MOST CONFLICT HOTSPOTS around the world today are in areas where energy or other resources are a factor. With the arrival of new actors both governmental and non-governmental, new industrial giants such as China and India, as well as rapidly emerging national oil companies, 'energy security' has rapidly become a global environmental, social, and economic issue requiring a rapid and coordinated response from governments, the business community, and global civil society.

This edition, the fourth in a series of publications from the Anna Lindh Programme on Conflict Prevention, deals with Energy and Conflict Prevention, an issue already highlighted in the 2003 Security Strategy adopted by the European Union as a global challenge .

The Anna Lindh Programme on Conflict Prevention has been launched by the Madariaga European Foundation in Brussels and the Bank of Sweden Tercentenary Foundation to further the work to develop a stronger role for Europe in conflict prevention. The aim of the programme is to broaden the European debate on conflict prevention though the development of a structured dialogue between a diversity of actors from both the public and the private spheres, civil society and academia. The Programme bears the name of the late Anna Lindh, Swedish foreign minister and a committed advocate of European security cooperation in general and conflict prevention in particular.

Like previous editions in this series, this volume brings together a leading group of scholars and policymakers exploring the relationship between competition for energy resources and the propensity for conflict and promoting an international cooperative energy security strategy.

Among the writers in this 2007 edition are Svante Cornell, Bjørn Gunnarsson, Nick Mabey, Javier Solana and Lijun Zhang.

ISSN 1652-5469
ISBN: 978-91-7844-386-4
9 789178 443864

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Anna Lindh Programme on Conflict Prevention

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2007 2007 Edition

Energy and Conflict Prevention

Energy and Conflict Prevention

Editors: Greg Austin & Marie-Ange Schellekens-Gaiffe

MADARIAGA European Foundation

EastWest Institute

Madariaga European Foundation, EastWest Institute, The Bank of Sweden Tercentenary Foundation

& GIDLUNDS

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Publication financed by Hydro

Thanks to the Barents Institute for additional support

Previously published editions
2004: Developing a Culture of Conflict Prevention
2005: Development, Security and Conflict Prevention
2006: Health and Conflict Prevention

The books can be ordered from:
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B–1000 Brussels
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secretariat@madariaga.org

Published by:
Gidlunds förlag
Box 123, S–776 23 Hedemora
www.gidlunds.se
hedemora@gidlunds.se

Cover illustration: "Peace Lily" (Spathiphyllum) by Céline de Caritat

ISBN: *978-91-7844-386-4*
ISSN *1652-5469*
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Printed in Sweden by Instant Book AB, Stockholm 2007

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Introduction

Javier Solana

Energy in the Common Foreign and Security Policy

In the past year, discussion of energy security has become a la mode. This is almost inevitable if one considers the problems between Ukraine and Belarus on the one hand and Russia on the other, an ongoing perception of high prices and continuing instability in almost all of the major fossil fuel producing regions of the world. When we add into this mix the essential pessimism surrounding long-term availability of fossil fuels and the potentially catastrophic effects of man made climate change we could say discussion of energy security has reached fever pitch. This should not of course distract us from the very real challenges we face, but neither should we succumb to despair. There is a growing recognition of the importance of energy, and in particular the impact our historical energy usage has had, as a factor in global security. That the UN Security Council has discussed the matter and that a record number of States participated in the debate demonstrates how important the subject is, even if not all are yet convinced that it is a security issue.

It is nearly four years since Anna Lindh was so brutally taken from us, but as long ago as 2001 she addressed the question of energy and conflict in an article she wrote for the Financial Times with the then External Relations Commissioner, Chris Patten. The issues she raised then, the importance of Central Asia to European energy security and the vital role to be played by Russia, especially in the South Caucasus, are still with us. This collection of essays, the fourth annual of the Anna Lindh project series,

addresses these challenges in a sober and important way.

In the 2003 Security Strategy adopted by the European Union we highlighted Europe's energy dependency as a global challenge. We noted also that the associated issue of climate change would aggravate competition for natural resources, thereby also fuelling conflict. These challenges, which the European Union as a whole has tried to address over many years, received new impetus with the joint paper from the Commission and myself to the June 2006 European Council.

In that paper we set out the elements of an external energy policy for the European Union, starting from energy efficiency, use of renewable energies to implementation of the Kyoto Protocol; from diversification of the energy imports by product and country to creation of the international regime for the supply of enriched uranium to countries that have chosen the nuclear option, in line with non-proliferation commitments. Many of these ideas were incorporated into the Commission Communication of January this year, *An Energy Policy for Europe* and subsequently endorsed by the European Council in March. In essence the EU approach is to ensure well-functioning markets, including its own, and to increase diversity of supply. At the same time we must try to ensure that our energy usage and needs in coming years have minimal impact on the environment and that we make a positive contribution to the challenge of climate change.

Meanwhile, it must be remembered that even if the EU has its origins in shared coal, nuclear and steel resources there is no easy treaty basis for a common energy policy. Moreover, in the global distribution of energy resources Europe is especially disadvantaged. John Locke argued that we have a choice in securing natural resources — either to fight for and control what he called the mines, or alternatively to trade. The EU clearly has chosen commerce over conflict. This commitment to the free market is underlined in all EU policies and it is central to EU energy policy. It is a commitment, I might add, that is shared by the G8 and the IEA.

Russia is of great importance to the EU's current and future energy security as a whole. But we must not forget that Russia's importance is very different for different Member States. Moreover, 25% of the gas consumed in the EU may come from Russia, but that means 75% comes from somewhere else, including North Africa, Central Asia and Norway. In short, Russia will play a central role in the EU's external energy policy. But we cannot neglect other parts of the world in developing our energy relationships, and that includes other major consumers. The adage of Winston Churchill, that safety and certainty in oil lie in variety and variety alone, is as true today as it was when he said it on the eve of the First World War.

Nevertheless and in spite of our commitment to the market we are forced to mix politics with energy supply simply because that is the way the world is. Outside North America and Europe, most of the countries rich in oil and gas are autocracies and are not democracies. A great deal of academic research has been done to demonstrate the reality of the so called resource curse and it is a sad fact that countries rich in resources appear to have a hugely increased risk of internal conflict fuelled by corruption and deprivation. This is not to say that all resource rich countries have internal conflicts. But unless the wealth generated by the resources is well managed and distributed, conflict seems almost inevitable.

When we look around the world today, most conflict hotspots are in areas where energy or other resources are a factor. The story of Nigeria is a good illustration. From the time that oil was discovered in the Niger delta in 1958 some billions of dollars have flowed to Nigeria and yet Nigeria remains a poor and underdeveloped country. The Biafran war had its roots in ethnic tension while its conduct was largely about control of the oil of the Niger delta. In many ways, that struggle over the control of the oil and the revenues that come with it continues to this day.

Oil wealth has made it possible for Azerbaijan to increase its military budget to almost 1 billion dollars, which has the effect of

raising tensions across an already tense region. In Latin America a political struggle pitches oil rich Venezuela against the United States and democracy in general.

In addition to these examples, we must consider how to respond to those who are prepared to use their oil and gas derived power in association with their foreign policy objectives. The behaviour of the largest State supported company in the world in cutting off gas and oil supply to its customers in Russia's neighbouring countries, shortly before they are to make or after they have made significant policy decisions is simply unacceptable.

