10. Ausblick

Präventive Sicherheitspolitik wurde in diesem Beitrag als Mehrebenenansatz vorgestellt, der eine gute Regierungsführung in Entwicklungsländern, internationale Initiativen, Managementansätze und ein internationales Abkommen umfasst. Damit wird zum Ausdruck gebracht, dass die Politik gefordert ist, eine stärkere Integration von Umwelt-, Wirtschafts- und Technologiepolitik zu betreiben. Die Chancen der Wirtschaft, durch Ressourceneffizienz einen neuen Innovationsmotor anzuwerfen, können diese Bestrebungen zusätzlich motivieren. Dabei sollten jedoch nicht die Augen davor verschlossen werden, dass zum einen akute Krisenregelungsmechanismen erforderlich sind (z. B. in der DR Kongo) und zum anderen die internationale Sicherheitsarchitektur umfassend auf dieses neue Schlüsselthema einzustellen ist. Etwaige Reformen der Vereinten Nationen hat dieser Beitrag noch nicht thematisiert, ebenso wenig den Bezug zum Konzept der menschlichen Sicherheit. Die hier genannten Strategien wirtschaftspolitischer Reformen, der Transparenz und der Einführung eines internationalen Abkommens sind jedoch konkrete Beiträge und Bausteine für eine präventive Sicherheitspolitik.

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‘What’s Mine is Mine, What’s Yours is Negotiable’: Self-Sufficiency versus Interdependence in Energy Strategy

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Abstract: Energy security presents several paradoxes including the fact that owning large energy resources may be a source of instability, while a properly managed interdependence of producer and consumer can prove stabilizing. Oil and gas wealth is already known to be linked to failings in economic development and security. Countries that seek to maximize native production from nuclear power face physical and proliferation risks, while large-scale renewable projects raise their own issues of safety and civil freedom. Interdependence based on producers’ comparative advantages makes more economic sense and may also force partners to overcome international problems that would otherwise fester into something worse.

Keywords: Energiesicherheit, Erneuerbare Ressourcen, Autarkie, Abhängigkeit
Energy security, renewable resources, autarchy, dependence

1. Introduction and Intent

In economics, and in international relations generally, possession of natural assets would normally be considered an advantage compared to the lack of them. This ought to be especially true in the case of native sources of energy (oil, gas, coal, nuclear or renewable), given their importance both for national strength – including the operation of armed forces – and as a trading commodity.

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This article will explore the opposite thesis and suggest that, just as natural plenty may in some respects prove a curse,[1] a country or grouping may derive some advantages from *not* maximizing its internal energy production and, instead, developing appropriate ways of handling energy interdependence. This is far from the first expression of such a view, but the present text makes a particular effort to extend it to the latest issues raised by renewable energy options. The case for interdependence is also re-visited in the light of the recent global economic emergency.

2. Some Peculiarities of Energy Security

From the standpoint of a general security analyst, the field of energy security holds several paradoxes. First, the type of security challenge it presents does not involve being confronted with a positive threat of unwanted action, or a surplus of something damaging such as pollution or disease. The danger is that something useful and needful will be taken away against the will of the user: withdrawn, interrupted, or made available only on intolerable conditions. As with food security or the insecurities dogging society's reliance on modern infrastructure, communications and the Internet, the underlying problem is thus one of *dependency*: and to at least some extent, a given nation's or society's own choices determine how dependent it will be and on which providers. These dimensions of security thus provide good examples of problems that can be defined as 'risks', and that may be discussed and assessed in terms not too far removed from the analysis of more familiar financial and economic hazards. As with a business partnership or financial investment, the risks attached to a particular pattern of energy use are the concomitant of the user's more or less free choices and can thus be described as 'reflexive' in the terms developed by the sociologist Ulrich Beck.[2]

