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EURASIAN REVIEW OF GEOPOLITICS

THE ENERGY GAME

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EDITORIAL

The liturgies of extreme times

1. The Earth is almost five billion years old and at best will last another five billion years before the Sun goes out. This of course with the concurrence of the 718 currently registered potentially dangerous asteroid, of which one, Apophis (the Greek name for the Egyptian god Apep, «the destroyer») will cross the orbit of our telecommunications satellites on April 13th 2029[1].

Nowadays human beings can expect to live one hundred years, the bat of an eyelid in the planet's history, which for each of us ends and will always end in death. The end of the world is a repeated experience and is repeated every time a homo *more or less* sapiens *closes his eyes forever. And yet the idea of a* vita brevis *is so difficult that we often prefer to consider ourselves the absolute beings of an absolute universe. Hence the Atlas reflex: we feel responsible for the world. We are the self-appointed managing directors. Compensatory mechanisms psychologists would say; also because as the tutors of 'Everything' we are able to neglect our neighbours.*

*The field in which this syndrome is mainly applied is nowadays that of "climate change". Of course, this definition sounds strange since it implies a perverse deviation from a static climate that has never existed. Using available data and pretending that current measuring is compatible with that of the 19th century, it seems certain that the earth's average temperature has increased by almost one degree in the course of the past one hundred and fifty years. The heart of the matter consist in whether we are the ones heating up the planet by emitting into the atmosphere excessive amounts of carbon dioxide (CO2), accentuating the «greenhouse effect», or not (*see map below*). If indeed it is our fault, do we still have time to redeem ourselves or are the years left for our species numbered? And should this be the case, what can or should we do?*

Presented in such a manner the issue of global warming seems to be eminently real. It is actually a religious war with slogans hurled from one professorship to another as well as excommunications inflicted through the press. Leaving aside media shorthand, the public debate on global warming has now moved from the scientific sector to the political one becoming an ideology. In the extreme, negationist or catastrophic forms, there remains no trace of any scientific methodology.

The differing theses are presented as irrefutable. They arise from abandoning themselves to the rationality of what is real (to the power of nature) or, on the contrary, from anthropocentric presumption (where even the Earth is a persona*). They spread due to the laziness of those implementing an economy of doubt so as to draw comfort from the dogma. These are cases of "inventing the truth", as Bruno de Finetti described "the pointless imprudence of being the guarantor of a certain idea for the whole of eternity, when tomorrow will belie it»*[2].

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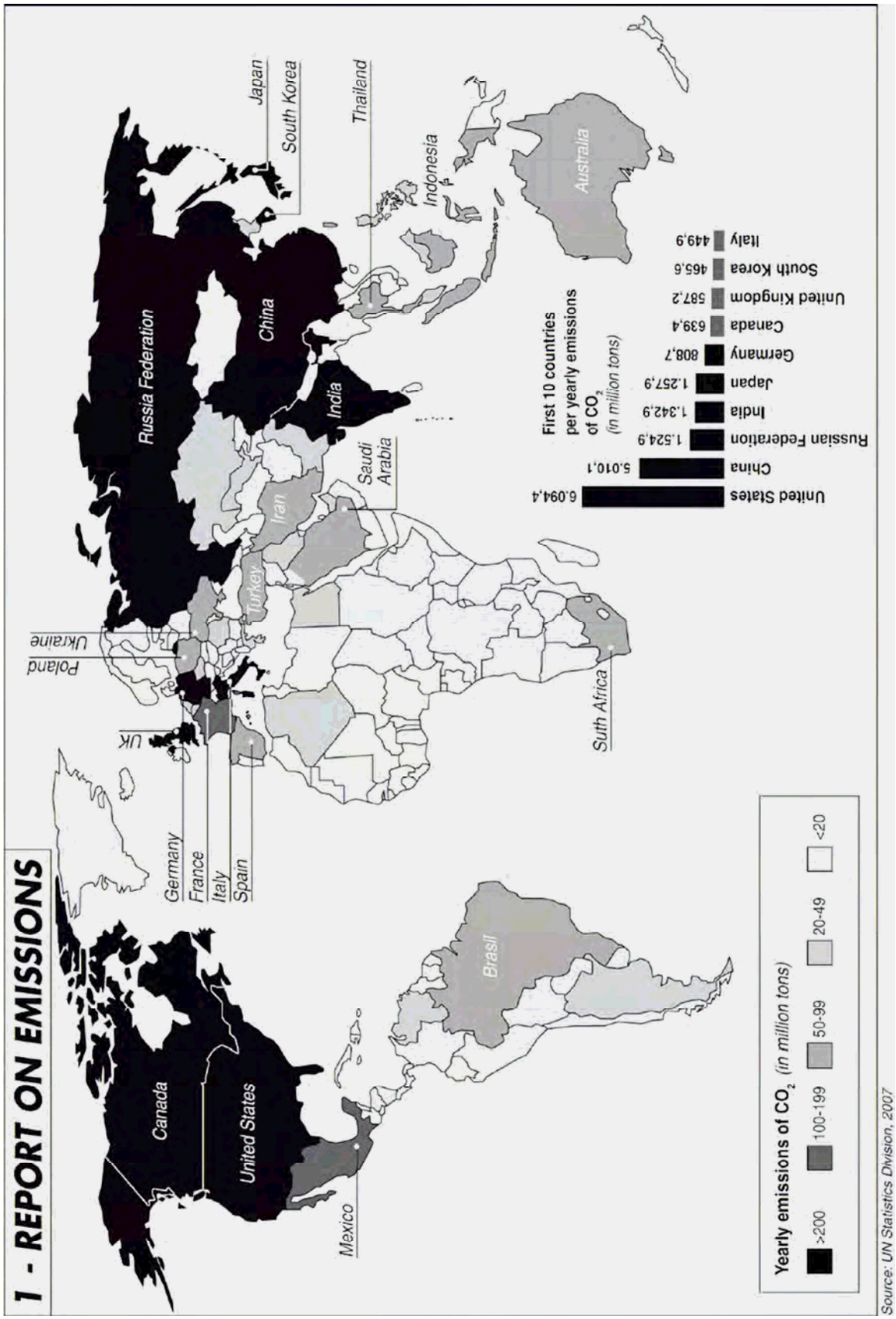
1 *See B. MCGUIRE, Global Catastrophes. A Very Short Introduction, Oxford 2005, Oxford Uni. Press, p. 5.*
2 B. DE FINETTI, *L'invenzione della verità*, Milan 2006, Raffaello Cortina Editore, p. 72.


1 - REPORT ON EMISSIONS
Canada
United States
Mexico
Brasil
Germany
France
Italy
Spain
UK
Poland
Ukraine
Russia Federation
Turkey
Iran
Saudi Arabia
Suth Africa
China
India
Japan
South Korea
Thailand
Indonesia
Australia
Yearly emissions of CO2 (in million tons)
>200
100-199
50-99
20-49
<20
First 10 countries per yearly emissions of CO2 (in million tons)
United States 6.094,4
China 5.010,1
Russian Federation 1.524,9
India 1.342,9
Japan 1.257,9
Germany 808,7
Canada 639,4
United Kingdom 587,2
South Korea 465,6
Italy 449,9
Source: UN Statistics Division, 2007

We are less competent than anyone in resolving such a learned debate. If we address the issue here it is only due to its geopolitical ramifications. Far more quickly than the climate, the scandal surrounding climate change is contributing to changing the world's geopolitical scenario. Let us analyse how and why.

A) Even if from an almost-scientific point of view the sceptics may be right, politically they have already lost. The collective Nobel Prize awarded to IPCC, the UN body responsible for illustrating the state of the art as far as global warming *is concerned, in parallel with' former US Vice-President Al Gore, the author of a successful pamphlet/documentary on this subject*[3]*, decrees the victory of the alarmists. Or of the prudent, if inspired by the principle of responsibility: when in doubt it is best to trust in the less comforting scenarios and act consequently. Hence, at least in the West, public opinion is orientated towards the anthropogenic theorem, in the comforting version: we are making mistakes but we can rectify matters.*

The UN panel's models project apocalyptic scenarios in this century, with the earth's temperature increasing by up to 6.4 degrees, the ice melting and the consequent rise in the levels of the oceans to the extent that these will endanger the inhabitants of vast coastal areas as well as galloping desertification and consequent mass migrations. To mitigate the apocalypse it is imperative to restrict greenhouse emissions, in particular carbon dioxide produced by the oil, gas and carbon combustion which provides over 85% of global energy. With regards to the fact that to maintain current concentrations of carbon dioxide in the atmosphere we would have to reduce fossil energy production by 80%, we prefer to omit it[4]*.*

B) Environmental and energy issues are two sides if the same coin. Consequently the outcome of the battle will be determined on the front of fossil by-products; a battle that appears to be already lost. At least if one believes the most media-popular forecasts that should be taken with a pinch of salt. According to the scenario referred to by the IEA (International Energy Agency), between 2005 and 2030 global energy demand will increase by over half, of which almost nine tenths in oil, carbon and gas, with a consequent increase in CO2 emissions amounting to 57%.[5] *We do not however appear to have any available "clean" and renewable energy capable of replacing carbons for the coming decades. We can rely on partial solutions, attempting to save and ensure energy efficiency, we can rely on biofuels (also debatable from an ecological as well as an economic viewpoint), on nuclear energy and, to a limited extent on renewable sources such as the wind and the sun. In any event, always according to the 'vulgate', the substance of the dilemma remains: we cannot run on fossils without transfiguring the planet to the extent of making it uninhabitable.*

C) But energy is economy and hence life quality. Any ecological/energy strategy implies consequences in terms of lifestyle. For Americans their lifestyle is the nation's inalienable raison d'etre. For those like us this is not yet the case, but if pushed it will be. This results therefore in one last and decisive consequence.

D) Seeing that there is no global solution for this global problem, there are in theory two possible outcomes: repression or conflict. In the first case the specie's general assembly establishes that since there is no solution the problem is no longer an issue, and one continues to live cheerfully oblivious for as long as we are permitted to. Or, less improbably, we battle for all available energy, economic and technological

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3 See the 2007 IPCC report at www.ipcc.ch e A. GORE, *An Inconvenient Truth*, Emmaus (Pa-USA) 2006 and the film on DVD.

4 See *World Energy Outlook 2007*, International Energy Agency, p. 192.

5 See article by G. VISCONTI in this edition and his *Extreme climate. An introduction to times to come*, Milan 2005, Boroli, p. 195.

resources, in a conflict resulting in nothing at all. From ideology to geopolitics. The objective of the strongest is to make use of resources useful for preserving the quality of their environment and lifestyle, unloading on the less well-equipped the consequences of climate change and the lack of energy sources, be these "dirty" or not. And this is precisely what is happening under our eyes.

Brought back to earth, alarmism regards to the climate contributes to increase the perception of an energy emergency that is hard to control, which in turn projects dark shadows on the global economy's prospects. This is an anxiety-inducing chain of events. One of the "trains of fear" periodically moving through human societies. The reality of these fears is unimportant; they still contribute to geopolitical fragmentation at a global level, the post Cold War hallmark. A world in fieri*, that has just turned eighteen (the Wall came down on November 9th 1989, although it feels like a century ago). An adolescent far from the demarcation line. When it crosses it, it will mature a new world paradigm, and with it perhaps another environmental and above all energy order. But this will not happen in the near future.*

The point is not whether in the decades to come we will produce enough energy for all the rich not to feel poorer and all the poor to feel richer, without distorting our habitat. That is an impossible paradise. If tomorrow China and India were to consume resources and therefore produce as much pollution and greenhouse gasses as the USA does today, two Earths would not be sufficient. The question is who will be able to get rich, breathe acceptable air and drink good water and who will be unable to.

What is at stake? Who are the main players and which are their projects?

2. Let us start with the atmosphere. No one any longer believes in the fairytale according to which the air we breathe is a common good. On the contrary, it is a resource fought over just as much, if not more than hydrocarbons. Because if oil first, and then gas and carbon much later, are destined to run out in the course of a few decades (respectively 4.7 and 20 according to rash estimates),we can always hope that technology will "invent" some alternatives, and should things go badly we can always go back to candles and get back onto our horses. A new El Dorado or new Middle Ages. The atmosphere however is a matter of life or death. Or, to say the least, a matter of health or sickness. Large companies are already including air quality among factors for choosing their headquarters, because large brains need clean air.

Even the Kyoto protocol, a ruinous environmentalist icon, decrees the sharing out of the atmosphere. It is based on the concept that every country produces different amounts of greenhouse gasses, it classifies these into three categories with different objectives for the reduction of CO2 , and using a complex system of credits, it creates a market for carbon dioxide emissions in which the worse offenders clear their consciences by unloading their sins on the weak (but also on China and Russia) and encourage them to follow their mistakes so as to regain the right to sin. It is clear that the creators of the Kyoto protocol had studied trafficking in indulgencies.

The skies are divided not only between States, but even within them. For example take American climate federalism. In the country that with 5% of the world's population emits 25% of greenhouse gasses –and the Senate of which has rejected with 95 votes to none the Kyoto protocol, considered too expensive and not binding as far as poorer countries are concerned – every State has its own policy on climate change, ranging from denial to committed ecology, following ideological lines. While for ultra-conservative Texas the problem does not even exist, hence as far as environmental-energy issues are concerned it rigorously minds it own business (to the extent that it has built its own electricity network), the liberals in California, Illinois and New York emit amounts of greenhouse gasses per capita inferior to the national

average[6]. And the Governor of California, Arnold Schwarzenegger leads a front consisting in 15 States of the Union demanding the right to impose their own rules precisely against CO2 emissions even against Washington's will.

If the atmosphere can be divided, imagine the climate; in both facts and in intentions. "Global warming" is perhaps not as warm as feared (or hoped) by apocalyptics, but it certainly is not global. For Africa it already means desertification, hence hunger and migration. To a lesser extent the same applies to the Mediterranean: at least one fifth of Sicily is turning into a desert, while 5% of Italy's territory is already experiencing serious droughts[7]. In the Great North instead, the melting of the ice has inflamed the imagination of tourist and commercial operators, already seeing Greenland as living up to its name, while the North-West passage is once again navigable. Above all, companies bet on the energy bonanza hidden below the deep Arctic waters, to the extent of investing there 200 billion dollars in 2006 alone[8].

Not only do we suffer or unintentionally change the climate, we also manipulate it for strategic reasons. Ever since the Romans covered the land of Carthage with salt, the environmental weapon has changed significantly. In 1996 the American Air Force published a paper entitled "The climate as a multiplier of power: owning the climate in 2025". This is the date by which US "aerospace forces" will be capable of "owning the climate", hence capable of using it as a weapon of war. Thanks to new technologies it will be possible – and to a certain extent it is already possible –"to create a made-to-measure micro-climate"[9].The HAARP project (High Frequency Active Auroral Research Program), financed by the Pentagon, is aimed at warming and destabilising the ionosphere by projecting onto it more than 1.7 gigawatts of electromagnetic power, with devastating effects on the weather.

The Russians too cultivate sophisticated technologies for environmental war, so much so that the most frantic conspiracy fans attribute hurricane Katrina to one of Putin's schemes.

3. But it is the energy scenario that is the best detector of global geopolitical dynamics. There is a revolution taking place, especially within the oil sector. Power games between historical majors modestly known as International Oil Companies (IOCs),and those more or less owned by states (National Oil Companies, NOCs), have been overturned. During the Sixties the "seven sisters" controlled 75% of all reserves and 80% of production. Nowadays they are obliged to make do respectively with 6% and 24% (and for gas with20% and 35%). From the Saudi owned Aramco to Libyan LNOC, including the Iranian NIOC, Russia's Gazprom and Petrochina, 66% of the world's reserves belong to the top ten companies controlled by producing countries.

*Almost all these are in critical areas, especially the Middle East, affected by the "war on terror" (*see map below*).*

Furthermore, state owned companies manage nearly all natural gas. This is a not very ecologically correct but an increasingly lucrative business, helped by contained and stable prices also due to little exposure to speculation. Partnerships are formed at a regional level. For the USA there is the threat of a gas cartel led by Russia, Iran, Algeria and Qatar. This is a means of global influence handled by people who are ambiguous or clearly hostile to Washington. The negative paradigm consists in bilateral agreements between nations, through the NOCs; with which governments try

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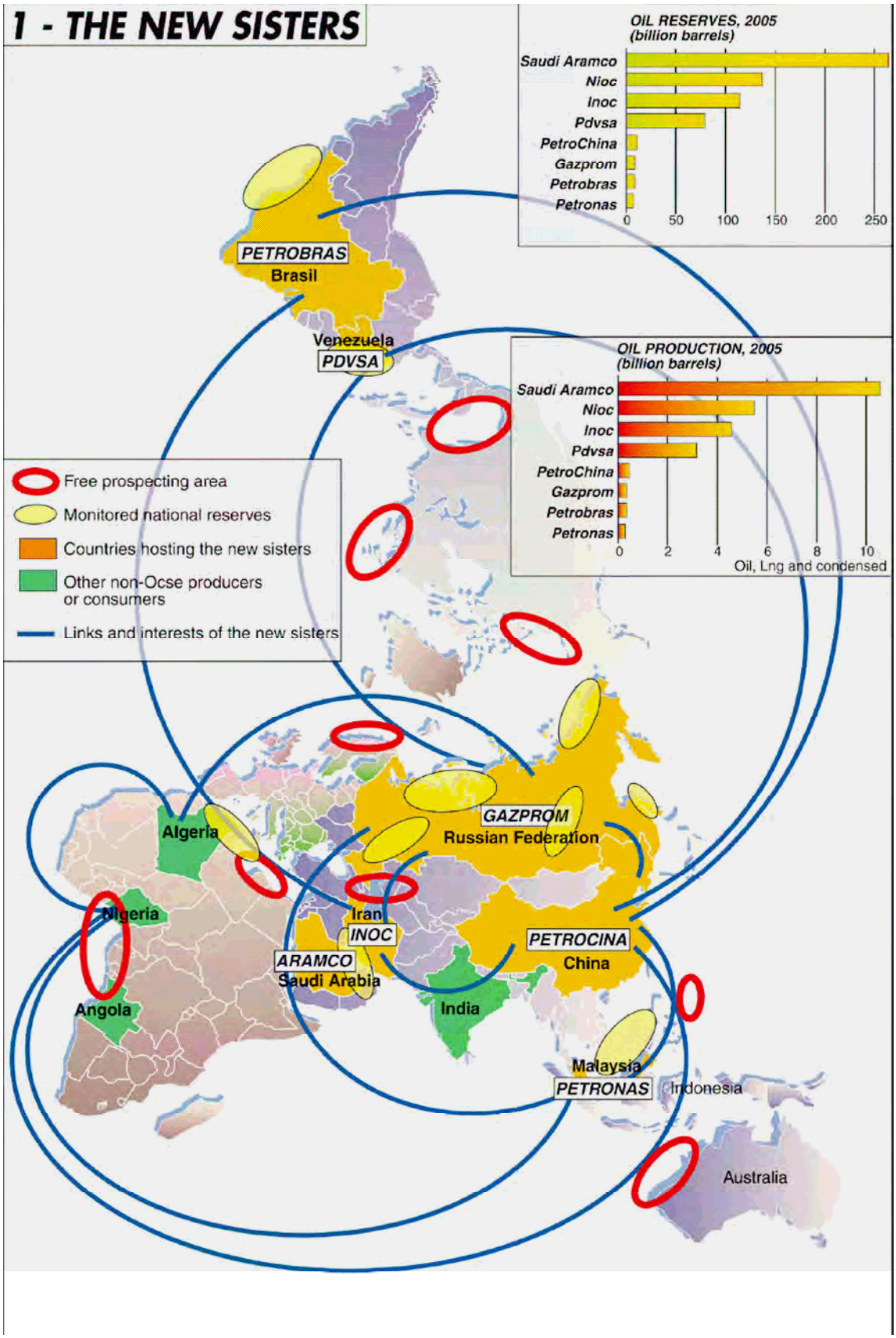
[6] See W.R. NESTER, «Global Warming, National Security, and Statehouse Policies», an article soon to be published in our e-magazine *Heartland*, www.heartland.it

[7] P. MESSINA, «The desert advances in Sicily», published on our website www.limesonline.com

[8] J. MOUAWAD, «Quest for new energy supplies is becoming tougher», *Int. Herald Tribune*, 8/10/2007.

[9] «Weather as a Force Multiplier: Owning the Weather in 2025», a paper by a group of American Air Force officers, published in August 1996; www.maxwell.af.mil/au/2025/volume3/-chap15/v3c15-1.htm


1 - THE NEW SISTERS
OIL RESERVES, 2005
(billion barrels)
Saudi Aramco
Nioc
Inoc
Pdvsa
PetroChina
Gazprom
Petrobras
Petronas
0
50
100
150
200
250
OIL PRODUCTION, 2005
(billion barrels)
Saudi Aramco
Nioc
Inoc
Pdvsa
PetroChina
Gazprom
Petrobras
Petronas
0
2
4
6
8
10
Oil, Lng and condensed
Free prospecting area
Monitored national reserves
Countries hosting the new sisters
Other non-Ocse producers or consumers
Links and interests of the new sisters
PETROBRAS
Brasil
Venezuela
PDVSA
Algeria
GAZPROM
Russian Federation
Nigeria
Iran
INOC
ARAMCO
Saudi Arabia
PETROCINA
China
Angola
India
Malaysia
PETRONAS
Indonesia
Australia

and ensure energy for themselves bypassing the market's classic mechanisms. It is the Putin-Gazprom theorem applied to individual European States, which Bush does not wish to become a global one.

The NOCs express the interests of developing non-Western countries that are in need of energy. Hence they merge the producer's interests with those of consumers. While the management of national resources has resumed, with a more conservative rhythm compared to IOCs (overestimated reserves must be made to last as long as possible),they move in groups in search of hydrocarbons, forming sulphurous constellations in which the Iranian, Venezuelan, Russian and Chinese stars shine brightly, exchanging the know-how acquired when they were submitted to the majors. And the IOCs? They organise things so as to act as operators within the logic of producing states. In all events this is big business.

Energy and economic issues are at stake, as well as geopolitical ones (and also ideological issues, in the case of Chávez). As also proved by the victorious campaign led by Vladimir Putin in re-conquering Russian sovereignty by recuperating the management of its own patrimony of hydrocarbons. What impresses one even more than Putin's project –carried out using no-nonsense methods since for Russia this was a matter of life or death – is that Western companies adapted to the new contract, far less advantageous than those available during the El'cin era. Better to play using Putin's deck of cards than to leave the table. Cheaters understand each other instantly.

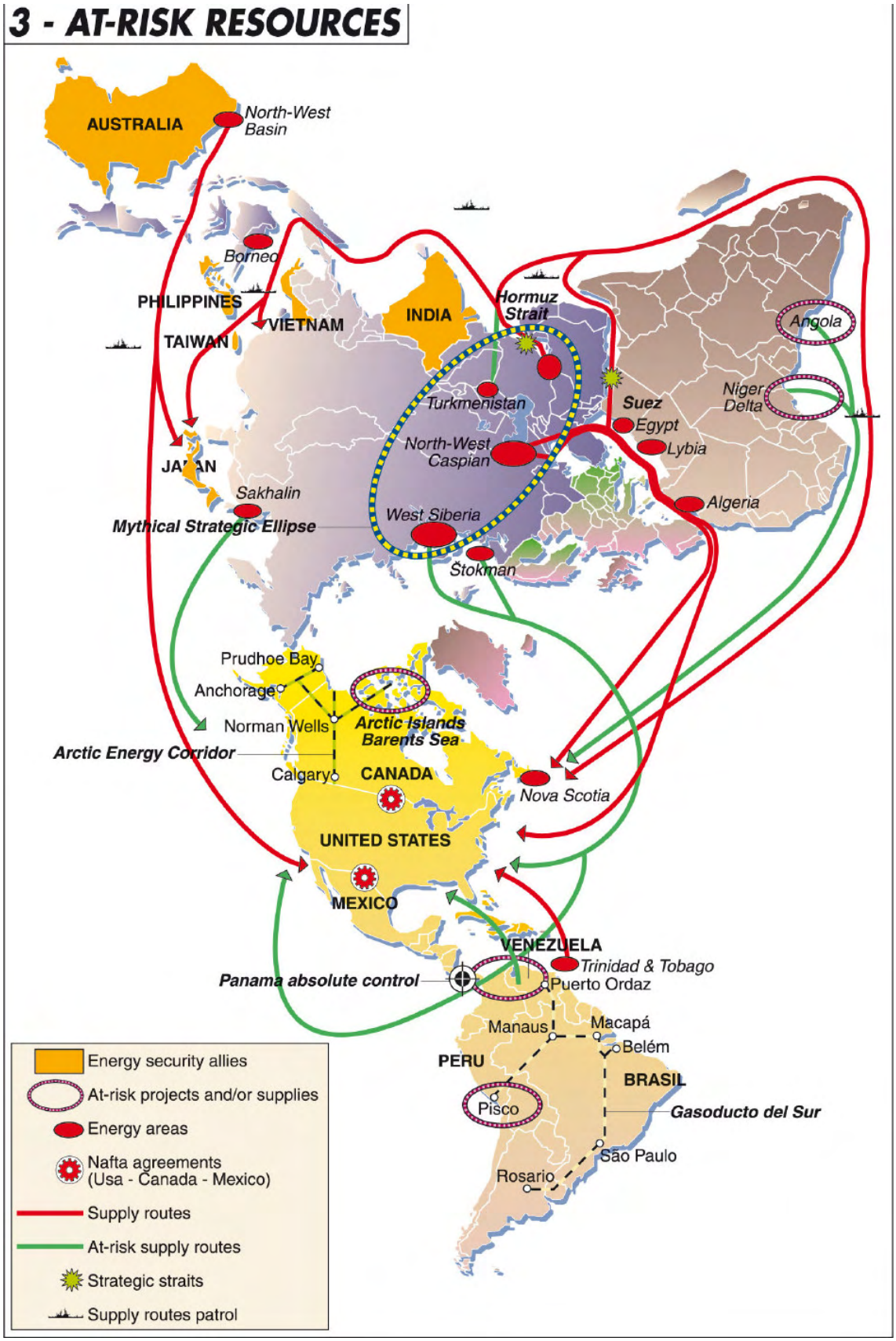
*In addition to geopolitical risks there is an increased fear concerning oil reaching its peak, which in catastrophic scenarios envisages a collapse in production after we have touched that peak within a decade (perhaps much sooner). Multiplied by the loudly announced increase in demand (*table*), caused by China, India and other developing colossuses, a production crisis would lead to a global recession. Hence the calls to save energy and use it efficiently, as well as betting – little supported by investments –on astounding technologies able to emancipate our grandchildren from slavery imposed by hydrocarbons.*

The bell has already tolled some time ago in every sense for "easy" and cheap oil. The classic dialectics, especially between Middle Eastern suppliers associated within OPEC, and Western buyers, no longer works. Within that framework OPEC guaranteed significant crude oil flow at reasonably high prices. Nowadays, although controlling four tenths of extracted oil, the cartel of producers cannot govern the apparently deranged price of a barrel of oil. The club's external suppliers can do so even less since they do not have additional quotas to place on the market.

Table. **World demand for primary energy (reference scenario)**

	1980	2000	2005	2015	2030	2005-2030*
Carbon	1.786	2.292	2.892	3.988	4.994	2,2
Oil	3.106	3.647	4.000	4.720	5.585	1,3
Gas	1.237	2.089	2.354	3.044	3.948	2,1
Nuclear	186	675	721	804	854	0,7
Hydroelectric	147	226	251	327	416	2,0
Biomasses	753	1.041	1.149	1.334	1.615	1,4
Other renewables	12	53	61	145	308	6,7
Total	**7.227**	**10.023**	**11.428**	**14.362**	**17.720**	**1,8** **

* Annual growth rates (media).
** Average annual rates between to 2.3 expected for the years 2005-2015 and of 1.4 for the years 2016-2030.
Source: *World Energy Outlook 2007*, International Energy Agency, p. 74.


3 - AT-RISK RESOURCES
AUSTRALIA
North-West Basin
Borneo
PHILIPPINES
VIETNAM
TAIWAN
INDIA
Hormuz Strait
Angola
Niger Delta
Turkmenistan
Suez
Egypt
Lybia
North-West Caspian
JAPAN
Sakhalin
Algeria
Mythical Strategic Ellipse
West Siberia
Stokman
Prudhoe Bay
Anchorage
Norman Wells
Arctic Islands
Barents Sea
Arctic Energy Corridor
Calgary
CANADA
Nova Scotia
UNITED STATES
MEXICO
VENEZUELA
Trinidad & Tobago
Panama absolute control
Puerto Ordaz
Manaus
Macapá
Belém
PERU
BRASIL
Pisco
Gasoducto del Sur
São Paulo
Rosario
Energy security allies
At-risk projects and/or supplies
Energy areas
Nafta agreements (Usa - Canada - Mexico)
Supply routes
At-risk supply routes
Strategic straits
Supply routes patrol

Now that 100 dollars a barrel is no longer a taboo price, alarmism is at its peak. In addition to this the US dollar's structurally low value implies an increasingly expensive barrel of oil, also because producers do not wish to suffer the depreciation of the dollar. While the system was still metabolising the rise from 30 to 60 dollars (January 2003-January 2006), the race of the price of oil took off again. The magicians in study centres produced apocalyptic predictions with the cost of a barrel rising to 120, and even 200 dollars. These are peaks that discourage refiners. We are approaching the limit beyond which it will be necessary to invent formidable incentives for those transforming crude oil into products and with (un)imaginable effects on the oil, gas and LPG markets. It is no whim that in America the last refinery was inaugurated thirty years ago.

In the meantime the IEA has announced for 2015 "an abrupt rise in the price of oil" caused by a fall in offer, now only just higher than demand[10]*. And yet the basics of the oil market do not justify a price higher than 50 dollars. The rest is a neurosis caused by the climate and geopolitical risks – see instability in the Gulf and the threat of a USA-Iran war – and above all speculation. Virtual oil is nowadays bought to then be sold tomorrow at a higher price. Since there is little else left to invest in, investment banks, hedge funds and others play the energy markets. Those with strong currencies, such as the Europeans and the Russians, make greater profits. The losers in the 'subprime' adventure try and make their money back with energy. (A pity that financial slight-of-hand on the price of a barrel of oil eventually also effects the real economy. Everything is/will be more expensive, starting with food.)*

Finance dictates the law in the world of paper oil barrels. Even the companies speculate on the price of crude. Many are betting on a new high record, exciting the futures market and creating apparent demand that does not correspond to the real consumption of crude oil. An "oil bubble"? OPEC repeats: we send oil to anyone asking for it. And this is true. But the demand/offer ratio is no longer decisive.

When mixing the triumph of NOCs and the race for oil, the warning-light of another sensitive geopolitical indicator goes on, that of sovereign funds, the reserves kept by a number of states in foreign currencies, basically in dollars, euros and yens. This is a fifty year old custom that in recent years has assumed significant importance thanks to the surplus of current supplies resulting from the high cost of commodities, led by crude oil. In 1990 sovereign funds owned 500 billion dollars, now they own almost 3 thousand and in 2012 this figure could reach 10 thousand. The largest is the Abu Dhabi Authority for Investments, working with Singaporean, Norwegian, Saudi, Kuwaiti, Chinese and Russian funds. Most of their investments involve the financial sector. But fear that China or some other oil-monarchy, Russia or a rogue state might one day use these to take control over strategic assets, if not for "conquering" the cash of another country, worries Western elites. China's entry in Blackstone has alarmed Washington. And the German government is preparing an anti-sovereign fund shield that will allow the country to block anyone buying more than 25% of the capital of a "strategic" company[11]*.*

4. The relative decline of the majors and the important role played by national companies contributes to causing a crisis in the USA energy system and accentuates the Stars and Stripes superpower's economic and geopolitical crisis. The "free market" levers and the proximity patterns based on the NAFTA triangle (the United States at the centre with main suppliers Canada and Mexico) do not guarantee for the

[10] See *World Energy Outlook 2007*, cit., p. 84.

[11] A. POLLIO SALIMBENI, «Sovereign funds: Berlin raises a wall raised against the oil-monarchies», *Il Sole-24 Ore*, 2/11/2007.

*near future adequate energy supplies for the largest consumer in the world – while waiting to be overtaken by China, an event expected in a few years. The Canadian sand promises something, but at exaggerated costs, while the multi-drilled Gulf of Mexico is in revolt (Katrina and others) (*see map above*).*

The companies' hunting adventures are not meeting expectations. The Gulf of Guinea cannot work miracles. And if the Iraq campaign was intended to gain possession of the Kurdish-Mesopotamian hydrocarbons, in this too it has failed. Of course, there is the prospect of the treasures of Anbar – perhaps it is no coincidence that General Patraeus is concentrating his campaign on this province – evoking Saudi mirages. But at this rate exploiting them will become theoretically possible, if someone finances it, when the peak of the price of oil will have become a subject for historians.

Energy seen from Washington's point of view is not only an economic issue. It above all concerns national security. According to the National Petroleum Council (NPC)*, the heart of the oil industry, "the global commerce system could become fragmented due to geo-economic and geo-energy stress" (*see map below*).*[12] *Fear that it will not be possible to freely access the resources needed to preserve the American lifestyle has resulted in the oil lobby assuming 'green' attitudes and betting on energy efficiency as well as renewable sources, nuclear power and "clean" coal, "by developing a way of "capturing" CO2 to protect the environment" (*sic*).*[13] *There has been some progress as far as gas is concerned also thanks to small and average sized national companies that recover some of the gas abandoned by large ones. But for those "addicted to oil" (Bush) there is no kind of methadone capable of replacing accessibility to oil. For an old fox such as Lee R. Raymond, President of NPC and former CEO for Exxon, the time has come to abandon liberal-liberalist taboos and affirm the "value of having physical control over resources in times of shortages".*[14] *So much so, that the Pentagon had invited NATO to measure itself in a new speciality: the protection of energy routes that are vital to the West.*

Americans are also irritated by their awareness of have lost influence on the price of oil. The USA have always played an important role in the fluctuation of the cost of a barrel of oil, if only because this is expressed in their currency and listed in the NYMEX; and also as the world super-consumers of energy, especially oil and its derivates. But the fall of the balance based on IOCs, the geo-energy equivalent to the fall of the Wall, has left the American king standing naked. Due to their political culture and economic customs one must exclude that the United Stated will equip themselves with national oil companies capable of competing with the NOCs. As far as remaining "American" IOCs are concerned, they are not getting a good press and are under attack by Congress' democratic majority because they evade taxes. The current inhabitants of the White House and its surrounding areas, previously managers of oil companies (Cheney, Bush) when not having the same name as tankers (Condoleezza Rice, the flagship of the Chevron fleet), distribute slogans and no strategies at all. It is certainly not the password of "energy independence" that is the logical equivalent of the Madonna's virginity. In the meantime, so as to remain in training, represented by its most clever offspring, Jeb, the Bush family has launched itself into the ethanol business, side by side with the Brazilians, in the hope that this resource will become a global commodity.

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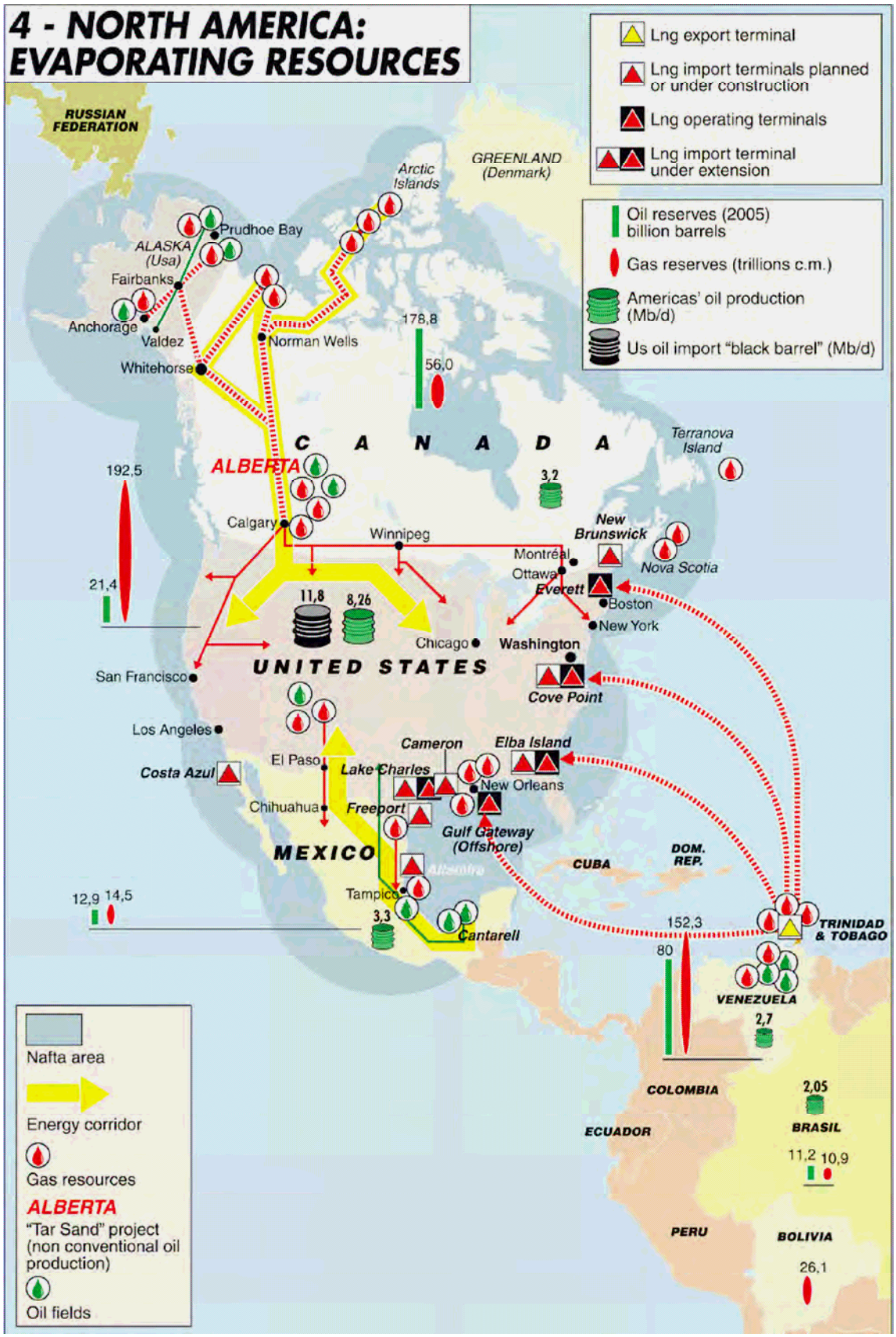
12 See *Global Oil & Gas Study*, National Petroleum Council, cap. 4

13 *Ivi.*

14 «Facing the Hard Truths about Energy», Council on Foreign Relations, 17/9/2007, www.cfr.org/publication/14227/facing_the_hard_truths_about_energy_rushtranscript_federal_news_service.html?breadcrumb=%2Fissue%2F18%2Fenergy_security


4 - NORTH AMERICA:
EVAPORATING RESOURCES
Lng export terminal
Lng import terminals planned or under construction
Lng operating terminals
Lng import terminal under extension
Oil reserves (2005) billion barrels
Gas reserves (trillions c.m.)
Americas' oil production (Mb/d)
Us oil import "black barrel" (Mb/d)
RUSSIAN FEDERATION
GREENLAND (Denmark)
Arctic Islands
Prudhoe Bay
ALASKA (Usa)
Fairbanks
Anchorage
Valdez
Whitehorse
Norman Wells
178,8
56,0
C A N A D A
ALBERTA
192,5
21,4
Calgary
Winnipeg
3,2
Terranova Island
New Brunswick
Nova Scotia
Montréal
Ottawa
Everett
Boston
New York
11,8
8,26
Chicago
Washington
UNITED STATES
San Francisco
Cove Point
Los Angeles
Cameron
Elba Island
El Paso
Costa Azul
Lake Charles
New Orleans
Chihuahua
Freeport
Gulf Gateway (Offshore)
MEXICO
CUBA
DOM. REP.
Tampico
Cantarell
12,9
14,5
3,3
152,3
80
TRINIDAD & TOBAGO
VENEZUELA
2,7
COLOMBIA
2,05
BRASIL
ECUADOR
11,2
10,9
PERU
BOLIVIA
26,1
Nafta area
Energy corridor
Gas resources
ALBERTA
"Tar Sand" project (non conventional oil production)
Oil fields

5. In Europe, the geopolitical consequences of this crisis within the geo-energy system tend to overturn the results of the Cold War. The winning Americans lose while the defeated Russians win. First of all they win vast amounts of money, with which they shop for energy networks, productive technologies and organisations, they produce weapons with which they resume their deterrent role and flood the markets of half the world (especially those of the West's enemies, led by Iran).With the arrogance of those who know that the Asian fore-peninsula called Europe, almost totally without energy resources (4% of coal, 1.5% of gas, just about 1% of oil, in a global classification), is condemned to depend on the queen of hydrocarbons placed all along its greatest land border. Unless they should convert to the energy-Ramadan suggested by the Institut Montaigne. In the name of this environmental-energy emergency, the influential Parisian think tank recommends "abstaining from all consumption during periods of strong global demand".[15]

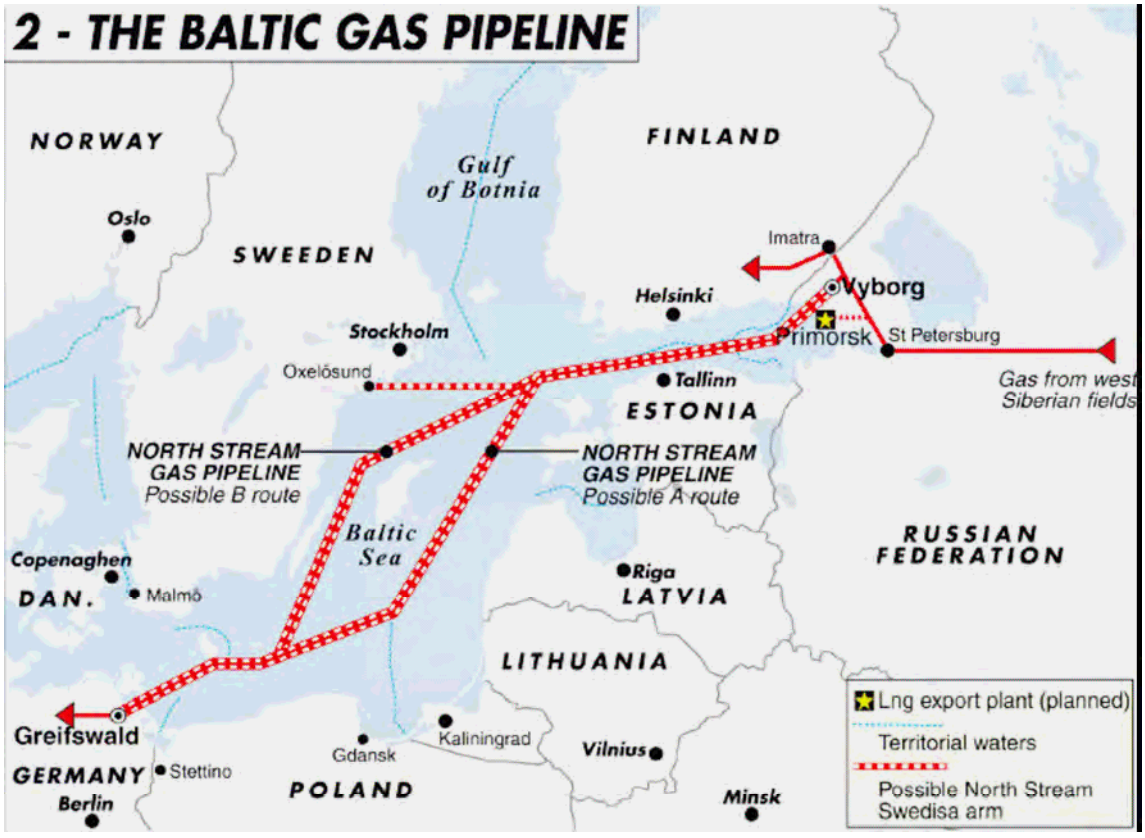
Energy, weapons and a desire for power: this is the triptych of the imperial-Russian Risorgimento, innervated within the circuits of the former KGB. While the dwarves of the European Commission debate improbable anti-Gazprom communitarian measures (unbundling and other similar provisions), the Union's individual States are divided between those concerned with bilaterally guaranteeing for themselves long-term supplies of Russian or 'russified' gas (sold through Russia), and those who fear they will be left out of the new geo-energy routes (Baltic States, Poland and other Russia-phobic countries) and rely on Atlantic solidarity. This takes place with modest results considering Bush's problems and priorities. The result: Moscow counts a great deal more now in the entire Old Continent than it did when occupying half of it. It dominates the Nordic quadrant, where it enters energy agreements with Norway and penetrates the Baltic, in partnership with Germany. To the South, Russia has obtained its coveted access to the Mediterranean, denied to it by the Yugoslavia we helped it get rid of. In co-partnership with their own Mafiosi and those of others, Russia has opened a strong corridor for all kinds of trafficking from the Black Sea to the Adriatic (Montenegro and Croatia).

*If in Europe Moscow almost bled to death through bankruptcy – or alternatively bloodied Europe (Berlin 1953, Budapest 1956, Prague 1968) – so as to boast its imperial rank Russia now buys Europe also exhibiting a former German Chancellor as the top manager of Nord Stream, the company in which the Russians are the majority shareholder, and involved in the Molotov-Ribbentrop gas pipeline, as the Poles call the Baltic pipeline destined to circumnavigate them (*see map below*). In the days of the Cold War, the Russian Empire in its Soviet version was mainly loathed or feared, now is it sought after and blandished. And yet not even a decade has gone by since in the El'cin era an exchange between the bottle and the sceptre was ensured.*

6. The climate's energy and energy's climate; an indissoluble pair and essential for our life quality and our very existence. But arithmetic's little rules are not applicable here: if the order of the factors is changed then the result changes too. The world's profile changes depending on whether the accent is placed on safeguarding the environment rather than on energy security.

For we who are Westerners and others who are wealthy, adapting our lifestyles to the need to reduce greenhouse gasses may seem an acceptable sacrifice. In "developing" countries, hence 'underground', above all in Asia and in Africa, primum vivere *prevails. When water and electricity are lacking it is hard to promote a vocation involving eco-sacrifices. Less fortunate Afro-Asian producers worriedly study the*

[15] See «Quelle politique de l'énergie pour l'Union européenne?», a report by the Institut Montaigne, March 2007, p. 9



environmentalist vein expressed by many rich producers, fearing it may change the demand for hydrocarbons. Over here instead the idea that India wishes to copy us and therefore beat us at our own game as far as consumerism is concerned causes panic. This because it means less energy for us and an unhealthy environment for everyone concerned. Hence we discover that not all western values can be preached as universal. The western world, hence the worldwide West, is a contradiction in terms.

Nowadays however we are less unaware than yesterday. The environment is no longer the exclusive business of environmentalists. Thanks to the indifference of others, the Greens have often cultivated the environment as a protected kitchen garden for political or academic careers. Public opinion, and not only Western public opinion, senses that ecology is a too important subject to entrust to ecologists, especially if they are environmentalists and hence basically interested in climatic alarmism, at least to the same extent that Sovietologists are interested in the Soviet threat. Nor are debates concerning energy policies any longer totally filtered by the study offices of companies and think tanks orientated by pensioned-off oil managers inspired by their reference sheiks. A few liberalist ideologists for whom the market is a panacea still resist. Credo quia absurdum.

We have no certainties. Nor do we wish to have any, well-aware as we are of their/our temporariness. We can only venture three provisional theses to offer to the confutation of others.

First: we cannot do without hydrocarbons for as long as we can manage to extract them from the bowels of the earth at acceptable costs. It seems that this will be possible for a number of decades. If however we do not immediately start to think about and organise the post-hydrocarbon era, we are sunk. Not totally sunk, since the risk of a climate apocalypse seems less imminent than possible energy collapse.

Second: the few environmental and energy resources are fought over. All the more

ferociously since we fear we might really remain without. Those who can will invent some kind of stratagem to unload upon other, "baddies" of course, the non-uncontrollable effects of this dual emergency. The human species exists in biology manuals and not in (geo)politics.

Thirdly: it is useful to provide information, however imperfect it may be. There is no better antidote against the oligarchic manipulation of consciences and knowledge, inevitable when the issue is strategic. And it is necessary to translate knowledge into politics while remaining well-aware of our responsibilities and our limitations. Perhaps the world is sick. But those swearing they can cure it are not too well either.

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THE ENERGY GAME

THE USES OF WEATHER

OWNING THE WEATHER: THE GLOBAL ENVIRONMENTAL WAR HAS ALREADY BEGUN

by *Fabio MINI*

The century's paradigm is the conflict between those who do not wish to give up their own wellbeing and those aspiring to it. The Pentagon's plans. From Carthage to Iraq, via Vietnam, nature is destroyed so as to annihilate the enemy. And oneself.

1. THE PROPHETS OF GLOOM WHO FOR decades have announced every possible environmental catastrophe, the end of energy resources, the depletion of cultivable areas, advancing desertification and the end of breathable air were about to be consigned to history as bad prophets, because none of their predictions appeared to come true within historically measurable periods of time. Today these merchants of doom and gloom need to make no imaginative or persuasive efforts, all it takes is two extra days of heat to persuade everyone that next summer it will be possible to swim at the North Pole, and two extra days of rain to envisage a return to lake dwellings on piles.

The great fear caused by the ozone hole that worried us for decades has been replaced by concern about global warming. No one is quite sure why, but the hole seems to be closing in some areas and increasing in others. While the ozone hole made rich countries feel guilty, since it was blamed on spray cans with which evolved civilisations use to apply perfume and soap, global warming has the great advantage of being "democratic" and making us all feel guilty and involved; the rich and the poor, the developed and the underdeveloped. It is caused by an increase in the emissions of "greenhouse" gasses, which depend on polluting emissions of carbon dioxide, directly linked to what we all consume and emit, ranging from the carbon dioxide we exhale to the gas produced by our cars, in spite of insane expenditures to make them ecological. There is however room for discrimination also in this "democratic" regime. There is a tendency to justify emissions producing wealth and to criminalise those who pollute simply because they must breathe, keep warm, cook a plate of soup or merely attempt to become emancipated. Many people ask themselves: if they do not produce wealth why do they bother to breathe? If they absorb resources to produce things competing with mine why allow them to continue? And if they have never owned a car before now, why don't they continue to ride bicycles?

There is also a tendency to attribute responsibility for pollution not so much to those who produce most of these emissions, but to those producing the differential transforming them into a critical mass. Since what we emit is exactly what we consume (and everything consumed by human beings is energy), it should be easy to identify those really responsible for pollution: it would be sufficient to identify those consuming the most and hence polluting the most. This too however is not all that simple. Our society is described as a consumer society precisely because lifestyle and even happiness is measured according to consumption. Reducing consumption inevitably leads to having to renounce a number of gratifications and a lower lifestyle

when compared to the standard one. Little does it matter if this is an unsustainable and insipid standard in which wellbeing is based on the superfluous and on waste. There are still very few people seriously thinking of reducing consumptions or of adapting their lifestyle to a standard measuring happiness and wellbeing also in spiritual terms, taking into accounts solidarity, respect for the environment and humanity.

2. Al Gore's passionate warning – following years of silence precisely while he governed the country that more than any other consumes energy resources and produces emissions – is a fair one. Proof that demand for energy leads to a collapse of resources, and to the acceleration of environmental damage, is correct. Alarm concerning carbon dioxide's impact on the climate and comparisons with Venus is correct, especially when coming from Mars, and the appeal to his government to consume less and become more committed is sacrosanct. All this won him an Oscar and a Nobel Prize for Peace, medals no longer denied to anyone with a good lobby. What arouses a few doubts regards to the authenticity of his sudden conversion arises from the fact that Al Gore used to be Vice-President of the United States and represented his country's interest in negotiations and accommodations for the Kyoto protocol. A treaty never ratified by his country and that he himself now describes as inapplicable.

The motivation for his current commitment is equally incoherent. As he himself wrote in the Italian newspaper *la Repubblica*, that America must be more committed because it leads the world and because environmental campaigns can result in a rise in jobs and higher profits. America's role as a leader is unquestionable, also due to the quality of the flocks, but the direction suggested and even imposed with force is perhaps not the right one. Furthermore, the Freudian mention of profits does not guarantee that the conversion has been followed by a change in mentality, necessary for abandoning a standard for measuring consumerist wellbeing to adopt one compatible with the environment and advantageous for all humankind and not only Americans. Finally, his plea for adhesion to the treaty for the reduction of emissions by 90% in developed countries, and by over half of the world, means that while the sacrifice made by developed countries would only address waste and superfluous consumptions, the sacrifice asked of developing countries would affect survival and the prospect of emancipation from poverty and backwardness. This is why, when all is said and done, Al Gore and those financing him are part of a network involved in turning environmental risks into a show that ends up by unsettling collective consciences more than it persuades the powerful.

Angela Merkel's observation, implicitly rejecting generalisations and the logic of profit, is less spectacular but perhaps more rational. If emissions are the mirror of consumption and this is the indicator of standards of living, the parameter to be taken into account is that of per capita polluting emissions. In Europe each citizen produces 7 tons of carbon dioxide every year. In Germany this figure is 11, in the United States it is over 20 tons and in China 3.5. Merkel observes therefore that containing emissions must start with those who consume and pollute the most. This deduction is not shared by Al Gore's fellow countrymen – and above all by those governing – or by ranks of their supporters all over the world. They believe it would be preferable to annul energy consumption and hence emissions in China and India, allowing us to continue to consume 80% of global resources. It would be best to oppose and boycott the development of three billion people who have never had anything, rather than persuade 200 million people who have always had more than enough to consume less.