Of course, Russia, like all countries, has a sovereign right to develop its own natural resources in any way it sees fit. However, Russia, along with its partners, committed at the G8 summit in St Petersburg in July 2006 to a range of principles aimed at ensuring global energy security, including a commitment to transparency in corporate governance and security in investments. The EU expects Russia to honour these commitments at very least because it is in Russia's own interest to ensure a transparent, stable and legally predictable investment environment, otherwise it might suffer the same fate as so many other resource rich countries.

I might add that Russia also has an absolute right to try to get the best price and most advantageous conditions in its trading its resource riches. However, the EU has an equal right to defend its position in the market. There is a great degree of interdependence in any established business relationship. We must find ways of ensuring that Russia understands that our efforts to diversify suppliers and supply routes is not aimed at damaging Russia, but rather at ensuring our supply security. We in the EU would probably be more reassured in this respect if Russia's companies were less aggressive in their apparent attempt to control all supply routes into Europe.

The sovereign States of Central Asia also have the right to develop and exploit their own natural resources to their own best advantage. At present they are heavily dependent on Russia to ex-

port their oil and gas and this restricts their ability to get the best price for their products. It is understandable that they might wish to seek other export routes, either through Iran and Afghanistan to the South, or across the Caspian Sea and onwards to world markets by way of Turkey or the Black Sea. Neither should we ignore the potential of China as a destination for Central Asian resources. It is to everybody's advantage if these important countries have choices and enhanced opportunities.

An issue that has emerged strongly in the past couple of years has been the resource hunger of emerging economies. As fossil hydrocarbon energy resources appear to get tighter, the way in which these countries have decided to achieve their own energy security creates fresh challenges for our foreign policy. Some countries seek to buy oil and gas fields for their exclusive use but in trying to gain this preferential access they do not always respect the spirit of international law. The great tragedy of Darfur continues because Sudan is less susceptible to international pressure, in part because its oil wealth insulates its Government against economic sanctions but also because of relationships between Sudan and members of the Security Council based on dependency. We should not forget either that the original Sudan conflict, between North and South, had, at its heart, control of the oil resources.

Today, many emergent economies are turning increasingly to nuclear energy for electricity generation. This places great strain on the existing international nuclear regulatory mechanisms and increases the risk of nuclear proliferation. We must find ways of managing those risks assuring at the same time legitimate demands of countries involved for safe nuclear energy.

I have here outlined some of the issues we face in our foreign policy arising from energy policy which are not obviously amenable to market solutions. This is where national governments and the common foreign and security policy come into play. It has often been said that Europe needs to speak with one voice. I would argue that within the framework of the CFSP we have

been successful in presenting a united policy on energy questions to our very many partners. It has been less easy for those who would divide us on commercial policies to divide us on foreign policy. All political dialogue, consultations and contacts in recent months include a significant energy policy component showing an intensification of our energy diplomacy.

Nevertheless, the European Council in March recognised that the development of a common approach to external energy policy must be accelerated. It set as priorities, the completion of a new agreement with Russia in particular relating to energy issues; an intensification of the EU relationship with Central Asia, the Caspian and the Black Sea regions; the strengthening of bilateral energy dialogues with other consumers; the implementation of the Energy Community Treaty and possible extension to certain of our neighbours; making full use of the instruments available under the European Neighbourhood Policy to enhance energy security; enhancing energy relationships with producer countries in the Mashreq/ Maghreb region; building a special dialogue with African countries on energy and promoting access to energy in the context of sustainable development. In addition the European Council recognised the leading role which Europe must take in combating climate change, an important part of which is a commitment to technological development, renewable energy and a successor to the Kyoto arrangements.

We are already working to develop our partnership with Africa, including in the energy sphere and the EU-Africa Summit later this year will be an important milestone in that relationship. In many respects, Africa is of special importance for Europe and we have worked closely with the African Union in recent years. Yet we have not paid enough attention to Africa's energy potential and its needs. Africa's energy resources are abundant but unevenly distributed. Its oil and gas resources are in the North and West. Its coal is located almost entirely in South Africa. Its renewable energy sources are numerous: the great river basins offer considerable hydraulic potential, the Rift Valley offers geother-

mal power and solar energy is abundant.

Despite this enormous potential the ordinary African citizen suffers from major energy deficits. African energy consumption is less than half that of the rest of the world. Oil and electricity are used essentially by manufacturing industry and transport. The vast majority of people rely on biomass for everyday energy needs. As a result of over exploitation the availability of wood is falling fast in certain areas. Energy is absolutely essential for the economic development which Africa so desperately needs and which would make a significant contribution to its political stability, and ultimately to our security.

A final element of energy security, which the Union must address, is that of climate change. There are still some who would argue that climate change and energy security are separate subjects, but this is to close one's eyes to the near universal consensus that our use of fossil fuels is the major driver of global warming. Climate change in many ways is the ultimate external energy relations issue and one where the EU has and must continue to provide global leadership, particularly in the post Kyoto climate regime. The particular challenge is to push forward new international treaty arrangements but also to extend the carbon-trading scheme and develop and promote new energy technologies worldwide.

In addition to these we must also consider the more security related implications of climate change, so as to be better prepared for them when they come. Already across the world we see water shortages, as dry seasons have become hotter and even more arid. Poor water management has devastated communities and destroyed local economies across the world, as land has been salinated and competition for grazing and tillage has led to conflict. Himalayan melt-water levels are falling noticeably and it cannot be long before the impact is more acutely felt in Northern India. At the same time we face rising sea levels and population displacement. Some studies foresee that many Pacific islands will be submerged and that the greater part of Bangladesh will disap-

pear. The displacement of so many people will be a human tragedy of immense scale, but it will also create security tensions and will almost certainly lead to armed conflict. The EU will have to be ready for this and we have doing some early preparatory work, as we must.

Marie-Ange Schellekens-Gaiffe

Energy and Conflict Prevention: Global Trends and European Challenges

Europe's dependence on fossil fuels has recently become a major political stake, turning the energy debate into a permanent fixture at the European Council as well as other international negotiating tables.

Moreover, with the emergence of China and India, new economies which offer fruitful opprtunities for our own markets, but economies which are hungry for energy, Europe finds itself facing a multiple dilemma.

Whilst the EU is an exemplary execise in conflict prevention, based on the daring political gamble of shared strategic energy resources, today — for lack of a sound legal basis in the treaties — the essential element in progressing towards an effective European energy policy remains the political will of the member states.

Nevertheless tensions and rivalries directly or indirectely linked to the energy question are constantly on the increase. The concentration of resourses in countries which are socio-politically unstable, together with the large part played by oil revenues in financing conflicts, only accentuates and sustains such problems which constitute nowadays an essential aspect of the European Union's diplomatic work in conflict prevention.

The starting point for conflict prevention is information gath-

ering, situation analysis and policy planning. This has been the motivation behind the creation of the Anna Lindh Programme on Conflict Prevention, initiated in 2004 as a tribute to the work undertaken by the late Swedish Foreign Minister towards a European policy of conflict prevention.

In this perspective, this collection of essays- the fourth of the series- entirely fulfils the spirit of such a programme: a platform of interaction between different actors from all areas and backgrounds about politically sensitive topics, which aims to open up constructive dialogue and come up with concrete political proposals for early preventive action.

With such a variety of authors, from the world of politics, academia and civil society, this publication seeks to analyse the different facets of a complex problem, oriented towards the necessity for global and open cooperation whilst maintaining in the foreground the pioneering and innovative role the European Union could play in that area.

