

Peace and Energy

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Working paper to be presented at the Conference des régions périphériques maritimes d'Europe (CPMR)'s general assembly, 22-24 September 2004, Stavanger, under Session III "Energy & Sustainable Regional Development", 22 September.

'Peace', for the purpose of this paper, is understood in the narrow sense of 'absence of war', and 'war' is defined as 'armed conflict with actual combat, leading to the loss of human life'. This means the 'Cold War' was not a 'war' – and the same is the case for the on-going 'war on terror'. These are large global confrontations involving wars only in some areas. Within the ideological and great power confrontation that we call 'the Cold War', the Korean, Indochina, Vietnam and Afghan wars were the worst in terms of the number of people killed. Within the confrontation that the Bush administration refers to as a 'war on terror', and its opponent as a 'war against the Crusader-Zionist alliance', the actual wars are taking place in Afghanistan and Iraq.

All modern wars are in some way related to the question of energy, if not for any other reason at least because armies use energy. 'Energy' is understood as the means of doing work provided by the utilization of physical or chemical resources. Work can be constructive and peaceful or destructive and violent. As such, 'energy' is neutral. It is used in peace and war. Still I would claim that some forms of energy are more closely associated with war than others, more 'war-like' so to speak. Renewable energy forms are more peaceful than non-renewable forms, at least to the extent that they are actually renewed. Wind power and solar energy are available to all. If they were to become the main sources of energy, this would be likely to enhance peace. War is often fought over scarce resources. It is difficult to imagine a war over windmills or sun panels. New technologies could perhaps be scarce. If someone were to invent and patent an enormously efficient solar panel, it is perhaps conceivable that someone would go to war in order to control it, but not if the technology were

available at an affordable price. Then it would be better to buy one, or learn to produce it oneself, than to conquer it with arms. Hydropower also has a peaceful character, as long as it is managed in a way that does not flood inhabited areas or disrupt the downstream ecosystem in ways that damage human communities.

If the United Nations were to adopt an energy programme for peace, I think it should include – as paragraph no. 1 – the imperative of investing in the development of renewable forms of energy, to tap the peaceful powers of wind, sun, waves and the flow of water.¹

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I have wanted to start with this moderately utopian peace proposal. A paper about ‘peace and energy’ should preferably be about peace, not mainly about war. However, the dominant sources of energy today are not the renewable ones, and it is by no means certain that the trend we have seen in the last decade towards fewer and less costly wars will continue. Oil, gas, coal, and nuclear power dominate the regional and global energy markets, and more and more people – above all in the rapidly growing Chinese economy – are becoming dependent on provision of energy from distant and scarce resources. An energy programme for peace based solely on transformation to renewable forms of energy would – at least in the short to medium term – be utopian. I’m therefore forced to see it as my task to look at the ways in which oil, gas, coal and nuclear power are related to the risk of war, and how these relationships might be weakened, so all these sources of energy could become forces for peace. I will speak mainly about oil, but first say something about the other main energy forms.

Nuclear power has the advantage of being produced from very small quantities of raw material. To my knowledge there has never been a war over the control of a nuclear power plant. Nuclear energy is on the other hand related to the risk of war by the fact that nuclear bombs may be produced from the waste generated in nuclear energy

¹ Biomass is the traditional form of energy in such local societies that are little integrated in the national or global economy. Many small-scale conflicts have been fought over access to wood, but conflicts over biomass is not the stuff that larger wars

production, by the fact that the same technological skills and same raw materials that are used for producing productive nuclear energy can also be used to produce bombs, and by the enormous problems in handling the waste. By serving as a watchdog for the peaceful utilisation of nuclear energy, and protecting the Non-Proliferation Treaty (NPT), the International Atomic Energy Agency (IAEA) in Vienna is an important force for peace in today's world. It needs more respect, more resources, more power. Its inspectors have been thrown out of North Korea. It has failed to do anything about the proliferation of nuclear arms to India, Pakistan, and Israel, but it played a sober role in the crisis over Iraq, and should it manage through a combination of pressure and astute diplomacy to turn Iran away from its apparent attempt to develop nuclear arms, then it would deserve the Nobel peace prize. However, it is difficult to see that nuclear energy could ever in itself become a force for peace. Nuclear energy will continue to represent a danger, both of accidents and war, and it represents an enormous waste disposal problem. Nuclear energy would not deserve to be seen as commendable on the UN's energy programme for peace.