With this sort of approach it is obvious that a balanced development of the planet

is not possible. On the contrary, to maintain consumption levels for the planet's minority, one is obliged to forgo environmental protection or prevent the progress and development of its majority, perhaps by blaming the majority for pollution. Until this majority consisted in self-enclosed countries, on the path to bankruptcy or under colonial domination, opposition to progress was simple and in many ways also self-inflicted. But for almost twenty years this majority had looked out onto the world and even assumed dominating positions in many economic and technological sectors. Realities such as China, India, Brazil, Russia, Argentina and even Venezuela no longer wish to bicycle along and survive; they have the resources and the power to demand what others have and that for decades has been presented as signs of democracy, freedom and progress. Unluckily, those who possess do not wish to renounce what they have conquered, and those with nothing do not easily renounce what they consider fair. Hence from all points of view, rebalancing the planet will not take place by compensating deficiencies on one side by drawing on the excesses of the other. One also cannot see how in the near future this might consist in aligning resources and consumptions according to a global standard, allowing the safeguarding of the aspirations of populations and the integrity of the natural environment.

Until now this criterion has not even been adopted by the rich and evolved states, who on the contrary have allowed and even created monstrous pockets of internal poverty and the spoliation of their own resources everyone nowadays is experiencing. Rebalancing is therefore inevitably destined to be concentrated on consumption, with on one hand conquering resources and markets and on the other resistance, boycotting and containment. In other words, in spite of official statements, and if there are not significant corrective changes in everyone's social and political mentality, for a long time to come there will be a substantial increase in consumptions, a greater change in environmental conditions and a *global war* for resources.

3. It is not said that in this case the term *global war* is used only figuratively and that reference to repercussions on the environment is only incidental. Perhaps for the first time in the history of humankind, the acquisition of resources, a constant element in all wars, may be supported, integrated and even replaced by an *environmental war*. The same political strategy can be expressed through an environmental war and can combine natural factors with economic, ideological, psychological and military ones. The fact is that nowadays more than ever, there is the will, the capability and the technology for "owning" the environment, so as to ravage or protect it, but in any case to use it for political and hegemonic ends. The natural environment, which in all times has been on one hand one of the fundamental factors in strategy and implementation of military operations, and on the other (alongside with truth and humankind) one of war's main victims, has become the goal, the pretext, the objective and the means itself of war. Every kind of war has become environmental and the first sign of this inversion comes precisely from its regulation.

In all its forms, environmental war is forbidden by international legislation. Ever since 1977 the United Nations have approved a convention against environmental change, rendering unjustifiable all wars precisely due to their effects on the environment. But as happens to many conventions, the one signed in 1977 has been ignored and has instead accelerated research and the application of environmental war, resulting in its going underground. While if before that date, the use of environmental devastation was obvious in wartime, and even very serious environmental changes were codified and even elevated to the level of strategic development or technological progress, nowadays one no longer knows in what direction research is moving and the

orientation of new weapons.

Environmental war is nowadays described as "the intentional modification of a natural ecological system (such as the climate, meteorological phenomena, the atmosphere's balance, that of the ionosphere, the magnetosphere, the tectonic platforms etc) with the objective of causing physical, economic and psycho-social destruction of a given geophysical objective or a specific population". This war may use all the traditional forms of an armed conflict, but above all it concentrates on new technologies and the development of psychological and information warfare also including so-called *denial*: the denial of information, of services, of knowledge, of access to technology and means of defence and safeguarding. As far as denial is concerned, environmental war can express enormous potential and reach levels of inhuman cynicism even if implemented in a latent and passive manner. There is elementary knowledge on environmental risks, on diseases, on consumptions, on the exploitation of energy resources and the balanced use of land and water that could save millions of lives, but it is not shared. There are fundamental means for information, training, protection and care that cost nothing to developed society and that are not made available to those who need them. One could speak of indifference, of insensitivity or even just laziness and boredom, but in reality this is a deliberate war strategy, if only because it pursues the same objectives as a war of extermination and results in the same victims. Those who had the information about the imminent Asian tsunami in 2004 did not make it available to the countries affected, thinking that those who would suffer, mainly Muslims, did not deserve such a Christmas present. Those who did receive the information did not pass it on because they did not have the means for intervening and so as "not to frighten the tourists". The combination of not providing information, not knowing what to do and not wishing to do it led to a catastrophe. Then, afterwards, everyone lavished humanitarian aid to show the compassion that inspires the great men of the Earth.

The same denial of information has been pursued in many other environmental disasters and even in the presence of threats to public health. Omissions and delays in making known the risks posed by AIDS resulted in a humanitarian disaster that affects the future of an entire continent. Omissions were less permanent but equally dramatic in the SARS epidemic, bird flu and mad cow disease cases.

The *strategy of denial* becomes active when applied with a deliberate lack of control. Immediately after the occupation of Iraq by the Anglo-American coalition, and while this coalition was responsible for Iraq's security, in addition to its museums, government offices, palaces of power and the homes of wealthy Iraqis, the nuclear plant in Tuwaitha, 48 kilometres south of Baghdad, was looted. According to Susan E. Rice, ("Iraq's nuclear facilities looted", *The Globe and Mail*, 21 May 2003), about two hundred plastic barrels containing uranium oxide were stolen. In spite of the fact that the alarm was focused on the risk that this radioactive material might be used by the usual terrorists for making explosive devices and dirty bombs, it became immediately clear that it was not the contents that were of interest to the poor devils who had stolen them from the abandoned plant, but the containers. After emptying them out onto the ground or into the waters of the rivers and after diligently rinsing them, these characteristic blue plastic barrels were used for all sorts of purposes and can been seen inside and outside shacks as containers for water, oil and tomatoes. Other containers were used for transporting milk that, fresh and radioactive, spread the contamination to other areas.

The lack of monitoring that led to this situation cannot be explained by any traditional military objective, but becomes perfectly understandable if seen as an act of

environmental war addressed at the permanent deterioration of a potential enemy. It acquires an even more powerful significance if linked to other passive methods of environmental warfare (lack of monitoring of oil wells, water mains, electrical connections and pipelines that debilitated the resources and the trust of an entire nation) or active war procedures easily mistaken for traditional ones (the use of depleted uranium ammunition against objectives such as mud shacks, which need no particular armour piercing ammunition; the use of phosphorous devices used for lighting as incendiary, suffocating and hygroscopic weapons etc).

The lack of monitoring is actively pursued also well beyond the military battlefields. Periodically, and increasingly insistently, a number of industries press governments so as to be freed of all environmental bonds and monitoring. Others elude inspections and corrupt officials to delay the application of provisions or to classically pretend not to see. Others still sponsor laws that are theoretically correct but inapplicable or that establish derisory sanctions for those who do not respect them. In this manner, large polluting businesses and those responsible for great environmental disasters find it worthwhile to budget for legal fees for litigation and pay the fines, rather than conform their procedures and organisations. The same military powers that should be responsible for national security elude monitoring or are exempt in the name of a presumed supremacy of military security over environmental safety. In reality many military activities are by definition highly polluting and war activities are always destructive for human beings – friends and enemies – and for the environment.

Paradoxically, any attack on environmental security or individual health is more tolerated precisely by those militarily powerful nations that say they are concerned about their own security and health and, by divine mandate, about that of others. In this case too the strategy adopted is that of denying as much as possible and for as long as possible, at times making use of obliging scientific research or ambiguity and even the ignorance of others, be these their opponents or their own soldiers. It is obviously impossible to deny that war always involves serious damage to the environment, but one can deny the need to restrict it by implementing operational reasons, fearing worse threats or denying the possibility of avoiding them. And so, for example, local weather conditions are changed to allow bombardments, entire seas are mined to stop naval traffic, unexploded devices and chemical substances fill the sea beds, catchment basins and natural parks, and tons of waste are poured into the sea simply due to security reasons. Furthermore, intentionality is denied, collateral damage is invented and not immediately detectable destructive or indirect effects are denied, as happened with dioxin and has happens for depleted uranium. This practice is constantly repeated in spite of the evidence that over the long-term it is counterproductive even for the very objectives of military security and tends to be protracted even after wars, when there are no operational justifications.

In countries such as Italy, France and Germany it is possible to prove that peacetime military operations have resulted as being less damaging than so-called civilian equivalents. There are in fact a number of ecosystems preserved precisely because they are subject to military restrictions. Generally speaking however, insufficient resources are available for the decontamination of firing ranges, for the disposal of toxic substances, and the effects of firing exercises and weapons loaded with special chemicals are trivialised. Furthermore, with the forming of new alliances and coalitions, a country's firing ranges are made available to others, and foreign firing ranges and territories already exposed to intense military exploitation and all kinds of environmental pollution are used. It is thought that damage can be concentrated and limited, and the risks run by personnel are denied while training in Hungarian,

Ukrainian or Polish locations already used by other armies that are less careful than ours as far as personal health and environmental safety are concerned. Even conditions in American training areas or those used and managed by the Americans are no better.

In answering a request for relaxing environmental safeguarding provisions presented by the Pentagon and a number of industrial lobbies, in 2003 Senator Kennedy firmly stated that: "The Federal government is America's greatest polluter and the Department of Defence is the guiltiest among federal organisations. According to the Agency for Environmental Protection (EPA), unexploded devices infest 16 thousand firing ranges throughout America and more than half of these may contain chemical and biological substances. In total the Pentagon is responsible for over 21,000 potentially polluted locations. Once again according to the EPA, the military may have poisoned about 40 million hectares of American land. If this had been done by a foreign power it would have been considered an act of war".

Before Kennedy, Doctor Bob Feldon from the Dollar and Sense Institute had been even more specific: "The American Department of Defence is in fact the greatest polluter in the world. Every year it produces more dangerous waste than the five largest chemical companies all together". But even before these two, in 1997 it was Admiral Eugene Carroll, a man belonging to the Armed Forces, who launched the first alarm on naval pollution. At a national conference on the decontamination of military installations, he had declared that American bases were all natural catastrophes, because "following a meaningless, negligent and criminal process, we have invested resources in military expansion both at home and abroad with no concern for environmental consequences. Pollution was ignored because 'national security' had absolute priority over all other considerations".

4. In spite of a new sensitivity with regards to environmental issues (genuine or induced, informed or misinformed) political and even scientific positions are not in agreement in establishing the causes and effects of environmental change. In particular, issues concerning the effects of climate changed attributable to any accidents caused by humankind are addressed from two differing points of view but both based on negation.

On one hand the catastrophic extrapolations of events that are already so are denied, such as Saddam's destruction of Kuwaiti oil wells, which changed the local climate and the balance of all the Persian Gulf's estuaries, the sinking of the Exxon Valdez with its enormous load of crude oil unloaded into the sea and onto the coasts, the James Bay Canadian hydroelectric project, or that of the Three Gorges in China and even the consequences of nuclear war. Catastrophe deniers side in defence not of the environment but of the force of nature. With good reason they believe that the planetary energy system, which the Earth is part of, is fuelled by the immense solar system, but counterbalanced by systems absorbing heat and radiations that are the layers of atmosphere enveloping our planet. These layers range from the more external and rarefied ionosphere and mesosphere, where free ions and electromagnetic radiations coming from exterior space interact, to the more internal ones of the quiet stratosphere and the turbulent troposphere where meteorological phenomena originate.

The system involving the absorption of energy is completed by the land and oceanic masses. This system is thought to be so powerful and independent that is cannot be influenced at all by human intervention however insane this may be. In such a scenario it is envisaged that environmental changes brought about by humankind can only have passing and fleeting effects lasting a few weeks. Any insult inflicted by humankind is, they believe, destined to be rebalanced by the great cosmic engine. The

climate, which is linked directly to the global and planetary energy systems, would therefore continue to depend on natural phenomena changing according to the natural cycle resulting from global energy equilibrium. This does not mean that the climate might not change drastically rendering the planet uninhabitable, but this should not be blamed on humankind unless one should be led to believe this and in the meantime profit from this in some way.

The opposite position, also with good reason, is supported by those denying that the vital energetic and environmental system is independent and impregnable. They instead believe it is linked to factors that are very fragile and highly sensitive to any kind of change. In this case the argument is that once the initial balance is broken or damaged, it is very improbable that it can rebalance itself autonomously and initial conditions be re-established.

Paradoxically, deniers of environmental catastrophe rely on the power of nature and the smallness of humankind, while the prophets of doom attribute great power to humankind's destructive and creative capabilities and great weakness to the natural system. Both are characterised by mental cancer: arrogance. In this first case this is expressed with the apotheosis of indifference and the pursuit of immediate material gain to the detriment of global and future ones. A serious but human vice. In the second case it is expressed with the triumph of pride: a diabolical vice. Human beings in fact believe only in themselves and exalt their own power. Even when apparently condemning and complaining about the disastrous effects on the environment and on other human beings, they are actually gratified. After millions of years of slavery and fear inflicted by the domination of nature, humankind is now aware that it is capable of modifying nature, and even of inflicting damage on it and then finding a remedy; humankind can *own* nature and not be possessed by it; humankind can even use nature as a weapon against other human beings. It is such a powerful position that it stirs the pride of all men, including the most fervent ecologists, and it is a position of war. It is no coincidence that one of the modern military research programmes in recent times is called precisely *Owning the weather in 2025*, a date by which it is thought it will be possible to *own* the weather, and hence the climate, increasing one's own military intervention capabilities and annulling restrictions imposed by nature.

This sense of ownership on one hand exalts and on the other depresses. This because the strategy for the ownership of nature, its modification, the exploitation of its power to bring down and destroy, proves that in this battle the loser has already been named. It is a strategy that takes for granted that the environment is enslaved by human possibilities and capabilities and therefore is the loser by definition. This is a psychological victory and simultaneously a strategic *débâcle*. In any war there is no better feeling than feeling strong and unbeatable, but there is no worse strategy than taking the enemy, the ally, the loser and the winner for granted.

It is obvious that the two positions are not easily reconcilable. Hence the alternative to maintain an unscrupulous attitude and continue to consume and pollute relying on the system's immense recovery capability and human ability to adapt to new conditions, or to maintain a prudent attitude. This second approach, if anyone had doubts regards to who is right, seems the more logical, because it does however tend to avoid or restrict damage that can be inflicted on nature and on ourselves in the future and in the present. It only due to this that risks are reduced, albeit by a small margin.

The United Nations have officially adopted Lovelock's prudent position, according to which the Earth, seen as Gaia, is a system of interdependent elements working in homeostasis, sensitive to variations and disturbances such as pollution, changes in the exploitation of energy, water and agricultural resources, and, not last,

the effects of wars.

Prudence however may not necessarily be sustainable, especially if the restricting of emissions is pursued by denying access to a part of humankind one would like to segregate. It is also not a given that prudence will be accepted serenely. The elimination of all that pollutes involves the elimination of entire industrial and technological cycles, based precisely on the exploitation of fossil resources such as oil and carbon. The enormous profits made by producers, oil magnates and the States that tax their products, are only the tip of global interests that would be difficult to dismantle or even graze. The entire modern industrial system and lifestyle too depend on this very first level. Furthermore, the elimination of all that pollutes would render pointless decontamination and protection from polluting substances, and this too is a sector in which money is made, and a great deal of it.

The strategy of denial and the cynicism adopted in the environmental war allow the use of sophisticated or brutal weapons and technologies without this causing a sensation. This strategy allows acts of war to be disguised as experiments and also experiments of war and even mass destruction to be disguised as scientific research. This little known and therefore until recently unopposed characteristic is nowadays threatened by a recent phenomenon: the loss of credibility of motivations and official versions provided about political and military operations. While science applied to war has accustomed us to go beyond the unthinkable, the discovery of the infinite lies used by human being in waging war and destroying the environment, have led us to believe that nothing is as it seems and that no one tells us the truth anymore.

Any theory about a plot sooner or later turns out to be true, and while until yesterday reality went well beyond anything imaginable, now it is imagination that creates reality. Faced with official statements, declarations of victory, the reports and truths made to measure for this or that politician, and for this or that reason, the reaction of the interlocutors is no longer one of absolute trust that prevailed two thousand years ago, when even Brutus was a man of honour. Nor is it that of two hundred years ago when a general or head of state could not lie. And not even the wary reaction of a century ago, when one needed to distinguish propaganda from the truth, or the sophisticated reaction of twenty years ago when in the first skirmishes in the war on information and marketing, the basic principle was that manipulation was permitted, but that it was never a good idea to lie. Today, the reaction of even the most simple and naïve observer never makes do with what is said and tries to understand what is hidden, what is not said, and why. Any inference becomes plausible and paradoxically a little later becomes reality.

Statistics on bad faith, pretexts, exploitation and pointless manipulations and even strategically damaging ones are many in the war that exploits, damages and tries to own the natural environment, accusing precisely those who today state that they play a leading role in its preservation. And all this is documented and verifiable. There is in fact an interesting trend in the analysis of conflicts and so-called special and secret operations, such as those that have had a greater impact on the environment, a few years after events take place, when a glimmer of the truth appears thanks to the declassification of a number of documents, and one discovers that weapons, methods and procedures until then proudly denied, had in fact been used. The next discovery is even more astonishing: what is revealed by the first crosschecking of these hidden and unspoken truths is that they were not in fact hidden at all. There is always someone who knew and had already reported the matter or had simply accepted them because *everyone knew anyway*. It is already known that the use of defoliants and of Agent Orange in Vietnam was not a secret, but openly authorised, and it has been discovered

that everyone knew how lethal the long term effects of dioxin TCCD on people and the environment would be. Everyone knew that the chemical Agent Orange was used in concentrations up to 25 times higher even than military operational prescriptions stated and that it was used in areas presided by American soldiers who were kept there so as not to lose previously conquered positions. This dioxin is still today present in the ground and continues to cause new victims and genetic alterations.

When Colin Powell appeared in front of the Security Council carrying a vial containing anthrax spores, persuading everyone that that was only an infinitesimal faction of what Saddam had, everyone knew that anthrax and the anthrax syndrome that America and the world were experiencing were produced by American laboratories and fanatics. During the war Saddam did not use anthrax and after the war and five years of American military occupation, no one has yet found the weapons of mass destruction owned by the *rais*.

On the other hand, for forty years another symbolic vial has been openly circling in scientific conferences and is however largely ignored. It is a bottle containing 80 grams of TCCD dioxin that the Vietnamese government extracted from a very small part of the area contaminated by the Agent Orange. Everyone knows that if this bottle were to be emptied into the water systems of a city such as New York, Moscow or Beijing it would kill the entire population. Doctor Arthur Westing, a former director of the UN's environmental programme, revealed how the United States, in ten years of continuous use of defoliants, had spread about 170 kilograms of TCCD. Dioxin was present in the over 72 million litres of chemical agents sprayed over Vietnam, of which Agent Orange represented 66%. These dramatic numbers are however only part of the truth, but this too has been known for some time. As confirmed by various pilots, in addition to the chemical agents launched on Vietnamese targets, one must add at least a million litres of herbicides that had to be dropped into the seas or far away from targets due to aborted air missions. Everyone knows that pilots cannot return to base with a load of explosives of chemical materials and must therefore get rid of it.

One of the favourite areas in Vietnam for dumping embarrassing loads was the Long Binh basin. In 1988 Doctor James Clary, who participated with the Army in the use of Agent Orange, witnessed in front of a Congressional committee that at the time "we were aware of the presence of dioxin and its potential for damage. We also knew that the army used it in higher concentrations than those established since it was cheap and easy to produce. No one worried very much because the material was used against the enemy". Furthermore, everyone knew that the combination of herbicides, defoliants and napalm was actually equivalent to the weapons of mass destruction sold or attributed to Saddam and to Iran.

5. With the advent of the nuclear era, the concept of mass destruction extended to a global dimension and total destruction. Everyone knew it, and yet during about twenty years of nuclear proliferation we were led to believe that it would be possible to survive such explosions. Efforts to built atomic shelters multiplied, people thought that once the explosion had taken place it would be possible to emerge from the underground shelters and resume a normal life in a world that would still be normal. Everyone knew this was not true, but the business of fear, then and still today, brought enormous profits. It would be the end of the 1980s before the idea was accepted, as stated by the theory envisaging a nuclear winter and as proved by climatic models, that the effects of nuclear war would not only destroy some while leaving others intact and that the environmental damage would never result in a *mors tua vita mea* situation. And in spite of this nuclear weapons still today continue to exercise a morbid

fascination.

Everyone pretends to believe that the devastating explosions of atomic bombs at Hiroshima and Nagasaki were the first and last ones in military history. And yet everyone knows that since then there have been over one thousand underground nuclear explosions, under the oceans, on the surface and in outer space. Passed off as tests and scientific experiments, these explosions perfected seismic war, which envisages causing earthquakes, ionospheric war, which involves altering the electro-magnetic layer enveloping the earth, altering the Van Allen belt – which includes powerful magnetic fields that capture and attenuate electromagnetic emissions coming from the sun and from space protecting the atmosphere below – and the ozone layer.

Environmental war is therefore really global and is not restricted to collateral environmental damage due to damage inflicted intentionally on the enemy or self-inflicted damage for preventing the enemy's advance on one's own territory, actions that are however part of the legitimate albeit destructive war machine. Sunzi codified the use of fire and water as extreme instruments of conflict. Although aware that their survival depended on them, the Mongol hordes set fire to prairies so as to defeat their enemies. During World War II the Norwegians caused landslides and avalanches on their own territory so as to prevent the Germans from advancing, and the Dutch destroyed their dams allowing sea water to flood a third of their arable land in attempting to prevent German occupation.

The environmental war concerns above all damage inflicted on the environment so as to best exploit one's potential and restrict that of the enemy, the competitor and even one's own allies. These are not war contingencies limited over time, but deliberate human desertification plans such as those implemented by the Romans during the Third Punic War, when they covered Carthage's agricultural land with salt rendering it infertile. These are real modifications of the ecosystem, such as those implemented in the war in the Pacific by the Japanese and the Americans, depriving entire islands of their vegetation and marine flora. Many of these islands are still deserts today and the local environmental system is definitely jeopardised. These actions can also consist in those adopted in 1986 by General Sheridan, when he systematically eliminated herds of bison to deprive the Indians of their main source of livelihood; the previous year he had destroyed all the crops in the Shenandoah Valley.

6. While on one hand reflecting on the past opens our eyes to the truth about events, on the other it leads to speculations on the future of environmental war, especially in little known and secret sectors in which the environment has become the object, the instrument and the container of wars over resources or even only hegemony. No one any longer believes that an earthquake, a flood, a tsunami or a hurricane are only natural phenomena. And no one any longer believes that the worsening of climatic conditions, be they real or presumed, minimised or emphasised according to need, are "only" the result of environmental changes caused by greenhouse gasses or human emissions. Mistrust in official sources corroborated by past experiences tends to attribute the capability and desire to provoke environmental damage on secret, or presumed secret military actions.

Unfortunately many illations are not far-fetched and are in fact based on ascertained and consolidated capabilities and technologies, even if these are officially denied or minimised. No one wishes any longer to wait a few years to discover that what they now believe is actually true. People prefer to immediately consider it as true, feeling certain that it will be eventually.

And this is what happens in two extremely important sectors in applying technology to the environmental war: resorting to conventional or nuclear explosions to cause earthquakes and seaquakes and the use of electromagnetic emissions to change the weather, the climate and living conditions.

The system used for causing earthquakes and tsunamis is nothing new in the field of military research. Ever since the 1980s an Australian professor, Thomas Leech, chair of the faculty of engineering at Auckland University in New Zealand and assigned to the Army for the duration of the war, carried out experiments for the Americans and the English attempting to create anomalous waves near specific targets in the Pacific. These experiments remained a secret and never succeeded beyond mini-waves linked to the tides in the Whangaparaoa area, north of Auckland, between 1944 and 1945. The principle was based on a series of underwater explosions, but Leech's "tsunami bomb" never became operational and the war ended before the project was completed. The Americans considered these experiments very interesting and when sharing the results with the government of New Zealand (until then not interested) invited the Professor to observe nuclear experiments on the atoll of Bikini, hoping this would provide him with interesting ideas for his project. It seems that Leech did not accept, but it is unclear whether research continued with him. It is however certain that the Americans did continue research without him, resulting in new fields of application for war and a new methodology for studying earthquakes and geological explorations using seismic waves.

The fascination, the power, the evolution and the unrestricted availability of nuclear weapons have for some time opened new frontiers. It is known that the Americans, the Soviets and the Chinese have had interesting results precisely from underground explosions without revealing these developments or their impact on the environment. In particular, the United States, a country that has never ratified the treaty on a total ban on nuclear experiments although it extended the moratorium, are probably in forefront in this field too.

The door is therefore increasingly open to speculation that is not entirely far-fetched. From a practical point of view, modern nuclear technology, and above all extensive production of mini nuclear missiles or a superabundance of nuclear mines make available the capability needed for setting off underground and underwater explosions that in specific conditions can in turn cause earthquakes and tsunamis. Furthermore, the international agreement on legislation for the seas provides new opportunities for exploiting underwater oil and mineral resources also for countries that do not have access to the sea. The large oil and mineral companies are exploring the sea beds and these explorations also use seismic tests caused by controlled explosions. For some time now many American companies have been pressing for authorisation to use mini nuclear weapons and bunker busters, and it is not said that they may have already succeeded.

It is therefore quite understandable that every time there is an earthquake on the tectonic plate attention turns to oil companies carrying out research and drilling along the same plate even if thousand of miles away. It happened for the Kobe earthquake, for the 2003 Boxing Day one in Bam in Iran and the Indonesian tsunami on exactly the same day the following year. What is equally understandable but far more difficult to prove, is the eventuality that these cataclysms were caused by specific explosions organised by the military. The time span of exactly one year between the Bam earthquake and the Indonesian tsunami, events that devastated the Christmas period in two areas mainly inhabited by Muslims, did not seem like a coincidence. Just as the immediate offering of aid from the United States to Islamic Iran, a rogue state and part

of the "axis of evil" as well as America's greatest enemy, did not seem a coincidence, almost emphasising the magnanimity of the Christian Messianic and Christmas spirit. The following year, after the tsunami, suspicion was aroused by the immediate arrival of American aid in Islamic Indonesia in the form of a military mission to the rebel Aceh province, where for some time Exxon Mobil has been trying to set up a permanent base for exploiting the significant mineral and hydrocarbon resources. We will however have to wait a few years to discover if these suspicions and illations are justified.

The second sector of probable but not yet verified speculation concerns the capability of some electromagnetic wave weapons to cause changes in the ionosphere, in the Van Allen belt and in the ozone layer, as well as earthquakes, seaquakes, overheating and cooling of gaseous, liquid and solid masses, thereby inducing and piloting atmospheric cataclysms to the extent of causing permanent climate changes. In this case too all those interested in the various projects strongly deny that these capabilities are real and that any experiments have been carried out. Simultaneously, everyone knows that ever since the Forties, the Soviets had developed longitudinal wave technology, which in theory permits bands of energy to move at a speed faster than light. Everyone knows that such a capability can cause instant destruction in any point of the Earth and Space. Everyone knows that for decades the United States have financed a project for transmitting high frequency wavelengths in correspondence with the earth's electromagnetic belt. This project, called HAARP (High Frequency Active Auroral Research Program) is financed by the Pentagon in the form of a study. But everyone knows that the Pentagon does not waste money if there is no military interest.

Military research has addressed both very low frequencies (ELF) and very high ones. In both cases the objective is to interfere with the ionosphere so as to increase or decrease capabilities for transmitting radio-magnetic signals to the point of suppressing them entirely. The emission of the HAARP's transmitters which occur almost regularly during four periods of the year, are capable of sending into the ionosphere rays that are more powerful than gigawatts. The scientists who work on this programme deny that their activities have any military importance at all or that they interfere with the natural environment. The word "aurora" however, part of the acronym, refers to the aurora borealis phenomenon that takes place in the area bordering between the ionosphere and the atmosphere when extremely high energy emissions coming from the sun become routed by the Earth's magnetic force towards the poles and collide with more rarefied particles of the atmosphere. HAARP denies that its emissions are capable of artificially reproducing this phenomenon, although the emissions are directed exactly at the same area and have characteristics very similar to the high energy ones coming from the sun.

Alteration of the ionosphere is not a novelty in military experiments and has various precedents. In 1958 the United States exploded three nuclear fission weapons in the lower part of the Van Allen belt and two fusion weapons in the higher part of the atmosphere, releasing an enormous quantity of radiations and particles into the ionosphere to the extent of changing its equilibrium. Experiments in the ionosphere continued in 1962, damaging it, and were stopped thanks to the indignation expressed by the international scientific community. During this same period, Soviet nuclear experiments in the ionosphere were started as well in the Van Allen belt, both seriously damaged, allowing dangerous cosmic particles to pass through.

To day it is the weather radars that identify – often near areas affected by serious climatic phenomena – the circular marks typical of high frequency electromagnetic

waves, such as those generated by longitudinal wave emissions, graded waves, silent sound and those from HAARP transmitters.

Mystery enveloping this project, and any others dealing with the emission of longitudinal waves capable of causing cataclysms and permanent change, is also increased by the Americans attributing such capabilities to the Russians, according to the best Cold War tradition.

According to an American military scientist, Doctor Thomas Bearden (nuclear engineer, a specialist in graded electromagnetic wave weapons, energy weapons, the unified field theory, electrodynamics, free energy systems, as well as being the director of the Association of Distinguished American Scientists), for some time the Russians have produced weapons for controlling the weather and even more. Bearden states that the Soviets were the first to approach the use of longitudinal waves and their derivates, graded waves, and believes that they have already used them against the United Stated precisely to change the weather and the climate. With their first experiments they managed to transmit one of Mozart's symphonies through a barrier of electromagnetic wave at a speed 4.7 times faster than light. Longitudinal waves can be obtained by transmitting electromagnetic plasma or other methods, leading them to reciprocal interference. In a pure state they can travel at unrestricted speed and maintain infinite energy.

Bearden states that the first offensive Soviet experiment against the United States using a longitudinal wave weapon dates back to April 1963 and that it destroyed the atomic submarine, the USS Thresher of the east coast of America. The next day the Russians are said to have caused an underwater explosion 100 miles north of Puerto Rico. This experiment produced a column of water over one kilometre high, seen by an air crew and reported to the FBI and to the Coast Guard. According to Bearden the use of longitudinal electromagnetic waves for changing weather conditions is very simple. The impulses of these waves can be directed with particular interferometers and if made to diverge they cause the overheating of the surface hit, while they cool it if made to converge. Since longitudinal waves are practically without mass they are not altered or attenuated by obstacles and can be directed and calibrated for any distance. In this way it is possible to create hot low pressure points in one area and cold high pressure points in another. Cloud masses can therefore be manoeuvred and perhaps even made to converge in areas that are already unstable, encouraging conditions for hurricanes, tornados and unexpected rainfall. Atmospheric change over the long term leads to real climate change.

The first change of this kind inflicted by the Soviets against the United States is said to have taken place in 1967. Perfectly circular electromagnetic traces were identified as small holes in the clouds, and according to Bearden, were the cause of that anomalous and very cold winter in North America. Other changes on American territory are said to have taken place in 1976. Bearden says that since the day of the Soviet weather attack against America as a gift for the bicentenary of the Constitution of the United States, weather in the North American hemisphere has changed significantly. Even more worrying is the possibility to direct longitudinal and graded waves both using impulses and in continuous form at particular continental or underwater land masses. The oceans' currents are only masses of water with different temperatures moving one over the other and one next to the other in different directions. Imperceptible differences in temperature are sufficient for creating these movements. With longitudinal wave weapons placed in the sea and organised so as to emit continuous waves rather than those using impulses there is no creation of hot or cold spots, but entire masses affected by them are overheated or cooled down. The

difference in temperature produces small or large currents such as the Niño and the Niña, which determine the climate of the coasts touched by these waters.

Furthermore, these waves are able to travel over and alter continental and underwater land masses. Energy flows that move across solid masses, activate the piezoelectric elements of rocks, which as the energy increases start to expand automatically. If such an expansion were caused in an area where there is a tectonic plate one would end up by making one part of the fractured plate slip and set off tectonic collapse and earthquakes. In this case too a minuscule variation in one point and a small collapse is sufficient for putting into movement the entire plate. What can be produced with underground explosions using conventional and nuclear explosives is theoretically even easier using the impulses of longitudinal and graded waves.

7. Taking with a grain of salt the statements made by Bearden regards to the Soviets' capabilities and the real extent of phenomena attributable to longitudinal wave weapons, a number of interesting issues remain: a) the weather, the climate and natural and induced seismic phenomena are part of military research that is still ongoing and kept secret; b) in many cases military research leads and in other cases follows civilian research and the global environmental war is not only a military one; c) the location suitable for managing environmental war addressing climate change is more that of public and private scientific laboratories than military command posts; d) capabilities attributed to the Soviets ever since the Sixties cannot but also be attributed to the Americans during that same period or a few years later and cannot but be attributed to China today or India in the near future.

Eliminating a significant degree of exaggeration and propaganda, the fact remains that these and other scientific capabilities are used for war regardless of the military aspects. The fact remains that any scientific innovation, even experimental and immature, that might give an advantage to the enemy had always been materially and dramatically used in wars, with no consideration for the environment, ethics or humankind. On the contrary, the use of any innovative means of destruction and interdiction is part of the cultural, political and ideological baggage of the more militarily powerful and aggressive states. Furthermore, the will to annihilate the enemy or damage the interests of potential opponents by disrupting the human and natural environment they operate in, is a characteristic of today's most powerful armies and of the social and economic policies of the superpowers.

The awareness that environmental and social change is not circumscribable, but ends up by backfiring on those causing it is not yet shared by all and is opposed precisely by those placing their own interests before global ones. This too is no novelty, but perhaps, unlike in the past, and thanks to the experience of the past, there may no longer be a will, time, or any satisfaction in waiting for a few years to go by before discovering who is right and making amends.

. . . AND THEN THERE WERE NONE

by *Massimo NICOLAZZI*

From the 'beautiful world' view to impending disaster: the ideologies of the energy crisis. The shortcomings of modelling. The limits of consensus and the BANANA syndrome. Doubt as to whether there is any danger should drive us to act.

1. APPARENTLY WE HAVE ALREADY out-lived our life expectancy. For years we have been past the peak in oil production and we have now stretched the limits of energy consumption and energy resources. There are too many of us for the land that is left and we have gone back to our ancient practice of making war out of sheer hunger. It is hot and will soon get much hotter, and even if we have managed to hold on till today, tomorrow desertification will finish us off. Actually, no. If the heat stops the Gulf Stream, then there will be another Ice Age. But irrespective of whether we are roasted alive or frozen to death, it is best not to look beyond this century because the fact remains that something is bound to ravage us in the meantime.

In reality, up till now, we have not so much outlived ourselves as had to endure the things we read and the litany of catastrophic predictions that come with them. By some strange subliminal technique, they have inculcated us that science entails a prescience whose soothsayers are computer models. And there is a continued insistence on this approach, perhaps even today theorising that if there has been any error, it is down to limited calculation capacity. In short, a teraflop of processing power (or one trillion floating-point operations per second) is not enough. If more were available, it would be child's play to narrow the very wide margin of error the IPCC leaves itself in warning us of the increase in temperature that will (perhaps) occur over the course of this century. What a pity that the models cannot validate the access conditions, that they are often based on linear projections which ignore the blips and variables of the real world and that any modelling which is not capable of being experimentally tested has a predictive value more in the realm of palmistry than science. What a pity too, that, as Guido Visconti put it: "Today science is not capable of explaining the climate changes that took place in the past. It is, hence, difficult to understand why the same science thinks it can predict what will happen in the near future". It falls to us to shake off this indoctrination, perhaps exorcising it with old Picasso's wise observation that "computers are no use, they only provide answers".

2. Then there is the voice of optimism, which gains strength with every prediction that fails to come true (which in the case of the critical dates that have already come and gone, means practically all of them). A leading text/model of this camp is the work of the Danish statistician Björn Lomborg, entitled *The Skeptical Environmentalist*. The work has been torn to shreds by big shots in the scientific community (including from the standpoint of its elite, so as to avoid anyone thinking that a mere statistician could ever be absorbed into its ranks). Curiously, it has never been republished in Italy after its first edition. "This civilization", observes Lomborg, "has over the last 400 years

brought us fantastic and continued progress". And there would seem to be no reason why it should not continue. Global warming, pollution and energy reserves are not even potentially at emergency levels. They must be handled using a rigorous cost-benefit analysis, which also enables the priorities to be identified and, above all, leaving the market to establish the break-even points. In short, the Western model is working fine; leave it be and a "beautiful world" awaits us all.

This kind of reasoning is, to put it mildly, mostly an article of faith. However, we do need to take the voice of optimism, ranging from Julian Simon to Indur M. Goklany, seriously. The bulk of people's experience in recent decades has been more one of progress than of catastrophe. Moreover, the unreliability of models does not help to promote the idea that excellent reasons are starting to emerge for adopting a new approach to the notion of development.

3. Lomborg and modelling are the very paradigm of what we should not have to endure. They reduce what should, first and foremost, be a political issue, to a matter of numbers, models, statistics, ideology and media jostling. The issue is not whether there will be sufficient resources, but rather how to carve them up if they do become scarce. The question is not whether we will be roasted alive or frozen to death, but if there is any means of making the trauma more remote and improbable which is compatible with our way of life. Science only tells us that based on what it knows today, everything must come to an end – the sun within a few billion years and us, no doubt, beforehand. Such is our *hubris*, that we live as if we could see out the sun or even cheat the second law of thermodynamics. But at least we have (on occasion) had the decency to define this as religion. The mundane agenda for tomorrow is a little more limited in its scope. Neither the death of the sun nor the imminent depletion of energy due to increasing entropy is on the agenda yet. What is a priority is the state in which we leave this agenda to our children – perhaps ensuring that they do not have to deal with it and are able to pass it on – and to generations of children to come.

4. Those who mark time in decades instead of eras have somewhat lost their way in the complex maze of the evolution of the human race in all its strangeness. When we lived in small settlements without writing and, hence, memory, we were able to react to change by changing colour, territory and even stature, without stopping to count the dead and replacing them through reproduction. As hunter-gatherers, we needed a lot of land per person in order to feed ourselves. But land seemed limitless back then, and we as a "species" from the Pleistocene epoch if not as far back as the times of *homo habilis*, were able to go out and find it and occupy it, even if it meant passing through a few (minor) Ice Ages in the process. Today we are all aghast at the idea that, due to the rise in temperatures, the Arctic icecaps are retreating and the legendary Northwest Passage is opening up. Just the other day, the climate and tectonics were so different that you could walk across. Indeed, if that had not been the case, today we would not be here talking about Meso-American civilisations and Columbus would still be asking himself where he went wrong.

5. Then, however, as far back as we can remember, the climate became stable. Volcanoes, meteorites, water-related hazards and tectonic movements created some local disturbances, but on the whole they no longer ravaged the troposphere and we were able to dedicate our time to developing and multiplying, savouring and internalising the idea of the limitlessness of growth and somehow (culturally) of our immortality (in the form of injustice and non-acceptance of our mortality). Stability instilled in us a sense of the total adaptability of the Earth to our development, or to

put it more bluntly, of our ability to dominate and command any element of the Earth, biosphere and Cosmos with impunity (fully reflected, by the way, in the change in attitudes *vis-à-vis* who, over time, was considered the "dominant intellect", such as the transition from the Meso-American astronomer – making sacrifices to the Cosmos and hence to Nature – to the Indo-European philosopher, construing the world as a projection of the individual or a class, which amounts to the same thing). In the beginning, stabilisation simply meant more children could survive and thus more mouths to feed. This lasted a very short time – if not no time at all – before the availability of food became synonymous with potential wellbeing and, hence, consumption demand *tout court*.

6. The Second World War then changed our lives. Not because of the many people who died, but because its horror was unprecedented. The West entered into its fifty-year Golden Age and served as a forerunner for others. There was no longer any extermination or famine, except at a regional level. Penicillin guaranteed life, the Green Revolution filled our stomachs and oil ensured development. In short, we had achieved the "beautiful world". All predicated on the limitlessness of growth factors, which, when broken down, are nothing more than food and hence soil, water and energy. And what reason did we have to doubt it, after having shown ourselves capable of increasing our agricultural productivity by as much as 400% within a few decades and with oil that continued (and continues) to cost less than mineral water? After all, in our Western world, there were already precedents. Coal and steam alone had sufficed to unite both the right and left-wing in unbounded faith in the inexorable geometric development of productive forces. However, development also entails rigidity and hence vulnerability. The increase in infrastructure and interdependencies became exponential; spaces gave way to (shared) space; and what they call globalisation is (also) a loss of social autonomy for the individual and his/her basic social units from the rest of the species. (Perhaps) we enjoy a beautiful state of wellbeing, but (also) at the cost of having lost the capacity to (re-)adapt to its possible disappearance and that of all its manifestations, which threatens to make our way of life very fragile. (If I might, at this point, be permitted to recount an anecdote: a few oil crises ago, I found myself in one of those African countries that had never had a drop of oil but which, living in hope, had nevertheless set up a State-run oil company. Over half a glass of flat tonic water, as there was no more money even for some locally-made gin, I spoke with the company's chief executive, a great and wise man, of the possibility of oil running out and the unsustainability of oil prices. He looked me in the eye and said, "You know, for me it's no big deal. I've only just come out of the bush and if everything goes to blazes I'll just go back, because I can still survive there very well. It's only a problem for you. You're the one who doesn't know how to live without oil and you've nowhere to go". The problem is that, 25 years later, his children, like me, have no idea where to go.)

7. But now it is all getting a little bit rickety. We are beginning, on the basis of historical data and not divinatory models, to get some indication of a crisis taking in energy, water and soil, and (perhaps) the climate. It is said that burning fossil fuels and releasing carbon dioxide into the atmosphere will overheat us to the point of roasting us alive. Yet we rely on fossil fuels for over 85% of our energy needs and, apart from a few fairy tales, we have no real idea today as to how, when and with what we will be able to significantly reduce this dependence. Indeed, a more than well-founded doubt is beginning to take seed that at least oil, considering how much of it we need, may run out well before we manage to burn ourselves to a crisp. Needless to say, there will still

be gas and coal and all the rest, including those mammoth reserves of frozen methane that apparently abounds at the bottom of the ocean (the latest to thaw some 55 million years ago would seem, as it happens, to have nearly roasted the planet, suddenly increasing the temperature by almost ten degrees and the concentration of CO_2 in the atmosphere to 2000 ppm). However, being so interdependent creates certain substitution rigidities for us. Assuming that there was a substitute for oil to hand (and there is not), we would then need to adapt all engines on the planet to use it. In short, even if we were convinced that we would be able to produce oil in abundance for more than the next fifty years (and on the basis of the most recent estimates of the International Energy Agency, we are not even sure – at least going on current trends – about the next five years), it would constitute a sufficient reason alone to start working now on coming up with a substitute. In doing so, it might be worth not burying our heads in the sand about the fact that it would not be merely to substitute oil but fossil fuels in general, given that on the basis of what we know today, only the atom and the sun may be capable – perhaps and through a lot of hard work – of providing us with the energy potential we require. It might also help to acknowledge that everything else that is being mooted is either a niche or temporary fix.

8. For years now, we have been drawing more water from water-tables than the natural cycle is able to replace. And we have been liberally drawing supplies from fossil water-tables, which though still very abundant (even if not exactly found where it would be most useful – see for instance the Sahara) is not a source that is really renewable either. Water, unlike fossil fuels, is not a "finite" resource. However, short of desalinating the oceans (which might be possible, but certainly would not come without impact and expense) it is a limited resource, and it is starting to become scarce with respect to demand, especially in terms of the places in which it is to be found. Scarcity also involves an inability to use the resource, or "environmental" handicap if you like, and is not – or at least not so much – a question of a physical shortage of the resource. Every day, a thousand cubic kilometres of water pour down on us in the form of rain and there must be a way of retaining it better and wasting less. But in order to succeed in doing so, someone would have to begin thinking not just about maintaining the water pipelines (which, however, would be a good start), but particularly about the way in which the organisation of our agricultural has evolved. The consumption of water we are directly aware of, such as that used in drinking, over-washing ourselves and even generously hosing down our balconies, is in the West – at the very most – only 5% of the water we consume "indirectly"- namely, that included as part of the water we use or in any case consume, taking in industrial and especially agricultural usage. So that, for instance, 100 litres of water is used to produce every plate of rice we eat. And Uzbekistan, thanks to its wonderful idea of building an empire on cotton and despite the fact that Lake Aral has been given its last rites, ranks as the country with the highest per capita consumption of water in the world.

9. Is it a pointless exercise to try and establish how much land on Earth is "cultivatable"? Perhaps it is. However, over thirty years ago, there were a billion and a half hectares cultivated, and today it is still the same. In short, the extent of land cultivated has not changed, it is just that the yields have increased spectacularly. Is this proof of the "beautiful world"? It might be if it were not for the fact that, with the quite significant exception of urban areas, everything else has diminished (starting with wooded and forested areas). The Green Revolution has spectacularly increased productivity, through new techniques but particularly through the use of fertilisers. More intensive farming has also meant using water in ways that have facilitated and

accelerated soil salination and erosion. Today's hectares of cultivated land are not exactly to be found where they were 30 years ago. Many that were then productive are no longer so today, due to the said erosion and salination as well as desertification and urban encroachment. The Food Production Index between 1950 and 2000 roughly doubled in Europe and North America, tripled in Africa and quadrupled elsewhere. But how do we read these figures and the differences between them? In terms of new techniques or access to previously-known techniques? Or perhaps the availability of new soil types?

And while on the topic of food, some discussion of the oceans would seem to be warranted. Regrettably, for reasons of limited space, it is not possible to go into detail on this issue here other than to observe that with krill and fish numbers dropping, intensive fishing and the energy cost of fish-farming, the state of the oceans does not inspire us with much confidence either.

10. Then there is climate change. It might seem heretical to say so, but compared to the water, soil and energy situation, we should get less worked up about this. After all, the likes of Lake Aral drying up and the Rio Grande stopping before it reaches the sea, without even approaching the grandeur of an Okavango, are phenomenon you can see and feel for yourself. And you cannot help but be aware that it is due to our actions, or at least man's agricultural (and other) activities. We would need to be well-roasted – and be almost all roasted – before rising temperatures could transform water and land as and to the extent that the actions of the human race have. Then there is the (almost) unanimous agreement that the more greenhouse gases we release into the atmosphere, the more risk there is of the temperature increasing. So it would seem to make sense to emit as little as possible. Yet it would also be useful to know how much it is actually warming up and to have a vague idea of the social cost/benefit of cooling things down. Here confusion reigns supreme while the outlook is not good. Are we (or, clinically-speaking, our "human activities") responsible? We may very well be contributors, but who knows whether we are responsible and to what extent? The *30 Year Update* of the well-renowned *Limits to Growth* (2004, Italian edition 2006, pp.151-152), in pointing the finger at "human" responsibility could not avoid specifying that "none of these observations *proves* that the climate change currently in progress has anthropogenic causes. And even if this were the case, it would be impossible to say with any precision what the consequences of global climate change will be on human activities and the health of the ecosystem". Amid all this uncertainty, it is understandable why, almost on the same day, a particularly rigorous English judge might make it a condition for schools screening Al Gore's film to provide an explicit warning that the work is partisan in nature and in part lacking in scientific foundation, and that a particularly "with-it" Scandinavian jury should award Gore the Nobel prize. All of which confirms another inconvenient truth, namely that in relation to this issue, the level of reliability (proneness to error?) of our judgement may be even lower (higher?) than that of our models.

11. The way in which we use energy, land and water is at the heart of our human contribution to climate change. Climate on its own is merely a questionable model and changes in it are attributed as being, to varying degrees, a function of Milankovich cycles, our activity or other factors according to the more or less untested assumptions which underpin the models. It should be possible, assuming there is a willingness to do so, to discuss the issue on the basis of agreed protocols, and maybe even to ensure a non-partisan flow of funding to "science" and research. Instead, everything risks being reduced to an ideological dispute, to just another two "isms" (catastrophism and

negationism). On the catastrophist side, it sometimes even has a residual trace of the anti-industrial ethos running through it. Emissions seem to mean just CO_2 and CO_2 just the burning of fossil fuels. The other modes of emission of CO_2 and other greenhouse gases (including steam, which alone contributes to over two-thirds of the greenhouse effect, and methane, in relation to which emissions due to leaks during production and pipeline delivery are always assumed to be zero), their relative impact and the mechanisms of their emission, seem to go by the wayside. We spent quite a bit of time making fun of British efforts at introducing some kind of carbon tax (instantly dubbed the "fart tax") on animal (particularly bovine) emissions. And yet the livestock sector, including the flow-on effects of the related use and transformation of soil, is today estimated as being responsible for 18% of global emissions (measured in CO_2 equivalent) of greenhouse gases – as against 13.5% from the transport sector – and within this figure, for 37% of anthropogenic global methane emissions (see FAO Report, *Livestock's Long Shadow – Environmental Issues and Options*, November 2006), meaning that the lion's share is due to the workings of the bovine digestive system. In short, a cow produces more greenhouse gases than a latest-generation petrol engine. Animal emissions do not seem, however, to attract particular comment or attention, as by attributing CO_2 solely to fossil fuels, we can continue to dine on steak, presumably even combining it with a side dish of beans.

12. Before modelling, we should think things through. The crisis linked to water and soil is the same as that related to energy. It is not so much that use or abuse of them is stifling us, but that it leaves us little of what we need where we need it. In other words, we may be close, if not past, the limit of possible growth and, for physical reasons, beyond the limits of producibility of energy and usability of soil, water and energy. To this, the denizens of the "beautiful world" respond that it is not worth worrying about. Since the beginning of time, the end of growth has been forecast in some shape or form. Even the classics, from John Stuart Mill to Adam Smith, theorised about it. However, the market proved itself more efficient than its theoreticians. It produced innovation and invention. If anyone had tried to predict the increase in agricultural productivity of the last fifty years, they would have been taken for a madman. And yet there has been a Green Revolution. For decades, we have spent a lot in Europe to protect farmers and breeders from a surplus in their productive capacity (to the point of forcing hectares of cultivable land to go untilled), and nothing – or almost nothing – on the need to deal with a surplus in demand for food or specific types of food. So there is no reason to spread alarm about the end of growth (which, as it happens, is the real issue in the climate debate too) – it will go on as it always has.

13. So what difference does it make? A small difference of political priorities. If I'm beholden to the "beautiful world" view, then the yardstick I will use in making my decisions cannot be anything but their consequences in terms of growth and I will be happy with whatever might cause consumption to accelerate. But if I think that my priority is the potential insufficiency and/or irreplaceability of my primary resources, then my yardstick will become economy and efficiency in their use and distribution, as well as the need to provide the greatest incentive possible to research and development in the field of substitutive innovation. Can I argue with any certainty, at least in relation to a limited timeframe (such as this century), regarding the finiteness or infiniteness of available resources? No, not unless I believe the models. Certainly, though, the idea that development left to its own devices will generate the resources necessary for its growth and continuation is a little perplexing, and looked at closely is rather akin to entrusting the future to a "Wedding at Canaan" model. It also takes as a

given (which it is not) that technology is "good" in all cases. When, in fact, by preventing us from hearing the cries of an Earth stretched beyond its limits, we do not realise that technology also acts as a painkiller. In masking the pain, it stops us from the prescribing a timely cure. But these are just doubts and, at the most, opinions. There is no certain truth which enables the believers to be censured and prevent them from seeking to be the "political" majority.

14. There is, however, a good reason to take a stand, which exactly mirrors the reasoning behind Pascal's wager. According to the latter, it is better for man to live his life as if God existed, because if he does not exist, little is lost in the end. On the other hand, if he does exist, then salvation is the reward of belief whilst eternal damnation awaits us otherwise. Likewise, it is better to assume that we are heading towards or have already reached a situation of resource depletion, because if this is not the case, we will not in the process have done ourselves much harm, whereas if it is true and we do not prepare ourselves, we are heading for certain disaster.

If the latter statement seems doubtful, let's try to imagine what would happen if, from tomorrow morning, we found ourselves with one less barrel of oil a day on a permanent basis (which is quite possible) and with nothing to replace it with. Or that, due to erosion and natural disasters, the price of grain went sky-high (this has almost already happened), and there were no prospects of production increases for the next season. Or that a great river system collapsed (we are already witnessing similar situations). What would happen then? The energy crises we have experienced so far have, by definition, been short-term. Yet reactions have been loud and fearful. If there were to be a structural crisis, 1929 would, in comparison, be declassified to a temporary and minor market glitch. In 1929, the transience of the growth and continuation of the human race was not in question. If we do not prepare ourselves for resource depletion, the risk that its coming to pass will overwhelm us is, to say the least, quite high.

15. The view that it is foolish to think our planet can guarantee the kind of lifestyle that prevails in the developed West to all its current inhabitants without collapsing is quite sound. Sure, maybe some breakthrough by the "Wedding at Canaan" model might prove this assertion wrong, but as our knowledge and state of progress currently stand, it would seem to be more than well-founded. After all, it is nothing more than a corollary of the acceptance of the finiteness of resources. But if the view is correct, then it will change our world, because it breaks the nexus between (social) justice and growth which, albeit under different guises, has been the common thread of political action over the last few centuries. Growth has been the underlying basis of health, education and the advancement of any ideological form of social equality. It has been almost a prerequisite, if not a guarantee, of human dignity itself. Moreover, given what it offers and enables politics to offer, it has constituted a necessary condition for civil coexistence and the very governability of humankind. The events of 1929 only temporarily took growth off the agenda. It was the perception of that temporariness that perhaps saved us from irreparable social failure. But how would we deal with its disappearance if it were to become (temporally) permanent?