These reflections come at a key juncture when the European Union, along with the international community, has moved ahead in defining a coherent energy policy which takes into account the global stakes.

Prepared by two seminars organised jointly in the autumn of 2006 by the Madariaga European Foundation, the EastWest Institute and the Barents Institute, this publication is structured around two key themes.

Firstly, the debate about the contradictory forces involved in long-term security of supply and their impact on the incidence of tension and conflict on a world scale, is presented in its global context.

The second part of this publication analyses geographical subregions, identified as presenting specific interests: Asia, and particularly China, whose growing energy needs represent a new challenge for our foreign policies.

Local experts analyse in detail the reasons which make efforts at cooperation difficult, and the pernicious geopolitical effects of

the policy of mistrust by industrialised countries towards newcomers in the market, an attitude which forces them to turn to producers who have been politically excluded by the West, such as Iran or Sudan, which adds a further degree to tension to an already explosive file.

The second case study examined by our authors is the Barents Sea region. With close to 25% of the world's reserves of hydrocarbons, and as a border with Russia, the region will continue to play a key role in Europe's future energy debate. Moreover, the Barents cooperation, launched fourteen years ago, intelligently combining regional and international cooperation, has proved the force of political will in the resolution of ideological conflicts. The capacity of this region to find answers to new tensions arising from the exploitation of energy resources, and its role in inspiring actors in other geographical contexts, is certainly valuable. This is the message of a number of our authors, who, thanks to the support of the Barents Institute, were invited to contribute to this section.

Throughout this publication, the role of Russia and the United States appears as a watermark. In the context of implementing a framework for global cooperation, their position should come out strongly.

The United States, still the world's biggest consumer and importer of energy resources, remains a key actor. In their contribution, Hongto Zhao and Ole Gunnar Austvik both cast light on the consequences of American regional strategies with the emergence of a global regulatory framework.

The strategy of Russia, at the crossroads between the East and the West, casts light on the dangers of using energy as a means of applying pressure and political influence, and the weight of history and identity in handling this question by neighbouring countries.

The search for a political and economic monopoly, which remains a characteristic of Moscow's diplomacy, is not without risk for Russia. As well as the tension this engenders, many authors

attempt to demonstrate that Russia, like its partners, would have everything to gain from the implementation of a more competitive market which brings transparency and reform, as well as a legal framework promoting badly needed new investments.

Last but not least regional cooperation is advocated as a valuable instrument for conflict prevention. Svante Cornell takes as an illustration the Caspian Sea region, an area where hydrocarbon resources may function as an object of cooperation rather than tension.

What emerges from this publication is that the new energy landscape of the 21st century implies a more interdependent world where we rely on each other for ensuring energy security and stable economic conditions, and for ensuring effective action against climate change.

We need to learn how to make interdependence work, and how to come with coherent and holistic approaches, which in other words, is a question about how to make soft power work.

The European project, which has just celebrated its 50th anniversary, is above all a successful experiment in the application of soft power. It is time to build on this achievement and turn the European political debate on the constructive and outward-looking role that the EU can play in the world as it struggles to deal with the challenges of interdependence.

The European Union is already consolidating its leading role in international climate policy. It should now certainly lend fresh impetus to international negotiations by adopting ambitious targets in related fields.

Part I
Global Challenges and Opportunities

Nick Mabey

Beyond Zero-Sum Politics: Frameworks for delivering Energy and Climate Security in the Asia Pacific Region

Economic Cost or Security Threat? The Varied Faces of Energy Security

Energy Security is different from other issues. It raises passions and perceptions which do not bedevil other areas of international policy. Only by understanding these issues can we unravel the reasons why cooperation in this area seems to lag behind other issues of equal or lesser economic importance.

Firstly, energy security is poorly defined. It encompasses a range of risks and threats over different timescales and different magnitudes. It has yet to result in a well quantified measure of public good which can be compared against other public policy objectives, such as environmental protection or poverty reduction. This lack of sharp definition makes it prey to distortion in policy debates.

Secondly, the nature of energy security means that it often "securitized" — framed in "military security" terms — as well as seen as part of economic analysis. Some threats to energy supply are seen as fundamental threats to the nation; on a par with direct external military aggression; for example, hostile attack on energy resources or disruption of supply routes. This hard secu-

rity approach is backed up by the importance of securing energy supplies in case of inter-state warfare. All military strategists are taught the vital dynamics of oil as decisive element of 20th century imperial struggle and the battles of World War II.

A securitised approach places high value on direct state control of resources, companies and transit routes, backed by hard security measures to preserve these investments (e.g. military bases/capability; "private" security companies; military cooperation). These may be backed by government to government relationships with energy suppliers where diplomatic support, military equipment and other benefits are used to create a preferential supply basis. China's recent aggressive energy and resource diplomacy in Africa displays all these features.

In contrast, the economic interpretation of energy security sees it in terms of higher and more volatile prices, impacts on macroeconomic balances and incentives to move to substitutes. The economic approach sees energy security as a potentially costly problem, but one that can be dealt with inside the normal mechanisms of markets, insurance and buffer mechanisms.

The dual nature of energy security results in contested analysis between the bureaucratic cultures advising political leaders, especially over the ability of markets to deliver security and on the need for direct state control of resources. These differences lead countries to adopt markedly different strategies when faced with similar external circumstances; particularly in the balance between preventive and reactive, cooperative and competitive, legal and power-based measures needed to ensure their perceived energy security.

These differences are exemplified by the heated debates in Japan over whether the government should increase the share of nationally owned oil imports from 15 to 40%. These debates also underlie the recent aggressive policy of overseas energy resource acquisition pursued by China and India; despite questions raised by some energy experts as to whether there is any public benefit to be gained from these expensive foreign ventures.

In contrast, energy security policy in the UK has increasingly relied on a market-based and cooperative approach; despite historical UK military involvement in Middle East oil politics. Recent reviews of UK policy in the 2003 Energy White paper and 2006 Energy Review have confirmed this approach, which is supported by the major security actors inside the UK administration. In general, European energy security policy follows a similar approach, though with more emphasis in countries such as Germany, France and Italy on long term commercial contracts with gas suppliers.

Whatever the objective outcomes of energy security policy, and without robust measures of security these are hard to determine, it is clear that the regular cry that issues of "perception" drive policy is not something that can be cured by greater inter-country dialogue or exposure of facts. Different attitudes to energy security policy are deeply engrained in the organizational cultures of different parts of governments; particularly the contrasting approaches of economic and security ministries. Most governments reach an uneasy balance of these interests, which appears inconsistent and confused when outside analysts try and interpret policy as if it is a result of a unitary set of risk perceptions and objectives combined into a coherent strategic approach.

The tensions which exist inside governments over framing the energy security issue generally to bias against multilateral and cooperative approaches to delivering energy security solutions, in favour of approaches which—at least in the short term—appear to be more under direct national control.

Counting the Benefits of Energy Cooperation in the Asia–Pacific Region

The ascendant logic of "securitization" around the energy security issue in the Asia Pacific region implies that there must be significant potential gains from broad co-operation in order to make a deeper multilateral approach to energy security in the region worthwhile.

The historical record shows the power of these implicit barriers to potentially beneficial co-operation. The IEA only emerged after the significant macroeconomic shocks caused by the oil crises of the 1970's; shocks which caused major harm to developed country economies.