Secondly, and unlike most political or strategic relationships, the two groups who are most opposite in their roles – that is, producers and consumers – seem both in principle and practice to be more *interdependent* and under more pressure to cooperate than consumers are with other consumers, or producers with other producers. Indeed, on purely economic logic one would expect producers to compete with each other, first for the control of energy sources (where sovereignty or ownership is disputed) and then for the most profitable and stable markets; while consumers would compete for supplies. The reality is, of course, far more complicated because suppliers can be tempted to hold users to ransom, using the 'energy weapon' to achieve other goals or interests they have at stake in the given relationship – and/or to make an impact on third parties. Obvious examples are the recent, repeated disputes in which Russia has held back supplies from transit through Ukraine to Europe on the grounds of Ukrainian violations of payment terms, thus putting pressure both on the Ukrainian state and Western customers and increasingly also souring West-Ukraine relations. The risk to Russia itself is that by appearing unreliable it may hasten the efforts of, at least, the richer countries concerned to switch to other and more congenial energy sources.[3]

If suppliers can depart from economically rational behaviour in pursuit of overriding security aims, one might expect that groups of consuming nations who share political values and interests would override their natural competing instincts to make a common front against troublesome producers. In fact, and despite the view that interprets various recent Western military actions as oil-driven,[4] modern history has yet to see a consumer club arising that would be anything like as enduring and influential as the Organization of Petroleum Exporting Countries (OPEC).[5] The European Union, which leads the world in the creation of common functional policies and pooled management of resources, is still struggling to achieve the most basic level of solidarity vis-à-vis Russia and other producers. This is so due to conflicting interests between its own producers and consumers, consumers' different levels of reliance on Russia and their differing interpretations of whether that reliance is good or bad for security.[6]

3. Energy Wealth and Dependence: The Obvious Risks

The final set of paradoxes, which provide the focus for this text, are about whether it is a good thing or not to be rich in energy and to have enough for one's own needs, or even an exportable surplus. As already noted, countries and even whole continents with a positive energy export balance are often found to suffer from lagging and distorted economic development, generally ascribed to over-concentration on the energy sector, vulnerability to global price shifts, corruption and other maldistribution of wealth including the disproportionate power of foreign companies.[7] Not only poorer and underdeveloped countries are open to such errors, as shown by the familiarity of the expression 'Dutch disease' referring to the Netherlands' mishandling of the economic impact of its revenues from natural gas in the 1960s-70s. It

1 The notion of a 'resource curse' was most strikingly developed by Jeffrey D. Sachs and Andrew M. Warner, e.g. in their NBER Working Paper no. 5398 of 1995: 'Natural Resource Abundance and Economic Growth' (available at http://ideas.repec.org/p/nbr/nberwo/5398.html). This issue is further explored later in the present text.

2 For an introduction to the 'risk society' see Beck, Ulrich, *Risk Society: Towards a New Modernity* (Sage Publications: London, 1992). For application of the concept in the realm of security studies see e.g. Coker, Christopher, *Globalisation and Insecurity in the Twenty-first Century: NATO and the Management of Risk*, Adelphi Paper no. 345 (Oxford University Press: Oxford, 2002); and Bailes, Alyson J.K., 'A world of risk', Introduction to *SIPRI Yearbook 2007: Armaments, Disarmament and International Security*, Oxford University Press: Oxford, 2007.

3 All permutations of how energy can lead to conflict are covered in Proninska, Kamila, 'Energy and security; regional and global dimensions', chapter 6 in *SIPRI Yearbook 2007: Armaments, Disarmament and International Security*, Oxford University Press: Oxford, 2007; text available at http://www.sipri.org/yearbook/2007/06/.

4 There is a persistent school of thought that sees the joint actions of Western military powers in defence of Kuwait against Iraq in 1992, and again against Iraq in 2003, as driven primarily by the wish to safeguard friendly oil supplies.

5 A group of 13 nations meeting frequently to adopt common production and pricing policies; see http://www.opec.org.

6 For example, Germany and Norway believe that their respective relationships with Russia as major energy consumers and co-producers are ultimately a restraint on Russian behaviour, while Finland and Lithuania see their dependence as a vulnerability and will contemplate expanding nuclear power to reduce it.