16. A slowdown in growth is almost inconceivable. At the most, we have limited ourselves to the idea of it coming to a halt, a notion which, in any case, is inherent in classical theory on the falling rate of profit and which underwent– to say the least – a comforting development in the work of John Stuart Mill. If growth (though, in reality, Mill spoke of accumulation, the correspondence between the two being less than

perfect) came to a standstill, we would find ourselves spending less time on our obsession with accumulating wealth and with more time to develop our mental culture and morally and socially improve ourselves. Stated, as it was, by a member of the English landed gentry, writing in an era when the prevailing social model was still closely-linked to land ownership, it is even understandable. However, repeated today to a Chinese person in the grip of the euphoria of development, it would probably be neither understood nor well-received. And yet, an element of Mill seems to run through radical schools of thought that seek to introduce (even semantically) a clear distinction between growth and development, thereby hinting at the possibility of development without growth and vice versa. If this were done merely to promote the idea that there is a need to adopt methods of measuring growth other than by using GDP as an indicator, then one could not but agree. Otherwise, it risks just being the latest in a long line of ideological flourishes of a school of thought that has too hastily made the transition from a passion for chimney-stacks to gushing over butterflies. Apart from a few post-industrialists who have the time to indulge in the quest for happiness through intellectual development, aided and abetted by having delocalised a great number of factories and toxins, we have to face the fact that the overwhelming majority of people harbour ever-increasing (material) expectations, and that productive growth has up till now, even culturally, been the only hope – at least for some – that those expectations could be fulfilled. Against the backdrop of this cultural setting, it is necessary to find consensus for a political approach which acknowledges resource finiteness given that introducing elements of a different paradigm will neither be easy nor painless.

17. Will democracy survive resource depletion? As Sartori once said, elections do not decide issues; they decide, rather, who will decide the issues. Nevertheless, in order to be chosen, resort is often had to the traditional practice of announcing which way one will decide. Stiglitz argues that many developing countries would be willing to pay the price of "negative consequences" on growth, "if a more democratic and fairer society could be achieved". Yet, up till now, we have only witnessed manifestations of the opposite. There have already been cases of people winning the right to make decisions by promising no more taxes. It would seem less likely, however, that someone running on a ticket of no more growth, or even just no more carbon dioxide, would win. Since the days of "no taxation without representation", people have voted more or less consciously on the basis of whether and how to distribute a surplus (there might even be people who vote according to who will bring them the greatest happiness, but that is an entirely different issue).

And what if, as the concept of finiteness suggests, there is no longer a surplus? One can always cook the books if need be, with all due respect, of course, to the notion, (to paraphrase Sartori again) that the link between public opinion and democracy is constitutive, and that it is based on freedom of thought, freedom of expression and polycentrism (informative). It has been said that "to control risk, it is necessary to frighten people". It is unclear whether Goebbels ever thought this, but the quote actually comes from Anthony Giddens, who was speaking in the context of the environment and climate. Perhaps it was said out of sheer desperation, but it certainly had little to do with democracy.

Then there is the confounded question of time. Fifty years may not suffice to change over from one energy source to another. Yet elections come round every four or five years. And usually, the candidate who most convincingly promises more growth, in the form of more consumption, wins. How can politicians seriously worry about water and soil when they are governed by such limited timeframes? Are we really

certain that democracy is capable of being used "neutrally" and of being a means, a voice and a vehicle for not just (as it has always been) a policy of expansion, but also a policy of consumption containment?

18. Well, to paraphrase Churchill, no one has invented anything better yet. Hence, even if there is no certainty of success, we have to try to stick with it. Which means doing so even in the knowledge that if you cry wolf too often people will sooner or later stop believing you (if not turn on you) and that a fundamental pillar of democracy is the guarantee of a free flow of information, rather than a reliance on fear tactics, the end result being in the hands of destiny.

It must be possible, in some way, to alleviate the effects of the timeframe issue. There should be a way of rescuing water, soil and energy from the fickleness of partisanship. One of the things that we have managed to do well politically in Italy is to remove the basic principles underpinning our society from the arena of elections and dedicate a chapter of the constitution to them. So is there something about soil, water or energy that makes them less important and universal than equality? Or will common sense provide us with sufficient food for thought on resource depletion to come up with another chapter for the constitution to address it?

If we do manage to do so, we will have begun to remove the decisiveness of the time factor. We will have begun to forge a necessary link between democracy and saving/efficient use of resources, in some ways parallel to and mirroring the connection between democracy and the justification/efficient use of taxation. It may not be enough to prevent a sans-culottist reaction to curbed growth, but it does give us hope of being able to fend it off, if not actually pre-empt or even control it over time. It is obvious that this hope relies on the model being generalisable (using the word exportable here would give rise to misunderstandings that may even prove truculent). It would also be a good start to experiment with the application of non-partisan priorities at the lower level of administrative management as well as *vis-à-vis* its efficacy/efficiency.

19. At any rate, it does not seem possible to do any more than this given that action is hemmed in by consensus. We need to ensure we are not led astray by the BANANA (Build Absolutely Nothing Anywhere Near Anything) syndrome. It is easy for those who live in luxury to say no to anything new because it might pollute, all the while pretending not to be aware that this might mean delocalising the operation to someplace where people are not so well-to-do. So California bans dirty coal. That way no tension is created around prices in China. But this does not mean that there is real consensus for a policy on "resource depletion" – at least, not unless the policy heavily impacts on us and we are deprived of the possibility of accessing exports of what is locally scarce. Take, for instance, measures like limiting, even just by means of tax incentive/disincentive mechanisms, our freedom to drive vehicles powered by fossil fuels, or to eat meat (particularly beef), or to wear fabrics or eat foods produced using high water consumption. Good luck to anyone thinking of becoming prime minister or even a mere governor brandishing this kind of platform. Resource finiteness needs to be handled with pragmatism, with an ability to prove that taking precautions yields benefits. Some will say, sure, that way it will all be too late and we will never manage to slow down let alone stop the process before catastrophe hits the planet and all of us. We need to remember though, that not even in the name of truth is the use of strong-arm tactics permitted to save us *malgré-nous*, and for the moment there is no talk of truth here.

20. The "beautiful world" camp maintains that the Earth can sustain all of us if not more of us (it has been said that we can all get by comfortably till we reach or exceed 35 billion people). Since Malthus predicted the imminent threat of general famine, the world population has increased by 500%, and the percentage of those who die of hunger has tended to fall. The Green Revolution would seem to have torn Malthus' vision to shreds.

But linchpin of the Green Revolution, based on fertilisers and machinery, has, above all, been oil. Malthus could not have known this and assumed that the population could grow geometrically whilst agricultural production could only experience linear growth. Subsequently, fossil fuels also enabled agricultural production to increase (almost) geometrically. Yet if the productive miracle does not continue or if the soil turns to salt, perhaps we shall have a problem.

Everyone of us requires and consumes soil, water and energy, and produces direct animal emissions in addition to those which flow from our own consumption. When we were hunters, we only numbered a few million. Later, towards the middle of the last millennium, there were less than half a billion of us, then 1.6 billion by 1900, more than 3 billion in 1960, finally arriving at more than six and half billion today. Now we are slowing down and the rate of population growth has fallen from a dramatic 2% plus at the end of the 1960s to less than (an estimated) 1.15% today. Here Malthus got it right, given that recent years seem to point to a link, at the local level, between reductions in the population growth rate and individual wellbeing. In short, today, increasing population is essentially the result of poverty. By projecting this historical data (beware of models!) into the future, we can estimate that over the course of this century, this progression could for the first time become negative (by 2070?) after having reached a peak in world population of between 8-10 billion people. This curbing (if not turnaround) in the population growth rate is often cited as an argument to support the view that population growth is not a resource finiteness-related problem. With all due respect, that would appear to be nonsense.

For all we know, the Earth could already be overpopulated today. This is also because the linear growth which we are still experiencing entails an increase in the individual's impact in terms of both consumption and pollution, due to the effect of economic development (and here we need only think of the rise of the motor car in China) and of the simultaneous lengthening of human life expectancy. Certainly, it is good to hear that in the future it might be wellbeing which plays a limiting and selective role in population growth rather than that sadly played in the past by war, disease and famine. But no one can guarantee that we will ever get to that point, nor, in particular, what price we would pay to do so in terms of resource consumption and atmospheric emissions.

21. One of the formulae used to measure the demographic impact is I=PxAxT (Population, Affluence, Technology). This formula was proposed by Ehrlich (author of *The Population Bomb*, 1968) and Holdren and it has also been used to argue that the absolute number of inhabitants alone is not a crisis factor. If alongside an increase in the population, consumption is reduced and/or energy efficiency is proportionally improved, then the impact is cancelled out. Precisely. The issue is not whether the variable P is to blame. The issue is whether, leaving aside hypocrisy and religion, we will finally be allowed to (even politically) treat the population factor as at least *one* of the prime factors of development and resource finiteness. In other words, introducing humankind into the finiteness equation, expressing the limits and scarcity of water, soil and energy as a function of the number and hence excess of the population and being permitted to talk of demographic policy and maybe even come up with one. We are not

at the point of having to indulge in Pasolini's provocative observation that "to procreate today is an ecological crime", but we at least need to be aware that discussing water and soil without mentioning demography verges on the nonsensical, and that the expectation of the possibility of a turnaround in population growth within the course of this century does not resolve or eliminate the problem. From the "beautiful world" perspective, demography is not an issue. But in the resource finiteness paradigm, a policy which promotes population increase is an irresponsible one. There is no precept of solidarity which requires that family allowances be paid up to the umpteenth child, nor does it seem to be dogma that obliges us to adhere to the views expressed in the *Humanae Vitae*. The time has come for debate between believers and non-believers without being held back by taboos.

22. All the more because if a crisis were to take place, in the midst of the panic something worse could take root, including the emergence of some enticing form of semi-Darwinism with a eugenics twist. Nazism has so filled us with horror that we have blotted out the idea and memory of the fact that, prior to the mass exterminations perpetrated, talk of evolution of the species was respectable among the Western élite. If population growth explodes, we risk discovering that our margin for safety is used up, because the prime question will be how to distribute what we have, and little is needed for it to become a question of *who* has a right to it and *who* should miss out. William Stanton is a retired geologist. He has written a book and some articles (in particular, *Oil and People*, ASPO *newsletter* #55) on population growth and its related problems, proposing an approach that is "Darwinian in all its aspects". The essential ingredients are: a ban on immigration, limiting women to raising one child, forced abortion or infanticide of the disabled, and the elimination of anyone who "through old age, accident or disease (…) becomes more of a burden than a benefit to society". Stanton is not affiliated to any Nazi or similar groups. He is simply reflecting on how to deal with resource finiteness. Today, his approach perhaps (hopefully) horrifies us. Yet if we do not prepare ourselves in some manner for the depletion of resources and how to manage it, there is a risk that what seems horrific to us today might, after the blow-out, become reasonable to many of us. The way in which, at the slightest sign of a hiccough in development, we currently handle any one of Stanton's essential ingredients (and particularly immigration), should give us some clue that we are not as far from his approach as we would like to think.

23. And what a strange take on Darwinism we humans have. For a while, it was confined to adaptation to our natural surroundings, like any old peacock does. So pigmies became small because that way they could handle the heat better in the forest, and melanin caused the skin of those overexposed to the sun to go dark to protect them from solar radiation. Then with agriculture we violently ripped open the earth and, since then, we have had the temerity to claim that it is the Earth that has adapted to us and not the other way round. In the process, we have even tried, with some degree of success, if not to replace "survival of the fittest" then at least to mitigate its effects with "survival of the richest". We have not only won our "place in the economy of nature" (to quote Darwin), we have also, to some extent, bought it. The way we hoard and distribute resources enables us in the West to consume a significant portion of them on maintaining the lives of individuals whom Stanton would eliminate for reasons of genetic defect. Yet, at the same time, outside the West, we allow hordes of newborn babies that are genetically perfect to die of hunger. There is no causal nexus between these two things, nor is there a genetic one. It is the product of a species that has, in its evolution, made natural selection and social selection two sides of the same

coin.

Tomorrow, there is perhaps the risk that the gap will widen. We, the *beati possidentes*, have conquered the environment for our children by delocalising the little grime we had left on our doorsteps. And now we would like to convince the recipients of delocalisation that they have to halt their development because they pollute too much and that, in short, we only have one Earth and it is everybody's so we need to look after it. To put it another way: I'm really sorry to have to tell you this but you, who look a little different to me, may not have reached a tenth of my level of consumption, but it is a sacrifice you will have to make because otherwise it's going to get pretty hot around here. This approach is unlikely to work. If the task involves disappointing growing expectations linked to the mystique surrounding development without bringing about conflict between the differently developed segments of our species, then it is anything but a foregone conclusion that we will manage it seeing as, in order to do so, consensus needs to be reached on a global scale regarding the manner of redistribution. Scarcity has always given a boost to social egotism, and the latter has already gone as far as denying a place among our species to certain diverse groups of people – as did Jefferson, when he declared human rights as innate and inalienable whilst excluding blacks – and much more besides. Faced with choosing between restoring balance and war, we may discover that it is easier to avoid a clash of civilisations than a clash between the diversely developed.

24. We cannot be sure that there will be a disaster. Nor can we be certain there is even an imminent threat of one. But the suspicion that there might be a danger is reasonable and well-founded. As with the rationale that underlies fire and civil defence drills, the doubt must be of a sufficiently high level to justify throwing ourselves into prevention and preparing for disaster. It is worth our while investing in preventing a catastrophe as well as ensuring that it is less catastrophic. How much we manage to invest therein is a consensus issue and, hence, a political one. All this in the knowledge that some level of investment is in any case worth making, because if disaster hits suddenly it will prove unmanageable. In the knowledge, too, that a slowdown in growth, if and when that process is triggered, will perhaps bring us face-to-face with a choice between restoring balance and war, and almost certainly with the need to revisit at least some of the paradigms of our social existence.

The bottom line is that we are not talking about "if", but "when", the growth will stop – since the "if" is already predetermined by the laws of thermodynamics.

WINNERS AND LOSERS IN THE CLIMATE CHANGING GAME

by *Gianni SILVESTRINI*

There is scientific consensus on the heating of the planet. However, the cost and consequences of it are not equally straightforward. Climate scenarios. The business of emissions and clean technologies. The post-Kyoto maneuvers.

1.

OVER THE YEARS THE CLIMATE ISSUE has become the principal environmental worry and it is conditioning the economic decisions of industrialized countries and not only those. There is wide consent in the scientific community that the planet is heating up. The worry is that these climate changes are accelerating, an example being the increased speed of the melting of polar icecaps. In recent months, a portion of the economic elite has seriously begun to reflect on these risks considering new business opportunities that open the door to energy efficiency and renewable resources. The "Stern relationship" commissioned by the English Government has rippled waters by asserting the impact of a heating planet, which could exceed the crisis of 1929.

However, more attentive observers think that an answer is still possible and that, indeed, an intelligent strategy will be able to open new areas of development in the economy of the planet. Schwarzenegger believes, after the economic successes induced by the aerospace industry and the computer sciences, is now ready to ride the boom of "green technologies". This transition to new energies will not be painless with the possible intersection, in the next 10 to 20 years, of other crises such as a drop in the world's crude oil production.

It is clear that the de-carbonation of economies will endure deep changes in the production and consumption of energy. Remember, in fact, that to reduce carbon dioxide emissions by 50% between 1990 and 2010 (notwithstanding Kyoto) will take twenty years to stabilize emissions and reach progressive reductions. To cut it even further, may take 50 years. This timeline has been indicated by the scientific community and, by now, has been accepted by many important political leaders. It is obvious, however, it may take up until 2030, with drastic cuts in emissions, to bring greenhouse emissions down by 50%.

Yet, what are these drastic actions that must take place? The industrialized countries are responsible for the main quota the CO_2 emissions (over 80% in 1975 and 59% in 2005), but the situation seems to be always overturned: before 2020, developing nations will exceed the rich ones. It is necessary, therefore, to define simple and convincing mechanisms that involve all countries to control their emissions, instead of with objective differences. It must go beyond the previewed engagements provided by the Kyoto Protocol; limiting industrialized countries (5% of emissions in less than a fifteen year period 2008-12 with regards to 1990).

Naturally, an agreement will have to be found on the issue of reparations for these cuts. "Contraction and convergence" represents one proposed plan that shows an equal level of emissions per capita for all by the end of the century. The attainment of this

objective (re-launched recently by German Chancellor Merkel with the idea of 2 tons annually per inhabitant) involves an expressed decrease of emissions by industrialized countries and smaller amounts by those developing nations reaching a peak by 2025-2030, in order to diminish these emissions.

2. Who will win and who will lose in the climate changing game? In the last report by the Intergovernmental Panel on Climate Change (IPCC), there is evidence of the risks regarding developing countries. Some areas of the northern hemisphere will be able to enjoy some benefits of modest increases in temperature; however an increase of 2 degrees has far more negative effects. Here are some evaluations of the report by a high array of scientists: "In southern Europe, the climatic changes could cause worsening conditions, which is an area already vulnerable to variable climates. Africa is one of the more vulnerable continents... second, the projections in 2020, 75 to 250 million people will be exposed to an increase in the world's water channels. In 2050, the water availability in Asia, particularly in the great river basins, will diminish... and will cause negative impacts to affect more than one billion people; (also in Asia) the sea level will begin to raise causing higher amounts of flooding putting millions of people at risk".

The sharpening of these models and measurements has allowed an increase in our ability to predict outcomes and limit uncertainties. If constant opposition remains to the findings of the IPCC by a skeptical minority then it is possible that this problem will remain spiraling out of control. Within this debate we have James Lovelock, who is a proponent of the Gaia hypothesis, which proposes that the greenhouse gases will cause the death of millions within the course of the next century. Between all of these catastrophes, we find the Pentagon, which in a 2003 study characterized the risks to the security of the United States tied to the forced migration of the entire population. The signs of change are more and more visible and it cannot be ignored that the phenomenon has accelerated.

On the surface of these scenarios, the first move towards reduction would have to be the measures made "in house" in order to improve the energy efficiency of a country, to promote the renewable resources and the re-planting of trees. However, from an international point of view, it is interesting to try and estimate the effect of transferred technologies to help clean up the developing nations processes. In order to facilitate the attainment of these objectives and to reduce emissions at a minor cost, the Kyoto Protocol shows the use of instruments to allow investments in developing countries (Clean Development Mechanism, CDM) or in countries with transitional economies (Joint Implementation, JI) and recording the amount of carbon coming from industrialized countries. This use of the "flexible mechanisms" creates a strongly increasing market with transactions doubling in two year periods, reaching a value of 5.4 billion dollars in 2006 and more than 15 billion dollars worth of investments.

The truth is, up till now, great lengths have been made to certify the elimination of HFC23 and Nitrous Oxide both of which greatly affect the climate. Yet, in the next few years, there should be the elevation of more energy efficient and reusable resources, with a transfer of know-how and technologies, which cost millions of dollars. For this reason, one could start to see the disbursement of clean technologies favoring sustainable development for the poor areas of the planet.

Concentrating on the fifth year since the Kyoto Protocol, there is the possibility that the industrialized countries will have a 3.3 billion deficit of CO_2eq (carbon dioxide equivalents, which are considered the primary emission of all CO_2 gases that function as a shield effect). There are three ways to reduce this gap. The first one resides in the acceleration of national programs. The second road leads to the

acquisition of credits deriving from CDM plans or JI, which are being used increasingly. A third hypothesis consists of the sale of approximately 6-7 billion tons of tCO_2eq by eastern countries, which is less than the assigned target of the Protocol. The intake of the CDM and JI markets could have underachieving quotas. The possibility of "fried air" is still indefinite and will remarkably influence business over the next few years.

The CDM plans, up till now, to register (in June 2007) and to generate certifications for 1 billion tons by 2012 and plans for the other 1.2 billion tons to be assigned to competent authorities, however, they still have not been approved. These instruments could help close the wide gap of carbon producing, industrialized countries in difficulty.

The effectiveness of these mechanisms could extend remarkably in the next few decades, favoring a strong transfer of technologies to developing countries. These resolutions reiterate past engagements by increasing aid to such countries, succeeding thanks to the worry that emissions are out of control in the southern hemisphere of the planet thus creating a desire to bring emissions to an equilibrium. Thus, creating a sense of well being for rich countries.

In a few weeks (starting January 1, 2008) will begin the count of emissions by the Kyoto Protocol. Some countries will turn out to be first in their class, while others will arrive at the goal with difficulty, however thanks to the employment of "flexible mechanisms" of the provided agreement, they will concur to acquire carbon credits outside of their own borders. However, the argument is already directed towards the successive phase in 2012, with many articulated positions depending on a variety of factors. The fact that a country is an importer of fossil fuels or an exporter, the level of the energy use and its consumption per capita, the trend of emissions and their sensibility towards the environment all factor in.

The United States is a large consumer of energy and fears that a strong reduction of the emissions attacks their lifestyle. These perplexities also come from neighboring Canada, which is an exporter of energy and with increasing emissions but, contrary to the United States, they have ratified the Kyoto Protocol.

Europe, which is an importer of fossil fuels, has reduced its energy use and believes that the development of alternative technologies can represent a place of business and has moved its policies into alignment to engage this climate question head-on.

In Russia, what prevails instead is the interest in exporting high amounts of hydrocarbons that it considers enough to protect it from the consequences of a heating planet. While China imports voracious amounts of energy and with elevated emissions costs. It is beginning to fear the consequences of climate changes yet it has been reluctant to engage in a proper solution and still holds out for the transfer of clean technologies. A similar position is being held by India.

Many other developing nations are more and more at risk to changes in the climate and, with lower consumptions and emissions; they hope an agreement can contribute to reducing these risks. The oil producers are usually hostile towards international engagements on emissions because of the risk of limiting their profits. Australia, which is a great coal exporter to the United States, is in a similar boat as the oil producers and they have not ratified the Kyoto Protocol. However, its position could change after the November elections because there will always be politics. Would the American position be different if Al Gore had become president?

At the end of 1999, the environmentalist associations presented at several forums the award winning "Fossil of the day" stating that negotiations were getting worse. A number of negative judgments were given to the United States followed by Canada,

Saudi Arabia, Japan and Australia.

3. If the battle for the protection of the ozone layer, 25 years ago, was fought by U.S. and resisted by Europe, there would be more successes in the climate challenge. The European Union has accepted the demanding challenges of the Protocol and now is pushing for a definition of obligatory targets in the post-Kyoto period. In order to give its position more credibility, it has already decided, unilaterally, to reduce its emissions by 20% by 2020. But like a rooster scratching about, can Europe foretell its future plans so well? Well, the data alone is reassuring but only thanks to the role of some particularly active countries. In 2005, the emissions were, in fact, 2% lower in regards to those in 1990 and, even with hard times, the European Union could lower them by 8% by 2008-12. Naturally, this average hides a lot. Germany, the United Kingdom and France are substantially aligned, if not exceeding expectations, while other countries like Italy and Spain, are having much farther to go and will have to resort to more flexible mechanisms within the Protocol.

Europe is, however, equipped with an instrument of market money lending by the U.S., the Emissions trading, that defines the maximum amount of carbon dioxide production for the several industries and also the possibility to acquire, at a minor cost, the overlooked reductions. The scheme has created, with its initial limits, a market for CO_2 that has gained the attention of other continents.

But perhaps a more interesting aspect of the E.U. is its extraordinary ability "to ride the wave" of environmentalist business, creating new economic fields in the area of the renewable resources and energy efficiency. A few years ago Germany and Spain had seen the birth of thousands of green enterprises totaling 315,000. This trend seems destined to accelerate. In fact, there is the ambitious objective to have 20% of energy consumption come from renewable resources by 2020, which would extend this energy revolution to all 27 countries of the Union. The necessary investments to raise the percentage of renewable resources and the energy efficiency will be much more elevated in regards to the past and could even exceed the traditional resources of thermoelectricity.

On the other side of the spectrum, various positions have been taken by the Russian Federation on the heating of the planet. The country would have a lot to gain by an increase in temperature. It is a simplistic vision that does not consider the effects of the dissolution of permafrost, of flash floods, drought and desertification. Now, these impacts are remarkable. According to the World Bank, the damages caused by climate variations cost up to 1 to 2 billion dollars a year. Some scientists, like those from the Russian delegation to the IPCC, Yuri Izrael, have little time to argue the gravity of the heating of the planet. Also, the economic councilman to Putin, Illarionov, even considered ratifying the Protocol a true disaster.

The Russian president has a long leash when it comes to ratifying the Kyoto Protocol and, at the same time, trying to obtain European support regarding the entrance of his country into the World Trade Organization. Nevertheless, Russia has a lot to earn by ratification: the objectives that are attributed to Kyoto like the stabilization of emissions since 1990. In 1995, CO_2 production was 35% lower than those in 1990 and by 2010, in spite of the recent economic recovery; there is the possibility for it to be 20% lower. Beyond that, Russia could also use the mechanisms of the Joint Implementation (JI) that would facilitate the acquisition of technologies and know-how.

All these elements have already begun pushing Russia, in 2004, to ratify the treaty. In fact, after the defection of the United States, the Protocol could not have legal value without Russian participation since it was necessary to have countries with

emissions that equate to 55% of the industrialized world. In spite of the ratifications, attention to the Protocol has been limited. According to Anatoly Chubais, the slowness in defining the procedures of the JI plans has made Russia lose hundreds of millions of dollars. The general feeling is that the climate is a low priority in governmental, political and public opinions.

The choices that will be carried out in the next few years on CO_2 credits will have a great impact on international commerce of carbon, considering that such carbon credits are of the same of magnitude for other countries that have ratified the Protocol. It is obvious that the amount of stocks will be decisive in defining the market price of CO_2. However, it is probable that Russia is thinking about performing such operations as "banking", using part of the credits in its possession for the successive phase in 2012. Clearly, the Russian position on post-Kyoto will be influenced by the impact that future climate agreements will have on the perspectives of energy exports.

The role of the United States will be decisive in negotiations for the next two years, being mainly responsible of greenhouse gas emissions, is because that its defiladed role would prevent the involvement of other developing nations.

There are many elements that may make one think that the United States will re--join the game with possible changes happening in 2009. These changes will render the administration's position unsustainable and not defendable. While, at the same time, there is a push coming from the bottom. A consistent number of States and over 400 cities have decided, unilaterally, to start their own reduction objectives. One example, on the west coast, is the Western Climate Initiative, in which some States in August decided to reduce carbon dioxide emissions by 15% by 2020 starting in 2005. Sensibility is starting to emerge in the States on the west coast.

Then there is the business community that has begun to manifest its own feelings regarding the issue and the risks of being counter-productive. An example of this change in attitude is the creation of the Business Environmental Leadership Council, which brings together 44 powerful companies with 3.8 million representatives that want to take part in and take a step towards the Kyoto Protocol. Many of these companies, like General Electric, Du Pont, IBM and Novartis have created their own way of reducing greenhouse emissions. Probably the one most discomforted by all of this is Jim Rogers, a owner of multiple coal mines, and who favorably supports U.S. emission rates says that: "There must be credible individuals sitting at the negotiation table, not just six men reading over a menu". Then there are those in the realm of religion that have authoritative representatives of the evangelical church traditionally near Bush, that considers this lack of participation immoral by the administration.

The politics of the Bush administration, on the issue of the climate, are under accusation and this could become an important topic in the electoral campaign, which shows recent support of the democrat, Obama, who would like to invest 150 billion dollars, in the next 10 years, to reusable energies. Also do not discount the effects of the allocation of the Nobel Peace Prize to Al Gore, who approached the field from an independent perspective.

Then, there is China. In 2004, the country emitted 5 billion tons of various CO_2s and, by 2008, will exceed the United States in emission productions becoming the country with the most elevated production of carbon dioxide in the world. It is clear that the involvement of Beijing, whose emissions grow increasingly by 10% a year, is decisive for the future of climate agreements. With respect to post-Kyoto, their official position, up till now, is quite clear. There is always the persecution by industrialized countries' that are involved and by flexible mechanisms like the CDM, but there is nothing that engages the developing countries entirely to become involved. The level of emissions per capita from the Chinese is equal to 90% of the worldwide average

and one third of all industrialized countries.

If CO_2 production increases drastically, then the overall participation margins will be enormous. Between 1980 and 2000, energy use has been reduced annually by 5.2%. Yet there is still much work ahead of us. Consider that fact that China produces a third of the world's steel and emits half of the world's carbon dioxide.

Contrary to Russia, China's higher impact on the climate is a cause for more worry. The melting of icecaps, the overflowing of rivers, the increase of the desertification, the effects on the agricultural production, the impact of typhoons on densely inhabited coastlines must be taken into account and evaluate all of these elements politically. Last June, the first national program on climate changes was published. By 2010, the amount of renewable resources will be up by 10%, there will be the reduction of energy use by 20% and an increase in the amount of forests by 20%. In terms of emissions, renewable resources would lower the amount of CO_2 by 60 million tons, while causing energy efficiency to increase by ten fold equating to 550 million tons of CO_2.

4. Post-Kyoto has already begun and many believe that, by 2009, all of the countries on the planet will have come to an agreement. As far as options available, two already are practiced and will have an essential role. Like the draft of renewable resources that, in the next few decades, will cover important world-wide questions (in particular, solar technologies bound to hydrogen production) and energy efficiency, a less expensive and more effective solution than the reduction of emissions.

There is also the topic of nuclear energies, which is being revived. The contribution of this technology has its incentives, which are necessary, but pose a series of problems such as potential emergencies, the recycling of nuclear sludge, atomic proliferation and costs that will have to dealt with by future generations within the next 20 to 30 years. What remains is the removal of carbon dioxide, which is a strongly supported solution to the oil multi-nationals and coal. Within the next 10 years, we will be able to comprehend more the real costs of these issues.

After the wars for oil and water, we will have to manage with the conflicts over the climate.

READY-TO-USE CLEAN ENERGY

by *Corrado CLINI*

By 2030, world energy consumption is set to rise by 50%, with a steep rise in the use of fossil fuels. The only immediate solution: biofuels. The pros and cons of biodiesel. The threat to food security. OPEC's reaction.

1. ACCORDING TO THE "REFERENCE Scenario" described in the International Energy Agency's (IEA) World Energy Outlook (WEO) 2006, world primary energy demand is destined to rise by over 50% between 2005 and 2030. Fossil fuels will make up over 85% of this increase and two-thirds of the new demand will come from the emerging economies, namely China, India, Brazil, Mexico, Indonesia and South Africa.

The increase in energy consumption is set to cause a rise in global CO_2 emissions of around 55% compared to current levels. This forecast corresponds with the worst-case scenarios outlined in the Climate Change 2007 – Fourth Assessment Report of the Intergovernmental Panel on Climate Change, according to which global emissions of carbon dioxide will need to be reduced by at least 50% compared to current levels, starting from 2030, in order to protect the climate system.

According to the World Energy Outlook 2006, over the next 25 years more than 20,000 billion dollars will be invested in oil and gas exploration, as well as in the construction of electrical power plants and infrastructure necessary to meet the increased demand for energy. A negligible portion of this amount will be allocated to developing renewable and bioenergy sources. Taking into account the average lifespan of power stations and energy infrastructure (between 30-50 years, sometimes more), these investments will determine the energy and environmental future of our planet.

2. Our chances of altering the course of the global energy trend towards lower "carbon intensity" depend on the development and use, by 2030, of alternative energy sources to fossil fuels and of high-efficiency technologies. In other words, urgent measures need to be adopted to "divert" a significant portion of investment towards increasing the share of renewable, nuclear and bioenergy sources in the energy portfolio, to promote energy efficiency, and to amend tax regimes and energy subsidy schemes so as to favour low-carbon content energy sources.

The World Energy Outlook 2006 formulated an Alternative Policy Scenario based on these measures and on the use of currently available technologies. According to this scenario, even without significant investment, by 2030 we could achieve greater emissions reductions compared to the Reference Scenario. These reductions are accounted for by as much as 12% through increased use of renewable sources and biofuels and up to 10% through increased use of nuclear energy. The remaining almost 80% is accounted for by efficiency improvements, including up to 13% in the field of electricity production, up to 29% in the end-use of electricity and up to 36% in the end-use of fossil fuels.

The Alternative Policy Scenario could, in 2030, enable a reduction in global demand for fossil fuels of 13 million barrels of oil equivalent a day compared to the Reference Scenario, and a corresponding reduction of 16% in the increase from 2004

levels of global energy-related CO_2 emissions, which would be contained to around 30% instead of the 55% envisaged by the Reference Scenario. This would represent a significant result towards reducing the carbon intensity of the global economy, though it is not sufficient to secure the necessary turnaround in the trend, as the overall contribution of zero-emission sources (namely, renewables, biofuels and nuclear energy) to primary energy supply would still remain between 15 to 20%. Considering the urgent need for effective measures in the short term (10-15 years), the need arises to better assess the available resources and technologies and, at the same time, to invest in the development of alternative sources and technologies which might ensure rapid results.

Bioenergy sources, particularly biofuels, represent an option that is already available. They are capable of ensuring both an immediate response as well as being open to further technological advances in relatively short timeframes. Indeed, they contribute to the diversification of energy sources and energy security, significantly reduce – depending on the types and technologies used – the carbon content of the energy used and are susceptible to important breakthroughs in the short-to-medium term in the biotechnology and energy fields aimed at guaranteeing compatibility with food and environmental security.

Bioenergy sources currently contribute to around 11% of primary energy and represent 80% of renewable sources used globally. For a long time, the traditional bioenergy source (wood) was predominantly used as a solid fuel for food preparation and in a domestic context for heating and lighting purposes, often with a low level of efficiency. From the end of the 1980s, new and more efficient production and use methods for bioenergy sources were developed, driven by at least five main factors: the rise in oil prices; the need on the part of crude-oil importing countries to reduce their reliance on a small number of exporting countries through the diversification of energy sources and supply areas; the opening up of opportunities to the emerging economies of tropical countries to supply liquid biofuels to the global energy market which were competitive to fossil fuels; the increasing energy demand of developing countries, particularly to sustain local growth in rural areas; and commitments undertaken to reduce CO_2 emissions.

The prospects for development of bioenergy sources in the short-to-medium term are very favourable, particularly as regards biofuels. In the Alternative Policy Scenario, biofuels could meet around 8% of global road-transport fuel demand, almost double that of the Reference Scenario and four times more than current consumption (36 million tonnes of oil equivalent, as against the current 8 million tonnes). According to the estimates of various scientific institutions and international agencies, global biofuel production potential in the short-to-medium term is actually far higher. By 2030, biofuels could meet 20% of demand and between 30-40% by 2060. In this regard, it should be noted that the trend towards growth will also be sustained by the commitments undertaken in recent years by many countries (including the EU, the United States, Canada, Brazil, China, Colombia, Malaysia and Thailand) to reach mandatory biofuel targets in their energy portfolios between 2010 and 2020.

3. The development of the full potential of biofuels requires environmental and social constraints as well as trade barriers, which impede trading in biofuels as a global commodity, to be overcome. The critical factors are the compatibility of biofuel production with environmental protection at the local and global level; with food security, both in terms of prices and food quality; and with the economic development of the countries who supply the raw materials, both in terms of their access to the markets of the main energy consumers and rural development within their own

countries.

Environmental compatibility must take into account the complete life cycle, including the usage of land for the production of biofuels, with specific reference to: land-usage changes to high-carbon-absorbing virgin-forest and peat-soil areas; the production of the relevant raw material and the related agricultural practices, in terms of the use of fertilizers, waste production, soil erosion and impoverishment, protection of biodiversity, and surface and ground water consumption; and the net carbon emissions resulting from the processing and conversion phases.

An analysis of the life cycle permits some initial conclusions to be drawn regarding the environmental sustainability of the current production and usage of biofuels. The conversion of high-carbon-absorbing areas for the production of biofuels, as with the case of the substitution of rainforests and wetlands of South-east Asia with palm plantations for the production of oil, has a devastating effect both in terms of the protection of biodiversity and the reduction of the atmospheric concentration of carbon dioxide. Bioethanol made from corn has a carbon emissions reduction efficiency of around 13%, which does not seem sustainable considering the amount of agricultural soil the crop takes up, the water consumption and the nitrate emissions resulting from the processing and conversion phases. In this regard, the experience in the US highlights many problematic aspects, not the least being the question of cost. Bioethanol from corn is competitive only if the price of oil rises to over 80 dollars per barrel.

On the other hand, bioethanol produced from sugar cane has a carbon emissions reduction efficiency of around 90% with limited costs. It is competitive once the price of oil reaches 30 dollars per barrel. Long experience in Brazil has shown the great potential – within short timeframes – of developing sustainable sugar-cane bioethanol production, although not all the conflicts arising from the expansion of energy-related uses at the expense of other agricultural and forestry uses of land have been resolved. The development within the next 10 years of "second-generation" bioethanol and biodiesel, derived from cellulosic biomasses (such as rice husks, sugar cane bagasse, agricultural residues and solid urban waste), or from algae, will progressively make highly environmentally-friendly biofuels available in large quantities.

According to a 2004 report of the American National Resources Defense Council, entitled "How biofuels can help end America's oil dependence", a combination of high engine efficiency standards with advances in biotechnology research will enable the progressive substitution of fossil fuels in the United States between 2020 and 2050 with second-generation biofuels and the emergence of a sustainable bioenergy economy compatible with environmental protection and food security.

4. The energy market is significantly larger than the agricultural market in terms of value. Energy prices determine the prices of agricultural produce which may be used for the purposes of producing energy. Increases in the prices of products used to produce bioenergy, particularly due to production subsidies, work to the advantage of producers but to the detriment of consumers – particularly in poor and rural communities – who use them for food. In this regard, the distorting effect on corn prices – including in the Third World and developing countries – as a result of US subsidies for bioethanol production is widely-known.

A similar effect could flow from the application of subsidies in the European Union. The risk of an increase in prices and scarcity of food products caused by an increase in the amount of agricultural produce destined for the production of bioenergy in developing countries, is also real. From a short-term perspective, compliance with basic food security criteria should constitute a necessary precondition for the sale in

domestic and international markets of raw materials destined for use in the production of bioenergy sources. In the medium term, the use of marginal land not impacting on food production, together with the use of biotechnologies and the development of second-generation biofuels, should facilitate the resolution of the conflict between food security and energy production.

Economic development in raw-material-supplying countries is the *conditio sine qua non* for the availability of bioenergy sources in the global energy market in sufficient quantities to compete with fossil fuels and, at the same time, could in the short term encourage compliance with environmental protection and food security requirements. Indeed, the productivity of low-carbon bioenergy crops in tropical and subtropical zones is decidedly higher than in areas with a temperate climate (such as Europe and North America) where, on the other hand, demand for biofuels is growing at a proportionally higher rate.

Consequently, the development in the short term of a high-efficiency production of bioethanol from sugar cane and biodiesel from jatropha could make significant quantities of biofuels available to energy-consuming countries to enable them to reduce their use of fossil fuels. In this regard, it is clear that the European Union will not be able to meet its 10% biofuel energy portfolio target by 2020 without resorting to imports from tropical and subtropical countries. Yet, the importation of biofuels into the European market is hindered both by tariff barriers and by subsidies to European agricultural producers.

In general, and not just in relation to the European Union, the unresolved issues concerning the classification of bioenergy sources under the World Trade Organisation's rules and the persistence of agricultural subsidies in domestic markets represent a barrier to the development of a global market in biofuels.

Yet biofuels could come within paragraph 31(iii) of the Doha Agenda, which provides for the "reduction or elimination of tariff and non-tariff barriers to environmental goods and services", on the condition that the raw materials and finished products are accompanied by a certification attesting to compliance with environmental protection and food security criteria in their production. In this way, a global and sustainable biofuel commodity could be introduced which is capable of simultaneously ensuring the availability of alternative energy sources to fossil fuels at competitive prices and the growth of a sustainable global bioenergy economy to the benefit of the raw-material-producing countries and the countries which process and consume them.

But a global biofuel commodity, in view also of the prospect of the development of biotechnologies for second-generation bioethanol and biodiesel, could change the face of the global energy market. It is no coincidence that, on the occasion of the G8+5 summit in Heiligendamm last June, the Secretary General of OPEC threatened a reduction in the investment of oil-producing countries towards drilling and refining as a "reprisal" for the commitment given at the summit to promoting bioenergy and the support shown for the Global Bioenergy Partnership.

THE BAPTISTS AND BOOTLEGGERS OF GLOBAL WARMING

by *Carlo STAGNARO*

The personal interests and ethical motivations of environmentalists. When it is convenient for industry to be environmentally-friendly. Why politics is turning green. The impossible and inexpedient impartiality of science. The limits of the blame game.

1.

"SINCE THE LATE 1980's, […A] WELL-coordinated, well-funded campaign by contrarian scientists, free-market think tanks and industry has created a paralyzing fog of doubt around climate change".[1] These words, around which the cover story of the 13 August 2007 issue of *Newsweek* revolved, would seem to leave no room for debate on the issue of global warming. After all, if the battle is between the good guys on the one hand and the bad guys/slaves-to-industry on the other, it is obvious which of the two camps should, in the final analysis, prevail. In reality, the issue is more complex and it was the same American magazine that recognised this in its subsequent issue with a tough response by Robert Samuelson: "The story was a wonderful read, marred only by its being fundamentally misleading".[2] Like all political issues, even the greenhouse effect cannot be reduced to simplistic categories. Nor would it be appropriate to conceive of the situation as a battle between forward-thinking altruists and profit-obsessed egoists or between idealism and vested interests.

It is obvious that *any* political decision, whether to do nothing or to do something, and in the latter case, whether to do something in particular, has effects on the distribution of wealth and power within society. More or less consciously, individuals and groups tend to support causes that might improve their wellbeing, understood as the product of various tangible (monetisable) and intangible factors. As it is, the analysis of the "public choice" school of thought has already revealed that political decisions are not driven by the general interest (whatever that might be) or by the will of majorities, but rather by well-organised minorities. "We must accept that in government, as in any form of commerce, people will pursue their private interests", writes Gordon Tullock, "and they will achieve goals reasonably closely related to those of company stockholders or of citizens only if it is in their private interest to do so. The primacy of private interest is not inconsistent with the observation that most people, in addition to pursuing their private interests, have some charitable instincts, some tendency to help others and to engage in various morally correct activities".[3] Hence, to really understand the debate on global warming, we need to ask what are the interests at stake, confronting the issue in as detached a manner as possible. Since the interests that are hostile to public intervention are intuitive and have in any case been widely examined, it is worth focussing our attention on those of the good guys.

[1] SH. BEGLEY, "The Truth About Denial", *Newsweek*, 13 August 2007.
[2] R.J. SAMUELSON, "Greenhouse Simplicities", *Newsweek*, 20 August 2007.
[3] G. TULLOCK, "The Theory of Public Choice", in G. TULLOCK, A. SELDON, G.L. BRADY, *Government Failure. A Primer in Public Choice*, Washington, DC 2002, Cato Institute.

2. The "ball game" can be better understood by examining the theory of the Baptists and the bootleggers, an approach developed by Bruce Yandle within the field of public choice theory, but which can easily be adapted to the political debate over global warming.[4] Before examining the latter further, let's take a step back in time and journey to the deep South of the United States of several decades ago. At the time, there were two groups who fought (often successfully) for laws banning the sale of alcohol on Sundays. They were the Baptists, who for religious reasons did not tolerate alcohol in general and certainly not on the Lord's Day, and the bootleggers, for whom any restriction on legal sales obviously meant growth in their market and an opportunity for profit. While in general there was no direct contact between these two groups, it is clear that *vis-à-vis* the political sphere they acted as a coalition. Yandle, together with Stuart Buck, wrote that the Baptists "take the moral high ground, while the bootleggers persuade politicians quietly, behind closed doors. Such a coalition makes it easier for politicians to favour both groups. The Baptists lower the costs of favour-seeking for the bootleggers, because politicians can pose as being motivated purely by the public interest even while promoting businesses' interests". The moral of the story is that "[w]hile powerful interest groups still matter, this theory suggests that efforts to achieve any given regulation will be most successful if at least two quite different interest groups work in the same direction: 'bootleggers' and 'Baptists'".[5]

The environment is no stranger to these dynamics. It is easy to figure out who the climate Baptists are. They are the environmental groups who dress up their policy requests in ethical motivations (protecting the environment, safeguarding health, saving the world and so on). While environmental movements may appear to be organisations purely dedicated to the good of all, we should not let ourselves be led astray by some idealised vision. This is not just because the notion that environmentalists have the good of all at heart is somewhat questionable, but also because not even they are above pursuing self-interest. For environmental groups, saving the world is the product of an altruistic drive, but it is also their *raison d'être*. As long as the ecosystem is in danger, there will be a need for environmental groups and their activities, which create jobs and shift financial resources. In short, they constitute a business.

Identifying the climate bootleggers is more complicated given that the interests mobilised are massive. It is, however, possible to pinpoint at least three different groups of bootleggers, which often cross over or overlap.

Industrial bootleggers. Climate policies, as with any other kind of policy, have a redistributive effect. Whatever their nature, they directly or indirectly shift resources from certain parties to others. If they involve tax measures (taxation or the granting of tax exemptions), it is fairly easy to determine who are the winners and who are the losers. On the other hand, this may be more complicated where these policies take the form of regulation. At first blush, it could be said that the losers are those whose activities involve a high rate of greenhouse gas emissions – such as producers of fossil-fuel energy and energy-consuming industries – but even within this category there are those who are affected to a greater or lesser degree. For instance, as natural gas is a cleaner fuel source, it is definitely less "responsible" for carbon emissions, and this helps explain why some multinationals (particularly Britain's BP and America's

[4] For the original formulation of this theory, see B. YANDLE, "Bootleggers and Baptists: The Education of a Regulatory Economist", *Regulation*, no.12-16, May-June 1983.
[5] B. YANDLE, S. BUCK, "Bootleggers, Baptists and the global warming battle", in K. OKONSKI (ed.), *Adapt or Die*, London 2003, Profile Books, p.177.

Enron) have generously funded environmental movements. Similarly, these companies have at times poured huge investment into renewable energy sources, to which are added large streams of public funding. Those who produce energy from renewable sources benefit from climate policies. Included in this category are farmers who, in Europe as in the United States, have taken advantage of the explosion of political interest in clean fuels to upgrade their crops and sidestep reform of agricultural subsidies and tariffs. It is obvious that by artificially increasing profits on the one hand and reducing them on the other, climate policies have the effect of making activities competitive which in a true market economy would not be, and of transforming profits of other businesses into losses. It is thus equally clear why there is – on the part of the winners – every interest in helping to create a political climate which is conducive to adopting choices of this ilk.

Sometimes, what drives a company to deploy its lobbyists in favour of environmental regulation is not the expectation of a net gain, but the calculated risk of positioning itself better vis-à-vis its competitors, or the expectation of suffering less damage, or even the hope that, by positioning itself on the green front with a first-mover advantage, it will succeed in shifting the impact of unwelcome policies onto other sectors. Finally, environmental regulation, including emission standards, can be used as a protectionist mechanism, for instance, by achieving a ban on imports (or the application of tariffs) on goods from countries judged to be environmentally unsound.

National bootleggers. The same logic that drives corporations can apply to countries. Broadly speaking, a country can be in favour of environmental regulation for at least two reasons which have nothing to do with ecology (and which are not mutually exclusive). The first is that the national economy is such that it can gain a competitive advantage over its direct competitors. The second is that the government's influencing lobby groups (and every government has them) may draw benefits from climate policies on the national or international market. In this regard, the Kyoto negotiation process provides many examples. One of these relates to the position of the majority of developing countries. Given that they are not required to make any reductions under the Protocol and can benefit from the investment of companies from industrialised countries for the purposes of clean development mechanisms, they are in a win-win situation.

Russia, for instance, decided – after longstanding resistance – to ratify the Kyoto Protocol (thereby allowing it to enter into force). Among other reasons, this was done to take the opportunity to sell hot air to Europe in the form of emission credits. A second example relates to the (successful) determination of the European Union to fix 1990 as the reference year for assessing emissions (and their reduction). For various reasons, between the end of the 1980s and the beginning of the 1990s, there was a significant reduction in emissions in the major European countries, which even today puts them in an advantageous position compared to the United States. Any other reference year – such as 1997, when the Kyoto Protocol was negotiated – would essentially have cancelled out the European advantage.

Table 1. **Emissions (1990, 1997, 2005) and percentage change with respect to the two alternative base years in certain countries**

	Emissions *[in million tonnes of CO_2 equivalent]*			Change *[%]*	
	1990	1997	2005	1990	1997
Germany[a]	267	240	230	-13.9	-4.2
UK	163	153	157	-3.6	2.7
France	100	104	113	13.3	8.9
Italy	113	115	127	12.9	11.0
EU-15	901	908	971	7.8	7.0
USA	1364	1512	1625	19.1	7.4
Russia[b]	557	404	463	-17.0	14.4

[a] For Germany, the 1990 figure equals the sum of those for East and West Germany.
[b] The figures for Russia, and the respective comparisons with 2005, are based on figures which start from 1992.
Source: Prepared by IBL on the basis of EIA figures.

As can be seen from *Table 1*, by moving the reference year from 1990 to 1997, not only does the increase in American emissions seem rather more contained (7.4% instead of 19.1%), but the reduction in Germany's emissions falls (to -4.2% instead of -13.9%) and the British emissions trend actually goes from negative to positive (2.7% instead of -3.6%), to say nothing of Russia where this phenomenon is of glaring proportions (going from -17% to 14.4%). How can this difference be explained? Put simply, the reduction in emissions seen in several major countries – Germany and Russia first and foremost – is not indicative of a trend but is due to exceptional events (such as the unification of Germany, the completion of the transition from coal to gas in the United Kingdom and the collapse of the Soviet Union).

It is worth noting that climate policies adopted by the European Union (though the same applies, for instance, to the 20-20-20 targets) have a redistributive effect internally, mainly in favour of countries that have achieved a significant reduction in emissions compared to 1990 or countries that boast a competitive advantage in sectors such as those relating to renewable energy sources and the production of clean fuels. It is not for nothing that Angela Merkel's Germany was the major supporter of stepping up the EU's green energy efforts during the spring session of the European Council.

This shows how far off the various member states are from the Kyoto targets, which can be used as a tool for understanding who is gaining ground and who is not.

Political and administrative bootleggers. Finally, there is one last category of bootleggers, covering all those who stand to gain prestige and power from climate policies. Naturally, all those bureaucracies charged with setting targets, monitoring (and often interpreting) their application and so on, form part of this group. Even political representatives and parties that have tied their fortunes to environmental issues can be considered, in some respects, bootleggers (and in other respects, Baptists), as they have a specific interest in keeping attention focussed on climate. In this way, parties that can count on short-lived support manage to heavily influence the decision-making process and to win important positions in parliament and in government, as well as in public authorities linked to the environment. They can also be in a position to mobilise huge sums of money, influence the performance of the real economy by facilitating or obstructing administrative processes, and so on.

For the same reason, many environmental groups behave like bootleggers. This is

not just because of their high rate of absorption into the political sphere, where leading figures in the green movement often succeed in creating a second life for themselves, but also because – thanks precisely to the image of impartiality that they exude – they obtain lucrative contracts with the public administration (for instance, for the management of national parks or conducting courses in schools) and acquire the power to exert a sort of "moral suasion" on businesses, politicians and bureaucracies.

3. Not even scientists escape from the dynamics revealed by the public choice analysis. They too are the bearers of economic and ideological interests, for which reason they respond to incentives exactly as any other human being would. It is clear that, at a time of increased attention on climate issues (and hence of large funding), those involved in dealing with these issues and who do so from an "alarmist" perspective are at an advantage. This is even more the case in Europe, where research is financed particularly via public funding which are consequently subject to demands from the political sphere. Naturally, this does not mean that scientists have been "bought". Certainly there are those that have been, but, put simply, within the academic world a sort of self-serving Darwinian process prevails (and the Intergovernmental Panel on Climate Change – IPCC – is the clearest example of this), by virtue of which the prestige and authoritativeness of some increases thanks to the theories they support. By way of illustration, Roger Bate examined the effects on the scientific sphere of the climate of the political debate over global warming: "Contrary to popular belief, scientists, like politicians and entrepreneurs (and journalists), have a very clear interest in the way that information on climate change is presented".[6] Indeed, alarming headlines generate interest and interest attracts public funding.