The Ukraine gas "crisis" of 2005 led to the short term prospect of stronger European coordination on energy, but as the threat receded so did the political motivation for concerted action, even among a set of countries well used to pooling sovereignty to achieve common objectives.

It is unclear whether there are really strong benefits from further cooperation in the Asia-Pacific region to achieve their "traditional" energy security objectives:

- Access to stable energy producers in the Middle East, Africa and Russia/ Central Asia will not be secured by regional co-operation.
- Cooperation is needed over gas pipeline transit and infrastructure cooperation, but bilateral deals are making progress.
- Asia-Pacific countries require high investment rates in energy infrastructure but this is mostly driven by domestic investment conditions.
- Many other regional collective action issues are already being addressed in other fora: sea lane protection; supply transparency and cooperation; terrorism vulnerability.

In these traditional energy security areas there do not seem to be sufficient benefits to promote deep regional cooperation in the Asia Pacific region. Certainly not enough to overcome other long term causes of distrust and tension between major consumers such as China, Japan and India,

A focus on narrow energy security concerns is likely to result in a patchwork of bilateral and multilateral agreements which will evolve and improve, but will not resolve into a set of binding and substan-

tive cooperative commitments. More benefits are needed on the table to drive cooperation.

The New Energy Security Agenda

Though there may not be large enough benefits inside a narrow interpretation of energy security to justify enhanced multilateral cooperation; a broader view of energy security shows a larger set of potential security and economic benefits from cooperation. This broader agenda revolves around the instability impacts of the geopolitics of energy and growing impacts of climate security.

The Rising Geopolitics of Energy

In a recent speech Javier Solana, the EU High Representative outlined how energy was a key aspect of every major foreign policy issue he was involved with; form Iran to North Korea to Sudan. The increased importance of energy security as a foreign policy issue is leading to a set of unintended consequences in other policy areas.

Firstly, geopolitical tensions rooted in bilateral energy alliances between countries are preventing—or weakening—global collective action to reduce other security threats. Examples include: Chinese and Russian energy relationships with Iran weakening Security Council action on nuclear proliferation; China's oil sector involvement with Sudan delaying UN action on Darfur; India's energy investments in Myanmar limiting action against the military regime; and European and US energy interests in Russia and Central Asia weakening action on human rights and internal oppression.

The geopolitics of energy security is limiting the international community's freedom to act in many unstable parts of the world, notably Africa, Central Asia and the Middle East. In the long term this is likely to increase political instability and the risk of conflict as international mechanisms are not deployed to reduce tensions. Such instability will have inevitable knock-on effects on

energy security, as is already being seen in the $10–20 risk premium in current oil prices.

Secondly, state-to-state relationships on energy access are increasing instability in producer states. One of the most consistent observations in development economics is the long-term poor economic performance of developing countries with high dependency on natural resources, especially oil and gas. The World Bank estimates that over the last 40 years developing countries without major natural resources have grown 2–3 times faster than those with high resource endowment. The root cause of this failure is the destabilizing impact of high-value resources on the political economy of supply countries: weakening incentives for good governance and pro-development policies; macroeconomic impacts of resource industries on the broader economy ("Dutch Disease"); creating massive incentives for high-level corruption and asset looting; increasing risk of violent challenges to state power, either nationally or in break-away resource rich regions; and reducing the leverage of the international community to intervene in unstable situations.

Only countries with developed and mature systems of governance find positive long-run impacts from of large natural resource finds; even the UK has suffered negative macroeconomic impacts and a large scale separatist movement as a result of North Sea oil production. Bilateral exclusive relationships with supply countries make these negative impacts more likely, by: increasing state control over assets; weakening market oversight and transparency of resources and revenues; and empowering the existing elite to use resource revenues for their personal or political benefit.

Thirdly, strategic rivalry over access to energy resources decreases trust between consuming nations and makes cooperation to secure fundamental interests difficult. Part of the reason for aggressive energy security policies by China and India is their fear of the "West" monopolizing access to the major Middle East/Russian/Central Asian oil and gas; due to their closer geographic proximity and larger purchasing power. They also feel militarily vulner-

able to US disruption of oil shipping routes, though of course benefit currently from US sea-lane protection. Recent moves by the US to place military bases in West Africa near new oil fields, increases suspicions that in times of crisis military control will be exerted over supplies. As a result, Chinese policy makers often argue they are forced to deal diplomatically with countries where the US and Europe tend not to not operate due to human rights or security concerns; such as, Sudan, Myanmar and Angola. In their turn, these moves are interpreted by US and European governments as strategic moves to deliberately undermine their influence in the region. In fact both sides have an interest in stable, secure and transparent governance in supplier countries; something mostly likely to come with representative and least semi-democratic government (though this may be disputed in China). Their current competitive stance obscures the longer-term interests of all large consuming nations to support sustainable stability and efficient market development in supplier counties as the best guarantee of energy security.

The enlarged Europe has particularly high interests in these issues. As the lesson of Algeria shows, Europe's geographic position mean that increased instability in supplier countries in Africa, Middle East and Central Asia will have the direct security impacts from migration, refugees, extremism and even terrorism. The new importance given the external aspects of European energy policy, and constructing strong cooperative energy frameworks in its immediate neighbourhood, reflects these broader security and stability concerns.

The growing geopolitical approach to energy security is undermining cooperation between large energy consuming countries in a range of areas, and increasing instability in many supplier countries. A cooperative approach to a market-based access to energy resources, good governance and transparency in supplier countries and energy efficiency and diversification would be a better guarantee of long run energy security than current competitive strategies.

The Imperative of Climate Security

Climate change is the most pressing security threat facing the world. In simple economic terms the 2006 Stern Review of the Economics of Climate Change estimates that if unchecked it will reduce global GDP by between 5–20% in the coming decades. Developing countries will bear the brunt of the early impacts as they are more vulnerable to climatic changes and extremes, and have fewer resources to adapt.

Estimates of the cost of climate change are also likely to rise as knowledge improves. Recent research has shown increased estimates of the sensitivity of the global climate to rising concentrations of greenhouse gases, and that we are likely to cross critical climate thresholds earlier than previously thought. We have probably already crossed the threshold where the Greenland ice pack will melt, increasing global seal levels by 7 metres; we may soon cross the threshold for the Western Antarctic Ice Shelf, which would raise global sea levels by another 7 metres. A 14m sea level rise will affect the livelihoods of over 1 billion people who live in low lying coastal areas, and destroy huge amounts of capital. There are still questions about how long this sea level rise will take to happen, will it be 30, 50 or 100 years. However, once a threshold is breached there is no way to reverse the process. Other thresholds — such as from the melting of the Siberian tundra — will accelerate climate change by releasing methane, a powerful greenhouse gas; there are several similar positive feedback mechanisms.

The world has already warmed by 0.7C degrees, and we are already committed to probably another 0.7C degree rise. Avoiding the worst impacts of climate change requires action to keep below the 2C degrees, and this requires global carbon emissions to start falling by 2020.

Achieve a reversal of global CO_2 emissions growth will require massive shifts in investment flows in the energy sector over the next 25 years. The International Energy Agency estimates that under such a scenario total investment in the energy sector would

fall from $19–21 trillion to $11–12 trillion, as increasing energy efficiency reduces the need for higher energy supply; with investment in transmission and distribution particularly affected. Inside the energy sector large amounts of investment will flow into low carbon technologies — renewables, nuclear and carbon capture and storage — and away from fossil fuels.