Coal is abundant in many areas, and still plays a major role in many countries, most notably in China, who will continue to increase its coal production and consumption for a long time still. Coal mines have been conquered in some historic wars; control of coal production was at stake in the First World War. The creation of the Coal and Steel Union in Europe after the Second World War was a significant building block for the peace that Western Europe has enjoyed since the fall of Nazi Germany. But coal has lost much of its strategic value. Its high volume relative to its energy output makes it expensive to transport over long distances, and as of today it is useless as a source of energy for mobile vehicles. The burning of coal is also highly polluting. Coal might perhaps experience a renaissance in some areas if oil were to become drastically more expensive and coal could be used to produce gas and oil, but it does perhaps seem more likely that the role of coal will continue to be reduced on the global level.

Natural gas exists in much greater quantities than oil, and may be transported to the market both through pipelines and in the form of Liquefied Natural Gas (LNG). The

are made of, and increased use of biomass does not probably represent a solution to

use of natural gas is likely to increase rapidly in the next few decades. This may somewhat decrease the demand for oil, but gas may also be a source of conflict. Conflicts that have traditionally been about oil may increasingly concern gas as well. This makes it natural to discuss oil and gas together.

Oil (and gas) are related to war in at least six ways:

1. Armies use oil.
2. Revenues from oil production are used to purchase weapons.
3. Oil producing areas are targeted in war.
4. Wars and risk of war drive the oil price up.
5. Oil-producing countries may use production cuts in economic warfare.
6. The safety of oil transportation is a strategic concern.

Taken together this means that oil and gas cannot be understood as normal market commodities. Attempts to normalise oil and gas by creating an open global market have failed to alter the fact that, just like weapons and certain scarce minerals (such as chromium, cobalt, manganese, and platinum), oil and gas are *strategic commodities*.

Let me go through the ways in which oil and gas are related to war:

First, military operations depend directly on oil. Armies consume huge quantities of fuel. To secure the provisioning of fuel to one's military forces is an essential aspect of military logistics. This means that generals, admirals, supreme commanders and defence ministers take a direct and vital interest in the question of oil. As Navy Minister in the First World War period, Winston Churchill actively pushed the transition from a coal-fuelled to an oil-fuelled Royal Navy. The failure to provide sufficient fuel for the German tanks on the East Front during the Second World War was a factor in ensuring the Soviet victory. During the Cold War, the US and Soviet navies sought to overcome some of their oil dependence by deploying nuclear-powered submarines. Old Soviet vessels now constitute a serious pollution and proliferation problem. In the most recent period, the ability to refuel aircraft in the air

global problems. Thus it is not discussed here.

has become a significant strategic factor. For the US Air Force to dominate the ground from the air and be able to destroy enemy forces before even launching ground operations, as we saw it in Afghanistan and Iraq, or to force surrender without any ground operations, as in Yugoslavia, satellite photographing and electronic guiding systems for highly precise intelligent bombs and missiles are new factors, but air supremacy also continues to depend on complex systems for provisioning of fuel. For an opponent without control of the air, it is similarly important to protect ground-based stockpiles and transportation systems for oil against air-based bombing.

Second, revenues from the production and export of oil allow governments in oil-rich countries to purchase arms that may be used both in international and civil wars. One of the worst wars since 1945 in terms of direct casualties was the Iran-Iraq war 1980-88, with 6-700.000 battle deaths and many more wounded. This war became such a catastrophe for the same reason that the First World War became so tragic: None of the belligerents managed to win a quick victory. For the survival of soldiers and civilian populations, it is always preferable that one or the other party wins. The French victory in the First World War was a much worse human catastrophe than the national defeat in 1940. From 1914 to 1917, both France and Germany were able to keep up their production and transportation systems behind the lines. The same was the case for Iran and Iraq during 1980-88, and this was partly because of oil. Both regimes could use revenues gained from oil exports to buy and produce weapons. In civil wars, a government with access to revenues from oil is quite likely to hold out against an insurgency. If the insurgents have access to revenues from other scarce commodities, such as drugs or diamonds, then a civil war may drag out for many years. This was the case in the long Angolan war from 1975 to 2002, which was fought between an oil-based and a diamond-based army.