7 See Sachs and Warner (note 1).

has also been remarked that energy-rich areas coincide rather well on a world map with the areas of most frequent internal conflict.[8] This correlation may be explained by violent competition among both insiders and outsiders for the control of resources, further aggravated by the advantages non-state factions can gain over the central power by corralling revenues from energy (or diamonds, or minerals). It is less easy to prove that resource-rich states are prone to autocratic and oppressive government – Norway, the Netherlands and Australia would hardly fit the bill! – yet an overweening leadership can certainly be led into new excesses by the sense of power that mastering such sought-after commodities brings.[9]

Energy-based conflicts do not, of course, only arise in intra-state forms. A risk that particularly haunts smaller, less developed or militarily weak countries is that powerful outsiders can all too easily interpret their own need for other people's energy as an entitlement, then being tempted to use not just the commercial tools of investment, purchase and control of the means of delivery, but also direct force to keep the precious commodities flowing their way. Here the English joke comes to mind that says '*What's mine is mine'* – so powerful states rarely question their own right to the standard of welfare and production that demands so much energy, or to the added value they gain by using that energy – but '*what's yours* – the original energy source – *is negotiable*'. The reality is indeed even more ironic, in that energy possessors are not even always given the chance to negotiate. After the fall of the Shah of Iran's regime and Soviet invasion of Afghanistan in 1979, the USA not only issued a declaration that any interference with the oil-rich Gulf region would be considered a direct threat to its national interests,[10] but also set up (in November 1979) a Rapid Deployment Joint Task Force focusing mainly on potential missions to secure oil output and delivery from the Middle East and West Asia. The RDJTF – the ancestor of today's US Central Command (CENTCOM) which has overseen the latest campaign in Iraq – was designed to work with the help of local states like Egypt and Saudi Arabia, if possible, but took care to procure other bases (e.g. in the Horn of Africa) for the event of missions without local consent. If this was an extreme and unusually open case of the 'entitlement syndrome', the intervention of 2003 in Iraq did carry some echoes of the notion that the Western powers must be natural beneficiaries of any oil supplies 'liberated' from a former unfriendly regime. The irony, of course, is that military action often means destroying a lot of oil in the effort to save it,[11] and in the Iraq case, great difficulties and delay have been experienced even in bringing oil exports back to their pre-2003 level.

8 See e.g. Bannon, Ian and Collier, Paul (eds.), Natural Resources and Violent Conflict: Options and Actions, The World Bank: Washington, 2003.

9 There is also a fairly strong correlation between a country's oil/gas earnings and the pace of increase in its military spending: examples will be found (for any recent year) in the 'Military Expenditure' database at http://first.sipri.org.

10 This statement was made by President Jimmy Carter in his State of the Union Address on January 23rd 1980 and became known as the 'Carter Doctrine'. The argument from oil interests was extremely explicit: for instance Carter noted that the Middle East region contained two thirds of all known oil reserves and that 'most of the world's oil' was transported through the Straits of Hormuz.

11 In the Gulf War against Iraq over Kuwait, quantities of oil were deliberately burned or released into the sea by Iraq troops.

4. Is Self-Reliance the Answer?

Reflection on cases like these, and on the increased temptation for military action (or actual conflict), as more world powers become more thirsty for more and more limited hydrocarbon resources, commonly leads to the conclusion that the security risks of dependence can best be limited by (a) reducing energy consumption at origin and (b) exploiting more of the so-called new, alternative, or renewable sources of energy that lie on countries' own territories. While arguments are commonly made for the use of nuclear power generation, and for solar, tidal, wind, hydro-electric and geo-thermal power, on the grounds of their relative friendliness to the environment, the fact is that they are also strategically appealing because they all originate on a consumer state's own territory.[12] If this motive is admitted, it becomes clear why China, for example, would rather develop its own coal as fuel on a massive scale (in spite of environmental and safety costs) than risk placing its economic growth in pawn to Russian or Arab oil suppliers.

The first, above-mentioned conclusion about the need for energy conservation, energy efficiency and prudent diversification of energy types and sources is beyond argument. It makes environmental and economic as well as strategic sense. Perhaps one of the more subtle curses affecting energy-rich countries is that they lack the more obvious incentives to explore its full benefits for themselves.[13] However, is it equally clear that maximizing self-sufficiency and energy independence is always a rational goal, in terms of either national, international or environmental security?