The implications of these shifts will be felt earliest and most strongly in the Asia-Pacific region, as globally it is deploying capital at the fastest rate. China alone is building one large coal power station every 4 days. If all the planned coal power stations in China, India and US are built their lifetime emissions will exceed all global greenhouse gas emissions up to 1970. If this happens there will be no likelihood of keeping climate change below dangerous and irreversible thresholds.

Future greenhouse gas emissions are embedded in patterns of investment in urbanization, road building and car use and the fabric of buildings. Moves to improve energy security by investing in coal-to-oil processes in China and elsewhere leave an even larger climate change legacy as they emit far more carbon dioxide per unit of energy than using conventional oil. Across the Asia-Pacific investment is pouring into these sectors and therefore determining the potential and cost of future greenhouse gas emission reductions.

Current energy pathways in Asia-Pacific — and globally — are unsustainable. Business-as usual will result in high costs to the region with real security implications, including a high potential for conflict and crisis. The Chinese government predicts that their agricultural yields could fall by 38% by 2050, at the same time as demand is rising strongly. Meanwhile the ability of major agricultural exporters to make up these deficits is unclear. Australian agricultural yields have fallen by over 60% in 2006 due to a combination of long-term drought and exceptional heat waves. These conditions will become ever more frequent as climate change intensifies.

Climate change is a global problem, and thus will drive glo-

bal cooperation to shift energy investment towards a low carbon economy. The existing Kyoto Protocol agreement has already begun this shift, particularly in Europe and Japan; for example, over the last ten years the global market for renewable energy has grown from virtually zero to $40 billion per annum — around one fifth of global power supply investment. But Kyoto was always only a first step, and in the period 2008–2010 will see the completion of a new more ambitious global agreement to tackle climate change over the next two decades.

The critical international actor in driving climate change cooperation is the European Union, which is aiming to commit itself to a unilateral cut in greenhouse gas emissions of 20% by 2020, and by 30% if other developed countries take on comparable commitments. These commitments provide an immediate motor for global action as the EU opens its greenhouse gas emissions trading scheme to carbon reductions produced globally, and enters into bi-lateral partnerships on new technology with key partners. For example, the EU-China agreement in 2005 to build a full-scale carbon capture and storage coal power station in China. There are also a range of other investment and technology partnerships driving low carbon investment, including the Asia-Pacific Partnership founded by the USA.

Global cooperation to tackle climate change is rapidly growing and will fundamentally change incentives, investment flows and technology in the energy sector. Achieving climate security will become as fundamental a priority as energy security in the Asia –Pacific region, opening up new opportunities for collaboration.

Beyond Zero-Sum Politics: Co-operation for Energy and Climate Security

It is in the nature of institutions to split the world into separate pieces, only by doing this can action be focused and outputs delivered. However, as times and situations change, and previously distinct areas become intertwined and interconnected, these policy silos become dysfunctional and prevent progress towards strategic goals.

We are now at such a juncture. There is no sensible way to construct policy inside the existing narrow categories of energy security, climate security and regional security. The interconnections between these areas are so profound that a holistic strategy is needed to address these challenges. No-one area deserves a priori precedence from decision makers as they all impact on fundamental security concerns. Put another way — security is security is security. Whether considering energy supply disruption, regional instability driven by competition for resources or the impacts of climate change on food and water availability and competition.

In the immediate future the most critical synergies need to be built between energy and climate security policies on three levels:

- *Clear investment signals:* Energy and climate security are public goods and so require governmental action to define objectives and set targets; the market will not produce them on its own. Both energy and climate security depend on changing energy sector investment patterns, which are mainly delivered though the private sector. This requires coherent, effective and long-term investment signals to be sent from the public to the private sector.

- *New Institutional Structures:* few countries have truly integrated strategies for delivering energy and climate security; this results in policy and regulatory incoherence and failure to deliver on strategic outcomes.

- *Political Coherence:* it will not be possible for countries to cooperate a the level needed to deliver climate security, if they still see each other as strategic competitors over energy resources. The climate security imperative needs to drive a more cooperative and rules based approach to energy security relations between states, if both objectives are to be achieved.

The emerging climate security threat fundamentally changes the character of energy relationships; moving us beyond zero-sum politics into an era where cooperation must replace competition and isolation. It will not be acceptable for countries to achieve energy security at the expense of global climate security; for example by investing in large scale coal-to-liquids technology without matching carbon sequestration. This requires countries to work together to ensure that they can meet their energy security objectives without damaging mutual climate security; for example, by providing preferential access and finance for carbon sequestration technology. This cooperative spirit should also drive major energy consumers to collaborate to stabilize energy suppliers, rather than seeking to strike exclusive and destabilizing deals with them.

Together the convergent issues of energy and climate security provide a fundamental political driver for stronger Asia-Pacific cooperation, which is important enough to overcome narrow national interests. However, it also implies that the EU and the US — as critical actors in delivering global climate security — will need to be core partners in the web of cooperation, which grows in the region.

Greg Austin & Danila Bochkarev

Energy Sovereingty and Security: Restoring Confidence in a Cooperative International System

Energy security means different things to different people. At its most basic, it means being able to get the energy products or inputs one needs for home use, business, or national services and infrastructure, including hospitals, schools, police and the armed forces. This is normally a question of relying on the market and having the resources (in cash or in kind) to pay the market price. But the market does not always deliver at an affordable price to all. There are energy 'haves' and energy 'have-nots'. Energy welfare involves domestic policies for poorer communities and international assistance packages for poorer countries.

Beyond this basic level of promoting open markets and some degree of equity, energy security policy has mostly been about dealing with severe price shocks or severe supply shocks (from politically motivated embargos or natural disaster). The International Energy Agency (IEA) was set up in 1974 to coordinate efforts to overcome such shocks. Renewed national petroleum reserve policies have been one outcome of that effort. Yet the last decade has seen growing doubt about the adequacy of domestic and international frameworks to monitor and respond to energy security dilemmas and threats.

The rapid growth of global energy consumption, under-investment in production, refining and distribution capacities, terror-

ism and a resurgence of 'energy nationalism' are endangering a fragile international balance of forces and putting strong pressure — mostly psychological — on international energy markets. The situation is aggravated by the variety of approaches to energy security.

The concept is variously positioned somewhere between geopolitics and market economics.[1] Indeed, modes of thinking and policy response to problems in various bureaucracies are 'critically different'.[2] Prospects for coherent energy policy in the near future have been severely reduced by a shift in bureaucratic power in leading countries on energy issues. Decision-making on energy security in major powers has slipped dangerously from the hands of economic policy makers to the hands of national security strategists. Environmentalists have lost the strong influence they were beginning to have.

One of the central divides in approaching energy security is between energy-exporting and energy-importing states. The former consider security of demand as a key priority, while the latter concentrate on security of supply. This tension has become more acute in recent years as some energy-producing states have more robustly asserted the view that their energy reserves are a constituent element of their own national security. For these states, there has been stronger interest than for decades in seeking full control over the three major elements of the 'energy chain' — production, transit, and processing and distribution. This trend to 'energy nationalism' — more appropriately termed 'energy sovereignty' — is impeding unrestricted access to energy resources and has negatively affected perceptions of global development, peace and prosperity.