Third, oil-producing areas are strategic targets in warfare. For warring parties it is imperative to ensure access to sources of oil and deny such access to the enemy. Thus, Hitler did not head directly for Moscow, but diverted his armies towards the Black Sea to conquer the oil wells there, and deprive the Soviet armies of oil. Iraq's conquest and annexation of Kuwait in 1990 was motivated by a desire to control Kuwaiti's rich oil resources, and thus gain a stronger position vis-à-vis Iran and Saudi-Arabia. The prospect of Iraq using Kuwaiti oil to become the dominant military

power in the Middle East was probably the main reason why a US-led coalition, with solid Japanese funding, entered the First Gulf War in 1991 and drove the Iraqi forces out of Kuwait. The same reasoning is likely to have been behind the US decision to attack Iraq and remove Saddam Hussein's regime in 2003. The US motive was probably not to take direct control of the Iraqi oil fields or force Iraq to privatize its oil industry and let US oil companies replace the Russian, French and Chinese. The motive was rather to completely remove the possibility that a regime which was directly hostile to the USA and Israel would once more gain access to substantial oil revenues, since these might then be used to purchase and develop dangerous weapons. By removing Saddam Hussein, the US probably also hoped to reduce its strategic dependence on Saudi Arabia, and encourage changes in a more pro-American direction in another significant oil-producing country: Iran. The fact that Iraq has the second largest known oil reserves in the world after Saudi Arabia, while North Korea has no oil at all, is the most plausible explanation for the fact that the Bush Administration chose to go to war against Iraq while opting for a more cautious diplomatic approach, in co-operation with China, Japan, South Korea and Russia, to Pyongyang, although the latter's nuclear weapons programme was far more advanced.

So far, I have talked only about how conflicts over oil may lead to war. But there is also a reverse mechanism. Wars and risk of war have on several occasions led to jumps in the oil price, and have thus had a negative effect on the growth rate in the global economy. This is partly because governments decide in times of crisis to build up strategic stockpiles of oil, and partly because markets consistently respond to wars and crises by expecting a rise in the oil price. The biggest jump ever in the oil price was directly related to the Egyptian attack on Israel in 1973. Graphs showing the fluctuation of the oil price have peaks strongly correlated with crises and outbreaks of war. The fact that the U.S. invasion of Iraq in 2003 did not lead to the establishment of a stable regime, but has instead provoked a durable, at present intensifying insurgency, contributes significantly to the high oil price in the world today.

The effect of wars on the oil price – as defined by the market – was the fourth relationship between oil and war to be mentioned here. The fifth relationship also has to do with the price, but this time it is not affected by market forces, but by conscious action on the part of one or more governments. Oil-producing countries may use

production cuts as a weapon in economic warfare. This is what happened in 1973. In conjunction with the Egyptian surprise attack on Israel, Saudi Arabia cut its oil production and forced an acute oil crisis on the world. This paved the way for the enormous increase in the power of the Organization of Oil Producing Countries (OPEC), and the founding by the large oil-importing countries in the OECD of the International Energy Agency (IEA) in 1974. France, however, refused to join because, as Foreign Minister Michel Jobert said, the IEA was a 'war machine'. Both OPEC and the IEA would later become less war-like, and instead engage in promoting their member countries' interest in maintaining a more stable price structure, for OPEC through agreed limits to production in all member countries, for the IEA through the build-up of security stockpiles, the diversification of oil production away from the Middle East, and efforts to stabilize or reduce consumption through more efficient energy utilization. However, these efforts were only partially successful. The oil price has continued to fluctuate, and because of the rapid increase in oil demand over the last decade, notably in the USA and China, the dependence on imported Middle Eastern oil has again increased, and since oil exploration elsewhere has not yielded sufficient results to leave room for much further geographical diversification, the world's dependence on the Middle East is likely to remain at the core of global geopolitics, perhaps even increasingly so. There are two significant new developments. The first is that not only Japan and the European Union now depend on oil provisions from the Middle East, but that this is also the case for the United States, China, and India. The other is that Russia has entered the global oil game as the only really significant competitor for the Middle Eastern countries as a provider of oil and gas. This has, at least temporarily, saved Russia from economic collapse. The same, by the way, is the case for Kazakhstan. There has been much talk of a new Central Asian game, with rivalry over pipeline projects eastward to China, southward to the Persian Gulf (or in a more utopian project through Afghanistan through Pakistan to the Indian market), and westward through the Caucasus to the Black Sea or the Mediterranean.