Roger Pielke came up with the evocative image of an "iron triangle" of mutually reinforcing interests, at whose corners can be found politicians, scientists and pressure groups. Pielke goes on to explain: "In one corner of the triangle we find the politician who is loath to make a difficult decision, which by definition is one that will upset some part of her constituency. Consequently, the politician is more than happy to pass the onus of resolving environmental disputes to the scientist, typically via a large government program for research designed to provide "answers". (…) In another corner of the triangle we find the scientist, who finds herself being offered tremendous resources to perform research. Not only does this research meet the desire of the research community to expand knowledge in their field, but also according to the politician, it has profound importance for resolving important policy issues".[7]

If the relationship were merely bilateral, however, it would not last long nor would it hold up in relation to particularly complex issues. As regards the possibility of scientists occasionally – consciously or otherwise – forcing the results of their research to fit a political paradigm, the nexus is neither a foregone conclusion nor is it evident. It might be possible to demonstrate that, due to man-made emissions, the average global temperature will increase and that this will lead to a rise in the number of hurricanes in 2100, but on its own this does not imply that preventive measures need to be taken to curb the cause; and it says even less regarding *what should be done*. "Completing the triangle, in the third corner we find the advocate. The advocate looks to science to provide a compelling justification for why her preferred policy position ought to be adopted rather than her opponent's position", explains Pielke. Science, however, never offers certainties and never provides completely unambiguous

[6] R. BATE, "Un clima da non credere", *Fondazione Liberal*, no. 12, June-July 2002, p. 149.
[7] R.A. PIELKE Jr., *The Significance of Science*, Center for Science and Technology Policy Research, University of Colorado, Revised 21 January 2003, p. 10.

information. Thus, according to Pielke, the "opponent thinks along the exact same lines, and also looks to invoke science in support of his preferred policy position. Why science? Science brings with it an air of impartiality and being "above the fray". Ironically, the use of science in such advocacy works to undercut any claims of impartiality. (…) And so, this mutually reinforcing iron triangle of shared interests serves to replace explicit political debate about policy issues with implicit political debate shrouded in the language and practice of science".[8]

Neither should it be forgotten that, above and beyond the incentives that scientists might receive, research is, in any case, a subjective experience. By definition, a scholar sets out to demonstrate a theory and it is obvious that, even involuntarily, he will find it easier to privilege the arguments that support his position. He will always find himself treading a fine line between reasonable subjectivity and a skewed selection of facts aimed at supporting a predetermined result. In other words, the simplifications and hypotheses that are introduced may in some way have the effect of moulding reality to fit a theory (through a series of rough approximations), but they cannot drive this process beyond the limits dictated by decorum, except in very specific cases where the emotional charge is such as to conceal any Pindaric leap. Who would be willing to dispute images showing the drowning of the last polar bear, the melting of the icecaps, the loss of biodiversity or the increase in the number of hurricanes, and that all these are a result of the greenhouse effect? And yet we would do well to approach scientific outcomes with an ever-critical eye, because in such cases the sin of naïvety or oversensitivity could produce rather serious unintended results, such as the squandering of public money or the rejection of technologies that could potentially be very useful. It is not a question of mere money. Resources wasted on nonexistent problems or exaggerated risks reduce funds available for resolving more urgent and serious threats.

A good rule of thumb is to not get bogged down in individual studies but to gain an overview from the range of literature available on a given issue. Another good rule is to not pay too much attention to the language used in studies, and particularly in abstracts (which are the only section that most people read). Generally, the more assertive the tone, the more likely they are to be humbug.

Finally, it should be remembered that not even scientists are immune to the lure of money, success, fame and popularity. This is not a criticism of scientists but a mere consequence of their being human. As Vincenzo Ferrara wrote, "if you are a climatologist and at the same time want to survive as a climatologist, perhaps even increasing your reputation, there is nothing for it but to behave like a doctor, offering exactly the diagnosis and prognosis that people expect to hear. God forbid you should respond that 'everything is fine', or that 'it's all just a load of nonsense made up by the newspapers and television", or worse still that 'every time the weather changes you always go on about climate change', because people will look at you first in shock, then with dislike and finally they'll unanimously conclude that you should be sent to Siberia as you clearly understand nothing about the weather or climate. It would be the end of your career and you'd be better off retiring before they kick you out". And again: "The only sensible response to the question 'Is the climate changing?' is "Of course it's changing! By now it's a well-known, scientifically-proven and unquestionable fact. At this point, forecast a climate for the future and into the next century which accurately reflects the current atmospheric conditions, perhaps

[8] As above, pp. 10-11.

exaggerating the phenomenon to its extreme".[9]

The ultimate proof of this is the decision to award the Nobel Peace Prize to Al Gore and the IPCC. The American former Vice-President received this prestigious recognition precisely on the day after a judgement was handed down by the High Court in London which described *An Inconvenient Truth* as "partisan and scientifically inaccurate".[10] Previously, it had been a definitely unhostile daily newspaper, the *New York Times*, that voiced the criticisms of the scientific community over Gore's exaggerated claims.[11] But what is most amazing – particularly given its silence – is that the IPCC, an organisation which is theoretically a third-party, independent and scientific organisation, had no objections to receiving the award together with a politician who bent scientific truths in order to suit his own career needs. (Obviously, scientific truths are never convenient or inconvenient but always transitory and uncertain.) Paradoxically, the effect of this Nobel Prize has been precisely to confirm the impression that the IPCC is a political – and not a scientific – organ, or at the very least an agency whose underlying motivations are dictated by a political agenda.

4. So what is the lesson to be learned from the Baptists and bootleggers theory in relation to the climate policy debate? Put simply, it is that the current portrayal of the debate, as involving oil interests and intellectuals who have sold out to the former on one side and moral bastions on the other, is irrational. The world is not made of saints and sinners, but, to a large extent, of ordinary people. Every policy debate sees more or less heterogeneous coalitions facing each other, which bring together people who are motivated by a sincere conviction in what they say and others who are solely driven by their own interests, or people who are driven by both (since if a person were really convinced that global warming would lead to the apocalypse, it would be difficult for him to argue for a position he did not believe in and face himself in the mirror every morning, and vice versa). This is true of any coalition in any debate. Hence, one cannot resolve complex questions by dismissing the opposition as "negationists in the pay of lobby groups and enemies of the environment and the people".[12] This would undermine the discussion and studiously avoid a debate of the merits.

Does this mean there is no difference between the opposing camps? On the contrary: it means that all arguments need to be assessed on the basis of their substance. Thus, the clash is not between tree-huggers and chimney-stack builders, but rather between those who believe the world is robust enough to withstand human development and those who think otherwise. One side believes that, whatever the causes (human or otherwise) of global warming, economic growth represents both the cure and the antidote to the problems, laying the foundations for the formulation and adoption of technologies that are either clean (with a reduced environmental impact) or protective/preventative (hence facilitating an adaptation to changed climatic conditions). The other side, however, believes that development has reached its limit – presupposing that there are limits to development – and that in some way it should be stopped, *at any cost*. The former are convinced that policies must be assessed for their (not just economic, but *including* economic) costs and benefits, while the latter claim that the environment cannot be treated as a commodity and that therefore everything

[9] V. FERRARA, "Come prevedere il clima del secolo prossimo", *Rivista di Meteorologia Aeronautica*, no. 1, January-March 1982.
[10] N. HINES, "Al Gore told there are nine inconvenient truths in his film", *Times Online*, 10 October 2007.
[11] W.J. BROAD, "From a Rapt Audience, a Call to Cool the Hype", *New York Times*, 13 March 2007. See also A. PATARGA, "Tutte le balle del vicepresidente", *IBL Focus*, no. 73, 12 October 2007.
[12] From a statement made to *Apcom* on 14 September 2007 by A. BONELLI, the floor leader of the Green Party in the Italian Chamber of Deputies.

done in the name of ecology is intrinsically good (regardless of the cost or of its real effects).

But the debate also plays out on another level, more underground but no less important. The dialectic between "environmentalists" and "developmentalists" – to use two convenient though imprecise labels – leads directly to a confrontation between proponents of market order and those who support public interventionism, which is a conflict of an eminently political – not scientific or technical – nature. Thus, there is an element of substantial disagreement between the two stances. In addition, the apparent popularity of radical environmentalist positions is due to a twofold factor which is in no way moral, ethical or virtuous. Firstly, given the intrinsic nature of the democratic process, green movements ask society as a whole to pass costs on to certain parties (manufacturing industries, for example). This blame game is all the more effective the more its perceived victim is a remote, wealthy businessman sitting in a leather armchair on the top floor of a skyscraper on the other side of the world (the fact that a lion's share of the costs is then passed on to the consumer is, of course, another matter).

Secondly, as noted by James Buchanan and Gordon Tullock, "interest-group activity, measured in terms of organizational costs, is a direct function of the 'profits' expected from the political process by functional groups. In an era when the whole of governmental activity was sharply limited and when the activities that were collectivized exerted a general impact over substantially all individuals and groups, the relative absence of organized special interests is readily explainable. However, as the importance of the public sector has increased relative to the private sector, and as this expansion has taken the form of an increasingly differential or discriminatory impact on the separate and identifiable groups of the population, the increased investment in organization aimed at securing differential gains by political means is a predictable result".[13]

The fact that science is reduced to a political instrument does no service either to science or the objectivity of the debate. This phenomenon becomes even more serious when alleged scientific certainties are combined with well-meaning rhetoric which aims to counter the bad and the ugly of the market with the good and the beautiful of public interventionism. Clearly, this is a simplistic and untenable formulation, including because it is contradicted by the evidence – after all, the worst environmental disasters have occurred in countries with a high rate of interventionism – and by conventional wisdom – which tells us exactly where roads that are paved with good intentions lead to. It is not for scientific reasons that the adoption of policies which intentionally ignore the trite truism that "wealthier is healthier" is called for. Rather it is for strictly political reasons. Hence, the response and – more upstream – the interpretation of the problem, must be political. By this, it is not meant that it is all a matter of right-wing and left-wing politics, which would be glaringly untrue. Rather, what is intended is something quite different, for "[p]olitical tags – such as royalist, communist, democrat, populist, fascist, liberal, conservative, and so forth – are never basic criteria. The human race divides politically into those who want people to be controlled and those who have no such desire. The former are idealists acting from highest motives for the greatest good of the greatest number. The latter are surly curmudgeons, suspicious and lacking in altruism. But they are more comfortable neighbors than the other sort".[14]

[13] See J.M. BUCHANAN, G. TULLOCK, *The Calculus of Consent*, Ann Arbor 1962, University of Michigan Press.
[14] R.A. HEINLEIN, *Time Enough for Love*, New York 1973, G.P. Putnam's Sons.

THE FAULTS OF CRONY ENVIRONMENTALISM

by *David HENDERSON*

The IPCC consensus, base of the current environmental thinking, is hostage of those very governments that the Panel is meant to advice. Most of all, its economic advices are faulty, risking to jeopardize the ecological policies.

1. IN RELATION TO CLIMATE CHANGE issues, there exists a world-wide and well established official consensus. Across the world, with few exceptions, governments are firmly committed to the view that anthropogenic global warming constitutes a serious problem which requires official action at both the national and international level. A recent high-level restatement of this consensus position is contained in the Declaration issued at the close of the G8 Summit meeting in Heiligendamm last June. In paragraph 49 of the Declaration the G8 leaders said that "global greenhouse emissions must stop rising, followed by substantial global emission reductions". They thus reaffirmed the case for what are often described as "mitigation" policies.

In pretty well every democratic country, this official consensus is not at all a matter of political controversy: to the contrary, it enjoys general cross-party support. Indeed, in the world as a whole I can think of only one political leader who is a convinced and open dissenter: I think you will have no difficulty in identifying this person. Governments generally, and opposition parties too where they exist, have determined that policies designed to curb emissions are called for, and that the existing array of policies needs to be extended and reinforced.

This official bipartisan consensus is not new. Climate change issues, and in particular the extent and possible consequences of anthropogenic global warming, have been on the international agenda for 20 years or more; and it is now over 15 years since governments decided, collectively and almost unanimously, that determined measures should be taken to deal with what they agreed to be a serious problem. The decisive collective commitment was made in 1992, through the United Nations Framework Convention on Climate Change (UNFCCC) which almost all countries have ratified. The Convention specifies that its "ultimate objective" is "to achieve (…) stabilization of greenhouse gas emissions in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system". Precisely this form of words is repeated in the Heiligendamm G8 Summit Declaration.

Since 1992, many governments have acted, at state and provincial as well as national level, and collectively within the European Union, through what is now a wide range of measures and programmes, to curb emissions of (so-called) "greenhouse gases". On the international scene, through the Kyoto Protocol, "Annex I" countries have undertaken to meet specific targets for emissions reductions. It is true that these Kyoto-based commitments are viewed by many as relatively unambitious, or as a first step only, and that in almost all the countries concerned they seem unlikely to be met. But the accepted direction of policy remains clear and unquestioned; and both nationally and internationally, new and far-reaching measures to curb emissions are under consideration or in prospect.

There is widespread, increasing public approval for the official policy consensus.

Prominent among the unofficial sources of support are environmental NGOs, scientific bodies, and, increasingly, large business enterprises.

What was it that persuaded governments, 15 or more years ago, to take the possible dangers of anthropogenic global warming so seriously, and what is it that has caused them to maintain and, even, intensify their concern? I think the answer is straightforward. From the start the main influence was, as it still is, the scientific advice provided to them. That advice can and does come from many sources; but the main single channel for it, indeed the only channel of advice for governments *collectively*, has been the series of comprehensive Assessment Reports produced by the Intergovernmental Panel on Climate Change, the IPCC.

The IPCC was established by governments in 1988, as the joint subsidiary of two UN agencies, the World Meteorological Organisation (WMO) and the United Nations Environment Programme (UNEP). Its first Assessment Report, which appeared in 1990, formed a basis and point of departure for the negotiations that led up to the drafting of the Framework Convention. Since then, the Panel has published three further reports. The latest of these, referred to for short as AR4, chiefly comprises the three volumes, all now in the public domain, issued by each of the Panel's three Working Groups. Between them these volumes come to nearly 3,000 pages, and some 2,500 experts – authors, contributors and reviewers, forming what can be called the IPCC *expert network* – were directly involved in preparing them. AR4 will now be rounded off by an overall Synthesis Report, which is due next month.

These IPCC reports are far-reaching – indeed, they are uniquely comprehensive. They cover the whole range of issues relating to climate change, including economic as well as scientific and technical aspects. In producing them, the Panel has brought together teams of specialists drawn from across the world, and put in place ordered procedures for directing and reviewing their work and arriving at agreed final texts. It has secured, for the reports and their conclusions, the acceptance of its many and diverse member governments; and in consequence, it has helped to guide the thinking of those governments.

The IPCC does not itself undertake or commission research: the Assessment Reports review and draw on the already published work of others. Most of this work is financed by governments, and these governments thus have their own direct sources of information and advice: their thinking and actions do not necessarily depend on what the Assessment Reports have said. All the same, the IPCC's work continues to carry substantial weight, with public opinion as well as the Panel's member governments, because of its comprehensive coverage, its extensive and ordered participation, and the fact that it alone is designed to serve the world as a whole.

On the basis of the three Assessment Reports, which have been prepared since the Framework Convention, governments have certainly no reason to question the position that they adopted more than 15 years ago. To the contrary, these Reports have served to confirm and strengthen that position.

So how is it that many economists have come to question the considered stance which so many governments have continued to take, on the basis of the scientific advice they are given and with substantial and increasing public support? What justification do they have for taking the line that governments across the world are mishandling climate change issues?

2. The concerns fall under two headings: first, the basis and rationale for current policies, the thinking that enters into them; and second, their actual content, the measures and programmes that governments have adopted.

Many economists – there may even be a consensus – hold the view that policies

to curb CO_2 emissions should principally take the form of economy-wide price-based incentives, through a carbon tax or tradable permits, rather than administrative measures. This is the position taken, for example, in a recent Australian official report. It argues that the core of policy should be "a national emissions price signal", whether through an emissions trading scheme or a carbon tax, and that, if such a signal "can do the heavy lifting, other directly substitutable measures should be discontinued."

Although price-based mitigation measures, chiefly through emissions trading schemes, currently operate in many countries (and in some subsidiary jurisdictions too), they are far from providing "heavy lifting". Everywhere, mitigation policies chiefly comprise a long and growing list of regulatory initiatives – specific grants, subsidies, and tax remissions; specific mandatory targets, as for renewable energy and bio-fuel use; detailed specifications for vehicles, buildings and equipment; and town planning directives. Such initiatives have been justly described by Martin Wolf, in his *Financial Times* column, as "a host of interventionist gimmickry".

These well-stocked interventionist packages give rise to obvious dangers. First, they may pay little regard to the cost-effectiveness of the measures concerned, so that emissions reductions are made costlier than they would be if the same results were secured through "uniform prices": a range of different implicit carbon prices is created.

Second, they create an array of opportunities for lobbying and rent-seeking – as also do emissions trading schemes, as currently operated.

Third, they involve, and open up the further probability of, a range of worrying intrusions on the freedom of people and enterprises. In this latter context, the American commentator Paul Driessen has, with good reason, made the point that such developments "would change life as we know it. They would give alarmist politicians, bureaucrats and activists a leading role in every housing, cooling, transportation, manufacturing, agricultural, business and consumer decision".

The risks of intrusive and even coercive action are heightened by the alarm-prone treatment of climate change issues which now prevails in many countries, not least my own. It is widely taken as established, beyond question, that humankind is placing the planet under dire threat, that further drastic measures of mitigation are urgently required, and that such measures should extend to the conduct of individual, family and business life through explicit and detailed codes of behaviour.

Here are some summit-level instances of the heightened milieu consensus. They go beyond the sober language of the G8 Summit Declaration. Tony Blair, then still Prime Minister of the U.K., commenting a year ago on the Stern Review on the economics of climate change, said that "what is not in doubt is that the scientific evidence of global warming caused by greenhouse gas emissions is now overwhelming [and] that if the science is right, the consequences for our planet are literally disastrous"; Blair and the Dutch Prime Minister, in a joint letter of October 2006 to other E.U. leaders, wrote that "We have a window of only 10-15 years to take the steps we need to avoid crossing a catastrophic tipping point"; Stephen Harper, Prime Minister of Canada, in a speech earlier this year, described climate change as "perhaps the biggest threat to confront the future of humanity today"; President Sarkozy of France, in some remarks last May shortly before his election to office, declared that "what is at stake is the fate of humanity as a whole".

Such assertions are not directly drawn from the IPCC Assessment Reports. They are bold extrapolations from the Reports, with a clear presumptive element. However, they are in tune with much public thinking, and they are presumably sanctioned by the scientific advisers and environmental departments concerned.

Not all of those who subscribe to the consensus would go so far as the political leaders that I just quoted; but all of them, like the G8 Summit leaders, can point to a

large body of scientific argument and opinion, and in particular to the IPCC and its series of reports. The Assessment Reports are seen as giving expression to a world-wide scientific consensus, based on an informed and objective professional assessment, and therefore providing a sound basis for policy. Let me explain why I have come to question this picture.

3. Why do governments, and outsiders too, place so much trust in the IPCC's role and work? I think that the trust largely results from the wide and structured expert participation that the IPCC process ensures. People visualise an array of technically competent persons whose knowledge and wisdom are effectively brought to bear through an independent, objective and thoroughly professional scientific inquiry. Indeed, many observers identify the Panel with the network, as though well-qualified and disinterested experts were the only people involved. The reality is both more complex and less reassuring.

There is a basic distinction that has to be made between the IPCC itself and the IPCC process. The process involves three quite distinct groups of participants.

First, there is the Panel itself, which controls the preparation of the reports. It effectively comprises those officials whom governments choose to send to Panel meetings. Generally speaking, these are not high-ranking persons. They include scientists as well as laymen. Numbers are not fixed, but a typical Panel meeting might involve some 300 participants. Working directly for the Panel is the IPCC Secretariat, though this is a small group whose functions are mainly of a routine administrative kind. A more influential body is the 28-strong IPCC Bureau, comprising high-level experts in various disciplines from across the world, chosen by the Panel. The Bureau acts in a managing and coordinating role under the Panel's broad direction.

Second, there is the 2,500-strong expert network, which however is quite distinct from the Panel itself. There is little or no overlap between the two bodies.

Last but far from least, there are the government departments and agencies which the Panel reports to: it is here, and not in the Panel itself, that the ultimate "policymakers" are to be found. The relevant political leaders and senior officials within these departments and agencies make up the policy milieu. In addition, leading members of the IPCC Bureau, past as well as current, can also be classed as members of this policy milieu; and together with the most influential members of the Panel, these persons make up what may be termed the informal directing circle of the IPCC. In turn, the directing circle, together with a substantial number of prominent and like-minded expert participants in the reporting process, can be seen as making up an informal IPCC milieu.

Now while the IPCC has been formally instructed by governments that its reports "should be neutral with respect to policy", this instruction must be intended to refer specifically and exclusively to the contribution made by the expert network through the reporting process. The official Panel members, together with the policy milieu, which they report to, are almost without exception far from neutral: they are committed, inevitably and rightly, to the objective of curbing emissions, as a means to combating climate change, which their governments agreed on when they ratified the Framework Convention; and in many cases they are likewise committed to the kinds of policies that their governments have adopted in pursuit of that objective. As officials, they are bound by what their governments have decided. This is the context within which the three successive IPCC Assessment Reports prepared since 1992 have been put together in the network and reviewed by member governments. The clients and patrons of the expert network, with few exceptions, take it as given that anthropogenic global warming is a serious problem which demands, and has rightly been accorded, both national and international action.

Not surprisingly, this working assumption is shared by leading officials in the international policy milieu. Here, among many cases that could be cited, are three recent examples. They are public statements made in last February, following the publication of the report of Working Group I, which forms the first volume of AR4: Dr Pachauri, Chairman of the IPCC: "I hope this report will shock people [and] governments into taking more serious action"; Achim Steiner, Director-General of the UNEP: "In the light of the report's findings, it would be "irresponsible" to resist or seek to delay actions on mandatory emissions cuts";[1] Yvo de Boer, Executive Secretary of the Framework Convention: "The findings leave no doubt as to the dangers that mankind is facing and must be acted on without delay".

These are strong assertions, like those quoted earlier from political leaders. In none of them was the wording taken directly from the report in question: these eminent persons were going beyond the text, to draw their own confident and unqualified personal conclusions as to the lessons for policy. While they were fully entitled to form and air these opinions, their statements were not just summaries of "the science", nor of course were they "policy-neutral".

It is against this background, of a policy milieu that is not and cannot be neutral, that some basic features of the expert reporting process have to be borne in mind: first, the choice of lead authors for the Assessment Reports largely rests with the already-committed member governments, since lists that they provide form the starting point for the selection process; second, complete draft texts of the Working Group reports go to these governments for review; third, it is governments, as represented in the Panel, that sign off on the final versions of the Assessment Reports and amend the draft Summaries for Policymakers before they approve these also for publication.

The fact is that departments and agencies which are not – and cannot be – uncommitted in relation to climate change issues are deeply involved, from start to finish, in the preparation of the Assessment Reports.

Does this fact put in doubt the expert reporting process? Not necessarily. However, there's reason to believe that the reporting process is, in fact, flawed, in ways that reflect a built-in high-level official bias. Despite the numbers of persons involved, and the lengthy formal review procedures, the preparation of the IPCC Assessment Reports is far from being a model of rigour, inclusiveness and impartiality.

A specific weakness in some IPCC documents is the unsatisfactory treatment of economic issues. One aspect of this has been the use of invalid cross-country comparisons of real GDP, based on exchange rates rather than purchasing power parity estimates.

A basic general weakness is the uncritical reliance on peer review as a qualifying criterion for published work to be taken into account in the assessments. Peer review provides no safeguard against dubious assumptions, arguments and conclusions if the peers are largely drawn from the same restricted professional milieu. What is more, the peer review process as such may be insufficiently rigorous. It does not guarantee due disclosure of sources, methods and procedures so that results can be replicated by others.

Failures of disclosure, such as many journals would not tolerate, have characterised published work that the IPCC has drawn on, most notably in the case of the temperature reconstructions that entered into what became known as the "hockey-stick" diagram. Further, the handling of the disclosure issue by what I call the IPCC's directing circle has been at fault: those concerned have failed to acknowledge the problem and take appropriate action. In the relevant sections of AR4 the issue is simply evaded.

In relation to this and other questionable features of the reporting process, the

response of the IPCC milieu to informed criticism has typically been inadequate or dismissive.

All this doesn't necessarily imply that the IPCC process, viewed as a whole, is not professionally up to the mark. The main reason for this chronic deficiency is a strong and continuing element of bias that has always entered into it, and which goes beyond the simple commitment of the official participants to what their governments have decided.

From the earliest days, most if not all of those directing the process have shared the conviction that anthropogenic global warming presents a threat, to humanity and the planet, which demands prompt and far-reaching action by governments; and had this not been the case, and known to be the case, they would not have attained their leading positions within it. To take only the three current examples just quoted: Pachauri, Steiner and de Boer would not have sought their respective posts, nor would they have been seen by U.N. agencies and member governments as eligible to hold them, had they not been identified as fully committed to "consensus" views. The same has been true throughout of the Bureau and other leading figures. The process is run today, as it has been from the start, by true believers. These participants, together with many of their outside supporters, typically belong to the class of persons whom I have described as global salvationists.

This cast of mind, and the convictions that go with it, explain the readiness of the IPCC directing circle to make strong public pronouncements of the kind above quoted, which go beyond the more restrained and qualified language of the Assessment Reports; to turn an unseeing eye to the disclosure failures and other defects in the reporting process; and to view with equanimity or approval the chronic lack of balance that characterises public debate on climate change issues.

This is the background against which the flaws in the expert reporting process have to be seen. They are symptomatic of a deeply ingrained bias which has characterised both the IPCC milieu and its clients from the outset, and which I think has intensified over time.

4. In relation to climate change issues, governments have locked themselves into a set of procedures, and an associated way of thinking – in short, a framework – which both reflects and yields over-presumptive conclusions which are biased towards alarm. These conclusions form the basis both of current policies, which incidentally raise problems of their own, and of proposals to take those policies further. They go beyond the bounds of professional consensus; they take as their prime source the results of a flawed process; and they represent a dubious extension of those results.

Even if the IPCC process were beyond challenge, it is imprudent for governments to place such heavy reliance, in matters of extraordinary complexity where huge uncertainties remain, on this particular source of information, analysis and advice. In fact, the process is flawed, and this puts in doubt the accepted basis of the established official consensus.

In relation to climate change, there is a clear present need to build up a sounder basis for reviewing and assessing the issues. Governments should ensure that they and their citizens are more fully and more objectively informed and advised.

In considering how the present situation might be improved, the main focus has to be on governments. It is they that fund major programs and decide policies, while only they can reform the process which they have created and over which they have full control. In that connection, so long as the handling of climate change issues is left almost entirely to environmental departments and agencies there is little or no prospect of reform. A necessary condition for change, albeit not a sufficient condition, is that

other departments of state should become effectively involved.

In particular, since the economic stakes could be high, a responsibility here rests on the economic departments of state – treasuries, ministries of finance and economics, and, in the U.S., the Council of Economic Advisers. As a former Treasury official and much later, as a member of the OECD Secretariat, I had close dealings with economics and finance ministries in OECD member countries. I have been surprised by the failure of these ministries to get to grips with climate change issues, their uncritical acceptance of the results of a process of inquiry which is so obviously biased and flawed, and their lack of attention to the criticisms of that process, which have been voiced by independent outsiders – criticisms which they ought to have been making themselves.

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EURASIAN REVIEW OF GEOPOLITICS

THE ENERGY GAME

PIPE WARS

WHY WE MUST TRUST PUTIN

by *Margherita PAOLINI*

We have no serious alternatives as far as Russian gas is concerned. Origins and characteristics of the energy reorganisations promoted by the Kremlin. After the stand-off, the alliances with the great western companies. We do not need wars over pipelines. China on the shores of the Caspian Sea.

1. CAN WE AND MUST WE TRUST PUTIN AS Europe's and Italy's energy supplier? Critical if not Russia-phobic positions seem to prevail nowadays. The first based on legitimate and partly valid technical objections; the second a mix of ideology (pure free trade) and geopolitics (fear that Russia uses energy only as a means for neo-imperial expansionism). The following analysis indicates that not only can we trust him – within certain limits and at certain conditions- but that we do not have a realistic alternative, since no energy producer is any longer prepared to become a mere supplier. This applies to Russia and to everyone else and is for example confirmed by the debate between the consortium for which ENI operates in Kashagan and the Kazakh government, as do analogous South American diatribes – from Venezuela to Bolivia and Ecuador – or the brutal retaking power of the Algerian oilfields in Gassi Touil from which the national Sonatrach oil company evicted Spanish-owned Repsol and Gas Natural.

Only the European Commission appears to not have understood this. Not thanks to impulse provided by the great countries, but due to requests from the United States, through NATO, exploiting Baltic-Polish Russia-phobia and with ideological support in an ultra-liberalist sauce provided by the OCSE economists. Their fundamental criteria being the separation between suppliers and distributors, hence between the owners of the energy resources and those selling them to the European Union's users.

In theory it is claimed that this unbundling would eliminate European and extra-European energy monopolies, encourage free competition and therefore reduce consumer prices. A pity that in the countries in which this theory has been applied the opposite took place (Spain today, Italy tomorrow?).

Unbundling is the mainstay of the package of energy proposals that should become EU provisions and come into force in 2012. The stated objective is a balanced European energy market; the real one is to block Gazprom.

As the main instrument in Putin's energy geopolitics, the Russian energy giant cannot be permitted to buy parts of the European network. A belated move, seeing that Gazprom already has one foot through the door in Germany, France, Austria, Italy and Hungary and is about to do the same in Great Britain, in exchange for participatory shares in Russian gas. But blocking Gazprom also means closing the door on other producers, from the Algerians to the Kazaks, attracted by lucrative European energy networks (gas and electricity). Unbundling in fact affects the large integrated European Companies, German and French ones above all. In any case, we are all bilaterally bound by medium and long-term agreements with Russia. In recent times, comforted precisely by the strong protests presented to Brussels by European French and German energy giants, Putin has not missed an opportunity to emphasise that he considers unbundling an unacceptable form of "protectionism" that risks discouraging Russian

interest. So, at the EU-Russia summit held at the end of October in Mafra in Portugal, the debate on energy cooperation that was expected to be tough, was hardly touched on. Brussels chose a pause, involving a prudent wait in agreeing on a shared European position, postponing the diatribe with Moscow to an overall negotiation to be held within the framework of the WTO, an institution that is in practice defunct.

What most of Europe obstinately refuses to take into account is that Russia has now embarked upon new paths in the energy world, making use of its size as a continent overlooking two oceans and its capital in resources that allow the country to look ahead for many more decades. Within this broad framework the relationship with Europe remains a priority, but it is no longer the only element in Moscow's energy strategies. It is a relationship that Russia also perceives in dynamic terms and not restricted to the gas and oil pipelines that must be filled.

Furthermore, technical and political timing of the new Russian strategy does not fully correspond to our rather confused anxieties concerning supplies.

2. To better orient oneself within the meanders of the Russian energy equation it may be useful to linger on a number of significant passages of the oil production see-saw in the period between the fall of the Soviet Empire and the initial stages of the Putin presidency. The vigorous thrust that allowed Moscow's triumphant return to the global energy markets started in fact with oil and its export, rather than in the natural gas sector.

The first passage dates back to the stage of the so-called "reorganisation" of the Russian oil industry, which took about a decade. The production peak of about 570 million tons, achieved in the last season of the USSR, was in fact followed by an inexorable fall that touched rock bottom in 1996, with only 303 million tons. This fall in production was caused by many factors: a drastic reduction in drilling activities, the stagnation of investments in new oil fields, the bad quality and deterioration of drilling equipment. The situation was at its worst in Western Siberia, the main reservoir of new reserves being exploited and started to counterbalance the fall in production in the large historical oil fields. But, while moving towards northern sectors, the new Siberian resources were exploited without worrying about safeguarding their vitality.

Simultaneously, internal demand for oil collapsed, curtailed by consumption by the empire's military machine and those of the oil industry with a high level of energy absorption, by then on stand-by.

In 1995 exports started to increase again. The economic crisis compressed internal demand, thereby releasing production quotas for foreign markets, flat at the time. Internal consumption then remained under control at about 123 millions of tons per year, while income from exports gave El'cin some breathing space.

After 1996 there was a tendency to orientate oil exports above all towards solvent markets. And so with generally constant volumes there were increased exports to countries belonging to the European Union, to the detriment of those of the CSI (the Community of independent States resulting from the desegregation of the USSR), which fell to 8% of the total.

The modest revival that inverted the downward trend after 1996, and that was to continue to accompany the productive trend until the 2003 boom, can be ascribed above all to activities involving the recovery of available oil "left behind" (still in the ground) due to a lack of suitable equipment, typical of the early Nineties. On the other hand, the leap to 421.4 tons a year in 2003 (driven by the sudden rise in oil prices during the 1998-2000 three-year period), achieved also thanks to intensive extraction in newly developed oil fields in Western Siberia, took place with no government supervision over the correct management of resources.

The leading players in this revival of production were in fact oil companies managed by private banks created by extremely rich businessmen – the oligarchs – that El'cin's rushed privatisation policies allowed to emerge from Russia's economic chaos. The same who later were to come to terms with the power groups that brought about Putin's ascent.

3. Just like the oil sector, natural gas production followed the Soviet empire's economic events. Its less emphasised crisis in terms of quantities was however lengthier: production which in 1991 had reached 600 billion cubic metres fell progressively to reach its lowest levels in 2001, with 542 billion cubic metres. But the revival was to be quicker and the high levels of 1991 were achieved in 2005.

For the same reasons mentioned regards to oil, internal gas consumption, which fell significantly in 1991 (431 billion cubic metres), would remain repressed for a decade so as to use large amounts of gas for export. With the rise in the price of gas, following that of oil in the 2000-2001 two-year period, its massive exportation became a fundamental variable in Russia's economic policy: income in fact mainly compensated losses in the state-subsidised internal market.

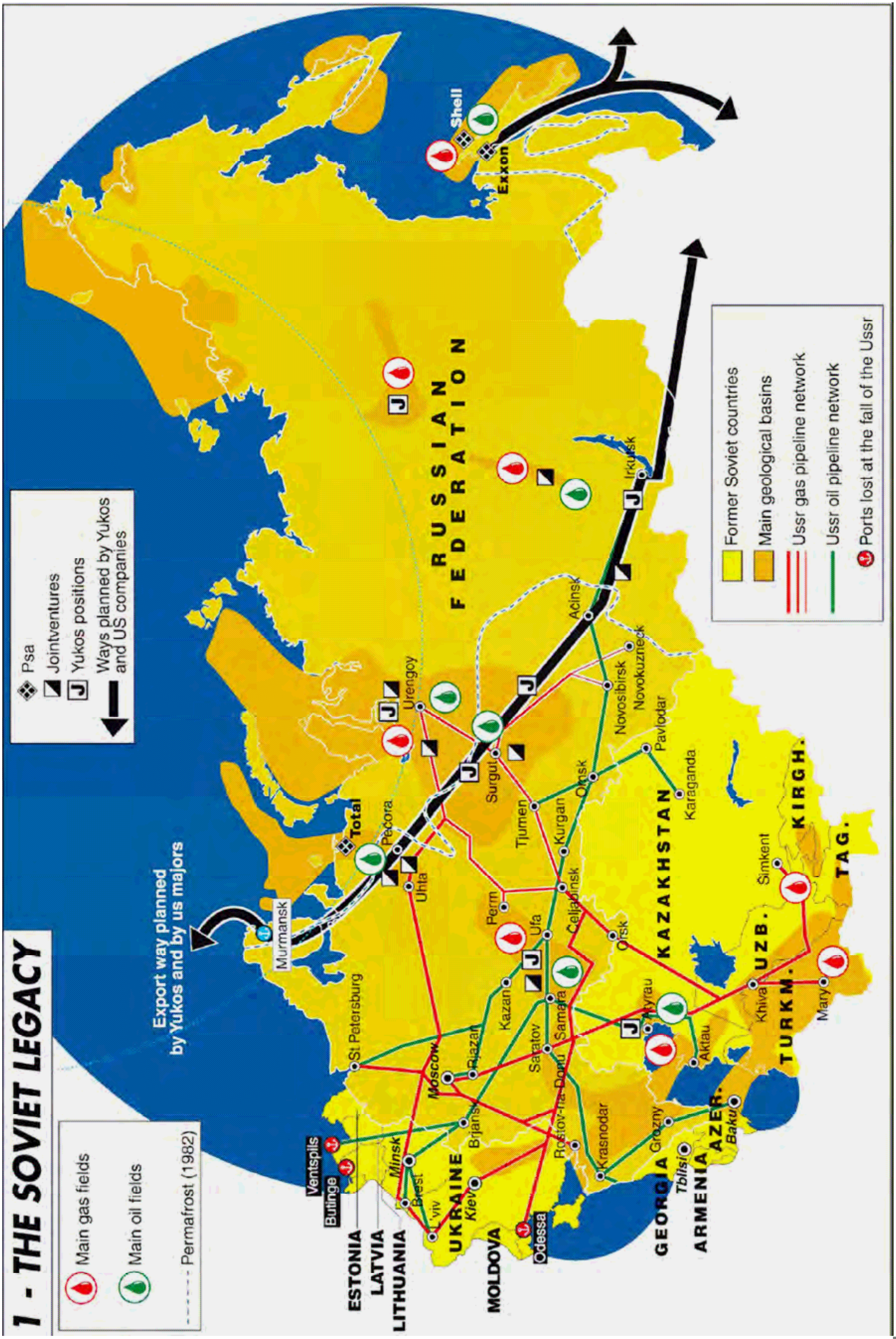
During this period Russian imports of natural gas from former Asian provinces at giveaway prices increased; in particular from Turkmenistan, thanks to the pipeline crossing Uzbekistan and Kazakhstan and inherited by the empire. That gas was used for the needs of Russian industrial areas bordering with the new independent States.

The Turkmen outlet would continue to work, over certain periods of time, whenever it became necessary to release national gas quotas to add to export flows.

4. The *map below* summarises the energy legacy of the empire Putin found himself managing when he came to power in the spring of the year 2000. It was an impressive capital. Russia also proved it had survived the "loss" of the Baltic provinces with which it preserves business relationships and the use of the Ventspill harbour and the Butinge terminal, through the sea and through Byelorussia, in which the country also once again resumed investments in at the end of the Nineties so as to guarantee oil exports. With the Ukraine, Russia maintains a physiological channel thanks to the port of Odessa, from which the products of refineries for Russian oil leave, and a transit platform for the network of pipelines serving Europe. What Moscow was instead unable to manage was the "wrench" that deprived the country of its vital space in the Caspian (and not only because of its wealth in hydrocarbons). As far as former Soviet central-Asian countries were concerned, Russia continued to consider these its southern provinces. The gigantic enclave enclosing them remains linked to the Russian continent's network of energy pipelines. Seen from Moscow's viewpoint, that space remained closer than the Siberian Far East. And Putin behaved accordingly. Having been investigated in-depth by scores of Russian and Ukrainian geologists, the empire's western platform always amazed, with its astonishingly large reserves of hydrocarbons.

Until today the figures changed according to the different attributions the various geological schools attribute to probable and possible reserves, to be added to proven ones (those with a commercial value). With this premise, the Russian oil assets, starting with a base of 79.5 billion barrels of proven reserves (BP Statistical Review of World Energy 2007), could manage to accumulate another 150 billion.

However, it is only by starting up production in these oilfields that their potential can really be established. In this sense, Russia's advantage was that during the oil recession, geologists continued to work, learning more and more about the oilfields, and when large scale extracting activities recommenced, the country had accurate


1 - THE SOVIET LEGACY
Main gas fields
Main oil fields
Permafrost (1982)
Export way planned by Yukos and by us majors
Psa
Jointventures
Yukos positions
Ways planned by Yukos and US companies
Former Soviet countries
Main geological basins
Ussr gas pipeline network
Ussr oil pipeline network
Ports lost at the fall of the Ussr
RUSSIAN FEDERATION
ESTONIA
LATVIA
LITHUANIA
MOLDOVA
UKRAINE
GEORGIA
ARMENIA
AZER.
KAZAKHSTAN
TURKM.
UZB.
KIRGH.
TAG.
Ventspils
Butinge
Odessa
Minsk
Brest
Kiev
St Petersburg
Murmansk
Moscow
Rjazan
Brjansk
Kazan
Saratov
Samara
Rostov-na-Donu
Krasnodar
Grozny
Tbilisi
Baku
Perm
Ufa
Uhta
Pecora
Total
Urengoy
Surgut
Tjumen
Kurgan
Celjabinsk
Orsk
Atyrau
Aktau
Khiva
Mary
Simkent
Omsk
Novosibirsk
Novokuzneck
Pavlodar
Karaganda
Acinsk
Irkutsk
Shell
Exxon

information allowing it to improve output from mature oilfields such as those situated in the Volga-Urali basin, as well as newly-developed ones in Western Siberia, the El Dorado of the spectacular Russian oil revival. Extremely detailed geological investigations all the way to the Arctic coasts later also allowed the identification of large oil reserves from the Sea of Barents to the Sea of Kara, in the Timan-Pecˇora and the Jamalo-Nenetsk basins.

Encouraged by low production costs and rising oil prices, during this period, following the routes identified by geologists, the private companies' race to extractive apportionment never stopped. The commitment to secure reserves, especially of oil, led the more enterprising companies to occupy strategic positions not only in oilfields in the western basins but also in Eastern Siberia, where they took possession of gas reserves remaining outside the State's control.

All this took place also in view of lucrative joint ventures with foreign partners already beginning to appear on the Russian scene.

In 1995 Dutch Shell and Exxon-Mobil negotiated the first ironclad production sharing agreements, that were to get off the ground in 1999, on the demanding development programme for the Sakhalin field, from which they planned to flood the Asian and North American markets with Russian oil and LNG. They were closely followed by Total, which signed a PSA for the prestigious Khariagha oilfields, from which it intended to activate significant oil exports from the Baltic coasts. More discreetly, BP prepared to set up a joint venture with the Tyumen Oil Company, TNK, an ambitious local company supported by private capital provided by Russian emigrants. Thanks to this match, in 2003 the British company was to find itself managing an astonishing series of oilfields amounting in all to 9.9 billion barrels, ranging from the oilfields in the Volga, Western Siberia and Jamalo-Nenetsk, all the way to those in Eastern Siberia where, still intact, there is the largest gas reservoir in the region – Kovikta – estimated as amounting to 2-3 thousand billion cubic metres. This resulted in BP entering a bilateral but non-exclusive agreement for exports to China.

5. The situation as far as gas was concerned was significantly different. Through the controlled company Gazprom, the empire's gas reserves came to Putin 70% intact. While oil is above all a generator of income in hard currencies, natural gas was for two thirds traditionally used for producing electricity, industrial production and domestic heating. Gas has always been the fundamental pillar of the country's economy since it provides cheap energy. Consequently, no regime, not even El'cin's, has ever touched that sector, leaving it up to Gazprom (the former Soviet Ministry for Energy transformed into a state controlled company) – which has the almost-monopoly (86%) of production/transport and the total monopoly over exports – authorisation to do business with foreign markets and social responsibilities within Russia. Although Gazprom has been excluded from reserves in Eastern Siberia and the Russian Far East, left to be managed by local companies, it does bring to the State the entire Soviet legacy of the 158 thousand kilometres of oil and gas pipelines linking the country to Europe and to the most remote oil and gas fields still to be exploited, such as the Central-Asian one in Amu Darja. This is an impressive although mostly obsolete network.

In Western Russia, overall reserves – 48 thousand billion cubic metres – are basically distributed in the large reservoirs of Western Siberia, Jamalo-Nenetsk, and along the coasts, as well as offshore in the Seas of Barents and Kara. To the East reserves are concentrated in Eastern Siberia, in the Irkutsk, Krasnojarsk and Sakha areas, and in the Sakhalin region. Eastern reserves seem to be at risk due to the lack of

government control over gas reserves, under PSA, in the Sakhalin fields and more in general, over all that is managed by dubious local consortiums.

6. The largest stars shining in the Russian oil firmament, managing their own strategies, are three particularly experienced Russian companies:

Lukoil, Sibneft and above all Yukos, whose managing director Mikhail Khodorkovskij was politically well protected during the El'cin era, have been able to create a real empire, with its branches and local subsidiaries. Yukos' positions in fact provides capillary coverage of the whole of the Russian continent, establishing itself in the more abandoned fields of the western sector, those in Western Siberia, the Volga-Urals, the Jamalo-Nenetsk, the Russian Caspian all the way to those in Eastern Siberia, and the Krasnojarsk and Irkutsk regions to Jakuzia (now Sakha).

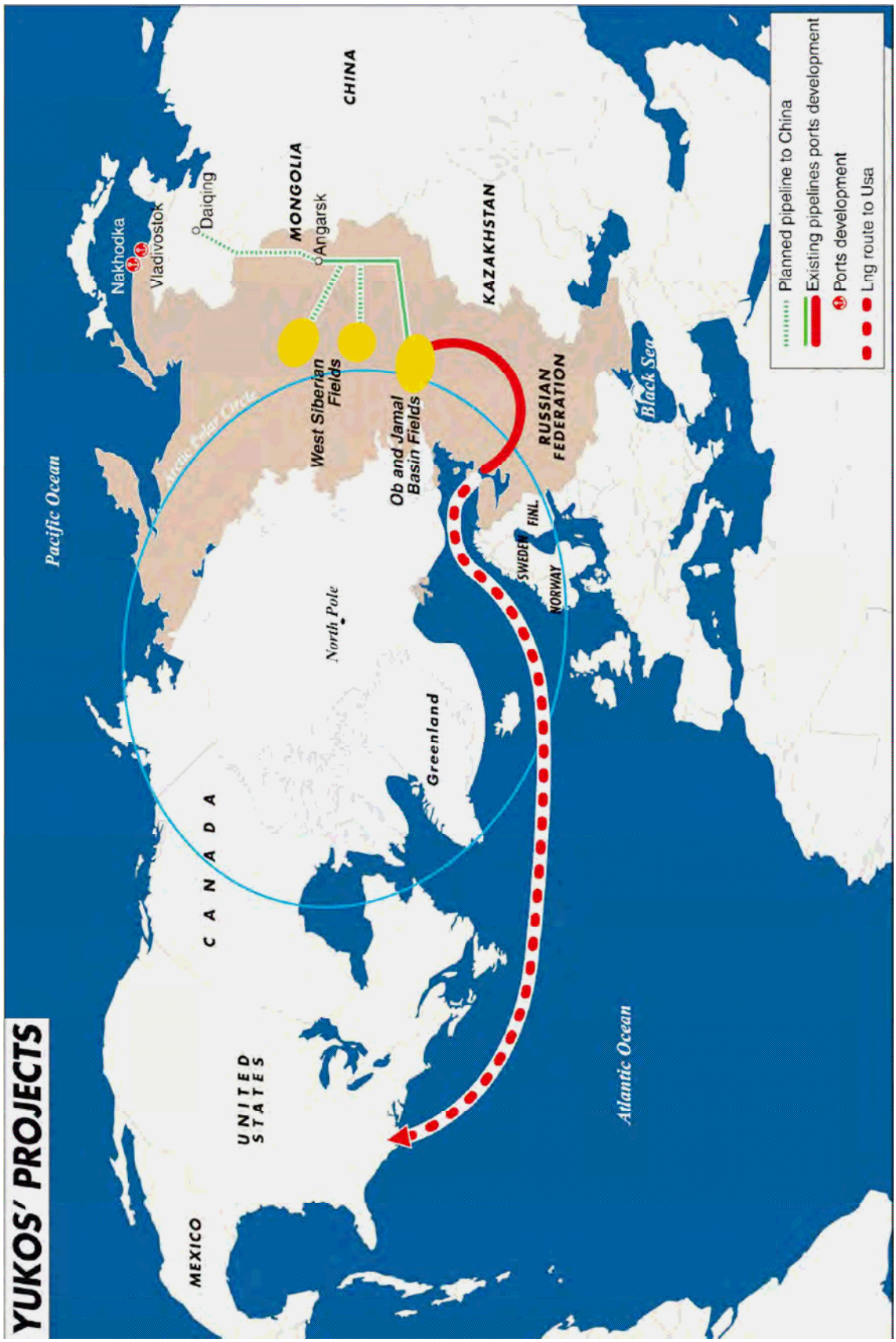
Compared to other Russian oligarchs, Khodorkovskij's peculiarity was the coinciding of a strategic vision with that of the great American majors appearing on the Russian energy scenario, attracted by the call for foreign investments launched by El'cin. Exxon-Mobil and Chevron-Texaco saw Russia only as an immense reservoir of reserves to be exploited so as to implement massive exports to the American market (*see map below*), from arctic terminals in deep water (the Murmansk port was instantly identified and the companies stated they were was ready to invest there). They also saw the possibility in the near future of exploiting the Pacific's Russian coast so as to make Sakhalin LNG project the first step in a global export programme for exporting Russian gas to developing markets in the Asian South-East and America's West Coast.

Putin entered an agreement with the barons of the oil industry committing not to interfere with their company intrigues, but demanding they should stay well-away from politics and reinvest their lucrative profits within the country instead of sending them abroad to avoid taxation. The agreement appeared to work, with short-term positive results: investments in this sector tripled, extracting techniques improved, oil production increased and new logistic infrastructures encouraged exports from the Barents and Baltic Saes, some Russian companies were quoted on the Stock Exchange.

The managerial conditions in the Rosneft' national oil company which had survived privatisations were instead less exalting. Rather than an operational company it was an accounting company that managed minority state quotas of Russian oil companies. It did at least bring Putin 20 billion barrels of reserves, especially from the northern oilfields, which had escaped the oligarchs' activism. In the end it was to be on Rosneft' that Putin had to rely to recover for the State part of the oil capital lost with privatisations.

This brief intermezzo characterised by the Russia-USA strategic partnership, was opened with great fanfare at the 2002 Houston summit. That year Russia was already right behind Saudi Arabia as far as oil production was concerned. The USA companies stated that they were ready to finance structural interventions for the development of new oilfields and for organising the oil's continuous flow towards America. Obviously their privileged partner was Yukos. But Khodorkovskij broke the oligarchs' pact with Putin, entering politics and founding a liberal political party in view of the elections. But above all he attempted to take over Sibneft, to create a company that would have ended up managing about 20 billion barrels of oil. A nice prey, of which the majors were interested in buying 25%. This was too much for Putin, who stooped the operation. Yukos was accused of fraud and tax evasion, Khodorkovskij was arrested, brought to trial and sentenced

Two operational companies with new land and reserve experiences were born from the ruins of Yukos, which passed with its best productive assets to Rosneft', and


YUKOS' PROJECTS
Pacific Ocean
Nakhodka
Vladivostok
Daiqing
MONGOLIA
Angarsk
CHINA
KAZAKHSTAN
West Siberian Fields
Ob and Jamal Basin Fields
RUSSIAN FEDERATION
Black Sea
Arctic Polar Circle
North Pole
Greenland
SWEDEN
FINL.
NORWAY
CANADA
UNITED STATES
MEXICO
Atlantic Ocean
Planned pipeline to China
Existing pipelines ports development
Ports development
Lng route to Usa

from the Gazprom-Sibneft merger that generated the Gazpromneft oil company.

The third company with professionalism developed abroad, that Putin wished to exploit in the best possible manner, was Lukoil, helped by the merger with Conoco, which provided it with important credit in the world of oil companies.

Putin's reform plan was able to deploy its territorial strategies after the reorganisation of Russian oil companies betting on the Gazprom-Gazpromneft, Rosneft' and Lukoil trio, also so as to create highly professional international partnerships.

7. It was with energy that the projection of the new Russia's greatness began. And predictably, it was on this priority front that, Putin or no Putin, Moscow intends to continue its return match. The challenge is possible thanks to the range of potential variably distributed over the territory and that Russia will be able to be used for following stages within a market context that also for years to come seems sufficiently strong, guaranteeing the recovery of high investment costs for the production of these resources. It became so above all after International Oil Companies (IOCs) showed they were ready to operate in the Russian oilfields also as minority shareholders, as established in the new partnership agreements offered by the Russian system. This ensured the indispensable mix of know how and investments.

This situation is destined to become stabilised over time, since accessing important reserves to increase world production has become increasingly difficult.

At the recent Oil & Money conference held in London, a compulsory stage for the top CEOs in the oil industry, Total sounded pessimistic regards to the possibility of reaching,, by the year 2030 global production amounting to over 100 million barrels per day; thereby drastically contradicting the optimistic expectations of the International Energy Agency and the US government. This explains the particular interest shown by the French colossus in maintaining and increasing its activities in Russia, in spite of the problems created by PSA in the Kharagaya oilfields, which it will however continue to manage together with Rosneft'.

The future of Russia's energy sector is lit-up by the optimism of Lukoil, with its now western outlook and the active participation of Conoco (20%) added to its capital. This company recently predicted Russia's potential production as being "decades away" from the peak oil phenomenon experienced at different levels by many oilfields undergoing exploitation all over the world. One cannot however exclude that this dogmatism may be nourished also by the theories expressed by the geological school that survived the fall of the USSR and that insists on the non-biological origin of hydrocarbons (hence theoretically inexhaustible) opposed to the dominant theory that believes in their fossil origins.

The abundant reserves of gas and oil and the many logistic business opportunities in the LNG sector on new transoceanic routes make Russian producers attractive energy partners for companies.

The choices these companies make in strengthening their links with the Russian energy industry is destabilising western governments who relied on them to apply political pressure on the Kremlin, after the Yukos earthquake and the questioning of programmes for the PSA exploitation of gas. On the contrary, Shell's attitude, and that of BP and even sharp Chevron has been that of quietly "waiting to see" the new conditions posed by Putin's team, ending up by accepting a compromise spiced up by "interesting" incentives. It is not the joint venture models of agreements between BP and Russian TNK at the time sponsored by Putin and Blair (together with the trans-Baltic pipeline operation) in 2003 that is used, or the one between Lukoil and Conoco that same year. The terms of the relationship between State controlled

companies and foreign partners, closing the PSA chapter (which remained valid only for Exxon and Sakhalin 1), are those established with the recent creation of the mixed company Severnaja Tajga Neftegas with head offices in Nojabrsk, with the objective of developing oil and gas reserves in the important Jamalo-Nenetsk area. A companied formed 70% by Chevron and 30% by Gazpromneft, in the sense that the American major will provide most of the initial capital and that later on Gazpromneft will hold 50%.

Uncertainties resulting from the Yukos business have vanished. "Matters have been clarified" according to Shell, which after losing its majority holding in the Sakhalin 2 consortium, is now becoming consolidated with the oilfields left as compensation where the company works with Rosneft'. And now Total (25%) and the recently created Norwegian giant Statoil-Hydro (24%) are preparing to confront in consortium with Gazprom (51%) the titan Sˇtokman: an enormous natural gas field in the Sea of Barents, 550 kilometres off the Russian coast.