One point is obvious and can be quickly dealt with: the most independent energy source is not always the cleanest or safest one under a wider definition of security. Greater resort to civil nuclear power generation now seems inevitable both in the global North and South. Since the materials and techniques it uses are nearly identical with those producing fissile materials for weapons development,[14] the danger is clear that a civil nuclear boom will create a temptation in more quarters for nuclear weapons proliferation and that the temptation will not always be resisted. Serious international effort is being put into limiting the risk, not only by political persuasion or direct action,[15] but by finding ways to organize the management of nuclear fuels and wastes so that most nations' needs can be met through international supply, with only a few states carrying

12 They are also rarely possible to export, except after they have been converted into electricity.

13 The United States, for instance, is often criticized for the unwillingness to raise domestic petrol prices to a level that would discipline consumption; yet that step is politically almost unfeasible so long as it can be argued that simply exploiting more of the USA's own oil resources will fend off any shortage.

14 Civil nuclear plants either produce or can easily be adapted to producing highly enriched uranium (HEU) and plutonium, the two materials employed in nuclear bombs. Experiments are at a very early stage in building production lines based on non-weaponizable elements like thorium, designing plants that cannot be easily re-engineered for HEU production, or exploring nuclear fusion as an energy source. See Fedchenko, Vitaly, 'Multilateral control of the nuclear fuel cycle', Appendix 13c in *SIPRI Yearbook 2006: Armaments, Disarmament and International Security*, Oxford University Press: Oxford, 2006, text available at http://www.sipri.org/yearbook/2006/13/13C.

15 Anti-proliferation efforts have diversified in recent years to include active operations such as those under the US-led Proliferation Security Initiative (to control shipping of suspect materials), attempts to negotiate political package deals placing restraint on nations like North Korea and Iran, and the US agreement on nuclear cooperation with India as well as more familiar methods of nuclear installation security, surplus materials disposal and export controls.

out the most proliferation-sensitive processes.[16] Leaving aside the general political difficulties of getting a state like Iran or North Korea to forego possession of a complete nuclear cycle, the strategic drawback of such schemes in the eyes of those supposed to be restrained by them is exactly what makes Westerners uneasy about relying on Russian or Arab oil – the prospect of dependence on politically uncongenial partners. Whether fuel supplies and waste disposal would be in the hands of self-appointed Western nations or of a United Nations strongly influenced by such nations, multilateralizing the fuel cycle goes directly against the prospect of autarchy which draws so many established as well as emerging powers to favour the nuclear option.[17]

Nuclear energy is not, of course, a choice lightly to be made from other security standpoints either. The possible scale of economic, human and environmental destruction from nuclear accidents, or even major leakages and pollution, dwarfs the effects of oil- or gas-related malfunctions and weighs heavily in the balance against the longer-term benefits of the industry's advertised lower emissions. A parallel point can be made about China's motives to maximize coal extraction for self-sufficiency's sake: individual mining accidents may be less costly in life than nuclear ones, but the immediate and unavoidable damage to the environment and human health is arguably even greater than from nuclear plants under normal operation – unless 'clean coal' technologies can be introduced (on terms acceptable to the Chinese) far faster than at present.

The nuclear case draws attention to another limitation on autarchy, namely that even if the energy production phase takes place on a nation's own territory, it is often made possible only by significant imports – in this case, mainly of uranium for fuel. Only 10 countries make significant exports of uranium at present and supplies are calculated to last just a hundred years at present rates of consumption – which would grow steeply if forecasts of increased use prove correct.[18] Further, only the largest nations are self-sufficient in terms of the technical and industrial know-how required for constructing any kind of major extraction and production facility – especially in such a high-technology business as the nuclear one – and even if they know how to do it, they cannot necessarily finance it. As an example, there has been growing concern recently about a possibly aggressive race to exploit oil and gas deposits under the Arctic ice as global warming makes them accessible, and there are already competing legal claims in existence among circumpolar nations to the ownership of the seabed.[19] However, seabed sovereignty conveys the right to issue licences for exploration and extraction rather than implying that the owners will do all that work themselves. Raw material extraction and energy transport under the conditions of an open North Polar sea is likely to be risky and technologically challenging to a degree that would make even the strongest or most self-assertive nation think twice before tackling it single-handed. In the nearest currently exploited oil and gas fields – Russia's Shtokman and Norway's Snow-White fields in the Barents Sea – Russian, Norwegian and French companies are in fact committed to joint exploitation, and the recent economic crash has raised doubts over whether Russia will even be able to supply its due share of investment for this already agreed and relatively straightforward project. For similar financial and technical reasons, leaders elsewhere who have been politically or strategically motivated to (re-)nationalize their local oil and gas industries – like Hugo Chávez in Venezuela – have more recently been reported to be running into problems.[20]

