsumption (surprising?). For Chile, the real problem was not that of rising prices – besides stating the obvious that cheaper energy was better for a net importing energy country -, but one of reliability.

And in that perspective, we failed big.

New developments are now underway: a country that used to state as if written in stone that it had no oil or gas is finally opening exploration to private bidders to oil and gas fields that will certainly prove wrong previous mindsets, considering the no small fact that all our neighbors have both. In that sense, it will turn out to have been an expensive way to protect a state owned company from competition (old story?), even with evidence to the contrary.

On the other hand, Chile has no nuclear power because of its historically higher relative investment and operational costs compared to alternatives such as Argentina's natural gas (which turned out to be unreliable) and domestic hydroelectric power that made it economically inefficient in the short term.

These are the domestic facts. The other relevant ones are that the US is also deficient in energy, as is Japan and the EU, having all nuclear power, and that some countries with surplus energy have under strained market conditions myopically gone beyond civilized behavior – such as Russia cutting natural gas to Ukraine and Europe, Iran and Venezuela following its steps with third world rioting disturbances, Bolivia ironically offering natural gas in exchange for a sovereign spot in the Chilean Pacific, Argentina cutting Chilean natural gas exports while keeping unaltered domestic markets, etc. -. The reality is that today's world supply energy is sadly concentrated in places that are not to be easily trusted.

And that is why defense policy cannot be independent of energy policy. Free trading and developed countries, usually energy deficient ones, have a natural tendency and necessity to also form military alliances: Romans knew best. Our country, Chile, aspires to be part of this economic world; it now has to be part of its defensive military structure and get support for a relevant nuclear power development in exchange. Serious countries, serious free trade policies, serious energy independence policies, serious defensive military alliances: a clear message to countries like ours.

[1] BP Statistical Review of World Energy 2007

In our case, Chile should define that at least 10% of its total energy needs were to be supplied by nuclear power under this alliance scheme. Because domestic electricity generation represents almost 50% of total energy use, that would mean

that approximately 20% of electricity would be based on nuclear power -US today shows similar figures-, ideally located in northern Chile's Atacama Desert. The above would mean that by year 2020, with an electric generation capacity reaching close to 26.000 MW, 5.200 MW would have to correspond to nuclear power. Given new developments in hydroelectric power in southern Chile's Patagonia, total hydroelectric generation capacity could triple to 15.000 MW, a much bigger figure relative to present environmentally biased estimations. Oil and coal would make up for the remaining electricity generation fuel, less than 20%. As for the other energy uses different to electricity generation, mainly transportation, and which represent close to 50% of total needs, oil would remain essential, unless new and cheaper alternatives were to come in place.

It is only under this new energy matrix that natural gas from Argentina could make sense on a marginal basis, considering also that alternative LNG terminals are being built. And in terms of economic costs, nuclear technologies and southern hydroelectric power should be economically efficient under a US\$ 50 per barrel of oil long term scenario, a low price tag for energy security and reliability.

How to move then forward? In Latin America and Chile in particular, because of history, permanent presence and capability, the US, Great Britain and France are natural candidates with whom to agree on technology transfers and defensive pacts, preferably the first two in our case. Now, in an era of global terrorism and missile technology in the wrong hands, it makes sense to offer places to radar and missile defense sites in southern Chile, to protect us and the rest.

The world is dangerous and Chile has to bet for the right long term partners. Neighboring countries could also apply for this kind of agreement, but what we cannot do is to wait for their decisions. Sovereign status is only a paper diploma if we are not able to move our country with our resources in times of need, resources to come from within our borders or a reliable long term economic and military defensive alliance.

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