It is clear that previous attempts to tackle energy security challenges and to propose mutually beneficial solutions have not been fully successful. The IEA has both limited membership and limited scope. It does not represent key energy producers or new economic giants, such as China and India. The G8 (initially Group of Six) also owes its origins in 1974 in large part to the 1973 oil

embargo and subsequent economic recession in the developed world. Yet, as of 2006, the G8 is still trying to address broadly similar energy security dilemmas. A number of countries are proposing to use the World Trade Organization (WTO) to develop a new 'energy architecture' based on a 'free trade' principle, but this proposal is opposed by a number of energy producing and developing states. There are also doubts that the WTO mechanism — devised for defining access to markets — may not be able to address the issues of energy security that proponents of the new WTO moves on energy are seeking.

This Policy Paper is based on the results of a year of consultations with specialists as outlined in the Acknowledgements section after the conclusion.[3] Each of the following six sections of the paper addresses the subject of one of the six main recommendations.

Restore Confidence in Global Energy Markets

There is growing misunderstanding of strategic trends in the energy policy of key hydrocarbon exporters. This is based on failure to recognize the emergence of greater political competition at a systemic level. There are two different modernization and 'mineral-wealth' management models that are now more visibly competing with one another.[4] On the one hand, the 'Western model' of modernization aims at removing 'political barriers that limit access to raw materials, to oil and gas resources and to attractive new markets…[and] foreign direct investments are seen as the best tool to denationalize oil and gas'. On the other hand, a number of emerging economies have 'formulated their own set of references for globalization': they want to participate in 'the international economy, but on the condition that the state's long-term political, strategic, and economic national interests are served'.[5] Contrary to standard IMF expectations, some of these countries have managed to combine the efficiency of private management with state control of energy assets.

Thus, several energy-producing countries still see their energy

resources and infrastructure as one of the key pillars of statehood and, in many cases, as a means of rising to a position of global strategic significance. By successfully applying a new set of socio-economic principles, now labelled the 'Beijing consensus',[6] some of these countries feel that they have proven the viability of a development model other than the IMF-advocated 'Washington consensus'.

Current trends differ significantly from the Arab oil boycott of the mid-1970s. Now, energy exporters do not seek to exercise pure political pressure on the West. They tighten control over their energy resources in order to get a bigger part of the 'energy cake'.

In these circumstances, political leaders in consumer countries should see the national development perspective of suppliers for what it is and avoid the temptation of over-politicizing (over-interpreting) what they see. In fact, there is a case for responding to the new assertiveness of producer countries by going the other way: to depoliticize and re-define energy security concepts in order to stabilize energy markets, secure stable and reliable energy supplies and develop new more efficient and environment-friendly technologies, thus restoring confidence in an international energy system. In particular, political leaders in consumer countries need to accept that a national security policy emphasizing coercive military power cannot deliver energy security. Leaders in business and global civil society should prevent politicians from going down the 'blind alley' of threat scenarios and coercive response when addressing energy security.[7]

Only one strategy delivers sustainable energy security: that of common and comprehensive economic security. The time is now right for a new effort by states to restore confidence in an international cooperative energy system. The most powerful states, represented by G8 members plus China, India, Brazil and key producer states — while working closely with the private sector and civil society — should take the lead to develop mutually beneficial international energy strategies, to deepen integration be-

tween energy producing and consuming states and to re-build confidence in international energy markets on basis of the cooperative approaches.

Transform International Energy Organizations

The international energy framework includes a number of organizations and special agencies both at global and regional levels. In addition to the IEA, these include the International Atomic Energy Agency (IAEA), Organization of Petroleum Exporting Countries (OPEC), the Energy Charter Treaty (ECT), the International Energy Forum (IEF), and the Gas Exporting Countries Forum (GECF). Meetings of energy ministers or officials within regional organizations, like the European Union (EU) and Asia Pacific Economic Cooperation (APEC), are also important multilateral energy institutions. None of these organizations has a truly universal mission, a set of binding rules or a mission that can bridge the existing divide between energy producing and energy consuming countries.

The IEA, created as mentioned above in response to the oil crisis of 1973–74, is currently facing a totally different global order, even if the security dilemmas around energy remain largely unchanged since then. The Agency, like other energy organizations, has only limited instruments while addressing new challenges and threats. In its attempt to address these, the IEA and more 'specialized' energy agencies have tried to broaden their mandates. The IEA scope of action includes energy security, economic development and environmental protection. While experts still disagree about the level of effectiveness of the IEA, its emergency preparedness and oil market observation programs as well as the level of cooperation amongst member states are recognised as useful mechanisms for the maintenance of stability of energy supplies.

However, despite its attempts to establish close contacts with major global energy consumers and producers and to address climate change, market reform and technology issues, the IEA still remains the 'closed elite club' of rich developed countries, ex-

cluding important emerging players with rapidly growing energy needs, such as Brazil, China and India and traditional key world energy producers such as Saudi Arabia and Russia. Indeed, most of the energy resources are located outside the 'IEA area' as well as more than half of the world's energy consumption. The IEA also has not been wholly successful in improving relations between energy-producing and energy-consuming countries. Neither has it become, despite some significant achievements in this area, a truly international forum on energy security, technology sharing and major environmental challenges.

The IEA faces serious difficulties in promoting its official goals:

- Free and open trade in energy is still far from being achieved;
- The Agency is hardly able to stabilize the global oil market; constantly rising oil prices continue to undermine economic development in a number of poor countries, especially in Africa and South Asia;
- The Agency does not address the growing 'ideological' divide between energy-producing and energy-consuming countries;
- IEA statistics are still based on external sources, often contradicting each other;
- Technology sharing operates effectively only between the member countries.

Other supranational structures dealing with energy security are no better prepared to respond to new challenges. For example, the IAEA has been bedevilled by Iran's efforts to fully develop nuclear enrichment technologies that would position it for a rapid transition to building nuclear weapons if it chose to go down that path. There is no agreed mechanism that can now provide a satisfactory international supervision framework for the Iranian nuclear program that takes into account both the issue of weapons

proliferation and Iran's right to develop civil nuclear power.

The G8 provides only a formal framework and 'incitement' for action, while the IEF based in Saudi Arabia, which gathers ministers of energy producing and consuming countries (both industrialized and developing) in a global dialogue on energy, still does not have a firm structure or a clear mission statement.

OPEC is simply a cartel of oil exporting states, and the GECF is (unsuccessfully) trying to follow a similar path. However, GECF members are still not able to conduct a coordinated policy on major regional gas markets. The ECT has potential to become a dispute-resolution forum for transit and investment issues. However, it should bring new important players such as the US and China inside its framework and create a set of internationally respected binding rules and an efficient arbitration system. The European Union (EU) has a successful record of addressing energy and environment challenges on a regional level. However, the EU still faces difficulties in elaborating single energy policy combining interests of its 27 members.

Therefore, there is an urgent need to expand the collective energy security system globally, including through binding mechanisms. There is a need to adapt existing rules and make new ones that are appropriate for the new 'energy game'. This process should be mutually beneficial, taking into account the interests of key players (consumers, producers and transit countries). The process should not be hijacked by leading global players (either on the producer or consumer side) and must represent the interests of developing countries.