The sixth relationship between war and oil is related precisely to the geopolitics of oil transportation, not this time of fuel to armies, but of oil to import-dependent economies. The vital question here is not the pipelines from Central Asia, but the safety of sea lanes from the Middle East. All import dependent nations are concerned

to ensure the safety of sea lanes of transportation from the oil producing countries to their own ports, stocks and refineries. Great powers must also protect the transportation routes of their allies. All the time since the onset of the Cold War in 1947-49, it has been an essential part of US strategy in the Pacific to protect the provisioning of oil for the completely import dependent Japan and South Korea. Oil is an essential ingredient in all strategic planning by the great powers, both during wars and in periods when outbreak of war is anticipated in one place or another – and this is almost always the case.

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Now the big question is if the production, purchase, transportation and consumption of oil and gas could be organised in ways that reduce the risk of war, and allow a continuation of the fortunate trend that has been going on for the last 10-12 years towards fewer armed conflicts and less loss of life in war. Let me propose a ten point programme for minimizing the risk of energy related wars. I realise that some of the points are too controversial to become part of any globally acceptable energy programme for peace. Perhaps the UN might still adopt them in a modified or diluted form.

1. Develop renewable energy.
2. Define sovereignty to all oil reserves.
3. Promote wealth sharing and good governance of energy.
4. Build cross-border pipelines.
5. Keep oil separate from national foreign policies.
6. Maintain US supremacy at sea and in the air.
7. Open the IEA to Chinese membership.
8. Use oil revenues for Middle East development.
9. Ensure a globally functioning oil and gas market.
10. Accept a high and gradually rising oil price.

Again some words must be said about each point:

First, as I said in the beginning, the main point on the energy peace agenda is to develop renewable sources of energy. This is the main means to create a sustainable energy peace.

Second, global peace depends on respect for the system of sovereign states, and the right that each of them has to manage its own resources. There are exceptions to the non-intervention principle, such as when a state fails completely to protect its citizens, uses its forces to attack another state, or when a government commits gross human rights violations or genocide. Then other states may intervene, with a mandate from the United Nations Security Council. A state is, however, in violation of international law if it intervenes in another state in order to take control of its resources or influence the way they are managed. The global political system, as defined in the United Nations Charter and in numerous international treaties, is built on sovereign states. Therefore it is also of paramount importance to exactly define which state has sovereignty to any known or possible oil and gas reserve. This is already generally the case on land, but not at sea or on the seabed. Although 22 years have passed since the United Nations Convention on the Law of the Sea was signed in 1982, and 8 years since it entered into force in 1996, many areas remain disputed between two or more states, and the United States has not even ratified the Convention. In some areas, where it has been difficult to agree on the delineation of the continental shelf and the exclusive economic zone, one or more parties have opted for a shortcut solution to the exploitation of oil, gas and fish, namely to establish joint development or joint fishery zones. Such zones are not to be recommended for two main reasons. The first is that they tend to be set up with little regard for defining responsibility for resource management and environmental protection. The second reason is that if substantial quantities of oil and gas are found in a joint development zone, this raises the stakes in the border dispute and increases the risk of armed conflict. Responsible politicians, legal scholars, environmentalists and peace researchers should insist on the need to resolve border disputes before any companies are invited to drill for oil and gas. The most genuinely 'borderless world' is a world where all borders have been meticulously drawn and agreed upon. Well defined borders are normally open to travel, trade and investments, while vague and disputed borders are often closed.