8. While two of the key conditions in the Russian energy challenge – consistency of the resources and access to know how – have been satisfied, it is instead changing internal demand, while waiting for the productive system to become balanced in growing stages, that risks in the short term to compromise the Russian energy supply trend, taking gas resources away from exports. In 2006 internal consumption, already on the rise for the past four years, did in fact register a significant rise reaching 432 billion cubic metres, increasing by 6.7%. Hence the urgent need to clarify internal demand's growth factor, distinguishing between the various elements so as to cool the mix.

In a territory-continent such as Russia in fact, apparent demand caused by distribution waste - recoverable over time – is one thing, while the significantly large energy requirements, imposed by the need to support the territories that are the theatre of new oil and gas development is another.

At last there are investments in primary transport infrastructures, in addition to linking up regional energy networks, inverting a degradation trend causing a great deal of waste. As far as demand is instead concerned, excessively encouraged by incredibly low consumer prices, the Kremlin is responsible for having continued to play the card of political opportunism, making a strategic mistake it is only now rectifying. All reforms addressed at progressively correcting this distortion have in fact been punctually postponed to after the presidential elections. But now that post-Putin political continuity appears to be guaranteed, with the satisfaction and returned trust of local and foreign entrepreneurs regards to the painful issue of domestic tariffs, albeit over a long-term period, intervention has been decided. The greater flexibility of the internal gas markets, with the progressive liberalisation of prices between 2008 and 2012, will allow Gazprom to abandon the historical role that provided it with the burden of supplying all national gas to the regime's industry as well as to the farmers in the smallest of villages. Gazprom is meant to progressively leave this task to the group of so-called independent companies, which, attracted by the incentive of interesting proceeds, will be able to provide a decisive contribution to local supply. One can already see the results, as indicated by the renewed activism of companies such as Itera and Novatek in promoting joint ventures with foreign partners, attracted by the immensity of the Russian market, ranging from industrial clients to users in large urban centres.

Rationalisation of consumption is also being prepared in the electricity sector, a sector that uses large quantities of natural gas. There is in fact an ongoing process of accelerated privatisation, open to foreign investments for 25%, of the state monolith

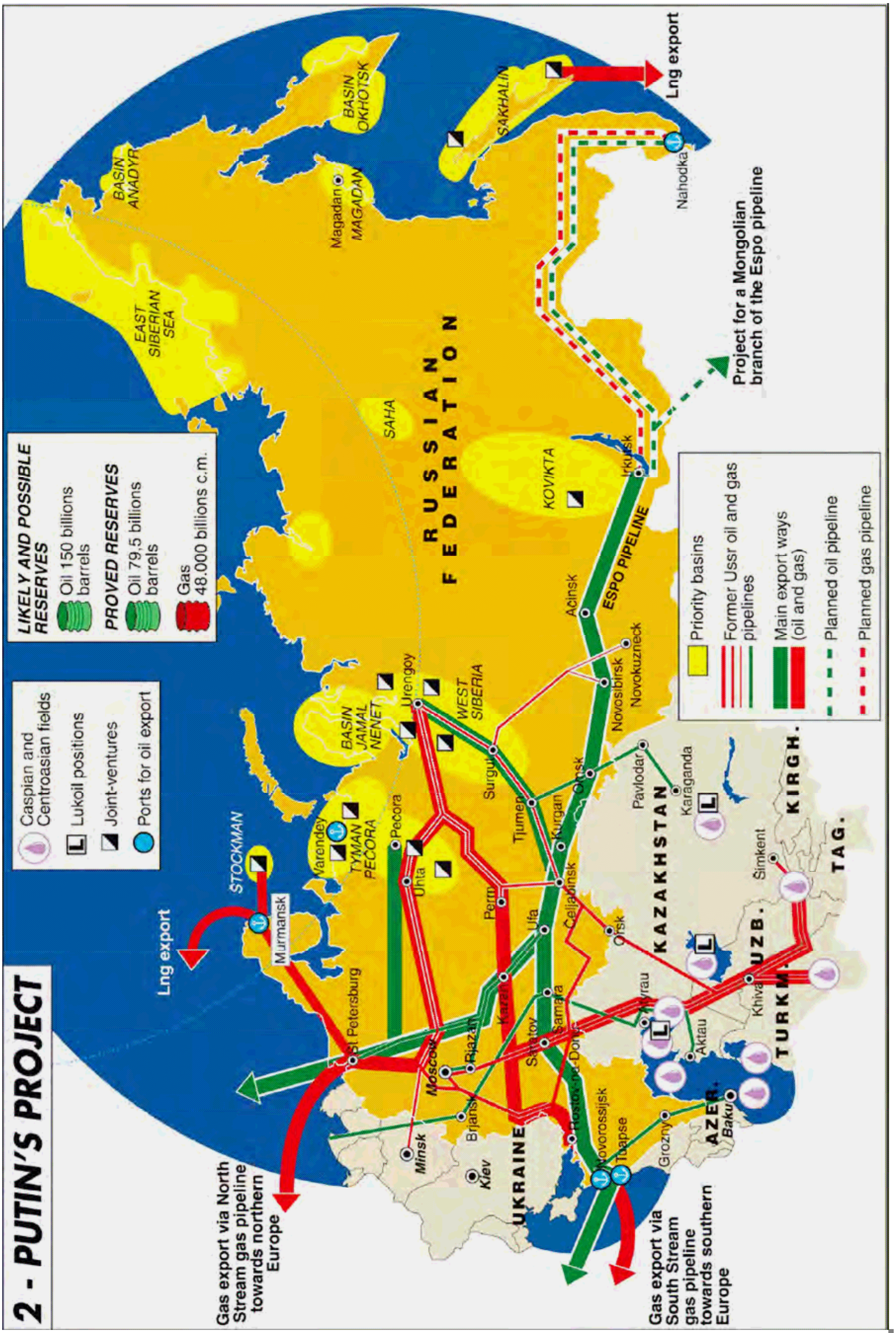
UES (Unified Energy System), which manages the national and local sectors of productive units and networks. In addition to mixed companies for exploiting oil and gas fields, there are therefore new spaces opening up also in the downstream energy sector. National European companies are attracted by this, thereby intensifying the practice of network asset swapping with Russian energy companies, ignoring Brussels' calls for unbundling. The risk here is an imbalance in the demand-offer ratio jeopardising commitments to supply Russian gas, in particular to "Old Europe" (the only one that matters to Putin), but it does not seem such an imminent threat. Above all, over the medium-term the probabilities tend to decrease. The capital of proven and provable resources is such that one can hypothesise extremely high levels of production and export. In the short term however, while pursuing the objective of recovering the three year delay in production, spent in forced-march reforms, Putin's team is working on rationalising what is available. And to strengthen the demand-offer mix and cope with short-term deadlines, it has resumed the "good practices" of its predecessors. Renegotiating at higher but still advantageous prices (2.75 dollars per million of btu compared to the about 6 dollars currently quoted on the Nymex) a strategic three year supply of Turkmen gas and implementing reduction policies tending to progressively marginalize the Baltic and the "middle Slavs" (Ukraine and Byelorussia) from gas flows addressed to western markets, considered more important and remunerative.

The pessimistic analyses expressed on various fronts regards to the slowing down of growth quotas for Russian gas exports are therefore legitimate as far as the causes are concerned, but tend to be politicised when exalting the intrinsic risk element.

In fact they tend to underestimate or ignore implemented actions for rectifying the overall energy system's distortions.

9. The new course for the energy industry traced by the Kremlin is paying the price of a fall in production resulting from the time needed to create new subjects and also profound strategic transformations. The recovery of the more important resources for implementing a sustainable export plan, together with renewed trust shown by national and international operators involved in establishing reliable partnerships based on the new development plans, has however been completed.

By the end of 2003 the time had already come for redefining an export mix that answered national and not exclusively commercial requirements, mainly based on individual strategies. First of all there was the need to quantify and set a timeline once and for all regards to the quota of natural gas to be reserved to "Old Europe", linked to transport using pipelines, but also optimising the routes. Although fundamental, supply itself was no longer considered the final objective, necessarily becoming part of a broader commercial strategy taking into account the new opportunities provided by the global energy market in the downstream and LNG sectors. What matters above all with European partners, and not only, are precisely the joint ventures with long-term projections. Since through these it is possible to link supplies to development of the fields in which the supplies originate, also receiving know-how and investments. This framework also explains the many initiatives addressed at collecting assets within the networks distributing gas to the final users. This of course with the objective of guaranteeing for Russia lucrative parts of the market (according to the logic inspiring all the European majors) but also so as to establish stronger links within the partnerships themselves. Although this is a dual relationship it does not seem to necessarily be negative for the consumer. Putin sees Russia in its continental dimension, organised in a western and an eastern quadrant. Strategies governing the western quadrant are addressed at rationalising energy flows to Europe, organised


2 - PUTIN'S PROJECT
Caspian and Centroasian fields
Lukoil positions
Joint-ventures
Ports for oil export
LIKELY AND POSSIBLE RESERVES
Oil 150 billions barrels
PROVED RESERVES
Oil 79,5 billions barrels
Gas 48.000 billions c.m.
Priority basins
Former Ussr oil and gas pipelines
Main export ways (oil and gas)
Planned oil pipeline
Planned gas pipeline
Lng export
Murmansk
STOCKMAN
Gas export via North Stream gas pipeline towards northern Europe
Gas export via South Stream gas pipeline towards southern Europe
Project for a Mongolian branch of the Espo pipeline
ESPO PIPELINE
RUSSIAN FEDERATION
KAZAKHSTAN
UKRAINE
UZB.
TURKM.
KIRGH.
TAG.
AZER.
St Petersburg
Moscow
Minsk
Kiev
Brjansk
Rjazan
Kazan
Samara
Saratov
Rostov-na-Donu
Novorossijsk
Tuapse
Grozny
Baku
Aktau
Atyrau
Khiva
Orsk
Celjabinsk
Ufa
Perm
Uhta
Pecora
Varendey
TYMAN PECORA
BASIN JAMAL NENET
Urengoy
WEST SIBERIA
Surgut
Tjumen
Kurgan
Omsk
Pavlodar
Karaganda
Simkent
Novosibirsk
Novokuzneck
Acinsk
Irkutsk
KOVIKTA
SAHA
EAST SIBERIAN SEA
BASIN ANADYR
Magadan
MAGADAN
BASIN OKHOTSK
SAKHALIN
Nahodka

within a broader commercial framework allowing these supplies to also be projected towards the global market (*see map above*). The northern part of this quadrant is that of the great arctic areas that Putin hopes to extend as far as the North Pole. It is here that Russia's ultra-deep energy reserves are hidden, to be exploited mainly after 2030. In the Arctic the best card Putin holds consists in international joint ventures.

To the East there are the mega-reserves that will allow Russia to expand within the Asian market, as well as the LNG markets.

In distributing resources between the East and the West, the great central-Asian system will still have to play an important role as the adjustment factor for developing the two quadrants.

As one can see in the *map below,* the rationalisation of gas and oil flows towards Europe takes place by creating two large energy currents: the North Stream and the South Stream. Not only for gas but also for oil. This does not so much involve boosting the flows, but rather optimising existing resources and eliminating those that Putin considers the system's 'dead branches'.

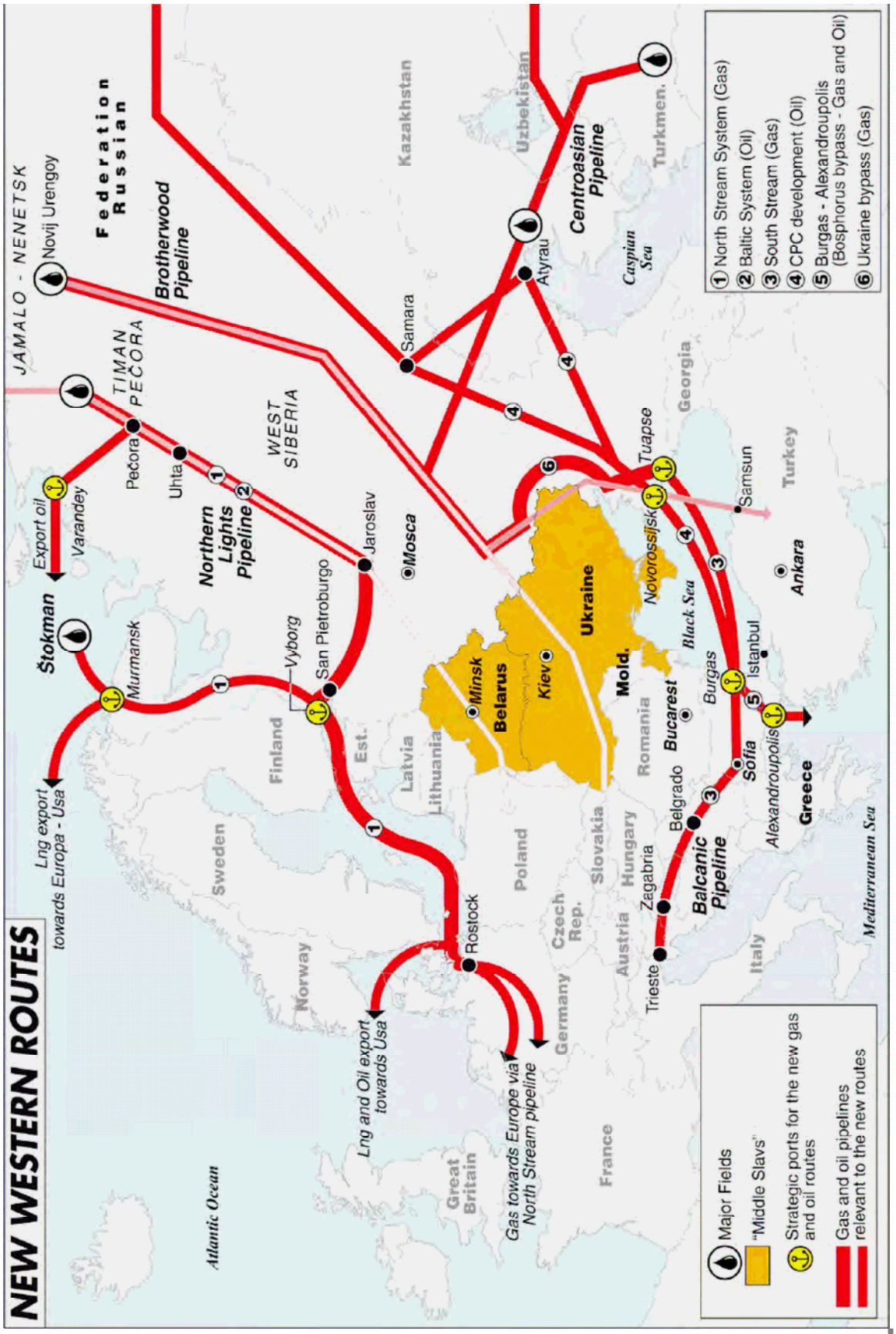
The Lights of the North and the Brotherhood (two historical pipelines) are now obsolete, while the Baltic pipeline is used to send resources towards "Old Europe" and further. The same applies for those of the Baltic Pipeline System. While the Northern Region is particularly advantaged by its own abundant reserves, the South Stream is instead an organisation of logistic services for oil (CPC, Burgas-Alexandroupolis pipelines) and gas (Turkmen and Uzbek restored pipelines + the Tuapse-Burgas underwater pipeline), useful for the commercialisation of Central-Asian resources flowing through Russian territory. To these one must add Russia's flows, with which it is preparing to return to the Balkans as an important supplier. The entire manoeuvre ruthlessly cuts out the privileged (until recently) "middle Slavs" whose territories will provisionally be crossed by pipelines leading to Germany, but will later use the available pipelines for their own supplies and for regional exchanges.

10. The problems encountered in the field by the energy development programme in the country's more eastern regions, reflect the motivations that led Putin's attempts to regain control over the management of national resources. In those remote areas in fact, it is necessary to urgently re-establish the balance between the territory's requirements and export's pure commercial logic.

Eastern Siberia and the Far Eastern Russian provinces have hydrocarbon deposits with an elevated productive potential and most of the area has not yet been exploited. This is the empire's strategic reserve. The one that in addition to guaranteeing continuity to the national energy cycle, will also have to contribute to affirming commercial penetration of the transoceanic markets. With the addition of a new visiting card: that of producer of liquefied natural gas. An ambitious vision that should be supported by robust policies for stabilising this Far Eastern Russian territory in terms of economic-administrative development and a coordinated management of resources.

The situation on the ground instead appears to be extremely fragmented with a jungle of joint ventures, multiplied with Matrioshka-like organisations that are hard to identify, but each with its own and distinct objectives for managing and commercialising the oil and gas fields available.

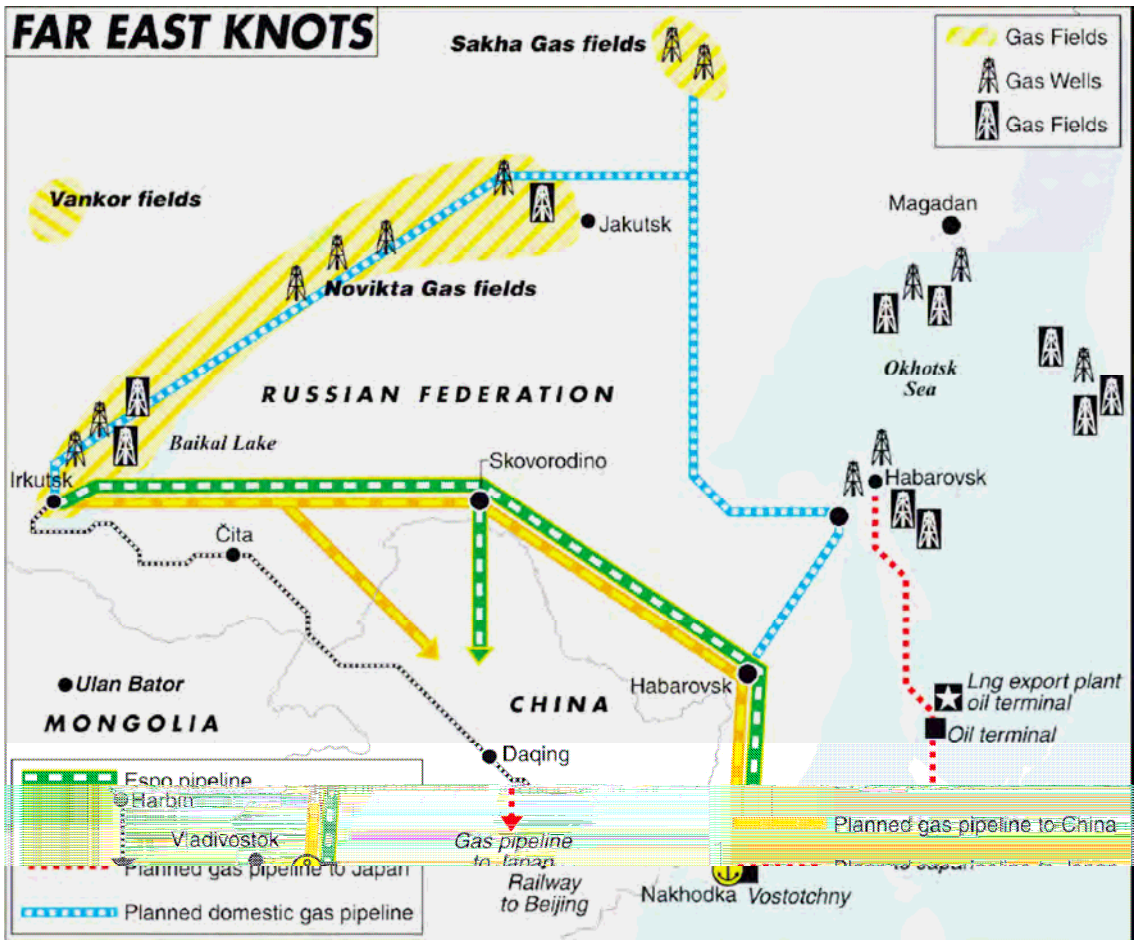
While the litigations that developed with large international companies regards to production sharing agreements emphasised the summary manner in which the central State regained control over the management of a number of strategic areas, such as that of Sakhalin, the problem concerning the coordinated use of reserves spread throughout most of the Far East of Russia is less known. The overwhelming tendency is to


NEW WESTERN ROUTES
JAMALO - NENETSK
Novij Urengoy
Federation Russian
Brotherwood Pipeline
TIMAN PECORA
Pečora
Uhta
Northern Lights Pipeline
WEST SIBERIA
Export oil
Varandey
Štokman
Murmansk
Vyborg
San Pietroburgo
Jaroslav
Mosca
Samara
Kazakhstan
Uzbekistan
Centroasian Pipeline
Atyrau
Turkmen.
Caspian Sea
Georgia
Tuapse
Novorossijsk
Samsun
Turkey
Ankara
Black Sea
Ukraine
Minsk
Belarus
Kiev
Mold.
Bucarest
Romania
Burgas
Istanbul
Sofia
Alexandroupolis
Greece
Balcanic Pipeline
Belgrado
Zagabria
Trieste
Italy
Mediterranean Sea
Austria
Hungary
Slovakia
Czech Rep.
Poland
Germany
France
Great Britain
Rostock
Sweden
Finland
Est.
Latvia
Lithuania
Norway
Atlantic Ocean
Lng export towards Europa - Usa
Lng and Oil export towards Usa
Gas towards Europe via North Stream pipeline
1 North Stream System (Gas)
2 Baltic System (Oil)
3 South Stream (Gas)
4 CPC development (Oil)
5 Burgas - Alexandroupolis (Bosphorus bypass - Gas and Oil)
6 Ukraine bypass (Gas)
Major Fields
"Middle Slavs"
Strategic ports for the new gas and oil routes
Gas and oil pipelines relevant to the new routes

capitalise these resources intensively, sacrificing to export also the quota of resources indispensable for the development of the regions that own them, thereby compromising irreparably productive sustainability.

This issue has become pressing now that the truth is out about the uncoordinated initiatives concerning long-term gas supplies that led to expectations in important Asian partners such as China, already considerably disappointed by the lack of solidity in the inter-government agreements signed with Moscow. Faced with this embarrassing and complex situation caused by internal disagreements, the federal government ended up by assuming a determined attitude, attributing the priority to the use of gas for local development and supporting the need for a territorial plan coordinated at inter-regional levels.

This immediately resulted in litigations concerning the blocking of natural gas exports from the gigantic fields in Kovikta, owned by the TNK-BP joint venture and the Sakhalin 1 programme, managed by Exxon under a PSA. Hence the presence of Gazprom, entrusted with coordinating the regional development of local gas resources (*see map below*). In the first case the idea was to abolish the initiative involving the sale of production from the Irkutsk, Kovikta, Sakha and Krasnojarsk fields, using one single gas pipeline towards China, a project managed directly by BP together with the Chinese national company. In the second case the idea was to avoid the gas extracted together with oil by Exxon from the Sakhalin 1 field, in consortium with Japanese companies and with Rosneft', also being added to the foreign export flows.



As far as Kovikta was concerned, the heir to the Yukos visions regards to China and the jewel of BP possessions in Eastern Siberia, Blair expressed his total opposition, with a final appeal to companies to turn their backs on Russia. No one listened to him. Among those directly involved, Gazprom and BP, months of negotiations and quiet bartering resulted in the English company accepting Gazprom's counter-offers: a cryptic solution that placed Putin's agent at the head of the Kovikta fields, an agent that would later resell to PB 25% of the programmed development operations for these same fields. Furthermore, Gazprom and the British company announced a fifty-fifty joint venture worth about 3 billion dollars. In the end, having obtained satisfactory returns, BP did not miss an opportunity for publicly praising the reliability of its Russian partners, inviting other companies to go into business with them. In the meantime, BP recovered a participatory share in VCNG (East Siberian Gas Company), previously owned by the Yukos group, which owns productive oilfields in the Irkutsk region, now controlled by Rosneft'.

A good business deal, seeing that the ESPO (East Siberian Pacific Ocean Pipeline) project, taking resource from Irkutsk to the Pacific Coast, is once again on the table. The route has been lengthened compared to the previous plan, going to the north of Lake Baikal as personally ordered by Putin, who wished to display his ecologist sensitivity.

The continuous postponement of the ESPO project, both in the version preferred by the Japanese – which prevailed thanks to better export prospects provided by the coast – and in the version liked by the Chinese and sponsored by BP, following the Irkutsk-Daquin route, has been due to internal controversies between Russian state-owned companies. The Rosneft' oil company, in fact tried to support the Chinese project, also because of the co-financing with which Beijing intended to close the deal, using the cover company Baikal, one of Yukos' most burning assets, later taken over by Rosneft'. The Russian national transport company TransNeft, instead, which manages the entire Russian pipeline system (often conflicting with the owner Gazprom) recriminated regards to building costs that have more than doubled over the past three years. But delays have also be caused by exhausting negotiations with Chinese managers, devoted to obtaining discounts on supply unit prices, which did not help quickly closing this operation.

After choosing at least to build the link towards China that starts with the ESPO route, linking Skorodovino to Daqing, there are still today ongoing negotiations.

The problem of having to fill this mega-pipeline so as to satisfy Asian clients is still a problem. In addition to TNK-BP, which owns the Vankor fields, previously owned by Yukos, other local companies, former subsidiaries of the Khodorkovskij group, are ready to use available fields.

While Beijing continues to receive Russian oil from Siberia by rail, crossing Mongolia, thanks to Lukoil, the Kovikta gas operation remains frozen. And the route for a gas pipeline Moscow is committed to building, parallel to the one for oil supplying both China and Korea, is still in the design stages.

11. While the Kovikta issue was solved thanks to a compromise that appears acceptable to the parties involved, the disagreement between Gazprom and Exxon seems to be following a different path.

The battle embarked upon by Gazprom for acquiring the 8 billion cubic metres of gas produced by the Sakhalin programme so as to place them in the regional network, is extremely tough and opposed even within the 'family', with Rosneft' supporting the reasons presented by the American partner. Gazprom's motivation is that demand from the four regions of Russia's Far East, estimated as amounting to 13 billion cubic

metres in 2010 and in 19 billion cubic metres in 2020, does not have coverage since new gas projects, starting with Sakhalin 3, will not be productive before 2015.

But Exxon, which unlike Shell managed to avoid penalties for environmental violations, thereby maintaining unchanged the PSA signed in 1999, has already entered agreements with Chinese companies for the entire amount produced. A blow for Gazprom, which in addition to appearing as the champion of local rights, also aspires to ensure the management of all the Sakhalin gas programmes, which began by removing the Shell from holding the majority of shares for Sakhalin 2 (Shell in fact now only owns 27.5%). The interest with which the entire Asian market on the Pacific, and even North America, greeted this first operation involving Russian LNG produced in a brand new plant, was considerable. For the moment, all the LNG produced for the next 25 years has been bought in advance by Japanese, American and South Korean clients. A second plant is currently being built. Within the framework of the Russian challenge to the LNG market, one can already see strong competition appearing between Gazprom and Rosneft', both interested in becoming the referent for LNG operations on the Pacific. The appointment will take place at Sakhalin 3, where, offshore in the Sea of Okhotsk, Rosneft' will work in joint ventures with Indian and Japanese companies, with every intention of claiming the right to sell the gas extracted there.

The red light has gone on as far as the natural gas issue in the Russian Far East is concerned, and the government too is determined to play a role. Last April a federal financial plan was announced for developing the infrastructures and hydrocarbon resources in the remotest areas of the Russian Far East: Magadan, Čukotka and Kamčatka. In the meantime positive signs come from offshore western Kamčatka, where an important gas and oilfield has recently been discovered by the joint venture established between Rosneft' and the Korean National Oil Corporation.

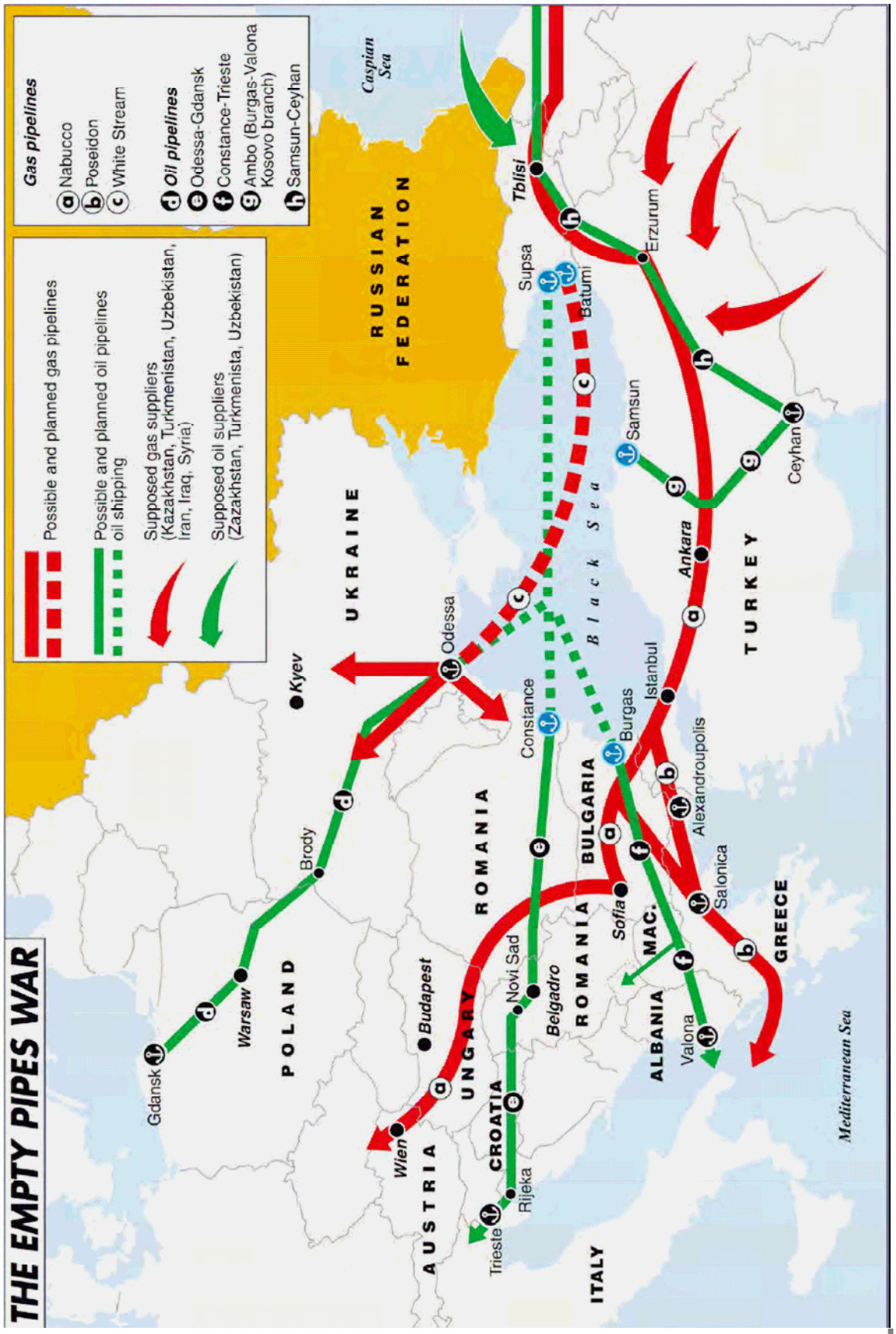
More in general, so as to develop the gas potential in the territories of eastern Siberia and the Russian Far East, with investments amounting to 92 billion dollars, a proposal is being prepared by the government commission for energy, envisaging the creation of one single production, transport and supply system for gas, organised around four productive centres in the areas of Sakhalin, Sakha, Irkutsk and Krasnojarsk. This programme will be formalised within the next few months. This plan will also have to establish the most appropriate amount of gas to be assigned for local consumption and hence the amount to be destined to export.

The Russian government's first concern was, for the umpteenth time, to reassure Beijing that as from 2020, 20-25 billion cubic metres per year of natural gas will be exported to China and to South Korea through a pipeline as well as 20 billion cubic metres of LNG.

12. Growing Russian interest in the LNG market, encouraged by the territory's continental dimension, reflects the will to play a strategic role in the global market, addressed at promoting cooperation among the most important countries (producing oil or owning oil reserves), allowing the coordination of export quotas and regional commercialisation programmes.

In principle this does not mean "forming cartels", but simply practising good business, seeing that the LNG industry requires expensive plants that are amortised over time, hence on the basis of significant amounts of guaranteed supplies.

The need for cooperation in the natural gas sector, both in monitoring possible global and regional demand and in the indexation of a basket of prices disengaged from that of the oil market now no longer controlled by producers, is all the more necessary, seeing that is organised in two kinds of production differing in modalities


THE EMPTY PIPES WAR
Gas pipelines
(a) Nabucco
(b) Poseidon
(c) White Stream
(d) Oil pipelines
(e) Odessa-Gdansk
(f) Constance-Trieste
(g) Ambo (Burgas-Valona Kosovo branch)
(h) Samsun-Ceyhan
Possible and planned gas pipelines
Possible and planned oil pipelines oil shipping
Supposed gas suppliers (Kazakhstan, Turkmenistan, Uzbekistan, Iran, Iraq, Syria)
Supposed oil suppliers (Zazakhstan, Turkmenista, Uzbekistan)
Caspian Sea
RUSSIAN FEDERATION
Tblisi
Supsa
Batumi
Erzurum
Samsun
Ceyhan
Ankara
Kyev
UKRAINE
Odessa
Black Sea
Istanbul
TURKEY
Brody
Constance
Burgas
Alexandroupolis
Salonica
POLAND
Gdansk
Warsaw
Budapest
HUNGARY
ROMANIA
BULGARIA
Sofia
MAC.
GREECE
Novi Sad
Belgadro
CROATIA
Rijeka
Trieste
AUSTRIA
Wien
ALBANIA
Valona
ITALY
Mediterranean Sea

and transport: natural gas commercialised directly using fixed structures (pipelines) and the LNG product that needs to be treated when loaded and when unloaded and is shipped using flexible shipping routes. Since the production of LNG will increase, preferred precisely because of its greater mobility, the need to organise a system for the price of natural gas-LNG and avoid expensive project competition between producers has become imperative so as to render the gas market less fragmented than in the past. Furthermore, internal demand in most producing countries, be these existing or potential ones, is increasing dangerously, as witnessed by Russia, Egypt and Iran.

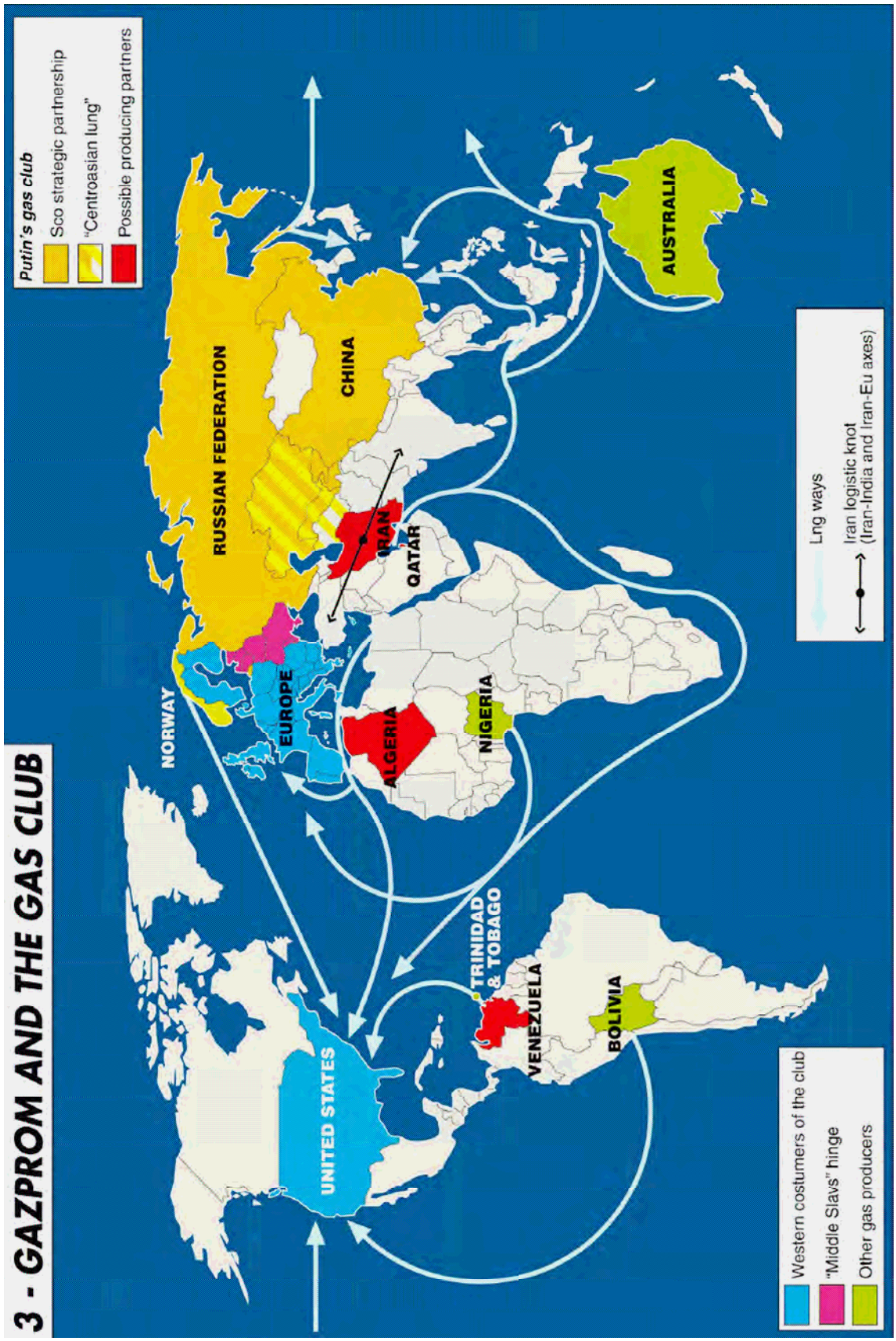
The approach involving cooperation is very distant from the logic of a "hostile cartel", as OPEC has often been described. On the other hand, consumers too have a sort of cartel in the International Energy Agency, accustomed to providing inflated forecasts on global demand so as to place pressure on OPEC to increase exports and above all to lower prices. And it still does this, well-aware that these quotations are inflated, rather than by increased demand, by uncontrolled financial speculation treating energy as a pure commodity.

The theory that there is an intention to create a "gas OPEC", as believed by American NATO and the European Commission, is strengthened every time Putin and his energy team meet the political and technical leaders of a country with significant gas reserves. Over a year ago, a "confidential" study by NATO, intentionally made public, identified Russia, Qatar, Algeria, Iran and Venezuela as the dangerous promoters of this future cartel. In fact, Moscow is interested in creating for itself a circle of special relationships within the world of national gas industries, above all so as to acquire technical and commercial experience in the LNG sector in which it intends to become a leading producer, wishing to appear not as a possible competitor but as a reliable partner.

13. Manoeuvres for gas should be addressed within the overall energy scenario, in which, as successfully baptised by the *Financial Times,* "the new seven sisters" emerge (*see map above*). It is within this constellation of re-emerging energy nationalisms that the new Russia intends to project the newly created and expensive offspring, Gazprom-Gazpromneft. Putin brings to the "new sisters" club, now controlling the dominant quota of world reserves of hydrocarbons, a contribution consisting in his regained national resources as well as an interesting range of long-term *upstream* and *downstream* partnerships.

In return he is in search of know-how in the LNG sector and agreements strengthening the security of regional gas markets. The result is a vision of a "club" open to producing and consuming countries, separated from the world of spot supplies with which it will be possible to negotiate with countries simply presenting themselves as clients.

The *map below* emphasises the overall scenario in which, in stages, the project for the global gas club should develop, starting with an initial nucleus of promoting countries, interested in setting up regional cooperation above all in the LNG sector and swapping assets in the upstream one (see Algeria). The great Russian export routes envisaged by Putin's energy team move from the internal Baltic and Barents Seas towards the Atlantic's transoceanic routes, while those destined to supply the South-East Asian market will start in the eastern regions. A plan significantly involving the companies system (*in primis* Total and Shell) and that of the western and Asian national companies (Statoil-Hydro, ENI, as well as Chinese, Indian, Malaysian and Korean companies) in the Arctic and Sakhalin Sea basins. A broad ranging strategy in which there is room for the gas swapping agreements that Gazprom is


3 - GAZPROM AND THE GAS CLUB
Putin's gas club
Sco strategic partnership
"Centroasian lung"
Possible producing partners
RUSSIAN FEDERATION
CHINA
AUSTRALIA
IRAN
QATAR
NORWAY
EUROPE
ALGERIA
NIGERIA
TRINIDAD & TOBAGO
VENEZUELA
BOLIVIA
UNITED STATES
Lng ways
Iran logistic knot (Iran-India and Iran-Eu axes)
Western costumers of the club
"Middle Slavs" hinge
Other gas producers

entering all the way to Australia, and important commercialisation hubs for gas extracted from the reserves from the north-western offshore platform still open to bidders.

This is a well-drafted plan. But to work one will have to avoid the global financial upheaval, caused by the US subprime crisis, ending up by also weakening the expanding economy of the Asian subcontinent.

What is of extreme importance in the Russian calculations regards to the "gas club", is the possibility of establishing stable partnerships with the currently unpredictable producers from the so-called "central-Asian lung", who would therefore return to play a coordinated role within the SCO (Shanghai Cooperation Organisation) strategic partnership. According to Moscow it is in fact necessary to remove them from the temptation of forming bilateral energy partnerships totally favouring China. Worried about Chinese activism in Kazakhstan and Turkmenistan, Putin in fact has quickly restarted the "western oil pipeline" operations (the Altaj project), a pipeline long 2.700 kilometres going from western Siberia towards Chinese Xinjiang.

14. While Putin's plan covers a global level, due to his regional strategies which envisage the progressive drying up of energy flows towards the Baltic regions, Poland and the Ukraine, it causes panic in those countries that look to the Caucasus relying on pressure applied by Georgia, frantically aspiring to become a member of NATO, to ensure for themselves Azeri supplies. Hence the Vilnius group (Lithuania, Poland, the Ukraine, Georgia and Azerbaijan), in turn resulting in the Sarmazia Consortium (referring to the historical Lithuanian-Polish federation). Anxiety experienced by Moscow's former satellite countries also derives from the fact that programmes sponsored by the European Commission, all addressed at avoiding Russian supply, cut them out too. There is a pipeline project with an improbable name – Nabucco – also looking to the Caucasus, the Azeri resources, and that after years of incubation is set to go; gas fields in Shah Deniz in fact have at last begun production. Perhaps Nabucco means hope, because in addition to Azeri supplies it also relies on improbable and opposed gas flows from Egypt, Kurdish Iraq, Iran, and Turkmenistan via Iran.

The Nabucco project however – from the Austrian border to Erzurum in Turkey, where it meets the BTE pipeline coming from Baku – which previously was just a pipeline waiting for supplies, now discovers more realistic partners such as the French and the Germans.

The second pan-European project, concerning oil, based on the Costanza-Trieste pipeline, also excludes Eastern Europe. The envisaged supplies are still the Azeri ones, which should be followed by Kazakh ones, regardless of the fact that most of Kazakh oil exports will be moved following different routes across Russian territory.

Hence two projects are frantically born, one for an oil pipeline rebuilt on parts of an already existing one that goes from Odessa to Gdansk, and an imaginative underwater gas pipeline, the White Stream, which arrives in Crimea to then link up with the Ukraine network. Hence the pipeline war, started as an ideological idea against Putin, now turns against its own creators; swept away by commercial logic, in which everyone tries to get hold of Azeri gas and by the competition between the ports of arrival, Burgas and Costanza.

The saga of the pipelines overlooking the Black Sea waiting for suppliers does not end here; there are also the AMBO one and the Turkish-Italian Samsun-Ceyhan. The advantage of these two however, is that they do not disdain the possibility of embarking Russian oil.

15. To the untidy pipeline war agitating the Black Sea area by attempting to

appropriate the indispensable central-Asian partnerships, Putin opposes a broader strategy that raises the stakes. The exhausting game played out on the shores of the Caspian involves the entire productive, transport and commercialisation system for energy resources from the Caucasus to the Aral Sea. Moscow is concentrating on asserting its role as the main partner in the region. Putin is convinced he must contribute to recomposing the pieces of the Central-Asian mosaic to create a working regional plan. Impromptu and fragmented, it has ended up by becoming particularly open to commercial expansion manoeuvres carried out with basically strategic objectives in mind. Although abundant, energy reserves in this region do not in fact justify the atmosphere of frontal opposition to Moscow sponsored above all by US Vice-President Cheney with support from the "NATO of the East": a resurgence of the Cold War in which oil producing countries, oil companies and European consumer countries end up in the middle, losing the very sense of their business interests.

This pressing against Putin tends to obtain two results: first of all Moscow's final geopolitical separation from the central-Asian periphery, which had not taken place with the territorial "breakaway" that followed the Soviet's disintegration. This so as to create a stable western area of influence situated in direct proximity with China, for the moment in terms of exchange and in the near future controlling its geopolitical ambitions. Secondly, making the Caspian with its offshore basins a "special area" working as a transfer platform for regional energy resources through the allied Azerbaijan-Georgian-Romanian-Polish corridor and thereby imprisoning Russia and Iran within supervised shores and effectively excluded from regional flows and swaps. In this manner it is thought that it will be possible to progressively destroy the strategic plan of the South Stream, conceived as a service structure, but one of great geopolitical importance for Moscow, for transporting Russian and central-Asian flows towards Europe.

At the moment the most realistic objective is to provoke a short-medium-term crisis within the Russian energy budget, already cut off from the possibility of compensation provided by the central-Asian valve, with the hoped for political fall from power of Putin's team, not knowing of any other way of getting rid of it.

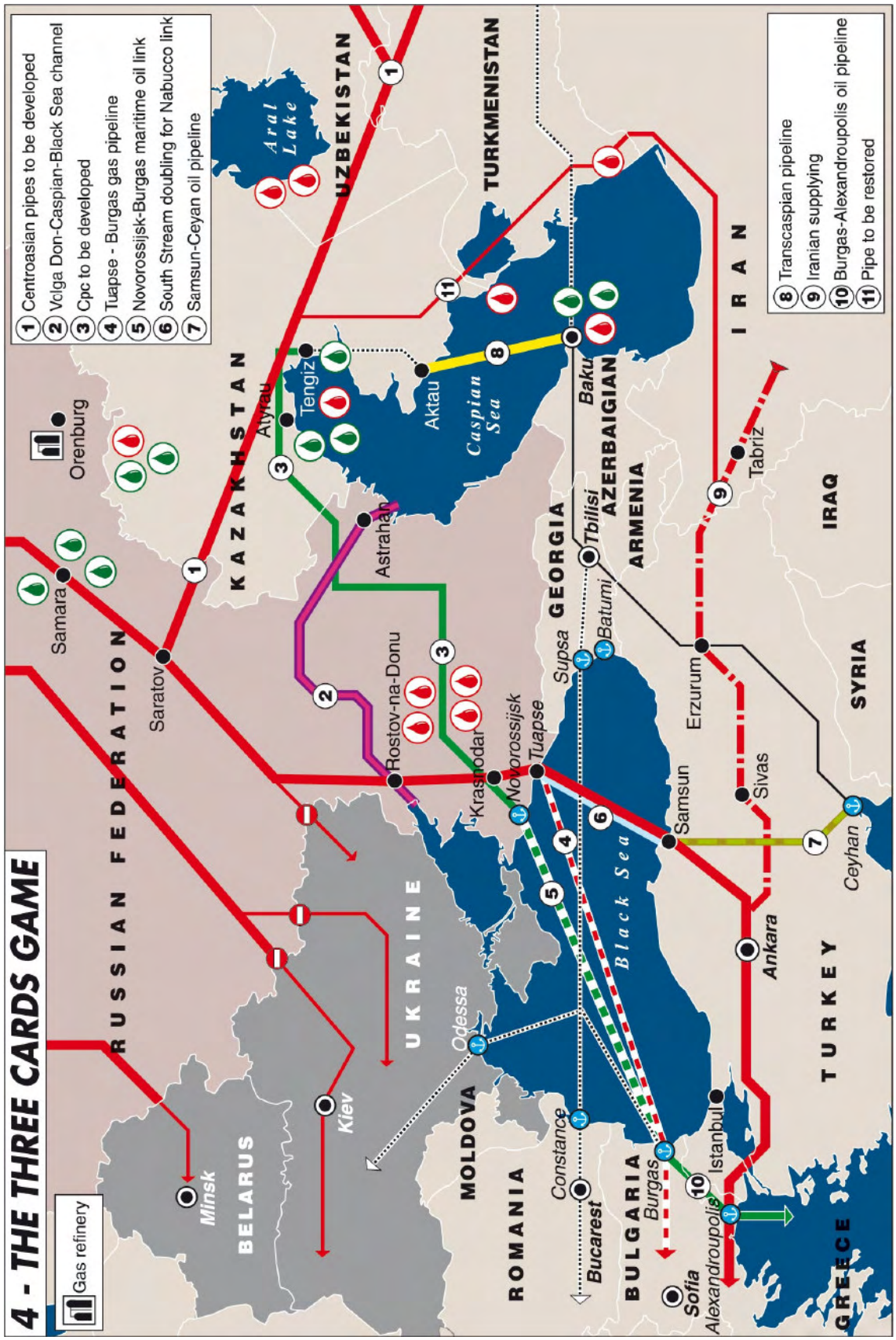
What NATO underestimates and, knowing its neighbours Moscow has instead understood, is the risk that the central-Asian region, cleared of the Russian influence its oligarchies are however accustomed to, will rapidly be occupied by Beijing, whose charm the Kazakh and above all the Turkmen leaders seem extremely sensitive to. Hence from their point of view the USA would close a catastrophic game and one hard to win later. It would in fact be difficult to compare to a smoking gun the oil drilling infrastructures with which Chinese companies are invading the Kazakh deserts.

After the Kazakh building of the last part of the Atasu-Kenkiyak oil pipeline linking fields in Kumkol (where the Kazakhstan-China pipeline to Alashankou starts) to those in Tengiz, the Chinese have arrived on the shores of the Caspian.

This is a position from which they will easily be able to access oil flows that the companies or the Kazakh government may wish to sell or exchange for Chinese assets and that would be added to the 20 million tons per year already guaranteed after 2010. Chinese companies are already at work in Turkmenistan and Uzbekistan too.

16. It is against this backdrop that Putin is playing his cards and these are basically three (*see map below*).

The Kazakh card. Moscow accepts to develop the oil pipeline owned by the CPC Consortium (Caspian Pipeline Consortium), the only one on Russian territory that does not belong to the national network, so as to allow the influx of growing Kazakh exports from the Tengiz oilfields, to which it will be possible to add exports coming


4 - THE THREE CARDS GAME
Gas refinery
1 Centroasian pipes to be developed
2 Vcilga Don-Caspian-Black Sea channel
3 Cpc to be developed
4 Tuapse - Burgas gas pipeline
5 Novorossijsk-Burgas maritime oil link
6 South Stream doubling for Nabucco link
7 Samsun-Ceyan oil pipeline
8 Transcaspian pipeline
9 Iranian supplying
10 Burgas-Alexandroupolis oil pipeline
11 Pipe to be restored
RUSSIAN FEDERATION
KAZAKHSTAN
UZBEKISTAN
TURKMENISTAN
IRAN
BELARUS
UKRAINE
MOLDOVA
ROMANIA
BULGARIA
GEORGIA
ARMENIA
AZERBAIGIAN
IRAQ
SYRIA
TURKEY
GREECE
Black Sea
Caspian Sea
Aral Lake
Minsk
Kiev
Odessa
Constance
Bucarest
Burgas
Sofia
Alexandroupolis
Istanbul
Ankara
Samsun
Sivas
Erzurum
Ceyhan
Tbilisi
Batumi
Supsa
Baku
Tabriz
Novorossijsk
Tuapse
Krasnodar
Rostov-na-Donu
Astrahan
Saratov
Samara
Orenburg
Atyrau
Tengiz
Aktau

from Kashagan and Karachaganak. The oil transported by the CPC pipeline will provide a preferential route out of the Black Sea, using first Russian maritime logistics and then the trans-Balkan pipeline (Burgas-Alexandroupolis), sponsored by Moscow so as to bypass the Bosporus. Moscow has offered the Kazakhs an opportunity to take over shares in the Russian-Greek-Bulgarian company that will manage this pipeline. Chevron, majority shareholder in the Tengiz Consortium using the CPC pipeline, supports the proposed logistic plan which would allow future flows of Kazakh oil to increase from 24 to 50 million tons per year.

Moscow's second offer, already an agreement now, concerns the acquisition of the Orenburg gas processing plant (to be privatised), in which the gas produced by the Karachaganak oil fields will be processed, then all transferred to Russia (about 15 billion cubic metres) to be marketed by a company formed by Gazprom and KazMunaiGaz.

Finally, it has been decided to comply with Kazakh requests to open further outlets for their exports, which are reaching the figure of 100 million tons per year (the Russian port of Novorossijsk, although enlarged, is not big enough to manage the arrival and movement of such large amounts), allowing Kazakh crude to transit through the Volga-Don navigable canal that puts the Caspian in communication with the Sea of Azov and hence with the Black Sea.

This is a package that facilitates the exporting of Kazakh crude oil and the sharing out of assets in logistics and in the downstream, thereby establishing a relationship involving a long-term strategic partnership between Russia and Kazakhstan.