The shared misery caused by the current drastic slowdown in world trade also provides a reminder that the products of a country's energy use – embodied in manufactured goods and the generation of services – need to be sold abroad as well as at home. If a supplier state deprives its customers of energy through aggressive, exploitative or isolationist tactics, it can hardly expect them to share the benefits of other trade, investments, and partnerships with it or indeed to be capable of paying a good price for anything else it wants to sell. The strongest reason for believing that the European Union is ultimately condemned to succeed in its struggle for a common energy policy – and perhaps would have to, even if the strategic overtones of the Russian dimension were not so clear – is that the general level of economic interdependence attained in Europe makes 'beggar my neighbour' a self-defeating policy in energy management as much as in anything else.

To turn to one last national security dimension, there has been rather little debate so far over the security and governance implications of the very large physical extension of renewable energy installations that will be needed to raise the input from such sources even as much as 20% of energy generation worldwide. Projects such as the UK's planned Severn Barrier, as well as large-scale wind farms, are already evoking something of an environmentalist backlash for the massive changes that they imply to the natural order and appearance of the countryside.[21] Misgivings have been expressed even longer over dam-building for hydro-electric power, which has been accused not just of disrupting nature and human settlements but of opening the way to major accidents including tectonic disturbances (because of the pressure placed by the dams and the large

16 On latest nuclear fuel options see the paper by Ian Anthony in Swoboda, Hannes and Wiersma, Jan M. (eds.), *'Peace and Disarmament: A World Without Nuclear Weapons?'*, European Parliament Socialist Group and German Marshall Fund, March 2009, text at http://www.socialistgroup.eu/gpes/public/detail.htm?id=124525&section=NER&category=NEWS.

17 During Indian internal debates on the recently signed US-Indian nuclear co-operation agreement, the argument was heard that even the degree of technical reliance on the USA entailed by this agreement (which did nothing to stop India retaining its own nuclear weapons) would undermine India's freedom of action in a way contrary to national interests.

18 See the website of the World Nuclear Association at http://www.world-nuclear.org/education/mining.htm. A total of about 20 countries produce or have produced urnamium and five others are considering mining for it; the only one of all these in the Arab world is Jordan.

19 See Sven G Holtsmark, *'Towards cooperation or confrontation? Security in the High North'*, NATO Defence College Research Paper no 45 of Feb. 2009, text at http://www.ndc.nato.int/about/search.php?icode=2

20 Romero, Simon, 'Chávez reopens oil bids to West as process plunge', *New York Times* 15 Jan. 2009.

21 Pearce, Fred, 'Green and mean: the downside of clean energy', *New Scientist* 15 April 2009.

volume of water behind them on earthquake-prone terrain).[22] The creation of further wind farms, tidal barriers or major solar installations will bring much more land and sea space under direct public control; create interesting new openings for large-scale accidents as well as targets for sabotage and terrorism; and multiply long-distance transmission and delivery lines, which are vulnerable in themselves.