The third point is a more tentative proposition: Cross border pipeline systems for oil and gas may be a force for peace. Areas where there are many border crossing pipelines are probably more peaceful than other areas (although this has not yet been systematically studied). It may well be that peace came first and the pipelines later, but it also seems possible that the construction of pipelines enhances peace. The argument here is that when pipelines are laid across a border, the involved governments get a stronger stake in maintaining peace both between themselves and with the populations living in the border regions. And stable local conditions cannot easily be maintained through violent repression of local groups since it is so easy for the repressed to retaliate by blowing up a pipeline. Once a pipeline is in place, governments may therefore be inclined to accommodate local populations in the areas the pipeline is running through. I don't know if this theory holds, and particularly not if it will work in some of the areas where pipelines are currently being constructed, such as in the Caucasus, in the border area between Burma and Thailand, and from Kazakhstan through the land of the Uighurs in Xinjiang to Shanghai. But the idea of a 'pipeline peace' seems worth exploring.

Fourth, it ought to be established as an international norm that oil and gas must not be used as tools to realise national foreign policy aims or as weapons in international conflicts. Production may be increased or cut in order to stabilise the oil price, but not to harm one's enemies. It is impossible to keep oil and foreign policy fully separate, and governments need to have a policy on global energy questions as a part of their foreign policy. Still it seems preferable to maintain a clear division between the responsibilities of the foreign ministry and the oil and energy ministry, and to prevent presidents, prime ministers and foreign ministers from dominating a country's energy policy.

Fifth, since the safety of the world's major sea lanes could easily be affected by great power rivalries, it seems desirable to let the USA maintain its naval supremacy as long as it manages it in a responsible way, and until it can be replaced by a multilateral security regime. The same is the case in the air and outer space, where the supremacy of the one and only superpower tends to reduce the risk of air or satellite warfare. The United States is probably the least unacceptable global hegemon imaginable, since it is geographically distant from the Eurasian landmass, is

ideologically committed to the idea of sovereign nation states, and also to a global system of free trade. However, if the United States were to break with its liberal tradition and seek to satisfy its national interests through bilateral treaties, or if it were to develop into a political empire with permanently established military bases in other countries against these countries' will, or exerting control of other national governments, then US supremacy would no longer be tolerable. US naval, spatial and aerial supremacy must be combined with a certain degree of foreign policy restraint. In the last few years, this has been lacking. It will be even more strongly needed once the US no longer commands the necessary productive and financial resources to maintain its supremacy, and needs to gradually cede power to rivals, allies or multilateral institutions.

Sixth, since China is now the second largest oil importer in the world, it makes no sense to keep it outside the International Energy Agency (IEA). China needs to be involved in the discussions within the IEA. China needs to build up security stockpiles of oil in the same way as the IEA countries, so it will not be forced to hoard oil during crises. And China needs to be reassured by the IEA countries that it will always be able to buy oil and gas at market price just like any other country, so it does not need to pursue costly bilateral agreements with Russia, Iran, Sudan or other countries, or link oil and weapons deals. The problem with Chinese IEA membership is that the IEA sprang out of the OECD in 1974, and that the OECD requires its members to be democracies. The best would of course be if China decided to become democratic in order to be part of the IEA, but since this is unlikely to happen soon, it is probably better to promote positive long term developments in China by integrating it in multilateral organisations such as the IEA.

Seventh, the internal governance in oil-producing states should be changed in ways that promote education, employment and the development of other economic sectors. It should be a priority for the World Bank, and also for some major donor agencies to promote such developments. And this should be a major point on the agenda in OPEC. During the Cold War, the number of civil wars grew consistently, and reached an apex in the early 1990s. Civil wars were financed with income from oil and other resources, and with aid from abroad. Local armed groups tended to join up with one or the other side in the Cold War in order to draw support. Since 1992, as mentioned,