Reconcile the Market with New Political

There is a general consensus regarding global energy security — it should be rooted squarely in the domain of the market, in the law of supply and demand, with respect for key precautionary principles (such as environmental protection and climate change). There is global acceptance of the need for appropriate contingency measures for those inevitable moments when markets do not

respond quickly enough to demand signals.

Two new elements need to be promoted as part of this global consensus. First, as mentioned above, national security policy emphasizing coercive military measures and military power cannot deliver energy security. Second, market forces cannot be held fully responsible for the global energy system. Energy markets are far from conforming to accepted criteria of openness and transparency normal for most developed economies. If neither military force nor market power can deliver energy security, what can?

One of the priorities should be the promotion of the best national resilience and contingency practices at the international level. Historically, most developed counties, primarily energy importers, have advanced contingency and resilience plans. At the same time, most of the developing countries lack the most simple crisis prevention/crisis management mechanisms for energy security. However, even where contingency plans exist at the national level, they offer no guarantee of energy security at the local or sub-national level. Often, it is unclear who (or which formal framework) is responsible for the contingency and resilience plans on the local level.

Establishment of an international mechanism promoting information sharing and the best practices in the area of contingency and resilience should be a major political priority. Best national[8] and international practices should be studied and promoted globally. The IEA emergency response system could serve as a foundation for global resilience and contingency standards.

For instance, it provides

- For maintenance of oil reserves and a plan for their coordinated use;
- For demand restraint, fuel switching and surge in oil production;
- A mechanism for industry advice and operational assistance (Industry Advisory Board and Industry Supply Advisory Group);

- A system for re-allocation of available supplies, if necessary.[9]

However, the IEA itself recognizes the limitation of its crisis response policy and has observed that an 'effective IEA emergency response will depend increasingly on co-ordination with non-IEA countries', especially in the Asia-Pacific region. Thus, in order to stabilize regional energy markets, East Asia needs a new strategic petroleum reserve similar to the reserves maintained by the IEA member-states. According to one observer, a 'new, self-financing reserve can stabilize global oil-prices, cement a new US-Russia energy security partnership, and encourage the Asia-Pacific region to diversify oil imports'.[10]

Another goal, and one that recognises the role of market forces, should be to reconcile the application of the existing WTO framework with emerging economic and political realities of the energy sector. One the one hand, a number of WTO members is trying to re-define the global energy security architecture, proposing to apply the 'free trade in services' provision of WTO to the energy sector. On the other hand, several developing countries oppose open access to energy markets since they consider the energy sector an inherent part of their national sovereignty. This divide may be considered one of the key cleavages of the 21stcentury and should be addressed within proposed confidence building measures.

At the same time as addressing international regimes, states concerned about energy security must do more to build confidence about, and to secure the foundations for, stable, transparent and efficiency-driven regulatory regimes at the domestic level. International confidence in the domestic regimes in major energy consumers like China and India is very important. This has long been recognized by China and the United States, which have been cooperating for more than a decade to improve China's domestic regulatory regime for energy pricing and distribution.[11] In India's case, the Policy Paper, *Integrated Energy Policy,* released

in August 2006 by the Indian Planning Commission, concluded that 'promoting transparent and competitive markets for all forms of energy supplies/services is the first policy initiative that the government must take as part of its integrated energy policy'. It went on to say that 'such competitive markets provide the best means to extract efficiency gains from the sector'.[12]

Signal for our Low-Carbon Future

Energy security for a state or a community depends as much on domestic regimes for supply, distribution and consumption as on international factors. There is a strong link between policy intervention by governments at the domestic level — another form of 'energy sovereignty' — and international energy security. This link has many dimensions: choices about civil nuclear power; policy price signals for transition to low-carbon fuels involving other renewables, such as solar power and bio-fuels; and control of carbon emissions.

Clear 'price signalling' from governments on use of renewables within a transparent regulatory system is an essential ingredient in energy security. It allows more secure, more efficient, and sustainable energy use, without serious destabilization of the national energy market or national economy.

A clear and dramatic price signal on renewables would:

- Put pressure on oil and gas producers to be more politically responsible;
- Create more national energy options as opposed to import options;
- Promote more householder options as opposed to grid-based or pipeline/transmission line options, thus making householders more confident about energy security and less prone to support risky geo-strategic options based on the need to secure oil (or gas);
- Reduce the debt burden on developing countries seriously affected by oil price rises;

- Through promoting biomass energy sources, promote rural development, a major problem in almost all countries of the world, including wealthier ones.

There will be less 'energy insecurity' and anxiety if the public and the markets can see a clear policy that lays out the price signals for a rapid move to a more diverse energy portfolio, one that includes a much bigger slice of renewables use than most policy analysts are willing to consider. (In this case, a rapid time frame means the next ten years, not 30).

This is most important to combat rising public alarm about climate change. There is a popular perception that global warming may be quickening and that there will be serious economic and ecosystem losses as a result. Many people believe that the leading emitters (USA, EU, China and India) are not acting as rapidly as they must to reduce emissions and prevent catastrophic change.

Regardless of one's view on climate change, price signalling for a low-carbon future is also important for other reasons mentioned above: use of renewable energy sources exploited close to the place of consumption is *prima facie* more sustainable and more secure, and therefore more conducive to confidence in energy security, than reliance on fuels that are transported across long distances from politically unstable countries. Even if security of transportation or source of fuels were not an issue, the use of imported energy already imposes a serious economic penalty on some countries. For example, oil-importing developing countries suffer enormously from even modest variations in the price of oil. In 2004, the International Energy Agency estimated that a $10 increase per barrel in the price of crude oil could reduce the Gross Domestic Product (GDP) of the poorest sub-Saharan African economies by three per cent per year. In addition, there are potential economic gains for energy importing states from the stimulation of more energy production at home.

Nuclear power is an exception among the renewable energy

sources. It is clearly not as low-risk and security-enhancing as others. It imposes huge additional risks in terms of security of the production process and the storage of waste. There is serious disagreement among environmental economists about the competitiveness on a per unit basis of nuclear power when compared with some other renewable sources. There is political contest about the long-term safety of nuclear power stations and the handling of nuclear waste.

Regardless of any inherent attractiveness of renewable sources for environmental reasons, development of the low-carbon options for states are already economically attractive if a medium- to long-term perspective is taken. Projected rates of growth in consumption of 'traditional' fossil-based sources of energy cannot be sustained without a sharp increase in prices.

Thus, there are three important policy judgments that need to be made by all states with respect to possible domestic regulation:

- Does the state need to promote substitution of fossil-based fuels?
- If so, how quickly must a state make the change?
- What technologies are most viable (politically, economically, socially) to facilitate change?

On the first point, there is a prevailing global consensus that states should actively substitute fossil-based fuels. This is reflected in the UN Framework Convention on Climate Change (UNFCCC), among other places. But, according to many states, this Convention and its Kyoto Protocol do not bind together key 'greenhouse emitters', such as the United States, China, India, the European Union and Russia, in a course of action that will mitigate climate change. It has merely set states on the path of action that might, one day, position the key emitters to reduce the pace of climate change. Thus, on the second point, there is no strong consensus on how rapidly states must move, or even can move through mar-

ket regulation, to mitigate climate change. On the third point, there is even greater uncertainty and dispute about the technologies that would not only be viable in terms of impact on climate change but also accessible (widely disseminated and well-priced) to those most in need.

The lack of consensus at the global level on climate change and a low-carbon future is one of the major sources of energy insecurity, even though experts may disagree about the influence on energy markets of such anxieties and uncertainties.