Aside from physical safety and 'green' concerns, it is interesting to reflect also on the impact that such new energy undertakings may have on general standards of governance. It has long been argued that a 'nuclear state' – one with many nuclear installations including some for military use – will be inherently undemocratic because of the extreme sensitivity of these assets and the temptation for government to protect them and the connected information in ways that damage citizens' rights and liberties.[23] 'Green' installations do not require secrecy but they do normally call for the government acquisition of land and forced resettlement, perhaps on a large scale: transactions which may not always be carried out in ways respectful of personal rights, especially if such projects start to multiply in developing as well as developed countries.[24] There is rising concern in the same context about a shift to growing crops for bio-fuel, which may rob local populations at the same time of land use and of their natural food sources. Further issues arise from proposals to bring the energy generation process right down to the individual citizen by installing solar panels on private houses, which would then contribute any energy surplus to the national grid. Leaving aside the technical and legal obstacles to be overcome in any large-scale application of this idea, one is bound to wonder how free the individual house owner would actually be to install or not install panels, to commit his/her private supplies to the grid or to withhold them – once such supplies became a substantial factor in meeting national needs.

5. A Case for Interdependence

Returning finally to the level of global governance, the proximate effects of the 2008-2009 crisis seem to have included a real boost to the awareness of financial and economic interdependence even between remote and politically divided players. This is leading to some noteworthy strides in common institution- and rule-building[25] and to a re-emphasizing of the so-called 'real' economy, which is seen as both more trustworthy and more legitimate than an inflated financial superstructure. A basic law of 'real' economics in turn is that countries both singly and collectively will profit most from exploiting their true comparative advantages. If every country were to set out to maximize its energy self-sufficiency as an overriding strategic goal, aside from the security, safety and governance penalties discussed so far, it would also be flying in the face both of any nascent global sense of economic solidarity, and of the comparative advantages rule. For every state to focus first and foremost on using up its own natural resources, however limited and ill-suited to its productive and consumption patterns they might be, would run against the logic of a sparing and prudent use of the world's natural resources overall. Yet it is on such careful husbandry that the longer-term fate of the world's environment and climate depends. In the worst case it would be reminiscent of China's 'Great Leap Forward', where every village was forced to have its own steel furnace, while many villagers simply starved as a result.

Continuing to live with energy interdependence is also an alarming prospect for many, given the frequency with which such ties force states and institutions to consort with strange bedfellows, and the almost daily tensions that result. In the last analysis, however, Western government do not have problems handling Russia or the Arab world (or vice versa) because these are energy-producing states. The problems in handling inter-continental and inter-civilisational energy relationships arise because of the general problems the West has with the countries concerned – and the problems they have with themselves – for much deeper geo-strategic, historical, political and doctrinal reasons. Is it heretical to suggest that the energy connection may actually be helpful in ensuring that neither side can for long escape the pressure to seek a positive accommodation with such partners, rather than succumbing to the otherwise perhaps irresistible temptations to ignore, ostracize, undermine and even attack them?

If the mainstream, let alone the most alarmist, predictions about climate change prove correct, the problems of this particular geo-political constellation may not be long with us anyway. By the middle of the 21st century, overheating of the equatorial zone could have forced large segments of the human population to move up to the latitude of Siberia in the North and down to southernmost America and Antarctica. One of the few ways to meet the energy needs of such huge population clusters in lands with few hydrocarbon resources would be to make use of the deserted areas further South for gigantic solar and geothermal power installations, managed for the use of the whole surviving community. That may not be a vision agreeable for today's Earth-dwellers to contemplate, but in its extreme state of energy interdependence it might actually be a more peaceful and even a more democratic world than today. The principle 'What's yours is negotiable' would then apply to Northern nations' landspace and the benefits of their relatively cooler climate, just as much as to the energy still being generated – albeit in a radically different combination of ways – further South. But all concerned would have little alternative but to actually negotiate.

22 Recent incidents have shown that drilling for geothermal ('hot rock') energy projects can also set off quakes and have other disturbing effects: see Cohen, David, 'Hot rock power scheme could brew trouble in Eden', *New Scientist* 2 June 2009.

23 A sober assessment of Britain's experience in this respect will be found in Hennessy, Peter, '*The Secret State: Whitehall and the Cold War*', Penguin Books: London, 2003.

24 As a minor but telling example, libertarian concerns have been expressed in Iceland over planned legislation that would allow the government to take over all privately owned land containing natural geothermal areas that might be harnessed for energy production.

25 The most obvious examples are the creation of a new, more globally representative 'G20', the common guidelines agreed so far in that group for national policy responses, and the emerging consensus for a number of changes in the structures and work of the global financial institutions.