the number of civil wars has gone down and the same is the case for the number of people killed in war. Part of the reason is no doubt that the major powers have stopped assisting armed groups within each others' sphere of influence. Another reason may be a greater preparedness on the part of the great powers to intervene in other countries in order to stop local wars. Paradoxically, the advent of global terrorism is an expression of this recent trend towards peace. The men behind al Qaeda had a background in the successful war against the Soviet Union in Afghanistan, which had benefited from substantial aid from Saudi Arabia, Pakistan and the United States. The aim of al Qaeda is to provoke a state of general warfare, and break the trend towards a more peaceful world with a strong United Nations organization. Unfortunately, al Qaeda has at least partially succeeded in getting the wars it wanted in Afghanistan and Iraq, and it has gained much sympathy in Islamic, oil-producing countries. The main way to undercut support for al Qaeda inspired groups is to develop better governance in oil-producing countries, and ensure meaningful employment for the young generations. It seems in fact that the threat from terrorist groups has to some extent increased awareness among the political leaders in the Middle Eastern countries that some kind of reform is necessary.

Eighth, a vigorous regional initiative for developing the wider Middle East is needed. It is somewhat unfortunate that such an initiative has originated in the United States precisely at a time when it has antagonized much of the Muslim world by occupying Iraq, but basically the idea to promote change in the wider Middle East, and boost regional trade and investments in other sectors than oil, is both sound and very much needed. The best would be to see popular pressure develop in the region itself on the governments of Saudi Arabia, Iran, the other Gulf states, and also the new Iraqi Federation (if it is successfully established) to co-operate in using revenues from oil to stimulate sustainable economic growth in the wider Middle East. To overcome the unjust distribution of revenues from oil and gas production, pressure should be exerted on the richest oil countries to channel a substantial part of their revenue into regional investment funds. This would be a much better way to generate unity and co-operation in the Middle East than to re-establish the Caliphate. I realise, however, that at present both of these projects seem equally utopian.

Ninth, it is important to continue efforts to promote a functioning global market for oil – and also for gas, at least when it is in the form of LNG. Many countries have tried in certain periods to safeguard their oil needs by establishing bilateral agreements with production countries, or by investing in production facilities abroad. Such attempts were made by Japan after the first big oil crisis in 1973. China has tried the same in later years. Generally, this policy has proven both costly and unsuccessful. China and India would probably be wise to simply accept their reliance on the global market. This would strengthen their attempts to overcome the so-called ‘Asian premium’, whereby Asian countries are forced to pay more for their imported oil than Europeans and Americans.² It would also force India and China to realise that they depend on Middle Eastern stability and development just as much as Europe and Japan. This might pave the way for a broad multilateral initiative to promote more diverse and sustainable economic developments in the Middle East.

Tenth and finally, although a high oil price unjustly affects many poor countries, and although it somewhat hampers global economic growth, it is better to maintain the price at a high level than to experience the kind of unpredictable vacillations that we once again have seen since the price dropped to a low level in 1998, with devastating effects on the willingness of oil companies to accept risk, and then increased again to the high price we see today. When I speak out here in favour of a high oil price, I’m sure no one will suspect me of being motivated by my desire to see Norway get even richer, to further boost its role as a global peace maker or as a provider of development aid. My main reason is that I think a high and increasing oil price makes it more likely that governments and companies invest in the research needed to produce technological leaps in the exploitation of other energy resources. Oil is never going to run out. As soon as it becomes so scarce that its price reaches a sufficiently high level, then new technologies will be applied. Natural gas may be changed into petrol. Coal may be used to produce natural gas or oil. Wastes from husbandry and agriculture may be used to produce fuel gas, diesel or usable carbon. Experiments

² According to a speech by India’s oil minister Mani Shankar Aiyar at the sidelines of the September 2004 OPEC meeting in Vienna, said that between April and July 2004, Asian countries had paid 36 cents per barrel more than the United States and nearly \$3 per barrel more than European customers. This higher price, which only partly has to do with higher transportation costs, is called the ‘Asian premium’. Reuters report from Vienna, 18.9.04.

abound, and much can already be done, although so far at prohibitive prices. But these may go down as the oil price goes up, and thus we could see a transition from the oil age to a more peaceful energy era. The only point on my peace programme that has a potential for fostering a sustainable marriage of energy and peace is the development of renewable energy. Once the problem of scarcity has been significantly reduced, energy will no longer contribute to recurring conflicts, no longer form a big obstacle to peace.