The Turkmen and Uzbek cards. These were the cards played in advance at the three-sided meeting in the Caspian in May 2007 and presented again at the October summit between all coastal countries. The idea is to return to its effective capacity of 90 billion cubic metres per year the legendary Asia-Center soviet pipeline that, crossing Kazakh territory, linked the oilfields in the Turkmen and Uzbek Amu Darja areas to the Russian pipelines part of the Volga-Ural system. This is the umbilical cord that has always turned out to be providential for the Russian territorial energy budget, but from which the two central-Asian countries (in particular Turkmenistan) had until now gained little, seeing the discounts applied so as to market their gas from an enclaved position. Today Moscow seems ready to offer its commercial channels to the new configuration of regional partnerships of interest to its neighbours.

Turkmenistan will be able to obtain a special quid pro quo with the building of another pipeline, entirely on its own territory, running parallel to the Caspian coast, that should carry flows from the interior fields in the Amu Darja area, including one recently discovered at South Yolotan, and above all those that will come from the southern Caspian basin. It is within this framework that the government gives public notice of competitions for exploring and developing its offshore areas, where a crowd of international oil companies are rushing, Chevron and Russians included. The Caspian pipeline will therefore be built envisaging an initial capacity of 10 billion cubic metres per year, extensible up to 30 billion cubic metres.

The renewed pipeline system thereby transforms a service appendix into a commercial logistic circuit available to a real market. Although the Turkmen position on how the Caspian pipeline should be used remains ambiguous, for Moscow it is however important that the main flow of central-Asian gas production should pass through Russian territory, so as to guarantee its own share of it with continuity.

It is on these two cards that Putin has placed a considerable amount; copying the Chinese example and exploiting Lukoil's long experience on the territory, he is in fact sponsoring the strong participation of Russian companies, in cooperation with other

international and local operators, in a campaign devoted to the exploration and development of local reserves of gas and oil. The programme involves above all Uzbekistan, a net importer of oil and with a decreasing production of gas (that Gazprom imports), but with a great deal of potential that needs to be identified. Lukoil in fact works in the Caspian's Turkmen sector and together with Gazprom in Uzbekistan's internal oilfields.

In other words, Moscow has decided that in perspective it is more convenient to become a local producer in these two countries rather than to act as a retailer of imported gas. There are already positive signals from gas exploration that, in a joint venture with the Chinese CPC, Lukoil is carrying out in the Sea of Aral region. Lukoil-CNPC joint exploration and development activities are also ongoing in Eastern Kazakhstan so as to develop further reserves around Kumkol, as well as by Lukoil and the national Kazakh company off shore in the Caspian Sea near the Kashagan field. In 2007 Russia entered gas contracts with the three central-Asian countries for quantities amounting to a total of 56 billion cubic metres.

17. This is the state of the art as far as the 'game' played around the Caspian is concerned; a game in which it would be best to be Putin's ally, also as a partner in sportsmanlike competition, rather than having him as an opponent. Moscow's stated commitment to cooperate through its energy industry seems in fact to bring greater balance to the scenario.

The role that will by played by the joker card, Iran, remains to be seen. In the final game that will be played on the gas reserves of the Caspian and Amu Darja basins, and regards to the possibility of attracting these flows from the south through Turkmenistan-Iran towards the Turkish channel, Teheran maintains a strategic role in terms of reserves and logistic hubs, both towards Europe and South-East Asia. Hence the attention with which Putin manages relationships not only with leading politicians but also with the Iranian oil industry, attempting to enter favourable agreements for as long as he can take advantage of his tutoring position regards to the Islamic Republic and its problems. In the meantime it appears that Gazprom has at last obtained access to the Pars 2 oilfields, jeopardising positions that some western companies are finding hard to maintain, due to economic sanctions imposed by the USA.

18. Let us now try and take stock of Russia's overall situation. For the moment economic revival seems solid, supported by the country's good financial health, well-nourished also by massive income coming from tax on oil exports. This income in fact increases in proportion with the rise in the price of a barrel of Russian Ural oil soon to be replaced by REBCO (Russian Export Blend Crude Oil, already quoted on the London and New York stock markets), which is about 4 dollars more expensive per barrel that that of URAL.

In conclusion, we can and must trust Putin. But we must bear in mind our own interests as Italians and as Europeans. In fact:

A) Having participated in the "pipeline war" has only resulted in increased prices for central-Asian gas. When we pay for it, it is even more expensive and all the more so if transported through Russia. The great losers are our own consumers.

B) Among our interests there is also a degree of diversification, in particular regards to North Africa. This however should be studied at European levels. In any case, the anti-Gazprom barrier would result in becoming an obstacle to other producers also aiming for the same objective following Putin's example Putin.

C) If a supplier is interested in entering the distribution sector, he is obviously interested in maintaining the network constantly supplied. Hence the real problem is

controlling the price of natural gas and therefore of electricity produced with it, a price that must be contained within certain limits. This can only be obtained through long-term agreements. And it is here that the interests of entrepreneurs and consumers coincide (see the medium-term "electrical energy stock market" requested by our entrepreneurs).

In any case, we have no alternatives to Russia. We have to ensure that we will receive the Russian quota; and basically in two ways. Firstly: participating in investments for the development of Russian energy resources. Secondly, ensuring that every country shall communicate to the communitarian institutions and markets what their ideal mix of energy requirements are, so that it will become possible to draft a plan for European energy supplies and networks. Then, on this basis, establish what one should ask Russia to supply.

To make supply strategies safer we must reason using three timelines. In the first stage (from now until 2012) it is fundamental that Russia be able to continue to supply Europe even if using abundant quotas of central-Asian gas.

A geopolitical and energy stew is at the moment not in our interest. One can however envisage that operation Nabucco could include as partners in a joint venture also Russian, Kazakh and Turkmen operators. In stage two (2012-2020), it will be necessary to establish a mix between old and new supplies, so as to avoid that the more important supplies should end up in China with the progressive 'uncoupling' of central-Asian countries from Russia. The destiny of gas, in part already usable for the Nabucco project but not in competition with Russian gas, needs to be closely followed, because we need all the gas the Russians and the Iranians can provide us with. In stage three, when we directly address Russia's resources, we will have to address the issue of the need to supply Eastern countries, no longer countries resources are transported through and therefore importers. These countries will therefore have to choose whether to return to Russian protection buying their third generation nuclear technology, or accept to be supplied by us, at whatever prices the market imposes on us. Hence Russia-phobic Europe's geopolitical income falls. For fear of Moscow they are building their own cage, to the detriment of a pan-European approach, but also in the end of their own national interests.

All this is valid if we confirm the gas option, also for ecological reasons. If we were to demonise it simply because it is mainly imported from Russia, we would legitimise a return to coal and nuclear power. And then everything mentioned here would become meaningless.

Russia itself would be obliged to diversify, as in part it s already doing.

HANDS ON THE POLE

by *Mauro DE BONIS*

Russia has opened in grand style the hunting season for Arctic riches released by climate change and the progressive thawing of the ice. The polar expedition sponsored by Putin and the countermoves of other pretenders, starting with the USA.

1. ONE OF THE CONSEQUENCES OF THE planet's excessive warming is the slow and apparently relentless thawing of ice in the Glacial Arctic Sea. This is an epoch-making change that experts believe will last until at least the end of this century and that is destined to change life on our planet.

In the meantime however the receding of polar ice renders two fundamental geo-strategic issues more urgent. These are the northern passage between the Atlantic and the Pacific through the Bering Straits, and above all the exploitation of the immense oil and mineral resources hidden below the frozen Arctic seabed. Priceless treasures many have started to search for, starting with Putin's Russia, ready to stand firm so as to become an Arctic power extending the country's borders all the way to the North Pole. A territorial challenge launched by Moscow competing with other countries overlooking the Arctic precisely in this 2007/2006 international polar year. The first one after the Cold War that risks going down in history as the year in which a new conflict, a glacial one, began.

Moscow claims the right to consider as it own, and hence to be able to exploit it as it pleases, the triangle of sea between the Kola Peninsula to the West, that of the Čiukči to the East, and up to the North Pole. These are about 1.2 million square kilometres of seabed that according to Russian estimates should contain between 9 and 10 billion tons of energy resources.[1] This is wealth the Kremlin cannot renounce if, as recent studies carried out by the Ministry for Natural Resources seem to indicate, current Russian oil reserves will start to decrease beginning in 2030.[2] This is a serious problem for a country that has returned to play an important role in the world also and above all thanks to its energy power. The remedy has appeared with the opening of the Arctic "casket". To own this territory it is Russia that must prove that its Siberian shelf is linked to the Lomonosov and Mendeleev Arctic ridges, all the way to the Pole. Evidence must be collected and used to persuade the United Nations Commission responsible for establishing the borders of the continental shelf.

Moscow had already made a first attempt in 2001, arguing the aforementioned thesis, but the documentation was rejected. Now Russia is preparing a second attempt, after an expedition of scientists, politicians and foreign guests (paying their own way) lowered themselves in the polar abysses to collect further evidence, but not only that.

On board two mini-submarines, led by the Duma's Vice-President Artur Čilingarov, the group explored for the first time in history the seabed under the North Pole. This was a unique enterprise in its genre, hyped in Russia by every possible kind of media and compared to the first moon landing, but perceived by other countries overlooking the Arctic (United States, Denmark through Greenland, Canada and

[1] "Russia Researchers Readying For North Pole Dive On Mir Bathyscaphs", *Itar-Tass*, 2 August 2007.
[2] V. FROLOV, "The Coming Conflict in the Arctic, Russia and the United States to Square Off Over Arctic Energy Reserves", *Russia Profile*, 10 July 2007.

Norway), and not only, as colonialist provocation. Using the submarine's mechanical arm in fact, the expedition planted the Russian flag at the point corresponding to the geographical pole, as well as a message to future generations also containing the logo of the United Russia political party.[3] Welcomed as heroes when they returned home, the members of the expedition were praised and thanked by President Putin, the leader who chose precisely a polar bear as the symbol of his party, United Russia.

The West however almost unanimously criticized the Russian expedition. There was talk of new imperialism, of a new creeping conflict. Above all a race to the Arctic began; some increased their equipment, mainly military; others launched their own scientific expeditions to justify territorial claims.

Moscow however instantly took a step back. The placing of the Russian flag does not mean there are rights to the territory, clarified the Russian Foreign Minister Lavrov. There is no "polar imperialism" nor has a new Cold War Arctic front been opened echoed the Russian Ambassador to London, Jurij Fedotov.[4] This was only a scientific operation addressed at proving within the year 2010, in front of the UN Commission, that Moscow's claims should be accepted and that the Siberian shelf is linked to the North Pole. No one is arrogating the right to decide alone, but it will be the international laws and bodies who will decide the issue. Moscow ratified the convention on the Law of the Seas in 1997, preceded by Norway the previous year and followed by Canada in 2003 and Denmark in 2004. This gives Russia the right to present claims and trustingly await the Commission's verdict. This is a right that only countries that undersigned the 1982 protocol have, and denied to those, like the United States, who always chose not to ratify it.

2. The symbolic placing of the Russian Flag on the polar seabed does however provide a dual key of interpretation: an electoral one, hence internal and not remotely worrying; and an external one, that of a superpower ready to play the leading role in the future division of Arctic wealth, a power one should at least be in awe of.

During the months to come, Russia will hold elections for a new parliament and a new president who will replace Putin, obliged to abandon his appointment at the end of a second mandate as stated by the Constitution. Good publicity such as that resulting from the Arctic mission, led by a representative of the party for which Putin has volunteered to be the head of the elector's list, is no small thing. Russia wishes to be great once again and the objective to look well beyond Siberia all the way to the North Pole is one that an overwhelming majority of the population agrees with, over 70% according to a survey.[5] All potential voters firmly convinced of Russia's potential to also become a polar power. This is a belief founded on the enormous military arsenal Moscow has for those latitudes. By this we mean the over 20 submarines available to the Russian northern fleet, nuclear submarines such as the Vladimir Monomakh, on which construction started last year, the other nuclear submarine called the Jurij Dolgorukij, launched this year and the Severodvinsk which will be ready in 2009. And then there are also the Sineva missiles used by the Russian Navy and the new intercontinental Bulava-M missiles that will be ready by 2008. "All this – one can read in the Russian press – will put Russia at an advantage when the western partners will agree on the need to accept a compromise in dividing up the Arctic waters into national sectors. A division Russia will benefit from because the country will end up having more territory than any other Arctic power".[6]

[3] A. GUBAEV, "The Cold War Moves North", *Kommersant*, 4 August 2007.
[4] J. FEDOTOV, "There is no new chill in the Arctic", *Financial Times*, 21 August 2007.
[5] "Most Russians support Arctic studies", *Itar-Tass*, 24 August 2007.
[6] A. GRAVILENKO, "If War Comes Tomorrow", *Profil*, no. 29, August 2007.

Clear ideas therefore, supported by fast development in the production of "made in Russia" icebreakers, more than necessary for exploring and sailing the cold Arctic waters. After a long pause in the building of these ships, construction has now started again. Since 1989 the completion of the 50 Let Pobedy icebreakers had been awaited and since 1990 none had been built. Then the new interest in the Arctic and its ice exploded and in 2007 alone three new ships were launched. The aforementioned icebreaker is the largest in the world, capable of breaking through ice that is up to 3 metres thick (last May, Putin himself paid homage to this ship presiding over a session of the Council of State and the Russian Maritime Agency), then the Moskva and the Sankt Petersburg, two new generation models unequalled in Europe.

"Russia has actively started to expand in the Arctic", says the *Nezavisimaja Gazeta*. And to do this correctly, continues the Russian daily newspaper, "it needs at least ten icebreakers", and even more, so as to guarantee passage on the Arctic routes. An appeal already answered by the Ob'edinennaja Promyšlennaja Korporacija, the corporation on united entrepreneurs, who with their subsidiaries Baltijskij Zavod and Severnaja Verf', are ready to provide Russia with a modern and efficient fleet of icebreakers.[7]

It will take three years from the day Moscow presents its evidence collected during the Arctic expeditions before the UN Commission pronounces its verdict. In the meantime, comforted by initial positive data from an analysis of finds collected during the summer expedition, Russia is organising itself. Data on which studies are based will only be completed by the end of December, but according to the Russian Ministry for Natural Resources, they already confirm that the Lomonosov ridge is nothing but the natural extension of the Siberian shelf.[8]

3. Hence nothing concrete or final; there will be waiting to do and a great deal of it. But Moscow has begun to sprint and now it is the others who will have to keep up in this race for controlling the Arctic. If the Kremlin's objective was also to create problems for other Arctic countries, encouraging them to invest in this region and addressing choices that are now turning out to be inadequate, it seems to have succeeded.

The United States, for example, are divided on how to try and block, or at least slow down Russian demands. Washington has always refused to ratify the convention on the Law of the Seas, and can now only observe Russia's moves to be heard by the UN commission with the necessary documentation. The American State Department has clarified that "the Russian government has the right to pursue its claims as a member of the convention",[9] but the fear of being unable to participate in and verify procedures has led to a strong debate on the need to at last ratify or not the 1982 convention.

Last May President Bush has already made an appeal to the Senate to try and persuade it to ratify the agreement. The American leader had advocated the initiative speaking of the advantages for national security, the acquirable rights of sovereignty over marine areas, the possibility of promoting American interests with regards to the environmental health of the oceans, but above all, as Vice Secretary of State John D. Negroponte reminded the Senate's Foreign Committee at the end of September, "the United States will have a seat at the negotiating table when the fundamental rights for our interests will be debated and interpreted". Hence when the UN Commission assesses data provide by Moscow without Washington having been able to place its

[7] S. GRIGOREV, "There Will Be More Icebreakers", *Nezavisimaja Gazeta*, 20 August 2007.
[8] www.kommersant.com/p-11414/Arctic_claim/
[9] J. FEDOTOV, "There is no new chill in the Arctic", *Financial Times*, 21 August 2007.

own expert among the members passing judgment.

This is an idea clearly also supported by the Republican Senator Richard Lugar, and many other members of his party, but that is strongly opposed by those American politicians who, attentive to the moods of their electors, see in the ratification of the agreement the risk that the United States will have to respect international laws and organisations considered rather unsympathetic. Senator Frank Gaffney, for example, launched a furious campaign against ratification, worried that with American adhesion the United Nations would increase its power and force Washington to share maritime sovereignty and resources.[10] But without ratification how will the White House lay claim to the about one thousand kilometres of Arctic Glacial Sae linked to the coasts of Alaska?[11] Using force, or choosing the UN route as Moscow is doing?

While Washington racks its brain about having to submit or not to international provisions, other Arctic countries, which have all signed the convention on the Law of the Sea, are choosing their countermoves so as not to end up behind Russia in the race to the North Pole.

Canada immediately reacted firmly to Moscow's claims to the Arctic. The first statements by the Foreign Minister reminded the world that Ottawa has historical sovereignty over the lands and the waters of the Canadian Arctic, which Prime Minister Stephen Harper classified as "the central axis of Canadian identity as a northern nation" and a "formidable potential for the future".[12] Canada has always invested little in the region. A very small military presence, and no submarines or deep harbours available. But so as to face the challenge launched by Moscow, this North American country needs more. It needs an Arctic fleet for which the government has allocated about 7 billion dollars.[13] It needs two new military bases, hence a training centre need Resolute Bay and a harbour at Nanisivik, north of Baffin Island. It needs to strengthen its military presence with a further 900 rangers.[14] But it also needs to map, as it is doing, the Canadian Arctic seabed so as to reassert its sovereignty.[15]

Norway too, in open disagreement with Moscow regards to the ownership of a vast and rich area in the Barents Sea, has taken steps to increase the presence of the coast guards and air forces in its deep North, but has not dived head first into the race against Russia for the Arctic. Norway prefers to maintain good and friendly relations with Moscow, as stated by the Minister for Defence Anne-Grete Strom-Erichsen at the beginning of October.[16]

The last country overlooking the Arctic is Denmark, ready to swear on the basis of available data that the Lomonosov ridge joins the seabed of Greenland directly to the North Pole. "Prelimanry information is encouraging", declared the Minister for Science: "Everything indicates that the North Pole will be assigned to our country."[17] Denmark has time until 2014 to present evidence backing its territorial claim to the UN Commission, and is investing a great deal in scientific expeditions to collect as much material as possible. Copenhagen however is also open to diplomacy, inviting Russia, the United States, Norway and Canada to sit around a table, the one prepared for next May 27th-29th in Ilulissat, in Greenland. The Foreign Ministers of the countries invited will try and peacefully resolve Arctic territorial disputes, and to reach a (difficult) agreement on how to divide the region. This is a difficult task, but perhaps

[10] undispatch.com/archives/2007/10/gaffney_lost_on.php
[11] E. S˘IS˘KUNOVA, "America Will Argue With Russia Over Arctic Treasures", *Izvestija*, 1 August 2007.
[12] R. BOSWELL, "Canada urged to get proper icebreakers", *Ottawa Citizen*, 26 July 2007.
[13] D. BIRCH, "Russia's Arctic Mission Nears North Pole", *AP*, 1 August 2007.
[14] T. REID, "Arctic military bases signal new Cold War", *The Times*, 11 August 2007.
[15] "Canada to map Arctic seabed to boost sovereignty", *Reuters*, 17 October 2007.
[16] P. APPS, "Norway links Afghan role to Nato support in Arctic", 3 October 2007.
[17] "Danish Researchers Fail to Prove North Pole Belonging To Denmark", *Itar-Tass*, 24 September 2007.

not an impossible one.

Moscow has thrown down the gauntlet. Russia's late-Soviet demands may find international legitimation if data is in its favour. But the enormous wealth frozen in the Arctic seabed will not be assigned only according to the opinion expressed by a commission. Common sense and a great deal of diplomacy will be needed to avoid envisaging any other (possible) solutions.

INTERVIEW

We are a polar power!

Conversation with the Vice-President of Russian Duma *Artur Nikolaevič ČILINGAROV*

LIMES Artur Nikolaevicˇ, you took part in the expedition that placed the Russian flag on the bed of the Arctic Glacial Sea. Was that a symbolic gesture seeing that the thesis according to which the Lomonosov and Mendeleev ridges are the continuation of the Siberian shelf has yet to be proved?

ČILINGAROV Since you speak of symbols, allow me to tell you that ours was a symbolic expedition, to prove that Russia has been, is and always will be a great maritime and polar power. Of course the fact that the seabed of the Arctic belongs to Russia has yet to be proved, and this must take place fully in compliance with the procedures established by the UN convention on the Law of the Sea, which was also signed by Russia in 1982. We are ready to assess the legal interests of other countries, and I emphasise the word legal, on condition that these too are in compliance with international law.

LIMES Next December the Ministry for Natural Resources will officially announce the scientific results on data collected by your expedition. Which will the Federation's new northern borders be?

ČILINGAROV It is too soon to discuss this. According to the procedures established by the UN convention, this issue must first be analysed by the Commission for establishing the borders of the continental shelf. In 2001, when Russia presented documentation and evidence that this geographical area belonged to our country, the United Nations commission did not consider the evidence convincing. Our scholars however have carried out an immense amount of documental research and will present new and more convincing evidence.

LIMES A number of Russian scientists are convinced that Denmark and Norway too could claim that their own territories should be joined to the artic seabed. How is the internal debate developing on this issue? And how will you respond to territorial claims presented by other artic countries?

ČILINGAROV Our scholars, in conformity with their role, are drafting a series of variations. I am not aware that any of them are persuaded that this area belongs to Denmark or to Norway. On the contrary, the material collected by our specialists addresses a totally different issue. We will answer the claims presented by others with real and irrefutable evidence that, as said, has emerged from the bottom of the ocean. This evidence is strictly in compliance with the established procedures.

We will firmly defend our national interests. We will not relent and as in the past we will not abandon our position. Naturally there is no question of using force. Times have changed, and everything will be decided through negotiations, fully respecting provisions established by international law, just as President Putin himself stressed.

LIMES When will you present the documentation showing the results of your investigations?
ČILINGAROV Very soon; there will be no delays.
LIMES What is there at the bottom of the Glacial Arctic Sea? It is said to contain 25% of all the planet's gas and oils reserves. Is this true?
ČILINGAROV One can only speculate regards to the extent of the wealth hidden below the artic seabed. We are still far from having any definite data. There is still an enormous amount of work to be done.

THE ENERGY SECURITY OBSESSION

by *Jerry Taylor and Peter Van Doren*

Many believe that reliance on foreign oil requires consumers to militarily defend friendly exporting states and shipping lanes. However, simple economics and the history of relationships between oil producer and consumer countries tell a different story.

1. AMONG THE MOST FASHIONABLE preoccupations in foreign policy circles is "energy security". Although it is unclear what exactly energy security means, foreign policy elites have long been concerned about reliance on foreign energy. Fear of embargoes and supply disruptions affects how Western nations deal with oil and gas producing states, what sort of policies are pursued in the Middle East, and even fundamental questions of war and peace.

That's unfortunate, because a nation that is self sufficient in energy is no more "secure" than one that relies on imports for all its energy needs. Given the global nature of oil markets and the increasing globalization of natural gas markets, willingness to pay market prices will secure all the energy a nation could possibly wish for during peacetime. Worries about producer blackmail are only a bit less far-fetched than worries about alien invasion.[1] Simply put, reliance on oil and natural gas – imported or otherwise – is *not* the Achilles heel of the Western industrialized world.

Many believe that reliance on foreign oil requires consumers to militarily defend friendly exporting states and to ensure the safety of oil supply facilities and shipping lanes. Those marching under banners declaring "No Blood for Oil" seem to believe that's the case, as do their arch rivals in the neo-conservative movement.

Simple economics suggests otherwise. Oil producers will provide for their own security needs as long as the cost of doing so results in greater profits than equivalent investments could yield. Because Middle-Eastern governments typically have nothing of value to trade except oil, they must secure and sell oil to remain viable. Given that their economies are so heavily dependent upon oil revenues, Middle-Eastern governments have even *more* incentive than do consuming states to worry about the security of oil production facilities, ports, and shipping lanes.[2]

In short, whatever security our presence provides (and many analysts think that our presence actually *reduces* security[3]) could be provided by incumbent producers were the United States to withdraw. The fact that the Saudi Arabia and Kuwait paid for 55% of the cost of Operation Desert Storm suggests that keeping the Straits of Hormuz free of trouble is certainly within their means.[4]

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[1] Many economists that specialize in oil economics doubt that there are significant national security externalities associated with gasoline consumption. See D. BOHI, M. TOMAN, *The Economics of Energy Security*, Norwell, MA 1996, Kluwer Academic Publishers.

[2] J.R. WEST, "Saudi Arabia, Iraq, and the Gulf", in *Energy Security*, J. KALICKI, D. GOLDWYN, (eds.), Washington 2005, Woodrow Wilson Center Press, pp. 197-218.

[3] R. JERVIS, "Why the Bush Doctrine Cannot Be Sustained", *Political Science Quarterly*, no. 3, Fall 2005, pp. 351-377.

[4] Saudi Arabia and Kuwait paid approximately $33 billion (55%) toward the total cost of Desert Storm and Desert Shield, which was $60 billion. The U.S. share was only $6 billion (10%). Defense Department press release 125-M, May 5, 1992.

The same argument applies to al Qaeda threats to oil production facilities. Producer states have such strong incentives to protect their oil infrastructure that additional Western assistance to do the same is probably unnecessary. While terrorists do indeed plot to disrupt oil production in Saudi Arabia and elsewhere, there is no evidence to suggest that producer-state security investments are insufficient for the job.

The U.S. "oil mission" is thus best thought of as a taxpayer-financed gift to oil regimes and, perhaps, the Israeli government that has little, if any, effect on the security of oil production facilities. One may support or oppose such a gift, but our military expenditures in the Middle East are not necessary to remedy a market failure.

Many foreign policy analysts think that U.S. oil imports are dependent upon friendly relationships with oil producing states. The fear is that unfriendly regimes might not sell us oil – a fear that explains why former Federal Reserve Chairman Alan Greenspan supported the two Gulf Wars against Iraq. Maintaining good relations with oil producers, however, interferes with other foreign policy objectives and increases anti-American sentiment in producer states with unpopular regimes. And of course, it could lead to war.

The problem with this argument, however, is that its fundamental premise is incorrect. Friendly relations with producer states neither enhance access to imported oil nor lower its price.

Selective embargoes by producer nations on some consuming nations are unenforceable unless (i) all other nations on Earth refuse to ship oil to the embargoed state, or (ii) a naval blockade were to prevent oil shipments into the ports of the embargoed state. That's because, once oil leaves the territory of a producer, market agents dictate where the oil goes, not agents of the producer, and anyone willing to pay the prevailing world crude oil price can have all he wants.[5]

The 1973 Arab oil embargo is a perfect case in point. U.S. crude oil imports actually increased from 1.7 million barrels per day (mbd) in 1971 to 2.2 mbd in 1972, 3.2 mbd in 1973, and 3.5 mbd in 1974.[6] Instead of buying from Arab members of OPEC, the United States bought from non-Arab oil producers. The customers that were displaced by the United States bought from Arab members of OPEC. Beyond the modest increase in transportation costs that followed from this game of musical chairs, the embargo had no impact on the United States.

In short, it does not matter to consumers to whom the oil is initially sold. All that matters to consumers is how much oil is produced for world markets.

Do oil producing nations allow their feelings towards oil consuming nations to affect their production decisions? Historically, the answer has been "no". The record strongly indicates that oil producing states, regardless of their feelings toward the industrialized West, are rational economic actors. After a detailed survey of the world oil market since the rise of OPEC, oil economist M.A. Adelman concluded, "We look in vain for an example of a government that deliberately avoids a higher income. The self-serving declaration of an interested party is not evidence".[7] Prof. Philip Auerswald of George Mason University agrees, "For the past quarter century, the oil output decisions of Islamic Iran have been no more menacing or unpredictable than

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[5] This is such an obvious point that energy economists rarely bother to explore the issue in detail. To understand how the world crude oil market works is to understand that embargoes are unenforceable. See PH. VERLEGER, *Adjusting to Volatile Energy Prices,* Washington 1993, Institute for International Economics, and M.A. ADELMAN, *The Genie out of the Bottle: World Oil Since 1970,* Cambridge, MA 1995, MIT Press.

[6] Energy Information Administration*, Annual Energy Review 2004*, Table 5.3.

[7] M.A. ADELMAN, as above, p. 31. Former OPEC Secretary-General Francisco Parra makes the same point. F. PARRA, *Oil Politics: A Modern History of Petroleum,* New York 2004, I.B. Tauris.

Canada's or Norway's".[8]

2. If energy producers are wealth-maximizers, what do we make of countries that are selling oil and natural gas to others at below-market rates? For instance, Russia sold oil to Cuba at below-market prices during the cold war; Russia continues to sell natural gas to Ukraine at below-market prices but has ended its subsidy to Georgia as relations have soured; and China sells oil to North Korea at low rates and used this as leverage to induce North Korea to bargain over its nuclear weapons program.[9]

Two conclusions seem reasonable. First, sellers have leverage in natural gas markets that is not possible in oil markets because oil can be transported easily while natural gas is shipped through pipelines. Buyers have few near-term alternatives if natural gas sellers reduce shipments. As liquefied natural gas gains market share, however, natural gas markets will look increasingly like world crude oil markets, and the ability of Russia or other states to extract concessions from consumers will dissipate.

Second, the Russia-Cuba and China-North Korea cases involve poor countries receiving foreign aid in the form of low-priced oil. We are unaware of any wealthy western countries receiving such in-kind aid from oil-producing countries.

What if a radical new actor were to emerge on the global stage? For example, if the House of Saud were to fall and the new government consisted of Islamic extremists friendly to Osama bin Laden, the new regime might reduce production and increase prices.[10] But that scenario is by no means certain given that Iran – despite all its anti-western rhetoric – has not reduced oil output out of hostility towards the West.[11] The Iranian economy and regime are dependent on oil revenue and the Saudis are even more dependent.[12]

Regardless, the departure of Saudi Arabia from world crude oil market would probably have about the same effect on domestic oil prices as the departure of Iran from world crude oil markets in 1978. The Iranian revolution reduced oil production by 8.9%, whereas Saudi Arabia accounts for about 13% of global oil production today.[13] Oil prices increased dramatically after the 1978 revolution, but those higher prices set in motion market supply and demand responses that undermined the supply reduction and collapsed world prices eight years later. The short term macroeconomic impacts of such a supply disruption would actually be less today than they were then given the absence of price controls on the U.S. economy and our reduced reliance on oil as an input for each unit of GDP.[14]

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[8] Ph. AUERSWALD, "The Irrelevance of the Middle East", *The American Interest*, May/June 2007, p. 22.

[9] See S.L. MEYERS, "Russian Gas Company Plans Steep Price Increase for Georgia", *New York Times*, 3 November 2006, p. A12 and J. KAHN, "China May Be Using Oil to Press North Korea", *New York Times*, 31 October 2006, p. A12.

[10] Bin Laden has said on many occasions that he thinks the Saudi monarchy keeps oil prices below true market value in order to maintain friendly relations with the West.

[11] While it is true that oil production in Iran was about twice as high under the Shah than it has been under the Islamic Republic, almost all analysts agree that this reflects the damage down to the oil infrastructure during the 1980-88 war with Iraq, the "brain drain" that has occurred in response to the revolution, and poor state management of Iranian oil assets – not the intentional result of state policy.

[12] Oil revenues are 40-50% of Iranian government revenues and 70-80% of Saudi government revenues. See Energy Information Administration, "Country Analysis Briefs". Iran's oil output increased steadily from 3.7 mbd in 2003 to 4.1 mbd in 2005, *International Petroleum Monthly*, Table 4.1a

[13] Data on Iranian production in 1978 and Saudi production in 2006 from the Energy Information Administration.

[14] In 1978 the U.S. used 15,950 BTUs per ($2000) dollar of GDP but only 8,970 BTUs per ($2000) dollar of GDP in 2005, a reduction of 43.8%. And the BTUs used in 2005 came less from petroleum than in 1978 (47.5% of 1978 energy consumption was petroleum versus only 40.5% in 2005). Energy Information Administration, *Annual Energy Review 2005*, Tables 1.3 and 1.5 pp. 9 and 13. For discussions of the macroeconomic effect of oil price

So while it is possible that a radical oil-producing regime might play a game of chicken with consuming countries, producing countries are very dependent on oil revenue and have fewer degrees of freedom to maneuver than consuming countries. Catastrophic supply disruptions would harm producers more than consumers, which is why they are extremely unlikely. The best insurance against such a low-probability event is to maintain a relatively free economy where wages and prices are left unregulated by government. That would do more to protect the West against an extreme production disruption than anything else in government's policy arsenal.

Does Western reliance on oil put money in the pocket of Islamic terrorists? To some degree, yes. Does that harm western security? Probably not – at least, probably not very much.

Before we go on, it's worth noting that only 15.5% of the oil in the world market is produced from nation-states accused of funding terrorism.[15] Hence, the vast majority of the dollars we spend on gasoline do not end up on this purported economic conveyer belt to terrorist bank accounts.

Regardless, terrorism is a relatively low-cost endeavor and oil revenues are unnecessary for terrorist activity. The fact that a few hundred thousand dollars paid for the 9/11 attacks suggests that the limiting factor for terrorism is expertise and manpower, not money.

That observation is strengthened by the fact that there is no correlation between oil profits and Islamic terrorism. We estimated two regressions using annual data from 1983 to 2005: the first between fatalities resulting from Islamic terrorist attacks and Saudi oil prices and the second between the number of Islamic terrorist incidents and Saudi oil prices. In neither regression was the estimated coefficient on oil prices at all close to being significantly different from zero.[16]

Consider: Inflation-adjusted oil prices and profits during the 1990s were low. But the 1990s also witnessed the worldwide spread of Wahabbi fundamentalism, the build-up of Hezbollah, and the coming of age of al Qaeda. Note too that al Qaeda terrorists in the 1990s relied upon help from state sponsors such as Sudan, Afghanistan, and Pakistan – nations that aren't exactly known for their oil wealth or robust economies.

Producer states do use oil revenues to fund ideological extremism, and Saudi financing of *madrassas* and Iranian financing of Hezbollah are good examples. But given the importance of those undertakings to the Saudi and Iranian governments, it's unlikely that they would cease and desist simply because profits were down. They certainly weren't deterred by meager oil profits in the 1990s.[17]

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increases, see R. DHAWAN, K. JESKE, "How Resilient Is the Modern Economy to Energy Price Shocks?", *Economic Review*, Federal Reserve Bank of Atlanta, no. 3/2006, Third Quarter, 2006, pp. 21-32; D. WALTON, "Has Oil Lost the Capacity to Shock?", *Bank of England Quarterly Bulletin*, no. 1, Spring 2006, pp. 105-114; E. FISHER, K. MARSHALL, "The Anatomy of an Oil Price Shock", *Economic Commentary*, Federal Reserve Bank of Cleveland, November 2006.

[15] Calculation from "Fatally Flawed Premise: Why Anti-Oil Weapon in War on Terror Won't Work", *Energy Détente*, no. 11, Lundberg Survey, Inc., 30 November 2006.

[16] Data on international Islamic terrorism incidents and fatalities were taken from the MIPT Terrorism Knowledge Base, an interactive website maintained by the Memorial Institute for the Prevention of Terrorism. Nominal Saudi oil prices were obtained from Energy Information Administration, *Annual Energy Review 2005*, p. 169, Table 5.19. "Landed Costs of Crude Imports From Selected Countries" and deflated with the GDP deflator. Unit root tests suggested that fatalities and Saudi oil prices had unit roots but terrorist incidents did not, so the former were first differenced before the regressions. Even after first differencing, auto correlation existed so autoregressive terms were added to each regression, which further weakened the insignificant relationships.

[17] Although little is known about funding trends associated with Iranian support for Hezbollah, the Iranian government probably spends no more than $25-50 million on Hezbollah a year. A. CORDESMAN, "Iran's Support for Hezbolla in Lebanon", Center for Strategic and International Studies, 15 July 2006, p. 3. Even less is known about Saudi contributions to Islamic extremism. See A. Prados, CH. BLANCHARD, "Saudi Arabia: Terrorist

The futility of reducing oil consumption as a means of improving national/ energy security is illustrated by the fact that states accused of funding terrorism earned $290 billion from oil sales in 2006. Even if that sum were cut by 90%, that would still leave $29 billion at their disposal – more than enough to fund terrorism given the minimal financial needs of terrorists.[18]

When oil prices are high, so too are oil profits for infra-marginal (low-cost) producers. Even if those profits do not find their way to international terrorists, they serve to prop up many regimes we find distasteful. Oil producers in the Second and Third worlds often use their robust flow of petrodollars to squelch human rights at home and to menace neighbors abroad.[19] Many foreign policy elites argue that oil consumption thus harms national security by strengthening these bad international actors.

It is unclear to what extent oil profits are associated with human rights abuses or militaristic activity. There are plenty examples, after all, of relatively long-lived regimes with terrible human rights records – such as North Korea – with no oil revenues to speak of, and this is the case even within the same socio-economic regions. Denuding Iran and Libya of oil revenues might produce a government that looks a lot like Syria; denuding Venezuela of oil revenues might produce a government that looks a lot like Cuba; and denuding Russia of oil revenues might produce a government that looks a lot like Russia used to be. After all, all of these "bad-acting" petro-states yielded unsavory regimes even when oil revenues were a small fraction of what they are today.

The claim that oil revenues increase the threat that regimes pose to their neighbors seems reasonable enough, but here again, it is unclear to what extent this is true. Pakistan is a relatively poor country with no oil revenues to speak of, but it has still managed to build a nuclear arsenal and is constantly on the precipice of war with India. Impoverished, oil-poor Egypt and Syria have at various times been the most aggressive anti-Israeli states in the Middle East. Russia launched its war with Chechnya before oil revenues engorged its Treasury.

While we have no doubt that – all other things being equal – a rich bad actor is more dangerous than a poor bad actor, the marginal impact that oil revenues have on "bad acting" might well be rather small. The fact that unsavory petro-states have been fully capable of holding on to power, oppressing their people, and menacing their neighbors during a decade associated with the lowest inflation-adjusted oil prices in history (the 1990s) suggests that nothing short of rendering oil nearly valueless will have any real affect on regime behavior.

For the sake of argument, however, let's assume that there is some incremental benefit associated with reducing oil revenues to bad-acting oil producers. Unfortunately, we have only very blunt and imperfect instruments at hand to achieve that end. Policies that might reduce oil consumption would reduce oil demand – and thus, reduce revenues – for *all* oil producers, whether they are bad actors or not. Producers in the North Sea, Canada, Mexico, and the United States (which collectively supplied 20.1 million barrels of oil per day in 2006, or 24% of the world's crude oil needs that year) would be harmed just as producers in Venezuela, Iran, Russia, and

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Financing Issues", RL32499, CRS Report for Congress, Congressional Research Service, Updated 8 December 2004.

[18] "Fatally Flawed Premise: Why Anti-Oil Weapon in War on Terror Won't Work", *Energy Détente*, no. 11, Lundberg Survey, Inc., 30 November 2006, p. 8.

[19] For a brief review of the academic literature on this subject, which is somewhat mixed, see P. STEVENS, "Resource Impact: Curse or Blessing? A Literature Survey", *The Journal of Energy Literature* no. 1, June 2003, pp. 22-24.

Libya (which collectively supplied 20.3 million barrels per day in 2006).[20]

Given there was plenty of "bad acting" in 1998 when we saw the lowest real oil prices in world history, it's unlikely that even the most ambitious set of policies to reduce oil consumption would have much affect on bad acting. Accordingly, we doubt that the foreign policy benefits that might accrue from anti-oil policies would outweigh the very real costs that such policies would impose on both consumers and innocent producers. We suspect that there are better remedies available to curtail bad behavior abroad.

3. Growing demand for natural gas and the declining costs associated with liquefying and transporting natural gas by ship has led most energy economists to conclude that natural gas markets, which have historically been continental and thus regional, will soon look very much like oil markets.[21] While liquefied natural gas (LNG) is still more expensive than conventional natural gas delivered via pipelines, regional price discrepancies are so great that international trade in natural gas is on the rise.

The emergence of LNG and the advent of an international gas market has prompted several major gas producers – such as Russian president Vladimir Putin – to call for a global cartel of natural gas producers. Accordingly, a number of foreign policy elites are alarmed – not relieved – by the rise of LNG. One OPEC is bad enough. Who wants a second?

What this misses is that LNG is bad economic news for gas pipeline owners (like Russia) and good economic news for everyone else (like Europe). Producers in some markets did not *need* cartels prior to LNG; they were the sole providers to begin with. Low-cost LNG technology allows producers everywhere to enter markets anywhere. Thus, reluctance to embrace LNG is essentially a preference for more rather than less market concentration, with or without a cartel.

Some political actors recognize this, but they worry that market actors are not demonstrating sufficient interest in LNG investments. Hence, a number of Europeans have called for a continental energy strategy that would direct public and private investment towards the construction of LNG terminals and supply infrastructure. If LNG will liberate Europe from reliance on Russian gas, it is thought, then European states should ensure that the market moves towards LNG as quickly as possible.

Rarely, however, do we hear a convincing narrative about why market actors are systematically under-investing in LNG. For the moment, LNG is still substantially more expensive than natural gas delivered via pipeline from Russia, and market actors are not as convinced as politicians that LNG is an economically attractive means of insuring against Russian supply disruptions. Politicians may feel otherwise, but why their judgment of disruption risks – or their judgment about optimal risk hedging strategies – is superior to the judgment of thousands of market actors with a direct financial incentive to get such things right, is unclear. The default premise of modern economics – that market actors are, in aggregate, better informed than political actors – would seem to hold here; market judgments are better informed than political judgments.

Regardless, should consumers be worried about the advent of a natural gas cartel? Well, they should not celebrate its arrival, but it is uncertain to what extent a cartel would actually increase natural gas prices. Surprisingly enough, there is very little

[20] Energy Information Administration, *International Petroleum Monthly*, 8 May 2007.
[21] D. BRITO, P. HARTLEY, "Expectations and the Evolving World Gas Market", *The Energy Journal*, no. 1/2007, pp. 1-24.

concrete evidence for the proposition that OPEC has, on balance, increased world crude oil prices above where they might have been absent the cartel.[22]

Cartels, moreover, are quite difficult to hold together in practice. That's because members face a multilateral prisoner's dilemma game. If all members comply with their production quotas, and those quotas yield a profit-maximizing amount of global supply from the producers' standpoint (a very big "if" – ascertaining such things is much harder than popularly believed), then cartel members will profit handsomely. If one member of the cartel defects, however, cartel members will still profit, but the defecting producer will earn more than it would have earned had it stuck to its quota (how much more depends on how much spare production capacity the defecting country has on hand). If a large enough number of cartel members defect, however, the profits promised by the cartel will disappear for all members.

To make matters worse for the cartel, members are rarely in a position to independently verify whether fellow cartel members are complying with their production quotas, and decisions whether to comply or not comply with production limits are made simultaneously. While the repeated "plays" of the game mitigate against chronic defection to some degree, the history of OPEC suggests that defection is still the rule rather than the exception.

In any event, an LNG cartel would have far less leverage over consumers than an oil cartel for a very simple reason; fuel competition in the electricity sector is far more robust than it is in the transportation sector. If LNG became too expensive, consumers could switch to coal, nuclear, or renewable energy, all of which are more cost competitive with gas than alternative fueled vehicles are with oil.[23]

4. The arguments laid out in this paper are rarely encountered in foreign policy circles. Nevertheless, they represent the orthodox view of economists and corporate analysts who specialize in the study of oil and natural gas markets.

When foreign policy elites encounter these arguments in public forums, they tend to dismiss them as overly theorized economics that assume perfectly informed rational actors and, moreover, are divorced from geopolitical reality. Energy producers, we are told, are not first and foremost wealth maximizers. They pursue foreign policy ends and demonstrate a willingness to sacrifice money to secure those ends. Ideological regimes, moreover, have not always acted rationally in the past and cannot be counted upon to do so in the future. The possibility that producer states might become economic suicide bombers – immolating their own economies in order to inflict great economic pain on the West – cannot be lightly dismissed.

The facts, however, indicate that the above narrative is fundamentally at odds with observable reality. Energy producers have thus far demonstrated a keen interest in near-term wealth maximization – cover stories to the contrary notwithstanding. International actors rarely if ever act irrationally as an economist would define the term (e.g., they do not act in a manner that would frustrate their self-interest as they

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[22] J. SMITH, "Inscrutable OPEC? Behavioral Tests of the Cartel Hypothesis", *The Energy Journal*, no.1/2005, pp. 51-82.

[23] The real levelized cost of gas-fired electricity in the United States before government distortions is 5.29 cents per kilowatt hour (kWh). By means of comparison, the real levelized cost of conventional coal-fired electricity is 3.1 cents per kWh, clean coal is 3.53 cents per kWh, nuclear is 4.57 cents per kWh, wind is 4.95 cents per kWh, and biomass is 4.96 cents per kWh. Although renewable energy costs are likely underestimated because they do not reflect the cost of securing back-up generation and additional units of transmission capacity, natural gas is still the most expensive conventional source of electricity in the United States. While natural gas is cheaper in Europe, the fact remains that competition in the electricity sector would constrain and LNG cartel to a great extent. Cost data from G. METCALF, "Federal Tax Policy Towards Energy", Working Paper 12568, National Bureau of Economic Research, October 2006, table 8, p. 36.

perceive it). Fears of "economic suicide bombing" by anti-Western producer states are greatly exaggerated by an overly pessimistic view of the harm the said bombing could do to Western economies. And worry over embargoes demonstrates a fundamental ignorance of how international oil markets work.

There are plenty of things for foreign policy elites to worry about. Energy security, however, is not one of them.

EUROPE PUTS GAZPROM ON A LEASH

by *Ariel Cohen*

The E.U. is heavily dependent on Russia for its energy resources, and Moscow's energy strategy seeks to make it even more reliant on its oil, gas and pipelines. The mirage of a gas OPEC. The race to the Arctic. However, are Russian reserves higher than their ambitions?

1. RUSSIA, A HIGH-COST ENERGY PRODUCER,

is becoming the world's primary supplier of energy resources by virtue of the high price of oil and unprecedented demand for natural gas in Europe. Moreover, the Putin Administration has been uniquely successful in seamlessly exercising its energy power as a part of its foreign and defense policy capabilities.

Russia's energy strategy toward the European Union (E.U.) seeks to make European states increasingly dependent on its oil and gas and network of pipelines. The Kremlin is advancing its energy strategy through an ambitious series of tactics, such as locking in demand with oil and gas importers and consolidating supply of oil and gas by buying up infrastructure, especially in Central Europe, most notably pipelines, throughout Europe and Eurasia; extending the Gazprom monopoly – now a $220 billion giant.

The E.U. is heavily dependent on Russia for its energy resources. Thirty percent of its oil and 50% of its gas comes from Russia.[1] Eighty percent of the E.U.'s gas comes through Ukraine, with higher percentages of Russian gas, close to 90%, consumed in Eastern Europe than in Western Europe, where the consumption of Russian gas is only in the range of 40%[2] Table 1 shows the major recipients of Russian natural gas exports, from most dependent to least dependent.

Russia is attempting to lock in demand by signing long term bilateral and multilateral contracts with European countries. Moscow prefers to deal with the E.U. member states separately rather than as a group, so that it can price discriminate among its customers, charging each country as close to its full paying potential as possible.

[1] A. LOBJAKAS, "Russia: EU maintains codependent energy relationship", *RFE/RL*, 11 May 2006.
[2] D. KIMMAGE, "Turkmenistan: the Achilles' heel of European energy security", *RFE/RL*, 30 June 2006.

Table 1. **Major recipients of Russian natural gas exports, 2005**

Rank	Country	Imports *(bcf / year)*	Percent of domestic consumption
1	Slovakia	226	108
2	Finland	148	105
3	Greece	85	96
4	Bulgaria	101	89
5	Czech Republic	252	84
6	Austria	246	70
7	Turkey	630	65
8	Hungary	294	62
9	Fmr Yugoslavia	134	57
10	Poland	226	47
11	Germany	1291	43
12	Italy	824	30
13	France	406	26
14	Romania	140	23
15	Switzerland	13	12
Sales to Baltic & CIS States, 2005			
	Belarus	710	100
	Baltic States	205	100
	Georgia	46	100
	Ukraine	2113	79
	Azerbaijan	120	36

Source: Energy Information Administration, "Country Analysis Brief: Russia".

Gazprom has negotiated long-term supply contracts with most Western European countries, including France, Germany, Italy and Austria. Russia has contracted for much greater portions of Central and Eastern European demand than that of Western Europe. Newer E.U. members, such as Slovakia, Bulgaria, and the Czech Republic, are almost entirely dependent on Russian gas.

Most recently, the Austrian government agreed to a major deal with Gazprom during President Putin's May 2007 visit to Austria. Partially state-owned Austrian energy company OMV signed a long-term gas import deal with Gazprom.[3] This agreement will strengthen Russia's grip of European energy infrastructure.

Russia is aggressively consolidating control over European pipelines. Moscow was set against Baku-Tbilisi-Ceyhan oil pipeline and the Baku-Erzurum gas pipeline. The Kremlin is assertively opposing the Western-controlled pipeline projects directly linking Eurasian oil and gas producing countries to European markets.

Russia and Germany have championed Nord Stream, an expensive gas pipeline on the bottom of the environmentally sensitive Baltic Sea, which will bypass Ukraine, Belarus and other "traditional" transit countries. Berlin and Moscow have claimed that this pipeline will increase European energy security. A study by Sweden's Defense Research Agency, however, concludes that the pipeline will divide the E.U. and increase member states dependence on Russia.[4] The pipeline will become a very effective tool for Russian foreign policy as it will allow the Kremlin to cut off gas supplies to Ukraine, Belarus and Poland without cutting off other more "reliable"

[3] J. DEMPSEY, "In Hungary, an Energy battle with Russian overtones", *International Herald Tribune*, 9 August 2007.
[4] "A bear at the throat; Europe's risky dependence on Russian gas", *Economist*, 12 April 2007.

customers.

2. European energy demand is rising. By 2010, Europe will be importing daily around 10 million barrels of oil and the energy equivalent of 5 million barrels of gas. By 2020, these volumes are projected to increase to 12 million barrels and 7 million barrels, respectfully.[5] The result is that by 2020 trade will account for 80% of oil supplies – against 60% today, and for 60% of gas supplies, against 40% now.[6]

Added to this, European energy supply remains concentrated. For example, 80% of Russian gas exports to the E.U. go through Ukraine, with another 20% through Belarus.[7] European leaders are partly responsible for this decrease in diversity of supply. Europe, led by Germany and the United Kingdom, has made a conscious choice to rely on gas as its main new source of energy at a time when its domestic supplies are declining".[8] And Europe has encouraged the construction of gas-fired plants, feeding demand for more gas.

These developments have dire implications for European energy security, as Moscow has already proved that it is willing to hike up oil and gas prices at a whim, as the incidents in Ukraine, Azerbaijan and Georgia last year clearly showed. It is also willing to use energy as a tool of foreign policy, as the cases of the Baltic States, Ukraine, Georgia and again Azerbaijan demonstrate. Europe can expect energy higher prices in the future and for their foreign policy to hold hostage as more of its supply becomes concentrated in Russian hands.

Russia has the largest proved gas reserves and the seventh largest proved oil reserves in the world.[9] In total, Russia holds about 1,688 trillion cubic feet of natural gas[10] and, by various estimates, from 60[11] to 79.5 [12] billion barrels of oil reserves. In addition to that, substantial areas of Eastern Siberia and the Arctic remain to be explored.[13] Total Russian net oil exports reached 7 million barrels per day in 2006.[14]

While Russia may have ample gas and oil reserves, the Russian Federation may become unable to satisfy Europe's growing gas demand. The output of Gazprom's three giant fields, which account for three-quarters of production, is declining at a rate of 6 to 7% a year and output from a gas field brought online in 2001 has already peaked.[15] Gazprom's latest decision to develop a field in the Arctic (Yamal peninsula) will take years.

Gazprom has been reluctant to invest in new fields. Many hopes are connected with the exploration of Shtokman gas field, located over 550 km offshore in the Barents Sea with local sea depths exceeding 300 meters.[16] After many delays, Gazprom reconsidered its earlier decision to "go it alone" and on July 13, 2007 signed a framework agreement with France's Total on the first phase of Shtokman

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5 N. BUTLER, "European Energy Security", speech delivered in International Institute for Strategic Studies, Geneva on 17 September 2005.
6 As above.
7 German Economic Team in Belarus, "Belarus as a Gas Transit Country", Research Center for the Institute of Privatization and Management, March 2004.
8 J. GUILLET, "Don't Blame Gazprom for Europe's Energy Crunch", *Foreign Policy*, February 2007.
9 BP Statistical Review of World Energy, June 2007 at 20 August 2007), pp. 6, 22.
10 Energy Information Administration, "World Proved Reserves of Oil and Natural Gas: Most Recent Estimates", 9 January 2007.
11 Oil & Gas Journal estimates as of 1 January 2007 in Energy Information Administration, "World Proved Reserves of Oil and Natural Gas: Most Recent Estimates", 9 January 2007.
12 *BP Statistical Review of World Energy*, June 2007.
13 N. BUTLER, as above
14 Energy Information Administration, Country Analysis Briefs: Russia, April 2007.
15 "A bear at the throat; Europe's risky dependence on Russian gas", *Economist*, 12 April 2007.
16 Gazprom JSC, Shtokman Project.

development. However, according to the agreement Total has no ownership rights to the gas. Gazprom, through its 100%-owned subsidiary Sevmorneftegaz, remains the full owner of the Shtokman development license and shall be the full owner and sole exporter of products.[17] Gazprom's choice of partner was politically motivated. Total is cash-rich but has no experience working in Arctic conditions.[18] The chances of this joint venture to successfully develop Shtokman remain unclear.

Meanwhile, Russia's own demand for gas is growing by over 2% a year. Compare Russia's uncertain supply with European growing demand: a senior European Commission official, Christian Cleutinx, estimates that by 2020, the E.U. energy needs will rise by 200 billion cubic meters of gas per year, while Russia by that time will expand its gas exports by merely 50 billion cubic meters.[19] In this scenario, even Russia, with the world's largest gas reserves, may become unable to meet European demand.

Internally, Moscow is acting to consolidate Russia's oil and gas sector in the hands of the government-controlled entities. The Kremlin is also pushing major international energy corporations out of Russian energy sector. As Russian Minister of Natural Resources Yuri Trutnev announced in February 2005, Moscow intends to keep Western firms from bidding on mining and drilling licenses for major natural resources.[20]

The progression of increasing state-control and limiting the stake of foreign players has been steady. The Kremlin amalgamated Yukos oil-producing company into its state-owned flagship after bankrupting the company through inflated tax bills in 2003. The last major Russian independent oil company LUKoil is gradually coming under the Kremlin's control. On 6 March 2007, LUKoil's chairman Vagit Alekperov announced that his company and Gazpromneft, a subsidiary to Gazprom, would create a joint venture to develop future oil projects with 51% Gazpromneft ownership.[21]

Domestic consolidation of Russian oil and gas industry under the Kremlin's direct ownership or control increases Moscow's options in continuous use of energy as its foreign policy tool. They signal the return of statist economic policies and a major departure from market liberalization.

Russia's access to Central Asian (specifically Turkmen) natural gas is key to its domination of the European natural gas market,[22] and its goals to meet export targets. The hydrocarbon reserves of Central Asia are concentrated in the Caspian region. During the Soviet era, all energy transit routes led from the oil and gas fields of Azerbaijan, Kazakhstan, Turkmenistan, and Uzbekistan to the Russian Federation. Central Asian gas transit routes that are not controlled by Russia are scarce.

Russian strategic goals are to maintain regional hegemony and prevent countries on its borders from becoming pro-American, and secondly, to dominate the hydrocarbon reserves and network of pipelines by locking in demand and supply.

3. The best strategy, wrote the great Chinese general Sun Tzu in the third century B.C., is to win a war without firing a single shot. This also includes, according to Sun Tzu, penetration and subversion of the enemy camp. Thus, there is no better way to

[17] V. SOCOR, "The Shtokman Gas Deal: An Initial Assessment of Its Implications", *Eurasia Daily Monitor*, 17 July.
[18] M. PUSTILNIK, "LNG Politics", *Moscow News*, 19 July 2007.
[19] A. LOBJAKAS, as above.
[20] A. COHEN, "Russia: Kremlin Takeover of the Russian Oil Industry?", *Capitalism Magazine*, 21 April 2005.
[21] A. COHEN, "The National Security Consequences of Oil Dependency", Heritage Foundation Lecture #1021, 14 May 2007.
[22] A. COHEN, "The North European Gas Pipeline Threatens Europe's Energy Security", Heritage Foundation Backgrounder no. 1980, 26 October 2006.

"win the war" than to maximize geopolitical clout without firing a shot – and making money as you go. Moscow is attempting to do so by building and extending a network of politically influential pipelines to adjacent countries. As the result, a Russian-influenced cordon sanitaire appears along its borders.

Russia has turned a generous profit as the middleman between cheap Central Asian oil and gas and energy-hungry economies in the West. By selling Central Asian oil and gas at a premium abroad, Russia has earned windfall profits. Gazprom buys Central Asian gas at prices as low as one-quarter to one-third of market prices in Europe and then resells gas at market rates.

Moscow is doing its best to prevent foreign firm from building competing pipeline networks. It has actively opposed new routes connecting the Caspian fields to potential customers. If multiple gas pipelines connecting Central Asia to outside markets are built, competitive bidding by companies from energy-consuming countries along with increases in both production and demand could drive up prices for Central Asian gas. Both investors in and consumers of Central Asian and Caspian oil and gas would derive great benefit from the increases in foreign direct investment in the region.

Russia's pursuit of energy hegemony and its attendant tactics has made many of its best customers – most importantly in the E.U. – wary of continued reliance on Russia for their energy supplies. Thus, the E.U. along with other energy-consuming states has vocally supported diversifying pipeline routes from Central Asia and the Caucasus towards the Black Sea. However, bilateral deals between the E.U. members and Russia have undermined the declared commitment to energy diversification, which is impossible without an alternative transit country – Turkey.

Turkey is emerging as key to the diversification of energy-transit routes between energy-supplying and energy-consuming countries. Several recent pipeline project proposals envision Turkey as the conduit for energy supplies traveling from east to west. Increasing the number of suppliers to energy-dependent European economies would enhance E.U. energy security, breaking Russia's transit monopoly and reducing its already excessive market power.

Most importantly, Russia is stealthily and steadily developing a cartel to boost its role in the Middle East and beyond and to control the price and output of gas – a gas OPEC. This cartel will include the world's major gas producers Argentina, Bolivia and Venezuela in Latin America, as well as Iran and Qatar in the Middle East. The cartel is inspired by those that would benefit most from its future geopolitical muscle: Russia and Iran.

During his February 2007 visit to Qatar, President Putin called the gas OPEC "an interesting idea".[23] In Doha, Russia initiated the creation of a "High Level Group" to "research" gas pricing and develop methodologies using commonly accepted gas pricing models, and an unnamed "high ranking member of the Russian delegation" told RIA Novosti that "as the gas market undergoes globalization, certainly such an organization [a gas cartel] will appear and is necessary".[24]

As the case of OPEC demonstrates, closing markets to competition, promoting national oil companies, and limiting production through a quota system results in limited supply and higher prices. In the long run, gas will be no different. European dependence on such a cartel will have worse consequences for Europe than its dependence on OPEC, because Russia has direct national interests with regard to Europe that will play into its foreign policy calculus with these energy dependent

[23] A. COHEN, "Gas OPEC: A stealthy cartel emerges", Heritage Foundation WebMemo #1423, 12 April 2007.
[24] As above.

customers.

If the development of a Gas OPEC has been stealthy, Russia's most recent action has been the mirror opposite: overt, not to say audacious. Russia has sought to claim a huge swath of seabed in the Arctic of 460,000 square miles. The claim is based on the Lomonosov and the Mendeleev underwater ridges, which are protruding from the Eurasian landmass towards the North Pole at the depth of 900 meters and more. This vast area, rich with oil and gas resources, is claimed by filing UN claim and by planting the Russian flag on the seabed under the North Pole.

Russia is triggering the race for the Arctic through its land grab to demonstrate that it is a great power once again. It is seeking to dominate a strategic part of the planet, planting the flag, and thumbing its nose at other Arctic states: U.S., Canada, Denmark and Norway. As the result, Canada and the European Nordic countries, with U.S. support, will be laying counterclaims in the Arctic Ocean and launching legal counter-challenges to Russia's territorial aspirations.

Russia's claim also has important political and economic dimensions. The exploration and exploitation of polar petroleum and other resources may be the kind of opportunity that allows Russia to become what President Putin has termed "an energy superpower".

4. From the American perspective, growing dependence of European energy supply and infrastructure on monopolistic Russia is a negative geopolitical trend. The Kremlin has demonstrated its readiness to use hydrocarbon muscle as a political tool in its relations with the neighboring states. It is also pursuing policies which clash with American interests by supporting and arming Iran and Venezuela and building a quasi-alliance with China and Central Asian states in Eurasia, to which Teheran may one day join.

It is in the U.S. strategic interest to mitigate Europe's dependence on Russian energy. In general, both the U.S. and the E.U. members will benefit from greater stability, security, and rule of law in energy-exporting states to ensure that oil and gas remain readily available, ample, affordable, and safe.

More trans-Atlantic policy coordination in this sphere is necessary. In particular, the E.U. and the U.S. should work together on mitigating the adverse effects of Europe's strategic dependence on Russia. The U.S. should work with key European governments to address vulnerabilities which result from over-reliance on a single oligopolistic energy supplier – Russia. Emphasize the need for concerted response by the E.U. *vis-à-vis* Russia. Support the development of European natural gas reserves, increase the consumption of liquefied natural gas (LNG), as well as nuclear, coal and renewable energy. Washington should support diversification of energy transportation routes in Eurasia, specifically the oil and gas pipelines linking Central Asian producers to European markets in bypass of Russia. Finally, U.S. should support the E.U. members' efforts of bringing Russia in full compliance with the Energy Charter to increase predictability and transparency in energy markets.

It is clear to many Washington policy makers that the Kremlin will be increasingly using Europe's dependence to promote the Russian foreign policy agenda, which is largely anti-American. In this situation, the maneuvering space for the American allies in Europe will be significantly limited as they face tough choices between cost and stability of energy supply, on one hand, and siding with the U.S. on some key issues, on the other hand.

The European Union is heavily dependent on external energy supplies and highly vulnerable to global energy shocks. If current trends prevail, the Kremlin might translate energy predominance into a foreign and security policy monopoly. In

particular, Russia is seeking recognition of its predominant role in the post-Soviet space. As more European states become energy dependent, Russia will be in the position to heavily influence Europe's foreign policy priorities to the detriment of the European-American relations. This will affect the geo-political issues important for the U.S., such as NATO expansion to Ukraine and Georgia, ballistic missile defense, Kosovo, and influence in the post-Soviet space. However, the E.U., including its Brussels apparatus, is split on the "Russian questions".

At a minimum, Washington and the European capitals should work together to support new transit lines that bypass Russia. It is vital for the European Union to come up with a joint position on its energy security. Ultimately, it is essential, that the E.U. and the U.S. join their effort in finding and implementing innovative ways to reduce energy dependence on Russia.

A NEW APPROACH TO ENERGY SECURITY

by *Michael C. LYNCH*

Energy security is, in fact, an economic issue, not a military one. The lack of access or volumes is a false lead, since shortages of crude have more to do with government mis-regulation than with physical impediments. Historical lessons and current strategies.

1. ENERGY SECURITY HAS BECOME ONE of the pre-eminent policy concerns of the past few years, as soaring oil and gas prices and political threats to supply have caused numerous governments to revert to 1970s era mercantilist energy policies. This renewed interest stems from two recent, not completely unrelated developments: a number of oil supply disruptions have caused prices to soar, and booming Asian economies – notably China and India – have put demand-side pressure on supply, raising the specter of long-term scarcity. In fact, the mid-1990s saw similar concerns, entirely prompted by the booming Asian economies and soaring oil demand.

But not all policies are effective and some relatively useless due to a poor understanding of the nature of energy security. In part, this is due to changes in the oil market, but also reflects poor theory that has guided most policy makers for the past century. Most nations that are concerned about energy security worry about loss of supply, or that threatened loss of supply will be used to extract political or economic concessions. The classic example would be the second Arab Oil Embargo (1973/74), when OPEC producers cut oil production and embargoed those countries that did not agree to their political terms.

Other cases have included the threatened League of Nations oil embargo against Italy during the Ethiopian War, the U.S./U.K. embargo against Japan (1941), multinational embargoes against Rhodesia (now Zimbabwe) and Israel, as well as the U.N.-led consumer embargo against Iraq after its 1990 invasion of Kuwait.

More specifically, nations have long relied on foreign aid and economic provisions to ensure access to oil supplies. Probably the earliest major initiative was the U.S. granting Lend Lease aid to Saudi Arabia in World War II to ensure access to its just-discovered resources, but more recently countries ranging from France to China and India have provided – openly sometimes – economic aid was tied to the granting of petroleum concessions, or appeared to be.

Military action to acquire petroleum supplies has been rare, although many accusations have been made. The Japanese clearly were seeking petroleum when they conquered Southeast Asia during World War II, and Hitler's attack on the Caucuses were aimed at bringing Soviet oil under his control, but in both cases, there were other motivations for the wars themselves. Iraq's 1990 invasion of Kuwait has as one justification; the claim that Kuwait was pumping oil from Iraqi territory, and there is no doubt that Kuwait's oil reserves were an appealing target, but more traditional power politics appears to have played the primary role.

Industrial policy has been used, including the creation of national champions by France, Italy, and the U.K. While governmental subsidies and support have no doubt been a factor in assisting all of these companies, the precise amounts are difficult to

quantify. Nor can it be determined to what extent they were intended to provide energy security, as opposed to create a presence in an important industrial sector.

Surge supplies are another tool that has been recommended to deal with supply fluctuations for at least two millennia,[1] and since World War II, developed nations have talked of the need for them, although most were only created after the Iranian oil crisis in 1979. Since then, strategic stocks have been built in many – but not all – I.E.A. member countries, with the U.S. and Japan taking the lead.

However, they have hardly been used during actual supply disruptions, such as the first Gulf War, because of a tendency in the U.S. and the I.E.A. itself to regard their role as offsetting physical shortages. As shall be discussed below, this is not the appropriate manner in which they should be employed.

The following are usually considered to comprise threats to a nation's energy security: resource scarcity, also known as "crowding out"; vulnerability to political pressure, including threats of supply cutoffs by oil exporting governments and governments whose oil companies control international trade; vulnerability to unintentional or discrete supply cutoffs. More prosaically, many politicians say they are trying to guard against their factories going dark and their citizens freezing from lack of oil. This notion is however flawed, as are many of the concerns.

Resource Scarcity. In the past few decades, think-tanks like the Club of Rome and Worldwatch Institute and academics like Paul Ehrlich have revived fears of resource scarcity, making projections of mineral depletion, peak oil, and mass starvation. Yet the news is presently dominated with stories about Chinese food *exports* despite all the warnings of its inability to feed itself, which should serve as a strong indicator that something is lacking in the methodology of these scholars. And this is certainly true of the current warnings about "peak oil," believed to be imminent – if not already here – but based on work by geologists who have little experience with statistical analysis and have made numerous errors, to the point where the research is without value.

Embargo. Embargoes have been frequently threatened and occasionally implemented, although the bulk of them have been either single-nation embargoes or embargoes which have been easily evaded.

More successful were the U.S.-U.K. embargo against Japan in 1941 and the consumer embargo against Iraq after the 1990 invasion of Kuwait. However, the Japanese military response made it difficult to gauge the precise impact of the embargo, although presumably the dominance of the industry by the U.S.-U.K. Seven Sisters would have made it highly effectively. And the embargo against Iraq required active naval intervention. The former is a situation that no longer exists and the latter is something likely to be replicated only rarely.

Most analysts think of the 1973/74 Arab Oil Embargo as the prime example of a successful embargo without understanding its nature. In fact, the first Arab Oil Embargo in 1967 was a complete failure, and collapsed quickly. The second did not achieve most of its political goals, nor did it prevent the targets – the U.S. and the Netherlands – from acquiring oil. Instead, the accompanying production cutbacks, coming during an already tight market, pushed prices sky high and caused many governments to offer various political concessions. This heralded a decade when oil exporters had almost unlimited power over their purchasers and the (soon to be former) operating companies and the political influence of oil exporting nations increased greatly.

Preference, Not Embargo. A related fear has to do with the possibility that a

nation's oil companies will favor it with their trade in the case of a crisis. This concern is not new, but has been revived by growing upstream investment of national oil companies from China and India, even as European countries reduced their control over national oil companies. In the past, ignoring the case of 1941, the multinational companies have traditionally not shown favoritism to their home countries.

Other cases, however, can be more important depending on a variety of factors, including politicians' efforts to pressure oil companies to provide their country with its "fair" share of crude. When Exxon diverted Venezuela's crude from Canada during the Iranian Oil Crisis on the grounds that Canada was relatively well supplied, the Canadian government complained about the loss of "its" crude. The British government similarly pressured companies to ensure that they received the full allotment, but backed down when companies demanded the request be made public. Overall, though, it seems as if the multinationals sought to balance the market during the first and second oil crises.

One mixed case was the cutoff of Japanese refiners by their long-term suppliers during the Iranian Oil Crisis. When Iran nationalized all holdings and cancelled supply to the previous lifters, the major oil companies – who had been selling the crude to "third party" customers – declared *force majeure*. This seems to have affected Japanese customers especially, but it's not clear that the U.S. or Britain were beneficiaries. Certainly, supplies were reallocated by the open market, and corporate relationships seem to have been more important than national ones.

The concern, then, would be that the rise of crude flows by countries whose operations are international only in the upstream: all of their refining occurs in their host country, and they tend to send crude not into the international market, as most major oil companies do, but back home. Even if they do not do this during normal operations, the fear is that they would do this during oil crises, either on their own initiative or in response to pressure from their governments. However, the amounts they control now and for the foreseeable future are not enough to disrupt the functioning of the market.

Discrete Supply Disruptions. After the 1973/74 Arab oil embargo, the major consumer nations formed the International Energy Agency whose job was to deter future embargoes by sharing available supplies between members. However, since that time, none of the supply disruptions has been due to a deliberate producer country(ies) embargo. The Iranian Revolution, the Gulf Wars, ethnic unrest in Nigeria and the NOC strike in Venezuela did not originate as efforts to extract political concessions from oil importing nations nor could energy policies have deterred them, meaning governments and NGOs are relatively helpless to counter them. Again, market reallocation of supplies is the only effective tool.

2. Given the above perception of the nature of energy security, the primary focus of policy has been to reduce vulnerability by: a) cutting back on imports, either by increasing domestic production, substituting other fuels, or reducing consumption; b) arranging "access" to production, whether by arranging supply from friendly nations or having domestic companies producing supply in other nations. A third focus has been to arrange for short-term management of supply losses by a) sharing supplies with allies; b) imposing short-term rationing measures; c) maintaining strategic stocks or surge capacity.

Lowering imports should, in theory, reduce vulnerability to political pressure and supply disruptions, and certainly result in less economic damage when prices soar, but it has been relatively difficult to accomplish. Globally, demand growth slowed

enormously after the 1970s oil prices shocks and never regained it's previous growth rates, but while most developed countries are importing much less oil than had been projected pre-1973, oil imports remain high.

At the same time, the only major nation which has been able to reduce its oil imports enough that it might be considered no longer vulnerable to pressure is the U.K., which did so partly through conservation and partly rising domestic production. The latter is rarely an option: China and India are likely to have higher oil production in the future, but it is unlikely that it will grow at a rate similar to demand, and most of the major Asian countries have few or no oil resources.

Government programs to develop new technologies and lower barriers to entry for them are no doubt of some value, but the reliance on government to reduce consumption through managed programs, such as demand side management, has proven to be exaggerated by its proponents, who tend to make unrealistic assumptions about costs and efficiencies.

Instead, should governments seek to moderate their demand growth, the primary tool should be prices, which is to say, taxes. While the decline in growth rates from 6-8% pre-1973 to -4% in the early 1980s clearly shows what can be accomplished, the level of economic pain at that time was hardly trivial, and it would likely be more on developing nations like China and India, where the oil consumption levels are now quite low, relative to the size of their populations.

A major theme behind reducing vulnerability has been to find energy sources that are not insecure. In the post-WWII era, this has primarily meant avoiding dependence on Middle Eastern oil, although sometimes the alternative has not necessarily been more secure. In the developed nations of Europe, as well as Japan, South Korea, and Taiwan, the main emphasis has been on increasing the use of coal, nuclear and natural gas. However, because these are not effective transport fuels (railroads excluded), they are not complete solutions to the problem of oil dependence.

Given an inability to do without oil imports, the next approach has been to attempt to gain "secure access" to supplies through a variety of means. Many countries have attempted to create or maintain friendly relations with oil exporting nations in the belief that they will thus avoid any loss of supply, either due to "crowding out" or during short-term supply disruptions. This has usually taken the form of providing various sorts of assistance to oil exporting countries, including economic aid and transfers of military technologies. In a few cases, nations have been accused of providing diplomatic support for their oil suppliers, such as when China is perceived to be opposing UN economic sanctions against Iran or Sudan, or France and Russia against Hussein-era Iraq.

Needless to say, it is not always clear when a foreign policy stance is related to attempts to acquire oil supplies, since the quid pro quo is rarely clear cut. This is especially true when the relationship is a long-term one, and involves oil contracts rather than FDI. And overseas assistance, which many countries relate to foreign policy objectives as much as economic development goals, is considered beneficial generally: it is often undertaken with no expectations of tangible returns.

In the case of economic assistance, the connection is often – but not always – clear cut between assistance and oil supplies. Some nations will make clear their demands for assistance or investment when allowing upstream investment (exploration and production) by an importing nation's oil companies. Certainly, the U.S. financial aid to Saudi Arabia during World War I has long been accepted as such, and more recently, nations from India to Korea have offered to undertake infrastructure or other projects in order to acquire upstream oil leases. In one counter example, Japan refused to build a railway in Saudi Arabia and lost its lease in the Saudi/Kuwaiti Neutral Zone,

which had been held by the Arabian Oil Company, a subsidiary of the Japanese National Oil Corporation.

The recent outcry in the U.S. over the attempted purchase of Unocal by CNOOC demonstrates that concern about the nationality of oil producing companies remains significant, even though it is hard to find any recent cases where such mattered. The primary experience with a disruption of energy supplies before 1973 occurred in 1941, when the United States and the United Kingdom declared an oil embargo against Japan.

Thus, aside from the usual concerns about vulnerability to oil imports, there has been a worry about the nationality of the industry which is largely absent in the post-war policy environment elsewhere. And whereas the experience of 1973 suggested to the U.S. that the nationality of the major companies was in no way a protection from supply disruption, in Asia, that lesson is not accepted everywhere.

Combined with the apparent economic benefits to the U.S. especially of having a strong oil industry, this has encouraged the major oil importing nations to create or support their own industries. The problem, of course, is that these countries are not improving their security simply by having their own companies producing oil overseas, since the primary danger is that supplies will be disrupted at the point of production. And should a new government come to power in the oil exporting nation, it will hardly consider the friends of the previous government to be its friends, and as such, will not look with favor of previous oil production agreements with Asian oil companies.

And to the extent that these are simply economic investments, the degree to which the host governments are subsidizing them – either directly or indirectly – damages the economic returns and efficiency of the investments. Whether such a policy falls under the category of "infant industry protection" differs from country to country, but for most, is somewhat problematical.

Many governments have turned to the creation of strategic reserves of petroleum to provide surge capacity in the case of a short-term disruption, with the bulk of stocks in Japan and the U.S. (some European countries rely on demand restraint to respond to supply disruptions.) Government-owned stockpiles are sometimes supplemented by requirements that the private oil companies maintain minimum levels of stocks.

3. Unfortunately, most of the methods used by Asian governments (among others) do not improve the various nations' energy security situations, but rather are either misdirected or represent assistance to self-interested parties. Most think energy security is a notion difficult to explain but easy to understand, but this primarily reflects poor logical structure.

For reasons that are unclear, energy politics are particularly subject to bold statements that are irrelevant, policy proposals that are wildly unrealistic, and a generally high degree of nonsense. For instance, many politicians in America often talk of making the nation energy independent, yet the cost of this would clearly be so enormous – and the benefits so small – that the suggestion is ludicrous.

Energy security policy should start by recognizing certain basic truths: oil supply will always be vulnerable to disruption; politics in the Middle East are unlikely to be "stable" in the near future; non-Middle East suppliers are not necessarily more reliable; physical shortages will not occur; no nation is likely to be completely energy independent; and complete energy independence reduces vulnerability but does not eliminate it.

Ultimately, the policy focus should be on economic damage occurring from higher prices, which will occur from time to time and will not be prevented by having good relations with oil exporting governments, overseas oil production, or a strong

domestic oil industry (private or state-owned). Additionally, the market has evolved to the point where many earlier concerns have become moot.

Few recall that for nearly a century, the U.S. was the center of world oil production. Not until 1952 did over half of the world's oil come from non-U.S. sources. Additionally, the combination of a relatively abundant resource and mineral rights granted to citizens meant that the U.S. industry had an enormous technical lead over those of other countries. (the British and Dutch developed their expertise in large part as a result of access to colonial territories which possessed oil resources.)

Thus, the vulnerability of Japan in 1941 to a U.S. embargo is striking, but a historical artifact. At present, no nation controls more than 13% of production or 20% of global crude exports (whereas the US produced 63% of global production in 1941). Even OAPEC, which has not been politically active since 1973/74 only controls an approximate 30% of world oil trade, versus about 50% in 1973/74. In terms of corporations, the Seven Sisters are now four companies and, despite the recent rash of mergers, control only about 10% of world oil production. At the national level, the same is true. Whereas in 1972, 14 mb/d out of a 50 mb/d market was controlled by the 5 American majors, now they control less than 5 mb/d out of a market which is 75% larger (including the advent of the former Communist nations).

But more recently, the market has not only become more settled but much more fluid. Whereas spot sales of crude oil in the 1970's comprised 5% or less of the market, and dried up altogether in the Iranian oil crisis, they have recently been more on the order of 30%. Since any supply disruption is likely to be far below that level, it should be easy for those who lose supply to replace it from the open market. Thus, for an importing nation like China or Japan, having one-third of its crude imports produced by their own companies operating overseas would have a negligible effect during any but the largest crises.

More importantly, the lack of "access" or physical volumes is a false lead; all shortages of crude oil in the past quarter-century (if not longer) have been due to government mis-regulation or localized technical problems, not an inability of the market to come to an equilibrium. The problem has been, to recall the earlier phrase, that factories went dark or consumers froze not because of lack of physical quantities but because of the economic effects of higher prices.

Energy security is typically treated as a form of military security when, in fact, it is a category of economic security. This has two important consequences: first, policies should be decided on the basis of cost/benefit analysis, not worst-case analysis. And second, economic damage is the threat, not physical damage (including loss of life).

Which means that the old rubric of avoiding "factories shutting down and citizens freezing" due to lack of supplies is misplaced emphasis. Indeed, in the 1970s, factories did shut down and citizens were at least cold, if it is hard to say any froze to death, because of the impact of high prices rather than a lack of physical supplies. If the inability to secure oil has been the primary fear of governments throughout the modern era, yet it is difficult to find any instances of significant physical shortages that were not caused by government regulation, usually price controls. Yet, even now, many governments such as America's talk about using strategic reserves to deal with physical shortages only; the Bush administration refused to release reserves either during the 2002 strike against PDVSA or the invasion of Iraq, because, although prices rose in both instances, there were no significant reports of physical shortages.

But if volume is not the problem, what is? Arguably, the great bulk of the damage historically has been economic loss from higher prices and its attendant effects. Two massive recessions occurred in the 1970s without a "physical shortage" of oil, and the tendency of governments to use their surge supply – strategic reserves – to deal only

with such physical shortages leaves their countries vulnerable similar economic damage.

Most of the policies being followed by Asian countries in attempting to improve their energy security have been misguided in recent years. Because markets have become much more fungible, there is no need to undertake diplomatic or financial efforts to obtain "secure access" to petroleum. Having one's own companies produce oil overseas might provide economic benefits, but does not markedly improve security of supply. And the rise of Asian national oil companies in global exploration is still so small that it seems improbable that they could prevent the market from reallocating supplies during any disruption.

And because the primary damage from energy crises is economic, economic tests should be applied to policy. Paying extra for oil supplies does not minimize economic damage, and reducing oil imports might reduce the damage from higher oil prices in a crisis, but needs to satisfy at least a rough cost/benefit analysis.

PHENOMENOLOGY OF THE NIMBY SYNDROME

by *Emilia BLANCHETTI, Silvia CAPOTORTO, Emilio CONTI*

The proliferation of infrastructures provokes resistance from communities in which plants spring up: all desire progress, but nobody wants the consequences of it. Nevertheless, the French case demonstrates that this is not always so.

1.

IN THE LAST FEW DECADES THE construction of public infrastructures such as plants for the recycling of trash, centres for electrical power production or industrial sites is more frequently provoking resistance from local communities, that fear the negative effects deriving from their construction. This perception often transforms into a syndrome famously termed *NIMBY* (Not In My Back Yard). This attitude of opposition that confronts the construction operations within a particular territory often is born when the plans are still in the embryonic phase. The resistance is not necessarily against the plants themselves: in fact, the opponents do not doubt the necessity of the contested construction, but that they would rather it happen somewhere less close to home.

In the last few years, the phenomenon has taken on more importance, however it has deep historical roots: the first problem regards the location of the industries in question and the more or less favored acceptance by the inhabitants of the area. These historical ties to industrialization, urbanization and to the development of various infrastructures have been of interest since the 17th and 18th century.

However, in the 1960s, there was indiscriminate economic growth, which began the popular protests by environmentalists that assume the beginning of hard times. At the end of that time, the realization of great industrial plans and the extension of infrastructures was judged as indispensable for the attainment of economic well being of every single country and the phenomenon of environmental degradation was considered a necessary and tolerable cost. An immense degree of education, sensibility, attention towards environmentalism, and a greater availability of information created a climate of distrust between the local governments and the industries. The possibility to press for legal action, in order to block certain plants, was carried out towards the end of the 1970s, which led to the spread of NIMBYism in all industrialized countries.

Today, also structures that have become necessary for sustainable development, which reduces the environmental impact on Western life-styles, find locally based opposition movements on eventual or hypothetical risks to the environment and to health. In this case, the plants are tied to the recycling of trash, or those that foresee it being utilized for alternative energies and being reused, like wind power or energy from biomass.

The causes for territorial confrontation are many and are often interconnected. One of the triggering factors is the inequality of the distribution of costs and benefits. Generally, the argument is not the usefulness of the system or the infrastructure, the necessity to satisfy general interests such as mobility, the utilization of electricity, and the recycling of trash. The question is will the local population support the negative

consequences in terms of the environmental impacts, risks to public health and the affects to their quality of life?

The perception of risk tied to a new plant and the sense of fear that naturally derives from them sometimes has increased emotionally and irrationally the lack transparency and caused the adoption of informative campaigns on the part of the institutions. The misconception of the necessity to be involved with the citizenry, whose environmental consciousness has been growing with time, undermines woven social networks therefore generating uncontrollable local opposition.

2. In order to evaluate the NIMBY syndrome in Italy, in 2004 the NIMBY Forum gave life to a permanent monitoring body that takes a census from 300 daily newspapers and 1,400 national periodicals. The data of the monitoring body shows an important correlation between the contested territory and media outlets: the disputes are strong due to their representation in newspapers that echo to a national level.

There is also the existence of various cases of good practices in Italy. The media very rarely cares much of cases in which the construction of a plant for public use has happened without obstacles from the local population. The protests seem to make more news and the term NIMBY tends to describe this phenomenon: the word NIMBY has been cited in 679 articles in the period of 2005-2006. There were 313 in 2004-2005.

Between 2005 and 2006, the NIMBY Forum has taken a census from 4,000 articles that discuss the contention of 171 plants. Of these, 55% pertain to the field of recycling, 32% to the conversion of energy, 12% are infrastructures and the remaining 1% are categorized as "Other". The type of plants mainly contested in the media were thermal power plants (31%).

Of these plants, 60% are concentrated in the North, while their number diminishes in the center to 26% and in the South (8%) and in the Islands (6%).

A comparison between the data from the first and second edition of the NIMBY Forum Observatory shows how the number of printed articles cited about the argument have nearly doubled, going from 2,760 in 2004-2005 to 4,020 in 2005-2006. Reaching 66 articles a day (45 coming from the last edition) and an average of 309 articles a month compared to 251. This is without counting the numerous television transmissions that have repeatedly discussed this topic over the course of one year.

Table 1.

	2004-2005 Edition	2005-2006 Edition
Total Articles Cited	2,760 (11 months)	4,020 (13 months)
Articles in a month (Average)	251	309
Articles a day (Average)	8	10
Maximum number of articles a day	45	66
Total Contested Plants	190	171
New Contested Plants	-	90

The causes for great worry remain the impact on health (19.7%) and the environment (14.6%) in which the contested plants are located. An opinion survey conducted by the NIMBY Forum in the Summer of 2006 on the topic of the relationship between citizens, the environment and institutions showed that 78.6% of Italians say that they are worried about the general state of the environment in their own country. The data that emerges with the greatest threat to the democratic system is: 33% do not feel represented by their institutions, and 25% think that a more reliable source of information would be the European Commission.

3. Now, we will analyze more concretely two emblematic cases that involve Italy and France. The first case involves the Swiss company, Atel, one of the main European producers of energy. Atel has introduced two plans for the construction of two thermoelectric plants with 400 megawatts of power: one in Italy, in San Severo (a province of Foggia) and one in France, in Saint-Pourçain-sur-Sioule, not far from Clermont-Ferrand.

The plant at San Severo was authorized at the end of 2002 but, because of the repeated run-ins with the Regional Administrative Court (TAR) and the State Council. Up until June 2007, it has not been possible to start breaking ground for the new construction project. The citizens have been the object of an informative campaign during the past two years till today, which has been reported heavily by the local press. A majority of the people is favorable towards the construction of the plant. However, the local committee of San Severo remains contrary to the idea and is continually appealing the construction project.

In France, the request for the authorization of a new plant was given in May 2007. The construction project will be to begin in 2008. Overtime, there was a survey given, which included the local population that did not have a particular reason for opposition. Moreover, the local administration of Saint-Pourçain-sur-Sioule has assigned a taskforce of technicians to support the company in the realization of the plan and has planned for an informative meeting with the citizenry.

Five years and little uncertainties in one case; a single year and such certainty in the other. What are the reasons for these various outcomes? Mainly, the draft of motives by the legislative and the bureaucracy. In Italy, things have been let to run free without any clear direction for years, which has seriously damaged the companies involved and especially the country. In five more years we could see very many changes that is, if we can control the political instability, which is such an Italian characteristic, it would clearly result in the creation of clearer regulations and clear determination by all parties involved without the need for continuous vetoes.

Similar events have occurred involving the case of the high velocity railway (TAV). The roots of the case begin in Val di Susa in 1990: for the first time within the European Community, there were talks about a high velocity railway line between Turin and Lyon. The mayors of Val di Susa took the position against the realization of the 1993 plan, after the company had already received the blessings of the Transportation Ministers of both France and Italy. The plan was not enforced in 1996 because of the conflict, but in 2005 there was a meeting between the local entities of Val di Susa, the ministries and the commission for the project.

By 2005, the problem escalated further: the position taken by the local entities and the citizens became stiff. The citizens and the administrations strongly opposed the government. In November 2005, the local police force was ordered to the site where the preliminaries for the construction project were to take place. Many newspapers reported that the area had become “militarized”.

What are the main reasons that have inspired these contentions? If we analyze the situation, we can see that the motives to support the opposition of the planned express railway line were and are expressed in a very clear manner, while the companies and the government have not succeeded in clearly showing the reasons for which the railway line would be necessary. The lack of an effective, inequitable and timely communication has generated misunderstandings and has fueled a climate of distrust of the proposing organizations.

On the French side, things have gone quite differently: there was communication and dialogue at the beginning of the early 1990s, which allowed effective politics to

take place and allowed for the attainment of a general agreement to begin work on the project.

4. The constant monitoring of the NIMBY phenomenon by the permanent NIMBY Forum makes it possible to formulate some observations on the evolution of the phenomenon and the characteristic details of it, which exist in Italy.

According to Alessandro Beulcke, president of Aris and director of the NIMBY Forum: "It is reasonable to think that the radicalization of the NIMBY argument is typically Italian. In fact, besides the push from environmentalists, which creates action and organizes protests by groups of citizens opposed to the realization of certain types of plants, a new phenomena is emerging: (…) politics has interpreted the desire of the citizenry to take part directly in the public life of the country and it has taken control of the environmentalist debate in order to make it appear improper".

The data says it clearly: from national to local newspapers, which always count less relative articles about cases of protests born independently by the citizens, while exponentially increasing articles that deal the realization of a project of structural importance – a plant for the production of energy or the recycling of trash or, even, railway infrastructure – as a pretense in order to ignite a political clash between the many parties involved. The opposition to the realization of the plants is born simply from the case of ideological prejudgment preventing an open, transparent debate of the plants, the necessities of the country and the rights of the citizens.

Politics had taken advantage of these occasions in order to create consent. And, therefore, the conflict moves from a debate between the citizens who do not want the project, and those who promote it, to between the political majorities and local opposition groups at the local level or between the local administrations and the government.

"Certainly, the Italian legislation does not help", asserts Beulcke. "How does one reconcile, for example, the autonomy granted to regions by the reform of Title V of the constitution with some laws which give power back to the central government? The appeals to TAR, to the State Council, to bureaucratic procedures are unavoidable consequences of this lack of transparency that characterizes Italian management and politics".

"In order to change things", concludes Beulcke, "it is necessary that the political system finds a sense of responsibility. And that the priorities of the country are established clearly and towards a more structured program. The rules of the game must become transparent, while allowing the citizenry to be informed and participate in the process".

5. In European and western countries, the NIMBY phenomenon is still not an object of constant monitoring; none of the industrialized countries can be thought of as being immune to it. France, like we saw, took the phenomenon into account, much like Great Britain and United States, where the term was coined. The term itself has gone as far as to evolve into other acronyms. One example being the term NIABY meaning "Not In Anyone's Backyard".

NIABY people, therefore, are those who are opposed to the realization of an infrastructure not wanted at all by the local people. Therefore, this act has selfish aspects, which defend a narrow angle of the world, while supporting the efforts of environmentalists. If we consider other types of contested projects, we can see that these protests are homogeneous with citizens being concerned for their own environment: an example being how incinerators are classified as the least desirable plants in all of Europe.

Also, the guiding principles in order to avoid and manage these oppositions are: every situation must be well researched and studied; the population must be involved and informed from the start of the project till the end of it; they must be informed of the benefits and negatives of the project that may affect their environment. The concept that everyone "shares a piece of the pie" is applied in other European countries in concrete ways that are simple and effective. In Italy, however, this involvement happens very rarely: where those who are involved care more about the multiple applications of the project than to the community, opposition arises.

Italy has, like other European countries, the ability to effectively evaluate the impact these projects have on the environment. However, this ability dictates that the local population must be informed and become integrated into the decision-making process. In England, but also in the United States, public inquiries must be the first thing enacted in order for there to be the realization of the plant or project. In France, they have created a commissioner in charge of estimating the various social elements before deciding if they will move ahead with any course of action. In Italy, instead, the legislation must be able to work more with national and local newspapers to publish future projects in their articles in order to inform the community. The solutions that make cohabitation profitable for the protection of the environment, plus health and economic/productive development resides in long-term political programs, incentives towards research and a redesign of competence in local agencies are critical. There must be the constant promotion of democratic participation in order to create a more knowledgeable public base that creates a sense of belonging.

THE ENERGY GAME

HEARTLAND *PLUS*

LETTER

U.S./MIDDLE EAST PROJECT, INC
INTERNATIONAL CRISIS GROUP
NEW AMERICA FOUNDATION/AMERICA STRATEGY PROGRAM

October 10, 2007

The Honorable George W. Bush
President of the United States
The White House
Washington, DC 20500
Via facsimile:202-456-2461

Dear Mr. President:

We are writing to share with you a statement on the forthcoming Middle East peace conference adopted by the above-named organizations, whose contents we strongly endorse:

The Israeli-Palestinian peace conference announced by President Bush and scheduled for November presents a genuine opportunity for progress toward a two-state solution. The Middle East remains mired in its worst crisis in years, and a positive outcome of the conference could play a critical role in stemming the rising tide of instability and violence. Because failure risks devastating consequences in the region and beyond, it is critically important that the conference succeed.

Bearing in mind the lessons of the last attempt at Camp David seven years ago at dealing with the fundamental political issues that divide the two sides, we believe that in order to be successful, the outcome of the conference must be **substantive**, **inclusive** and **relevant** to the daily lives of Israelis and Palestinians:

The international conference should deal with the substance of a permanent peace: Because a comprehensive peace accord is unattainable by November, the conference should focus on the endgame and endorse the contours of a permanent peace,

which in turn should be enshrined in a Security Council resolution. Israeli and Palestinian leaders should strive to reach such an agreement. If they cannot, the Quartet (U.S., EU, Russia and UN Secretary General)—under whose aegis the conference ought to be held— should put forward its own outline, based on UN Security Council Resolutions 242 and 338, the Clinton parameters of 2000, the 2002 Arab Peace Initiative and the 2003 Roadmap. It should reflect the following:

- Two states, based on the lines of June 4, 1967, with minor, reciprocal, and agreed-upon modifications as expressed in a 1:1 land swap;

- Jerusalem as home to two capitals, with Jewish neighborhoods falling

under Israeli sovereignty and Arab neighborhoods under Palestinian sovereignty;

- Special arrangements for the Old City, providing each side control of its respective holy places and unimpeded access by each community to them;

- A solution to the refugee problem that is consistent with the two-state solution, addresses the Palestinian refugees' deep sense of injustice as well as provides them with meaningful financial compensation and resettlement assistance;

- Security mechanisms that address Israeli concerns while respecting

- Palestinian sovereignty.

The conference should not be a one-time affair. It should set in motion credible and sustained permanent status negotiations under international supervision and with a timetable for their completion, so that both a two-state solution and the Arab Peace Initiative's full potential (normal, peaceful relations between Israel and all Arab states) can be realized.

The international conference should be inclusive:

- In order to enhance Israel's confidence in the process, Arab states that currently do not enjoy diplomatic relations with Israel should attend the conference.

- We commend the Administration for its decision to invite Syria to the conference; it should be followed by genuine engagement.

- A breakthrough on this track could profoundly alter the regional landscape. At a minimum, the conference should launch Israeli-Syrian talks under international auspices.

- As to Hamas, we believe that a genuine dialogue with the organization is far preferable to its isolation; it could be conducted, for example, by the UN and Quartet Middle East envoys. Promoting a cease-fire between Israel and Gaza would be a good starting point.

The international conference should produce results relevant to the daily lives of Israelis and Palestinians: Too often in the past, progress has been stymied by the gap between lofty political statements and dire realities on the ground. The conference therefore should also result in agreement on concrete steps to improve living conditions and security, including a mutual and comprehensive cease-fire in the West Bank and Gaza, an exchange of prisoners, prevention of weapons smuggling, cracking down on militias, greater Palestinian freedom of movement, the removal of unjustified checkpoints, dismantling of Israeli outposts, and other tangible measures to accelerate the process of ending the occupation.

Of utmost importance, if the conference is to have any credibility, it must coincide with a freeze in Israeli settlement expansion. It is impossible to conduct a serious discussion on ending the occupation while settlement expansion proceeds apace. Efforts also should focus on alleviating the situation in Gaza and allowing the resumption of its economic life.

These three elements are closely interconnected; one cannot occur in the absence of the others. Unless the conference yields substantive results on permanent status, neither side will have the motivation or public support to take difficult steps on the ground. If Syria or Hamas is ostracized, prospects that they will play a spoiler role increase dramatically. This could take the shape of escalating violence from the West Bank or from Gaza, either of which would overwhelm any political achievement, increase the political cost of compromises for both sides and negate Israel's willingness or capacity to relax security restrictions. By the same token, a comprehensive cease-fire or prisoner exchange is not possible without Hamas's cooperation. And unless both sides see concrete improvements in their lives, political agreements are likely to be dismissed as mere rhetoric, further undercutting support for a two-state solution.

The fact that the parties and the international community appear—after a long, costly seven-year hiatus—to be thinking of resolving the Israeli-Palestinian conflict is welcome news. Because the stakes are so important, it is crucial to get it right. That means having the ambition as well as the courage to chart new ground and take bold steps.

Zbigniew Brzezinski, former National Security Adviser to President Jimmy Carter

Lee H. Hamilton, former Congressman and Co-chair of the Iraq Study Group

Carla Hills, former U.S. Trade Representative under President George H.W. Bush

Nancy Kassebaum-Baker, former Senator

Thomas R. Pickering, former Under-Secretary of State under President Bill Clinton

Brent Scowcroft, former National Security Adviser to President Gerald Ford and President George H.W. Bush

Theodore C. Sorensen, former Special Counsel and Adviser to President John F. Kennedy

Paul Volcker, former Chairman of the Board of Governors of the U.S. Federal Reserve System

LAST CALL FOR THE TWO-STATES SOLUTION

by *Henry SIEGMAN*

For a long-lasting and just peace to be achieved, the Palestinians must be given a good reason to believe their leaders. There's only one party able to do it – Israel, only one way to do it – removing the settlements, only one country that can guarantee it to be actually done – the US, and only one last chance to do it: now.

1.

ONE OF THE FIRST ON-LINE RESPONSES to the publication of the letter to President George W. Bush and Secretary of State Condoleezza Rice was a simple, straightforward question: "What is in it for Israel?" The "it" referred to guidelines the letter proposed for an agreement that would end Israel's occupation of the territories the IDF overran forty years ago in a conflict – as Israelis were reminded by the celebrated author David Grossman when he addressed a recent commemoration of Prime Minister Yitzhak Rabin's assassination – that is now in its 100th year.

What is in it for Israel should be self-evident, but now that three new Israeli generations have been born that have no memory of Israel without settlements, it no longer is; for too many, the occupation – and the spiral of Israeli-Palestinian violence that has come with it – is a given, the natural order of things.

An agreement that leads to an end of an occupation that with the best of intentions involves the humiliation and brutalization of an entire nation should be more than enough of a reason to go for it. The subjugation and permanent dispossession of millions of people is surely not the vocation of Judaism, nor is it an acceptable condition for a Jewish national revival.

The argument against an Israeli agreement with President Mahmoud Abbas and his Prime Minister Salam Fayyad is that they are too weak and unpopular to implement an accord that would require them to put an end to the violence of Palestinian rejectionist groups. Indeed, it is pointed out that the fact that most of the violence in the West Bank continues to come from the Al-Aqsa Martyrs Brigades, a faction that belongs to Abbas's Fatah, underlines the limits of Abbas and Fayyad's authority and their capacity to establish the rule of law in the territories.

That Abbas has been unable to control violence is true enough, but it is nevertheless a disingenuous argument. Abbas' weakness is the result of Israeli policies –primarily the relentless expansion of Israeli settlements on Palestinian territory that continues even as Prime Minister Ehud Olmert speaks about removing settlements – that have convinced most Palestinians that Israel has no intention of returning to the pre-1967 border and allowing the establishment of a viable Palestinian state. An Israeli policy that seriously rewarded Abbas for his moderation – beyond the Mickey Mouse "gestures" Olmert has offered until now – would turn Abbas and Fayyad into strong leaders overnight, but Palestinians have been given no reason to believe such a change is possible even when they choose leaders committed to non-violence and moderation.

Checkpoints and roadblocks designed to prevent the movement of people and goods throughout the West Bank – well over 500 such obstacles – have devastated the Palestinian economy and turned Palestinian life, in all of its aspects, into an endless nightmare. In 2005, following Abbas' election as president of the Palestinian Authority

and before Israel's dismantlement of its settlements in Gaza, Secretary of State Condoleezza Rice and James Wolfensohn, the former president of the World Bank who was designated as the Quartet's envoy, worked out a detailed agreement with the Israeli government to remove many of these obstacles. The plan included the creation of a safe passage that would link the populations of the West Bank and Gaza – a connection that is vitally important to the social, cultural and economic life of these geographically separated entities, to which Israel had already committed itself in the Oslo accords. The whole point of that agreement was to show Palestinians that Abbas' moderation and opposition to violence could obtain results that Israel had denied his predecessor, Yasser Arafat. It proved the opposite. According to Wolfensohn, the agreement was violated by Israel even before the ink of its representatives' signatures had dried.

"In the months that followed, every aspect of the agreement was abrogated," Wolfensohn, a religiously traditional Jew and a lifelong friend and generous philanthropic supporter of Israel, recently told the Israeli newspaper *Haaretz*. Indeed, instead of removing checkpoints, they were increased. Reading the *Haaretz* interview, it is difficult to avoid the impression that this firsthand experience with Israel's dealings with the Palestinians profoundly disillusioned Wolfensohn, who came to see the equities of the conflict in a new light.

2. The signers of the letter to President Bush stressed that a successful outcome of the Annapolis conference would require Syria's participation in the conference, as well as efforts to start a dialogue with Hamas. Washington overcame its initial reluctance to include Syria. This is a good thing, because Syria's non-attendance would result in the downgrading of Arab attendance at the meeting to the ambassadorial rather than ministerial level, which in turn would defeat the American objective of using the Annapolis gathering to create a coalition of moderate Arab countries that, together with Israel, would be prepared to counter the growing threat of Iranian hegemony in the region.

Syria's absence would also prevent a serious exploration of the Arab League's 2002 peace initiative, whose promise of full normalization of relations with the State of Israel is also contingent on an Israeli-Syrian agreement. It would also impede efforts at a resolution of the festering crisis in Lebanon.

Israel and Washington have made clear their determination to deny Hamas the fruits of its 2006 victory in the most honest and democratic election – perhaps the only one – in the Arab Middle East and to return to power a Fatah leadership that lost those elections. This has surely given Hamas's leadership an incentive to undermine any agreement reached by Abbas in Annapolis, or in the negotiations that are supposed to follow the conference. But if Abbas emerges from Annapolis with parameters for an agreement with Israel that will be seen as fair by the Palestinian public – even if such parameters were not explicated in a joint statement of principles by Olmert and Abbas but by Bush in his address to the meeting – Hamas would damage its standing with the Palestinian public if it were to seek to wreck such an accomplishment. Palestinians have suffered too much for too long to tolerate that kind of recklessness.

Israel and the US have disqualified Hamas as a peace partner not only because it has refused to recognize Israel but also because it refuses to be bound by previous agreements reached between the PLO and Israel's government. A recent op-ed essay in Israel's *Yedioth Ahronot* by Zalman Shoval, a former Israeli ambassador to Washington and a longtime senior adviser to Likud prime ministers, illustrates the manipulative character of Israel's diplomacy. Shoval asks in his op-ed piece, "How could the government that would replace Olmert's cabinet be able to free itself from the pledges

and commitments to be made in Annapolis," given the "basic principle of international law that every government inherits the rights and obligations of its predecessors...?"

What is remarkable is not only the shamelessness of a Likud leader, himself a prominent Israeli lawyer, urging publicly that Israel find ways to violate commitments it is about to make to the Palestinians in a meeting to which the president of the United States is a party, but of the answer Shoval proposes: This principle of international law applies only to states, and "after all, it is difficult to define the Palestinian Authority as a state." Apparently not *so* difficult as to prevent Israel from starving the civilian population of Gaza by pretending that Hamas *is* to be defined as a state.

Be that as it may, Abbas will have to negotiate with Hamas the reestablishment of a unity government even in the highly unlikely event Annapolis is a success. He cannot risk the permanent separation of Gaza from the West Bank, nor will the Palestinian public allow him to take that risk. An even greater risk is that without a unity government, Hamas – which has significant political support in the West Bank–-will replace Fatah in the West Bank as well. Hamas is at least as permanent a feature on the Palestinian political landscape as Fatah, and Palestinian governance will have to reflect that reality.

3. Is Abbas prepared to agree to compromises that Palestinians must make if there is to be an agreement with Israel? The answer is yes, if the demands for compromise do not go beyond those envisioned in President Clinton's proposals and in the Taba discussions that followed the failed Camp David summit in 2000. The parameters of an agreement reflecting those compromises are outlined in the letter from Scowcroft, Brzezinski, Hamilton et al to President Bush and Secretary Rice.

It is not true, as Israelis often claim, that Palestinians refuse to compromise and rigidly adhere to all of their maximal demands. (Former prime minister Benjamin Netanyahu famously complained that "Palestinians take and take while Israel gives and gives.") That is an indecent charge, not only because so far Israel has given Palestinians nothing, but because Palestinians made much the most far-reaching compromise of all when, in 1988, Arafat formally accepted the legitimacy of Israel within the 1949 armistice line (i.e. the pre-1967 border). With that concession, Palestinians gave up their claim to more than half the territory that the United Nations 1947 Partition Resolution had assigned to Palestine's Arab inhabitants. Palestinians have received no credit whatever for this wrenching and historic concession, made well before Israel formally recognized that Palestinians have a right to sovereignty in any part of Palestine. The notion that Palestinians can now be compelled to accept "border adjustments" at the expense of the 22 per cent of the territory that is left them is deeply offensive to Palestinians, and understandably so.

Also forgotten is that the Palestinians agreed at the Camp David summit to border adjustments to the pre-1967 border that would allow large numbers of West Bank settlers--about 70 per cent – to remain within the Jewish state, in an equal exchange of territory on both sides of the border. Barak rejected the principle of one-to-one land swaps.

In the past, the Palestinian demand that Israel accept the Palestinian refugees' "right of return" to their homes was indeed a serious obstacle to a peace agreement. But the Arab League's peace initiative of 2002 leaves no doubt that what Arab countries are demanding is Israel's acceptance of that right in principle, while agreeing that the number of refugees allowed to return would be subject to Israel's agreement.

If Annapolis fails, it will be because of Israel's rejection of the single most central condition for success – full disclosure of its definition of viable Palestinian statehood. Olmert reneged on his earlier endorsement of Rice's insistence that a meeting that does

not produce a joint statement defining the outline of a permanent status agreement is not worth holding, for it would then be a meaningless photo op. Unfortunately, Rice caved in to Israel's position.

According to Aluf Benn, *Haretz*'s diplomatic correspondent, Olmert is adept at "marching in the no-man's land between talk and action." For Olmert, Benn says, engaging in high-level talks and granting gestures to the Palestinians creates "the most convenient diplomatic situation," because such gestures are "in themselves sufficient to remove international pressure on Israel to withdraw from the territories and to end the occupation." At the same time, "as long as it's all talk and there are no agreements," internal pressures not to cede the territories are neutralized. Olmert seems to have succeeded in turning Annapolis into that kind of no-man's land.

4. The importance of reaching such an agreement now rather than in the future should be self-evident. For if Annapolis fails, the likelihood that Israel will again have a moderate Palestinian interlocutor is close to zero. Not only the prospect of Palestinian moderation but the commitment of all Arab countries to normalizing relations with Israel following a peace agreement will be a casualty of a failed conference. Hamas's insistence that moderation, as understood by Israel, is a synonym for Palestinian capitulation will become widely accepted, and not only in the Arab world.

The disillusionment that would follow a failed effort in Annapolis would therefore leave Israel with the most dismal of prospects for renewing a peace process with the Palestinians and with Arab countries. It certainly could not happen in circumstances as favorable as they are today, for the growing skepticism in US policy circles about Israel's real intentions in the territories, as suggested by the letter to Bush and Rice by this country's most eminent elder statesmen and stateswomen, is bound to change what has been the reflexive US support that Israel has been able to count on until now, particularly during the past two administrations.

More important, should Annapolis fail, prospects for a resumption of a viable peace process at some future date will be made increasingly unlikely by the changing demographic balance in Palestine. A clear Arab majority in historic Palestine, a situation that is imminent, will persuade Palestinians and their leaders that the quest for a two-state solution is a fool's pursuit. They are likely to conclude that rather than settling for even less than 22 percent of Palestine – i.e. less than half the territory that the international community confirmed in the 1947 Partition Resolution of the UN is the legitimate patrimony of Palestine's Arab population – far better to renounce separate Palestinian statehood and instead demand equal rights in a State of Israel that includes all of Palestine. Why settle for crumbs now if by dint of their decisive majority they will in time become the dominant political and cultural force in all of Palestine?

If the international community has been largely indifferent to – or impotent to do anything about what some have tried to portray as a quarrel between Israel and Palestinians over where to draw the border between the two – it is far less likely to remain indifferent to an Israel intent on permanently denying its majority Arab population the rights and privileges it accords to its minority of Jewish citizens. It would be an apartheid regime that, one hopes, a majority of Israelis would themselves not abide.

Annapolis may therefore well be a historic watershed – the last opportunity to salvage not only a two-state solution but a Jewish state that remains a democracy.

EMPIRE OF THE SUN
BETWEEN PRIDE AND DEPENDENCE

by *Gavan McCormack*

Despite its declining influence in East Asia, insofar the US has managed to prevent the emergence of a regional leadership. Former Prime Minister Abe's foul steps and the American management of the North Korean dossier can damage a half-century-long loyalty.

1. TODAY, NEARLY TWO DECADES AFTER THE regional alliances linking Australia, Japan, South Korea, and the Philippines to the United States remain firmly in place; yet, as expressions of the central strategic concept of the Cold War, they have become anachronistic. Furthermore, in economic terms, the overwhelming US preeminence of the Cold War is no more. Asian share of global GDP in 1820 was around 50 per cent (estimated recently as: China 27 per cent, India 14 per cent, Britain 5 per cent, US 1 per cent).[1] It sank to extremely low levels in 20th century, but rapid growth in recent, post-colonial decades, especially in China and India, means that it is now about 25 per cent and even by conservative estimates it is thought that by 2030 it will be back to 50 per cent again.[2]

For Asia thus to recover means of course that, at least in relative terms, the US, and *a fortiori* Europe, must decline in significance. The combined GDP of Japan, "China" (for this purpose including Taiwan and Hong Kong) and South Korea is now around 8 trillion dollars, as against 12 for the US and 13 for the EU. The mesh of inter-Asian economic interchange thickens, while in relative terms the US link thins.[3] China's economy, after three decades of double digit growth, is on track to surpass Japan within a decade or so, and then by around mid-century the US. India follows closely on its heels.[4]

While in sheer economic terms the US diminishes in importance, however, in strategic and military terms it remains paramount. Such discordance between economic and political-military frames is unlikely to be long sustained. As intra-regional trade, investment and technology transfer and people interchange boom, states, intellectuals, and civil society leaders seek for a formula to establish a post-American *imperium* order. They imagine and hope for one that would be just, peaceful, and cooperative. The financial crisis of 1997, the shared security, environmental, and energy problems, and the shared sense of anxiety over how to curb the arbitrary and aggressive actions of the single remaining global super-power: all add force to pressure to build such a community.

Asian "communities" have of course existed in the past, both the long-term and relatively stable *China-centred* order known as the "tribute system" and the several,

[1] Kim Dae Jung, *Road to Peace on the Korean Peninsula*, Seoul, Kim Dae Jung Peace Center, 2007, p. 64. For tables of relative economic performance of the West and Asia, 1820-1993, see G. Arrighi, T. Hamashita, M. Selden eds., *The Resurgence of East Asia,* p. 79.

[2] Terashima Jitsuro, "Higashi Ajia renkei e no shiza," Bessatsu *Sekai*, No. 764, April 2007, pp. 109-116, at p. 112.

[3] For Japan, trade with the US fell in 2005 to 18%, while that with Asia rose to 47% (and with "China": ca 30 per cent). Inter-Asian trade is 56% of all Asian trade. (Ibid., p. 113.)

[4] According to Goldman-Sachs' 2003 projections, by China ca 2017 and by India in the early 2030s, with China surpassing the US ca 2040.

short-lived Japanese attempts to impose a *Japan-centered* order in its stead - the brief and ill-fated attempt under Hideyoshi in the 16th century and the Greater East Asian Co-Prosperity Sphere in the 20th century.

Both those Japanese attempts failed catastrophically, and the failures left bitter memories across the region. Japan's 20th century efforts in particular failed, quite apart from material, economic and military reasons, because of the Japanese inability to articulate a politically and culturally attractive identity, one that could be shared by all Asians. China-centeredness was tolerated in Asia for a millennium, but Asia could not stomach Japan-centeredness. The 20th century emperor-centered Japanese identity, with its insistence on Japanese superiority and on Japanese gods and Japanese ways, was unacceptable. Today, as Asian regional integration proceeds, on major question is: has Japan resolved its identity dilemmas so as to become capable of entry upon a shared community-building process around universal values?

2. For the past two decades there have been various moves towards regional economic integration divided primarily on the question of whether the United States is in or out. There have therefore been two opposing formulae: APEC, founded at the initiative of Australian Prime Minister Bob Hawke in 1980 (a huge and catholic organization, essentially (as its name indicates) dedicated to economic growth and trade and investment promotion, with the US as a core member. By 2007 it comprised 41.9 per cent of the world's people and almost 60 per cent of its GDP; and EAEC, East Asian Economic Caucus, founded in 1990, with the core initiative coming from Malaysia's Mahathir Mohammad and designed to promote the Asian leadership of Japan and the exclusion of the United States and other Western Pacific nations such as Australia and New Zealand.

Basically, Japan consistently resisted Malaysia's EAEC blandishments, and Australia, committed to APEC, struggled to nullify them. It was a principle of US Asia-Pacific policy that Japan never be part of any Asian community, and that it "continue to rely on US protection," since any attempt to substitute for it an entente with China would "deal a fatal blow to U.S. political and military influence in East Asia."[5] As for Australia, it would not dream of taking any serious diplomatic initiative without US approval.

In place of Mahathir's original EAEC vision, therefore, ASEAN plus 3 (the ASEAN 10 and the Northeast Asian 3 – China, Japan, and South Korea) gradually took shape as a regular consultative forum. China and South Korea both played a vigorous role in developing it, and China took a series of important initiatives, including its 2003 FTA proposal to ASEAN and its hosting of a Council of East Asian Think Tanks.

However, the pressures were such that, when the first "East Asian Summit" convened in Kuala Lumpur in December 2005, it comprised 10 (ASEAN) + 3 (China, Japan, South Korea) + 2 (Australia and New Zealand) + 1 (India), with Russia an observer and two more (Pakistan and Bangla Desh waiting in the wings). The long-term direction seems to be to simultaneously widen it geographically (with Australia and New Zealand as beachheads for the United States) while narrowing it functionally (to economic matters). There is not much of the original Mahathir vision of East Asian community left and what there is seems likely to be swallowed within the kind of giant FTAAP (Free Trade Area for the Asia-Pacific) expected to come up

[5] Zalmay Khalilzad et al, "The United States and Asia: toward a New U.S. Strategy and Force Posture" (the "Rand Report"), June, 2001, p.15. See also for the origins of this US policy, John Dower, "The Super Domino: Japan in and Out of the Pentagon Papers." The Senator Gravel Edition of the Pentagon Papers, volume 5, 1970.

for discussion at the Australian APEC summit later this year.[6]

Powerful pressures emanating from the US to retain economic, political, and military dominance over the region and in particular to forestall any China-centeredness, are palpable. Australia and Japan are fundamentally committed to the US, rather than to any Asian agenda. The fact is, however, that something to which everybody belongs ceases to be a community. If everyone is in, what is it that they are in and what is its function?

The problem for Asia today is how to negotiate a rising China and a declining US in such a way as to mitigate antagonism between them and accommodate both. Although the US till recently insisted on retention of economic, political and military dominance over the region and on all possible steps to block the rise of China, China rose anyway, and its integration in the world system steadily eroded American unipolarism.

The Beijing Six Party Conference on North Korea (2003-), with China at its center, has slowly assumed the key role in negotiating regional security. As Funabashi demonstrates in his study of the Beijing talks[7], what began as a US effort to mobilize China to control North Korea increasingly turned into a forum in which the US, the reluctant minority, was slowly brought to a new, multi-polar, China-centred orientation. The apogee of the Beijing process was the February 2007 Beijing agreement for North Korean de-nuclearization, a peace treaty to end the Korean War, and normalization of relations on all sides. This hugely important event heralded a new order in Northeast Asia, with the 6-Party conference format institutionalized in due course as the body for addressing common problems of security, environment, food and energy, etc, the precursor of a future regional community. It was the first significant, multilateral, security step away from the unilateral US hegemonic order.

It only became possible because the US shifted 180 degrees in its position, from hard-line position, shared only with Japan, of calling for North Korea's unconditional submission to adoption of the majority (China, Russia, South Korea) position favoring negotiation and compromise. In 2005-6, Cheney and Rumsfeld carried out the reorganization of US defense posture in Japan with full Japanese cooperation in assimilation of US and Japanese forces under US leadership to maintain a US hegemony along basically "New American Century" lines, but in 2007, the "other" Washington, represented by the State Department's Condoleeza Rice, secured the president's commitment to a realist, multilateralist, Asia with a major role for China (in the Beijing 2007 agreement). The shift was so drastic, however, that its opponents in Washington continued to resist, and beyond Washington, no country has been more uncomfortable with the American shift than Japan. For Abe's Japan, maintenance of the familiar, unipolar US order was much to be preferred to the construction of a new, Asian future.

Radical and visionary proposals for a utopian Asian community also exist, and to some extent they influence the agenda of states. Building on the accomplishments of their civic democracy achieved since 1987, Korean intellectuals and politicians have been especially active in promoting an East Asian community of civic and occasionally utopian orientation. It was then president Kim Dae Jung who at Hanoi in 1998 proposed the setting up of an East Asian Vision Group, on the grounds that: "We, the people of East Asia, aspire to create an East Asian community of peace, prosperity, and progress based on the full development of all peoples in the region."[8]

Japanese intellectuals who are closely connected with Korean civic democracy

[6] Lim Hua Sing, "uncertainty remains as regional ties firm,": *Asahi shimbun*, 25 May 2007.
[7] Funabashi Yoichi, *Za peninshura kuesuchon*, Tokyo 2006, passim.
[8] Kim Dae Jung, *Road to Peace*, p. 58.

movements have also been major architects of the "Common House." Wada Haruki's earliest design for it dates to 1990. With his Tokyo University colleague Kang Sang-Jung, he has articulated the idea of a post-Cold War East Asian order in which the legacies of almost 200 years of war and confrontation would be healed and transcended by construction of a multicultural, multiethnic, multilingual identity, along something like European lines. In Kang's vision, the problem of Korea would be resolved within this larger entity in part by granting a united Korea a central role as a permanently neutral host for some key institutions, somewhat like Luxemburg in Europe.[9]

While Kang centers his utopian community vision on Korea, for others Okinawa plays a similar role.[10] Although Okinawa today is being constructed to stand against Asia, as a permanent, or very long-term, base for the projection of military force against it, it also contains seeds of a model of how Japan might integrate into an Asian community, building on Okinawa's long history of cultural and commercial links with the region in the centuries up to 1609 as a multicultural peace state long before Japan adopted its Article 9 constitutional peace clause.

Under such scenarios, Korea would lead the way to demilitarization and Okinawa, instead of aiming to rival Singapore or Hong Kong as growth model, would pioneer a different model of sustainable social development, whose objective be human affluence growing out of solidarity and cooperation between regional self-governing bodies. Between the various regional security and free market agendas on the one hand, and these civil society-generated utopias on the other, there remains a gulf.

3. In the first half of the 20th century, Japan's emperor-centeredness, with its associated notions of racial uniqueness and superiority, constituted a barrier to the construction of any Asian community. In the second half, following the defeat of 1945, democracy, human rights, and pacifism, were introduced, but the emperor himself remained and deep questions of Japanese identity were left unresolved. It was enough during the Cold War that the country cohered around the pursuit of economic growth, but afterwards, the search for "national identity" swept Japan as it did other parts of the world. When Abe Shinzo formed his cabinet in September 2006, nearly all its members belonged to organizations that looked back to wartime Japan for inspiration, with names such as Dietmembers Associations "for the Passing on of a Correct History," for a "Bright Japan", and for "Reflection on Japan's Future and History Education," and especially the "Shinto Politics League (*Shinto seiji renmei*). The core of the Shinto politics creed was articulated in January 2000 by then Prime Minister Mori, who referred to Japan as a "country of the gods centered on the emperor," precisely the view held by those who led Japan into the disastrous wars of the 1930s and 1940s. Most members of the Abe cabinets of 2006-7 subscribe to these same Shinto politics views.

However, during this past half century, there has been one other pillar of national identity, that of dependence on the US. The level of subjection to US regional and global purpose deepened in 2005-2006. Assigned by the Bush administration the task of turning the US-Japan relationship into a "mature" alliance, Prime Ministers Koizumi and Abe have done their best to reinforce Japanese military subordination and integration under US command and to remove barriers to the active service of Japan's Self-Defense Forces on "collective security" missions. They have also taken

[9] Wada Haruki, *Tohoku Ajia kyodo no ie,* Tokyo: Heibonsha, 2003; Kang Sang-Jung, *Tohoku Ajia kyodo no ie o mezashite*, Tokyo: Heibonsha, 2001.
[10] See Matsushima Yasukatsu, "Higashi Asia kyodotai no jichi to Ryukyu," *Gunshuku mondai shiryo*, No. 320, July 2007, pp. 10-15.

preliminary steps towards revising the constitution. In 2006, former Deputy Secretary of State (and core Bush Asia strategist) Richard Armitage gave Japan high points for its efforts,[11] and in February 2007 spelled out in the bi-partisan statement of US foreign policy goals to 2020 the agenda for Japan to lift the alliance to its next phase: a strengthened Japanese state, a revised constitution, a permanent law to authorize regular overseas of Japanese forces, a stepped up military budget, and explicit support for the principle of use of force in settling international disputes.[12]

Abe's will to serve is not in doubt, but the more he struggles to deliver on this formidable US shopping list the more he sinks in the quicksands of contradiction on which the state rests. Japan's identity construction is divided: dependent but simultaneously assertive, fawning yet glorious. It is a problem that concerns not just Japan but Asia as a whole, for without its resolution there is unlikely to be any 21st century Asian community.

In December 2006 Abe reached a milestone of his revisionist agenda with passage through the Diet of the revised Fundamental Law of Education, deleting expressions of universal rights and substituting a provision that love of country, patriotism, must be inculcated in Japanese students. Following that triumph, he declared that his principal political objective was revision of the constitution. His constitutional agenda amounts to a frontal assault on the values and principles of the postwar system, which is universally understood to mean "American-imposed" democracy. A bill spelling out the procedures for such revision passed into law in May 2007.

It is true that Abe began his government with bridge-building visits to Seoul and Beijing, and that Wen Jiabao reciprocated on China's behalf with a highly successful April 2007 return visit to Japan, but the fact is that Abe is a denialist (of war responsibility, Comfort Women, Nanjing, etc), a revisionist (who insists on the need to rewrite Japan's history, to make people proud and fill them with patriotic spirit), and a proponent of radical revision of Japan's postwar democratic institutions. His politics may be summarized under five heads: Acceptance of a subaltern status for Japan within the American alliance, and priority to policies directed to maintaining and strengthening the alliance; Rejection of the 1993 and 1995 Kono and Murayama apologies (for the "Comfort Women" system and for colonialism and aggression); Antipathy to the constitution and other core elements of the postwar democratic order; Hostility to North Korea; Insistence on a pure, beautiful, unique, and proud Japan that should be loved.

Attempting to straddle simultaneously two horses - service to the US and (neo-) nationalist assertion, Abe's politics become increasingly unstable.

Nothing had so well served Abe's rise to political power in Japan as his ability to concentrate national anti-North Korea sentiment over the issue of abductions of Japanese citizens in the 1970s and 1980s.[13] For the Abe government, it is the abductions, not nuclear weapons, that constitutes "the most important problem our country faces," a problem so great that Abe has created a special cabinet office to address it. Pyongyang in 2002 had already apologized for the abductions, and by 2004 had returned to Japan those it said were the last surviving abductees and the ashes of those who had died.

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11 *Client State*, pp. 63, 77.

12 Richard L. Armitage and Joseph S. Nye, "The US-Japan Alliance: Getting Asia right through 2020," Center for Strategic and International Studies, Washington, February 2007.

13 For detailed analysis: Gavan McCormack and Wada Haruki, "Forever stepping back: the strange record of 15 years of negotiation between Japan and North Korea," in John Feffer, ed, *The Future of US-Korean Relations: The imbalance of power*, London and New York, Routledge, 2006, pp. 81-100.

For Japan, the sudden policy reversal of the Beijing agreement constituted a "Bush shock" akin to the "Nixon shock" over China of three and a half decades earlier. If the Beijing agreement is in due course successfully implemented, the North Korean nuclear issue resolved and relations with North Korea normalized, China will gain significantly greater weight in American thinking, even in some measure displacing Japan at the center of Asian policy. Japan therefore remains the most reluctant party to the Beijing deal, reduced to pleading with Washington not to lift the designation of terror-supporting state from North Korea.

As Jim Kelly (former Deputy Assistant Secretary of State) said in Beijing in late April 2007, Japanese politicians face a "hard choice" over priorities.[14] With Bush's policy shift in Beijing, Abe's North Korea "containment policy," as the *Asahi shimbun* put it, "falls apart."[15] Richard Armitage recently even suggested that North Korea "might remain in possession of a certain amount of nuclear weapons even as the [Korean] peninsula comes slowly together for some sort of unification," and that the US might have to "sit-down" with Japan to explain it.[16]

4. As this policy difference between the US and Japan on North Korea opened, so too did Abe court trouble by his repeated expressions of denialist history and his determination to sweep away the postwar system of which Washington is so proud. In September 2006, just before he assumed the Prime Ministership, the *New York Times* rebuked Abe for being "neither honest nor wise in the inflammatory statements he has been making about Japan's disastrous era of militarism, colonialism, and war crimes."[17]

In January 2007 the bipartisan International Relations Committee of the US Congress opened hearings into the Comfort Women system, describing the mobilization of women across Asia into sexual slavery as "one of the greatest crimes of human trafficking." Outraged, early in March Abe answered a question in the Diet about his attitude towards this committee by denying that there was any proof the Japanese military had ever forced women into brothels. His answer stirred a storm of indignation, compounded by his subsequent evasive and equivocal responses.

The *Los Angeles Times* on 18 March asked how could "a Prime Minister who came to office vowing to create a 'beautiful Japan' that spoke with credibility on global affairs, end up squabbling with now-octogenarian women over the degree of coercion that was used to conscript them into a network of serial rape."[18] The *Washington Post* on 24 March wrote scathingly of the "double standard" by which the Abe government treated abductions of a dozen or so Japanese citizens by North Korea in the 1970s and 1980s as an international crime while denying responsibility for its own abduction of hundreds of thousands of Koreans, Chinese etc, a half century earlier.

While Abe struggled to quell the international outrage, his government flatly contradicted him, denying that there was any proof of Japan having forced women into brothels,[19] and the Deputy Chief Cabinet Secretary, spokesman for the government, also reiterated that the Imperial Japanese Army had never had anything to do with

[14] "Keri moto Beikokumu jikanho rachi 'Nihon wa kibishii ketsudan mo'," *Asahi shimbun*, 29 April 2007.
[15] Naohito Maeda and Nanae Kurashige, "With US shift, Abe's N. Korea containment policy falls apart," *Asahi shimbun*, 15 February 2007.
[16] "North Korea may still be nuclear in 2020," *The Hankyoreh*, 18 February 2007.
[17] Editorial, 13 February 2006.
[18] Bruce Wallace, "Japan's Abe sticks to comments on 'Comfort Women'," *Los Angeles Times*, 18 March 2007.
[19] Kyoko Hasegawa, "Abe government reiterates: no evidence of sex slave coercion," Agence-France Presse, 16 March 2007.

that.[20] Late in April, the *New York Times* observed that "The attention on sex slavery has raised some concerns in the United States about linking American policy in Asia to Japan's current leadership."[21]

As the issue spread, Abe tried another tack. Standing beside President Bush at Camp David, he declared his "deep-hearted sympathies that the people who had to serve as Comfort Women were placed in extreme hardships" and his "apologies for the fact that they were placed in that sort of circumstance." The "apology" was carefully phrased to exclude reference to any state compulsion – which was the crucial issue. It was a bizarre event, both for Abe, to have offered his Comfort Women "apology" *to President Bush*, and for Bush to have "accepted" it, as if he were somehow standing in for the Comfort Women.[22]

On 14 June, a group of influential Japanese, including 44 Dietmembers from both major parties, took out a full-page advertisement in the *Washington Post,* criticizing the US Congressional committee for distorting the reality and suggesting that the Comfort Women were engaged in "licensed prostitution that was commonplace around the world at that time." In July, another group of 220 political and media figures bombarded members of Congress with letters attempting to dissuade them from their course,[23] and Japanese ambassador to the US, Ryozo Kato, cautioned the US that adoption of such a resolution might damage bilateral relations.[24] It was so much oil onto the fire. The Congressional committee's chair, Tom Lantos, denounced the attempt to sway Congressional thinking and insisted on the moral rights of "the victims of this monstrous act."[25] On 26 June, by a majority of 39:2, the House Committee adopted Resolution 121 calling on Japan to "formally acknowledge, apologize, and accept historical responsibility" for the coercion of young women into sexual slavery.[26] Speaker Nancy Pelosi called for the Resolution to be adopted in due course by the full House,[27] as indeed, in due course, it was on 30 July.

In short, Abe's politics of dependence, denialism, and North Korea-bashing isolates it diplomatically at a crucial moment in the negotiation of a new order in Northeast Asia. Unable to address the structural problems of dependent identity, rumbles of criticism of the Bush administration, previously inconceivable, begin to be heard from senior Abe government figures.[28]

5. Since commercial relations with Australia were reopened under a treaty signed in 1957 on Japan's behalf by its then Prime Minister Kishi Nobusuke, grandfather of Prime Minister Abe, Australian governments (and oppositions) have consistently cultivated the relationship. Current Australian Prime Minister John Howard is on record even before he became Prime Minister as favouring a tripartite defense relationship involving Australia, the US, and Japan, with Japan becoming a major regional military force.[29] In Tokyo in March 2007 for the 50th anniversary of the commerce agreement between the two countries, Howard took a significant step towards his long-held goal of a security link when he signed with his Japanese

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[20] Shimomura Hirofumi, See "Shimomura hatsugen – shusho no owabi ga dainashi da," editorial, *Asahi shimbun*, 28 March 2007.
[21] Norimitsu Onishi, "Sex slave dispute follows Abe even as he bonds with Bush," *New York Times*, 29 April 2007.
[22] Onishi, *New York Times*, ibid.
[23] Setsuko Kamiya, "Conservatives want US reps to kill apology motion," *Japan Times*, 14 July 2007.
[24] Shingetsu Institute for the Study of Japanese-Islamic Relations, Newsletter No 685, 24 July 2007.
[25] Remarks of Chairman Lantos on H. Res 121.
[26] House Resolution 121, submitted 31 January 2007.
[27] Pelosi statement, http://www.house.gov/pelosi/press/releases/June07/women.html
[28] See "Criticism of Iraq war," editorial, *Asahi shimbun*, 8 February 2007.
[29] See reports in *The Age*, 26 March 1988, and the *Weekend Australian*, 26-27 March 1988.

counterpart a Joint Declaration on Security Cooperation. It endorsed their shared "democratic values, a commitment to human rights, freedom and the rule of law,"[30] while passing over without mention not only the bitter memories of the Japan-Australia war of 1941-45 but also the growing friction over memory, identity and history that complicates relations between Japan and all other former combatant countries.

There is of course a third party to the Australia-Japan embrace. The February "Armitage and Nye" report called, inter alia, for precisely the sort of enhanced cooperation foreshadowed in the March agreement.[31] Vice-President Dick Cheney too urged such cooperation on both governments on his February visits to Australia and Japan, especially the reinforcing of links between Japan's Self-Defence Force and the Australian Defence Force, within the general frame of a geostrategic arc of containment of China, stretching from Japan to Australia and then to India. The Howard government looks forward now to enhanced "trilateral cooperation between Australia, Japan and the United States" and shares the vision of a Japan that would set aside its constitutional inhibitions and adopt a "more active security posture within the US alliance and multinational coalitions".[32] Australia and Japan already cooperate in US-led "coalition of the willing" operations in the Indian Ocean and Iraq, and in UN peace-keeping operations in Cambodia and East Timor and cooperate in naval initiatives against WMD. Such cooperation seems set to be stepped up and become more systematised.

As Australia and Japan both adapt their bilateral alliance with the US to the trilateral frame, the imbalance for Australia is considerable. Although Japan by constitution is a pacifist country, without "land, sea, and other forces, as well as other war potential," its Self Defence Forces, already five times greater than Australia's military, are the most powerful and well-equipped in Asia, and supported by a defence expenditure that is either Number 3 or Number 4 in the world. Whether Australian civil society will share the government's dream of a Japan freed of constitutional inhibition and turned into a full military superpower remains to be tested. Strategic and defense analyst Des Ball concludes his comment on the burgeoning security relationship on this cautionary note: "The security relationship was spawned in secrecy. It was nurtured and shaped by particular agencies, such as the intelligence organisations and the Navies, and reflects their particular bureaucratic interests and perspectives. ... It has expanded through a cumulation of essentially ad hoc responses to different global and regional developments, crises and opportunities. It has never been subject to comprehensive or systematic bureaucratic audit or informed public discussion."[33]

To this critique, others add that the orientation of the new security tie is also problematic. Former Australian diplomat Gregory Clark notes that for Australia it amounts to a tieup with "a former enemy against the main victim of Japan's former aggression – China." [34] The Nautilus Institute's Richard Tanter sees Australia and Japan returning to "a half century of East Asian security architecture" by agreeing to join "a nascent anti-China US-dominated multilateral alliance system." [35]

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[30] "Australia - Japan Joint Declaration on Security Cooperation," Australian Government, Department of Foreign Affairs and Trade, 13 March 2007 .
[31] Armitage and Nye, "The US-Japan Alliance: Getting Asia right through 2020," cit.
[32] Department of Defence, *Australia's National Security – Defence Update 2007*, Canberra 2007.
[33] Desmond Ball, "Whither the Japan-Australia security relationship?" Austral Policy Forum 06-32A, 21 September 2006.
[34] Gregory Clark, "Australia's anti-China pact," *Japan Times*, 12 April 2007.
[35] Rihard Tanter, "The new security architecture: Binding Japan and Australia, containing China," Austral Policy Forum 07-07A 15 March 2007, Melbourne: Nautilus Institute at RMIT.

However, it would be a mistake to focus exclusively on security, for this relationship has other important dimensions. Bureaucratic, corporate, and academic groups in the two countries also vigorously promote a bilateral Free Trade Agreement. For Japan, its focus would be on guaranteed long-term access to Australian mineral and energy resources (especially in the event of an FTA between Australia and China) and for Australia what counts most is expanded access to Japanese markets for Australian primary produce. While the debate proceeds behind closed doors, the outcome will have large social, environmental, and ultimately political consequences. Japan's Ministry of Agriculture estimates that the FTA with Australia would mean the virtual elimination of Japan's wheat and sugar industries, halving of its beef and dairy industries, and a severe blow to rice farmers, to the tune overall of economic losses of three trillion yen. The harm would be concentrated especially on Hokkaido, where greatest social dislocation and unrest could therefore be expected.[36]

George W. Bush speaks of food self-sufficiency as "a matter of state security," and finds almost unimaginable the prospect of "a country that canot supply its own food,"[37] yet Japan seems to treat with equanimity the prospect of a policy designed to reduce its existing food self-sufficiency rate of 40 per cent to at best 30 per cent, which would be further slashed if the anticipated FTA deals with the US and Canada followed. In other words, Japan is pursuing a path unique among advanced capitalists states – that of steadily increased food dependency. With Australian agriculture itself facing unprecedented blows from dought and climate change, and world grain stocks at record lows, the wisdom of choosing long-term dependence may be doubted.

Australia and Japan also constitute geometric poles of a regional community of value. Abe and his Foreign Minister (to August 2007), Aso Taro, are fond of the idea of "values diplomacy," notably the idea of a grand "Arc of Freedom and Prosperity," including not only the US, Japan, and Australia, but also India.[38] A "Dietmembers Association for the Promotion of Values Diplomacy" was set up in 2007,[39] and Abe has suggested to George W. Bush the formation of an Asia-Pacific Democratic League or "Strategic Dialogue" linking the arc of four (the US, Japan, Australia, and India). Although Secretary of State Rice is said to have responded coolly to such a suggestion that it would be better not to provoke China unnecessarily, and that Japan should concentrate on improving its bilateral relationships,[40] nothing daunted, Abe raised essentially the same idea once again when addressing the Indian parliament in August 2007.[41] Not surprisingly, such rhetoric makes China uneasy.[42]

Of course Australia and Japan do share values, but any discussion about values has to distinguish between those declared by governments, often intended as rhetorical flouishes rather than statements of binding principle, and those adhered to by people. It is unlikely that many in Australia share the Japanese government's insistence on compulsory love of country or on the righteousness of the Japanese cause in the Second World War, and if the two govewrnments do indeed seem to share certain values, notably that of service to the United States, it does not follow that the people of either country necessarily endorse that particular value. By the same token, if both the

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36 Okada Motoharu, "Isn't it fine for Japan to do without agriculture? Negotiating Japan-Australia Economic Partnership," Japan Focus, 30 June 2007.; also Ono Kazuoki, "The Australia-Japan FTA negotiations: what do they really mean?", Japan Focus, 24 July 2007.
37 Quoted in Okada Motoharu, cit.
38 Taro Aso, "Arc of freedom and prosperity," speech of 30 November 2006.
39 Funabashi, "Beikoiku kara no 'jiritsu' to 'jisei'."
40 Funabashi, ibid, also "Nichi-bei-go-in daiwa, Raisu chokan 'shincho ni', Koike Boeisho to kaidan," *Asahi shimbun*, 10 August 2007.
41 "'Nichi-In wa kihonteki kachi o kyoyu' shusho, Indo kokkai de enzetsu," *Asahi shimbun*, 22 August 2007.
42 "'Be open and inclusive,' China tells India, US, Japan, Aus," *Outlook India*, 27 June 2007.

Japanese and Australian governments supported the US war on Iraq, seem now to favour the China containment agenda of Vice-President Dick Cheney and agree to turn a blind eye to India's defiance of the global nuclear rules, these patterns are not necessarily followed by peoples.

While "values" discussion has therefore to be treated with a good deal of scepticism, the copre agenda for the relationship between the two countries is in fact security and economic, in accordance with the prescription for the region emanating from the Pentagon on the one hand and influential think-tanks and policy intellectuals in Washington on the other. Consequently, in 2007 when an address by Prime Minister Abe to a joint sitting of the Houses of the Federal Parliament was first scheduled (for 11 September) and then cancelled – to avoid exposure to public scrutiny or debate of the shared "values", it was a pointer to how little the relationship had yet impinged on the public consciousness that both events passed almost unnoticed.

6. Since the end of the Cold War there have been essentially two scenarios in contest for the future of Asia, and in the present context those same two alternatives remain: a) The US-centred and US-led, US hegemonic project, to which at present both Japan and Australia seem committed; b) An Asian (or Northeast Asian) Community, evolving either from the existing "ASEAN +3" economically-based organs, with economic linkages gradually evolving into new political forms and a new sense of *identity,* or out of the security links forged in Beijing at the "6-Party" talks. In its more visionary version, it might become something like a "Common House" of East Asia or Northeast Asia.

The major obstacles to the Asia Community project are: the US, for whom any "community" in which its own overwheming predominance is not entrenched has long been anathema; Japan, reluctant to commit itself to anything that excludes the US and increasingly committed to a denialist history and a solipsist identity; Australia, added to the Asian table at the insistence of Japan and seen as a proxy for the US; and India, whose inclusion also owes much to Japanese and US insistence but which has thus far shown little interest.

However, the February 2007 agreement suggests that Washington may be recalibrating its Asia policy from a Tokyo centre to a Beijing centre. The implications of that would be enormous, and on present indications the shock would be greatest in Australia and Japan, the two client states of theWestern Pacific.

What is for sure is that the future of Asia is now powerfully contested, and that the tide that washed over Asia during the *longue durée* of European and American hegemony is ebbing. Now, the US declines, China rises, and Australia and Japan face serious choices because China is their major trading partner and the US their major strategic and security partner. In the short term, this causes acute dilemmas, but in the long run, as Marx foresaw, economics trumps politics.

THE WORLD'S HEAVY WEIGHTS COURT NORTH KOREA

by *Hagiwara Ryo*

Rhetoric aside, America is the main supporter of North Korea's despotic regime, that gives Washington a good pretext to keep its troops in Asia. On the contrary, China's aims on the country involve a peace between the North and the South. While a wrong footed Japan is reduced to a mere watcher.

1. FROM 1910 UNTIL JAPAN'S DEFEAT IN the Second World War, the Korean peninsula was held under Japanese colonial control for 36 years. Following Japan's surrender in 1945, the US and Soviet Union entered the peninsula and took over: the Soviets became the new rulers of Korean territory north of the 38th parallel, and the Americans south of that divide. The clashing ideologies and intentions of the US and Soviet regimes drove Northern and Southern Korea into severe opposition. On June 25, 1950, North Korea's Kim Il-sung, backed by the Soviet Union, carried out a full-scale military attack on South Korea. The US intervened under a UN resolution, followed by China, which dispatched a large number of troops to the region, transforming the civil war into a major international conflict.

The fighting in the Korean War ceased with the conclusion of an armistice in July of 1953. This was a war involving US, China, North Korea, and South Korea; South Korea, unsatisfied with an armistice, did not sign the agreement, only the three other nations signed the armistice treaty to the Korean War. This treaty, however, represented a cease-fire and not an end to the war. There were many reasons why the Korean War has never concluded to this day; the greatest reason, however, was the Cold War between the US and Soviet Union and the anti-Communist policy of the US. By exaggerating the "Soviet threat" in the region, Washington succeeded in binding South Korea and Japan into its camp, and both nations became major arms markets for the US.

With the collapse of the Soviet Union in 1991, the situation in the Korean peninsula entered a new phase. With the Soviets now gone, the US exaggerated the "North Korean threat" in order to keep Japan and South Korea from straying out of its camp. The US pressured Japan, by fanning the "North Korean threat" to ever greater proportions, to alter Article Nine of Japan's constitution (which forbids it from dispatching troops and engaging in war overseas) so that Tokyo could participate more actively in US wars.

The US presented itself outwardly opposed to North Korea, but continued to support the country with food supplies and heavy oil behind the scenes. Most recently, Washington has shown signs of even accepting the nuclearisation of North Korea, on conditions that Pyongyang promises not to engage in proliferation. Clearly, a dramatic shift in North Korean policy is taking place.

After having lost its patron state, the Soviet Union, in 1991, North Korea searched frantically for ways of survival. Other socialist states fell like dominos, and the North Korean regime realized that it also faced the threat of imminent collapse. For Kim Jong-il, such a collapse meant public trial and execution, as had happened to Romanian dictator Ceauşescu and his wife; such a fate was what he wished to most

avoid.

At the time, Kim Il-sung had already retired from the front lines of managing the affairs of the country. But recognizing this unparalleled crisis in the country, the father returned to active office and took hold of the reins of government he had once relinquished to his son. In this process, Kim Il-sung collided with Kim Jong-il over various policy measures. As a result of policy struggles between the two, I have argued that Kim Jong-il murdered Kim Il-sung to achieve his dictatorial position in North Korea. The reason that North Korea has become the world's headache today has much to do with the existence of this cruel dictator, Kim Jong-il and the US policy of preserving North Korea.

2. The conflict between Kim Jong-il and Kim Il-sung began in September of 1990. The year's autumn grain harvest had been poor (like the previous year), and 100,000 North Koreans had starved to death. As a result of this famine, Kim Jong-il had invited an inspection team of the WFP (World Food Program) to Pyongyang in hopes of receiving WFP food aid. Kim Il-sung, hearing of his son's behavior, was enraged: how dare he seek to receive food aid from the imperialists! How dare he share statistical data, state secrets, to the West! With such severe criticism, Kim Il-sung evicted the WFP investigation team from North Korea. I suspect that Kim Jong-il's homicidal inklings – his desire to get rid of Kim Il-sung – first appeared at this time when he had his policies rejected by his father in this way.

The clash between father and son came to the fore once again in June of 1994. To deflect growing anti-government sentiment within North Korea and channel it into anti-American sentiment, Pyongyang intentionally leaked the existence of its nuclear weapons development program to the West and sought a nuclear stand-off with the US. At the time, public sentiment had reached crisis levels of dissatisfaction over hunger and lack of food. By spreading propaganda of an imminent US attack and placing the nation at a war-time footing, Kim's regime was able to lay down virtual martial law over the country and crack down on domestic political instability

On June 17th, 1994, the nuclear stand-off between the US and North Korea reached its most critical point. Former US president Jimmy Carter, as a special envoy of Bill Clinton, US president at the time, met with Kim Il-sung to defuse the situation. At the meeting, Carter suggested that Kim Il-sung meet with South Korean President Kim Dae-jung; Kim Il-sung immediately accepted the proposition. In this way, the first ever historical South Korea-North Korea summit meeting was planned to take place for three days in Pyongyang from July 25th.

Kim Jong-il, however, was strongly opposed to this summit meeting with the South Korean president. Kim Jong-il had long been terrified of being murdered by the public if and when his regime fell; he therefore sought to get rid of the "anti-revolutionary forces" in the country. Kim Jong-il's chosen method to wipe out such political enemies was to reduce their food supplies, weaken them through malnutrition, and eventually starve them to death by cutting off food rations. It was an ingenious strategy: murder by starvation. A large proportion of Kim Jong-il's political enemies lived in the northeast of the country, in the two provinces of North Hamgyong and South Hamgyong. Approximately five million people, or 23 per cent of the total North Korean population, lived in this region. This was to be the target area of Kim Jong-il's murderous strategy.

In contrast to his son's plans, Kim Il-sung sought to soften the anti-government sentiment among the hungry public by providing them with more food. As a first step, Kim Il-sung believed it was necessary to rebuild the nation's agriculture and considered the need for increasing fertilizer production. In order to do this, electricity generation [which provided the electricity for fertilizer factories] needed to be

increased. Kim Il-sung had specific plans for the construction of four major thermal-powered electricity plants within the country. To fund this plan, he was counting on aid – an estimated one billion dollars and one million tonnes of food aid – which South Korean President Kim Dae-jung was expected to bring as peace offerings to the summit meeting. If Kim Il-sung's plans were to succeed, Kim Jong-il's preparations of murder-by-famine would come to naught; it was likely at this point that Kim Jong-il strengthened his resolve to murder Kim Il-sung.

The third, and ultimately lethal, clash between father and son came on July 7th, 1994. A day before, on July 6th, Kim Il-sung had called 100 or so of his top cadres from the government's economic bureaus to his private villa in Myohyang, at which he had announced to them his economic plans for the immediate future. Kim Il-sung explained in detail his pet theory of rebuilding agriculture by setting up new thermal-powered electric generators to produce the electricity needed for increased fertilizer production. The top cadres gathered there agreed with Kim Il-sung's plans. At the same time, Kim Il-sung also revealed his opposition to his son's plans to ask for light-water nuclear reactors from the US. He was opposed to the plan because it took over ten years before a light-water reactor could contribute to increased electricity production. There was not enough time, Kim Il-sung argued. Ensure that new thermal plants are constructed within the year, he commanded.

Kim Jong-il, who had boycotted this economic conference, heard Kim Il-sung's policy speech on recorded tape on the night of July 6th. This was a complete denial of his plans. The third round of talks between high-ranking US and North Korean officials had been planned in Geneva in the morning of July 8th. At this meeting, Kim Jong-il had instructed his officials to demand the US provide two light-water reactors in exchange for backing down on the nuclear crisis. (The US eventually agreed to the terms.) Though promising to use the nuclear facilities for generating electricity, Kim Jong-il was in fact hoping to produce plutonium for nuclear arms production. Kim Il-sung's support for thermal powered electricity plants would have completely derailed Kim Jong-il's hopes for getting nuclear arms. But the Great Leader Kim Il-sung's commands were absolute.

At the time Kim Jong-il heard his father's speech, Kan Suk-ju, first Foreign Vice-minister, was already in Geneva. There was only one day left [before the talks on July 8th between US and North Korean officials]. Only one day, July 7th, to prevent Kim Il-sung's instructions from reaching Geneva and wrecking Jong-il's plans. And on that day, at around 2200 hours (North Korea local time), Kim Il-sung died.

Many of the mysterious incidents which had occurred in North Korea in the past dozen years appear sensible when analyzed through my theory [of Kim Jong-il's "hidden war" against his father and his political enemies]. Kim Il-sung's unexpected death is one of them. So is the mystery of the several million famine victims between 1995 and 1998, the years in which North Korea received much food aid from the international community. This famine was, in fact, a veil for actively wiping out anti-revolutionary elements in North Korea. This murderous famine would not have occurred had Kim Il-sung been alive. By getting rid of Kim Il-sung first, Kim Jong-il was next able to murder two to three million of his political enemies which he greatly feared.

3. The US has been outwardly opposed to North Korea, but in fact has continued to aid North Korea in its survival for existence. The greatest example of this behavior is North Korea's nuclear program.

During the first nuclear crisis between 1993 and 1994, US President Clinton, cowed by Pyongyang's suicidal threats of attack, promised North Korea two light-water reactors. The US government furthermore promised to provide 500,000

tonnes of heavy oil until the reactors were completed ten years down the line. This offer was put down in print and sent to Kim Jong-il; this letter was later shown as proof to the North Korean public that the imperialist Americans had finally surrendered to their great fatherland.

Why would the US have given North Korea two light-water nuclear reactors while demanding that Pyongyang stop its nuclear program? One light-water reactor is capable of producing 300 kilograms of plutonium every year (enough plutonium for several atomic bombs). The American nuclear specialist, Henry Sokoloski, pointed this out in a sharply critical article carried by the Washington Post on August 4th, 2002. Why didn't the US agree to the thermal-powered plants first requested by North Korea?

Between September 10th and 16th of 1994, a conference was held for North Korean and US specialists in Berlin. The North Korean side was led by Kim Jong-woo, the Chairman of the Committee for Advancing Foreign Economic Cooperation. He requested that the US supply North Korea with standard thermal powered plants fitted with mixed reactors using both coal and heavy oil, not light-water reactors. Deputy Undersecretary of State, Gary Samore, who represented the US team, rejected this request, arguing that it would "confuse negotiations".

This can not be treated as a mere policy misjudgment of the Clinton administration. All along, both Republican and Democratic administrations in the US have had no intentions of driving North Korea to collapse. The fall of the Pyongyang regime will inevitably mean unification of the Koreas and stability in the peninsula. This will mean that the US will no longer be able to hawk arms to their regional allies or have a pretext to persuade Japan into revising Article Nine of its Constitution. The bottom line for the US was to ensure North Korean survival by supplying it with light-water reactors, even if it meant risking nuclear development by Pyongyang.

At one time, I was duped into thinking that George W. Bush did not share this attitude. For even before arriving in the White House, Bush had spoken of attacking North Korea's nuclear program. He had included Kim Jong-il's regime together with Iraq and Iran as part of the "axis of evil". And yet the Bush administration declared war on Iraq, which had no nuclear arms, while eventually taking an extraordinarily accommodating position to North Korea, which had carried out nuclear experiments. In February of this year, Washington lifted the financial sanctions which were effectively weakening North Korea.

Recently there has even been talk of removing North Korea from a list of states that sponsor terrorism. In March 1990, nine Japanese terrorists hi-jacked the Japan Airlines flight "Yodo-go" and fled to North Korea. Kim Il-sung hosted them graciously, giving them homes, and even abducted Japanese women as their wives. In November of 1997, the North Korean government was involved in the mid-air explosion of a Korean Air Flight which killed 115 South Koreans. How can the US still remove North Korea from its designation as a terrorist-sponsor state? Moreover, Washington has been eagerly in talks with Pyongyang, even discussing the possibility of establishing official relations.

The greatest reason for such restraint is Japan. The US occupied Japan after its unconditional surrender in August 1945 until April 1952. During that time, Japan was used as a base to fight North Korea and China during the Korean War. Japan was widely used as an outpost against Communism during the Vietnam War. The US is well aware that it can win no wars in Asia without Japan.

The Iraq War broke out in March 2003. The war is now a quagmire: US policy has failed across the board in Iraq and the casualties of American soldiers continue to mount. The US intends to drag Japan into this war. The US is pushing for Japan to recognize its right to collective self-defense so that Japan can fight alongside US in the

event either country is attacked. Article Nine of the Japanese Constitution which holds that the "right of the belligerency of the state will not be recognized" has been the greatest obstacle to achieve this end. It has long been the US goal for Japan to revise this constitutional restraint and make Japan a country capable of waging war.

The US has been using North Korea so that Japan huddles closer to Washington for security. It has accepted North Korea's nuclearisation and made sure that Japan is indeed frightened by Pyongyang's threats. If North Korea were to self-implode and collapse, it will no longer have this pretext. Act violently and threaten Japan further, for this is in our best interests – long live North Korea! This appears to be the essence of Washington's anti-North Korea policy.

4. What, then, do the recent conciliatory steps taken by the US towards North Korea signify? In essence, it is a counter-measure against the Chinese attempts to make North Korea its dependency and virtual colony.

The US has recently been pursuing a policy of seeking an end to the Korean War: in other words, to shift from the current cease-fire agreement into a peace treaty. In November of last year at the APEC (Asian Pacific Economic Council) meeting, President Bush proposed to General Secretary Hu Jintao of China: why don't we declare an end to the Korean War if North Korea agrees to give up its nuclear program? China did not oppose this suggestion. The same suggestion was proffered to President Roh Moo-hyun of South Korea at the APEC discussions. This is the first time such a suggestion has been put forward in the 54 years since the Korean War entered an armistice in 1953.

Of course, it is unnatural for a state of war to continue for 54 years. It is only natural to terminate such a war. But the lengthy US-Soviet Cold War had prevented such a peace. And there was a period, until the 1970s, when the regional community sought to isolate North Korea. And in 1994, the conflict neared the brink of a second Korean War. With Japan's lean to the right, there has been and still is a need among right-wing nationalists to pretend that Japan is in a fight with North Korea, together with its ally the US, in their ultimate goal to revise Article Nine.

But during this time, a new situation has arisen in the region: the colonization of North Korea by China. China's economic growth in recent years has been staggering. From cars to mobile phones, weapons to high-tech equipment, Chinese industries now compete with US and Japanese firms. And competition over rare metals and other material resources has intensified. As such, North Korea, considered a treasure trove of rare metals, has been attracting much attention. The country has the highest reserves of tungsten and the fourth highest reserves of magnesite. According to Kotra, the Korean Trade Investment Agency, the potential value of North Korea's underground resources tops 183 trillion yen (1.58 trillion dollars). China has recognized the potential of this situation and has been buying up North Korean iron ore, copper, and zinc mines. In the autumn of 2005, China purchased monopoly mining rights of the Musan mine, one of Asia's richest mineral deposits, for the next 50 years for the paltry sum of 900 million dollars.

North Korea is not only benefiting China as a supplier of raw materials, but also as a market for its consumer goods. In addition, China has acquired the monopoly rights to the main shipping facilities of Rajin port on the Japan Sea side of North Korea. If a country is not only resource supplier, consumer market, and trading base of another country, it is a "colony" in essence, if not in name.

In order to rationalize its colonization of North Korea, China has been conveniently interpreting ancient history and in 2004, the Chinese Academy of Social Sciences announced that "Koguryo was only a regional ethnic kingdom and subject county of ancient China". Koguryo is a kingdom of ancient Korea, with Pyongyang as

its capital, which greatly flourished in the 5th century ad. For this to be called a mere local government under Chinese rule is an insult to both North and South Korea. China's claims of historical revisionism have escalated, stating that all territory north of the Hangan River (the large river which runs east-west of the Korean peninsula and through the South Korean capital of Seoul) was once part of Chinese territory. This claim implies that "real" Korea exists only below the 38th parallel and that all of North Korea has been Chinese territory. Moreover, China's claim fundamentally rejects unification, the goal of both Northern and Southern Koreas, and the Korean people's belief that the Korean Peninsula is one.

The US can not afford to simply watch and wring its hands. If North Korea were to listen to China, the US will no longer have influence over Pyongyang. The US will have fewer opportunities to pretend to "oppose" North Korea, while providing it with light-water reactors, heavy oil, and food to control it. Anti-American sentiment is on the rise in South Korea and there have been increasing calls for the closing of US bases in the country. A foothold in the Korean Peninsula will be indispensable in the US struggle with China over hegemony in the region.

But the situation is getting ever more complicated. At this rate, China will surely bring North Korea under its ambit. In these conditions, it is only natural that the US seeks to establish normal ties with North Korea and maintain their influence over Pyongyang. North Korea is not necessarily in full agreement with China either; it is angry over China's resource strategy and there is some element of wishing to snub China by joining hands with the US. This is not confirmed, but during North Korean-US talks, North Korean Foreign Vice-minister Kim Gye Gwan told the Americans that they may be allowed to station troops in North Korea.

5. China's foremost wish at present is to become an economic superpower. Hence it has no interest in fighting a war with the US or the Koreas. In the Korean War of the 1950s, China sent a huge army of over 3 million soldiers into the Korean peninsula and suffered vast losses, severely undermining its national strength.

The sacrifices of a war on the Korean peninsula are equally too costly for the US. According to US calculations in 1994 at the brink of a second Korean War, one million casualties were expected in the peninsula, as well as 80,000 to 100,000 American losses in life, in the event of another Korean war. Military costs were expected to surpass 100 billion US dollars, and the destruction of property and interruption of economic activity would cost more than one trillion US dollars to the countries involved and their immediate neighbors.

Even if Kim Jong-il turns suicidal and acts irrationally, China has the capacity to immediately halt such behaviour by stopping the supply of gasoline and other military supplies necessary for war. If Kim Jong-il persists, Beijing would probably send assassins to finish of Kim Jong-il. One must note that the core of the North Korean People's Liberation Army is riddled with Chinese elements and sympathizers.

There has also been a scenario of agents from North Korea attacking a Japanese nuclear reactor. The Japanese public, lulled by 60 years of peace within its borders, is easily frightened by such threats. Many times throughout history, unreasonable leaders (and governments) have murdered their own subjects and their neighbors, utterly destroying their own and others lands. One must not forget that Japan itself has been a major aggressor: imperial Japan colonized the Korean peninsula and caused the Korean people tremendous suffering and carried out 15 years of invasive war against China, causing incalculable damage there as well. The barbaric behavior of the Japanese Imperial Army in the Philippines and Thailand is still denounced across the world.

Japan is fully aware of its responsibilities. But what will Tokyo do if North Korea

were to attack? To such a question, I answer thus: every country and every citizen has the right to self-defense. The Japanese Self Defense Forces exist for this very purpose. But Japanese citizens should not just rely on the SDF, but should be willing to sacrifice themselves in the event of a foreign invasion. At the time of the Pacific War, I was only a third-grade student. But even still, I was given a bamboo spear and trained with it, having been told to use it to fight the Americans if they land. Though these are clearly different times, what is important is that citizens are mentally prepared to fight.

Japan was never a participant of the Korea War. As such, there is no need for it to make a peace treaty out of a cease-fire agreement. If it so wishes, Japan can agree to establish national ties with North Korea by bilateral agreement. But in reality, Japan is engaged in a military alliance with the US as a result of the Japan-US Security Treaty; this has meant that Japan has not been capable of independent diplomacy as it has constantly needed to heed US demands. While the US was opposed to North Korea, Japan similarly followed suit and could not engage in diplomatic relations with Pyongyang. Now that the US is moving towards establishing ties with North Korea, Japan has also been shifting in policy in the same direction. This is an embarrassment for Japan, but this is the reality.

Yet there are some issues which Japan can not compromise: the several dozens to hundreds of Japanese nationals that were abducted by North Korea. North Korea must act in good faith and release all of these individuals, return their remains if they had died, permit their relatives to visit their graves, strictly punish those responsible for the abductions, and pay reparations. There are over 6,000 Japanese citizens who, in the 1960s, immigrated to North Korea, deceived by propaganda of an "earthly paradise". Four decades later, their families are said to have increased to 300,000 individuals. These people have also been detained and have not been permitted to travel to Japan. This is a form of abduction. North Korea should return all of these individuals to Japan temporarily and let them choose where they wish to live, guaranteeing them the freedom of travel. Unless these things are done, Japan must not normalize ties with North Korea.

At the same time, Japan must pay suitable reparations and apologize for the crimes it had committed during the colonial period before 1945. Only after these pre-conditions have been fully achieved can normalization be achieved.

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