The global consensus on the need to shift to a post-carbon future leads to an inescapable conclusion. States must deliver 'price signals' that will drive the pace of change to renewables. There is, however, no single formula for such price signals. They will be dependent on a different and difficult calculation of domestic economics and politics for each state. Even apparently uniform targets, such as the EU-agreed target of 12 per cent of renewable energy in the total energy mix by 2010, conceal a large number of differences among states, not least the natural endowment of each member state with renewable sources of energy, such as hydro-power.

One of the possible frameworks for redressing the insecurity arising from this lack of consensus could be the UNFCCC and a firmer application of an extended and reformed Kyoto Protocol to the Convention. This Protocol is currently being renegotiated, but there has been little attention given so far to international frameworks for supporting price signalling that promotes transition to renewables.

The importance of domestic regulation also applies to efforts in conservation of energy and the application of technologies for more efficient use of fossil fuels. Giving a global dimension to energy efficiency and conservation represents in itself a potential new 'source' of energy. The EU has a plan in place to reduce its energy use by 20 per cent by 2020. The United States has a similar plan. Increasing energy efficiency in Russia would make millions of barrels of oil available for global consumers. China and

India have enormous potential for savings in energy efficiency that can be delivered through more effective regulatory regimes.

The analysis of domestic policy — especially government regulatory policy — is often overlooked as one of the most important sources of confidence building for energy at the international level. Understanding the domestic regulatory policies of India and China and the weakness of their energy efficiency regimes is essential to understanding their energy policy motivations. Overcoming those weaknesses is an important part of confidence building for global energy security.

Produce an Audit of Global Energy

Some of the lack of confidence in the stability of the global energy market is caused by the lack of agreement on the amount of energy reserves available worldwide. The 'certain knowledge'[13] that hydrocarbon fuels will run out (the 'Peak oil' concept) [14] destabilizes international energy markets and leads to serious political tensions.

Furthermore, the general public and most of the political and business elite are confused by the different systems used to assess the energy value and measure the quantity of hydrocarbon and non-hydrocarbon energy reserves. In fact, energy measured in barrels, tons, and cubic meters confuses non-specialists and sometimes gives a wrong impression of the energy resources available. Moreover, the emergence of 'non-hydrocarbon' sources of energy as well as alternative hydrocarbons (heavy oil, coal-to-liquids, etc.) further complicates the picture.

Global resource assessment is often very confusing. A good example is the oil reserves categorization. The US Society of Petroleum Engineers (SPE) and the US Securities and Exchange Commission (SEC) provide standard oil reserves classification. The former takes into account only geological data, while the latter's classification system is also based on strict financial accountancy principles. The SEC estimates are known as the most conservative in the world: only proven reserves with probability of com-

mercial drilling over 90 per cent can be taken into account and entered in the companies' financial documents. However, these estimates do not show the real situation with oil and other hydrocarbon reserves and there is a need for dramatic modernization of reserve disclosure. Daniel Yergin of Cambridge Energy Research Associates (CERA) claims that the current SEC classification rules 'simply have not kept up with the globalization of the industry', while the 'differences among the fiscal regimes in several countries make it harder, not easier, to compare domestic and international reserves'.[15]

At the same time, the industry has made significant technological progress, especially in deep-water exploration and production. For example, Dr. Yergin outlines that 'non-traditional liquids' (such as oil sands and heavy oil) may 'account for as much as 45 percent of oil production capacity in North America by 2010'. The SEC system neither takes into account the tremendous development of the North American LNG market, nor the recent progress in information and geological technologies. Thus, 'scarcity also can be ruled out as a threat to supply security; scarcity is a fear, not a reality'.[16]

The evident endpoint for exhaustion of fossil fuel reserves has highlighted the need discussed above to audit the major hydrocarbon energy sources. But the issue of auditing energy reserves does not stop with fossil fuels. The assessment of fossil fuel reserves depends on a dynamic model incorporating a time element, investment decisions, market pressures and technological advance. Also, the international community needs to devise a way of auditing available (or prospective) non-fossil fuels, such as nuclear, solar, biomass and hydropower.

It has been all too easy for the nuclear industry to say that it holds the main solution to global energy needs when fossil fuel supply looks more costly. On the one hand, the World Nuclear Association claims that nuclear energy is at present 'the only viable proven technology that can meet rising energy demand without producing the greenhouse gases that threaten the future of

our planet'. On the other hand, Greenpeace argues that the 'only way that we can stop the worst effects of climate change is by [...] making sure that the energy that we do need comes from clean, renewable sources. Theoretically, renewable energy has the potential to meet our energy needs many times over, but at present, we get less than one percent of our electricity from the wind, ocean and sun.' Henceforth, informed decision-making for energy security will have to be based on a comprehensive audit with completely transparent assumptions about the pace at which consumers globally can shift to non-fossil sources.

Create a Truly Global Energy

The world energy market is highly fragmented. Even in North America and Europe, where there are dense networks of pipelines and electricity grids, most of the regional and national energy networks are not highly integrated. Thus, in case of major power outages in one place (e.g. California power crisis, or the Russia-Ukraine 'gas war') or interruption of supplies (Hurricane Katrina), it is difficult to replace the existing power generation capacity and bring additional fuel supplies on-line quickly. As Dr. Cyril Widdershoven has observed, 'If something happens at a choke point, the whole chain will be disrupted and there won't be enough capacity somewhere else to cope with the blockage'.[17]

The lack of interconnectivity also undermines the competition principle as industrial and private customers depend on a small number of local suppliers. In the EU, lack of inter-connectors also weakens the principle of 'energy solidarity' among member states. Development of new transport networks is a prerequisite for global energy security and stability of major energy markets. Such new networks are important for energy-consuming nations as an instrument of diversification of primary energy away from a single or few dominant energy sources, countries or transit routes/corridors.

Unsurprisingly, the EU 'Green Paper on Sustainable, Competitive and Secure Energy' links interconnection of existing and

new energy infrastructure with the successful development of a competitive 'single market' for energy within Europe:

> Europe has not yet developed fully competitive internal energy markets […]. To achieve this aim, interconnections should be developed, effective legislative and regulatory frameworks must be in place and be fully applied in practice, and Community competition rules need to be rigorously enforced.[18]

The private sector also supports this agenda. Thus, the CEO of ENI, Paolo Scaroni, laid out a four-point agenda for avoiding a gas shortage — two directly relate to this issue: to accelerate the build-up of LNG facilities and gas storage; and to 'connect' distribution pathways between national markets.[19]

A breakthrough in new technologies, such as gas liquefaction, Combined Cycle Gas Turbine (CCGT), clean coal power generation, nuclear power, or battery storage of renewables-sourced electricity could be used to reinforce the inter-operability and ease consumers' dependence on a small number of energy sources. In fact, transportation of liquefied gas no longer depends on pipeline network and allows more flexible 'buyer-seller' contracts. Moreover, liquid gas can compete with pipeline gas and even oil. The CCGT offers low cost and the least environmentally damaging form of fossil-fuelled power generation; it is 40 % more efficient than simple gas-fired turbines. Moreover, CCGT can use different types of gas and liquid fuels. In the long run, wind, solar, hydropower and bio-fuels as well as nuclear power can supplement traditional hydrocarbon supplies. This also helps to avoid 'bad surprises' such as power outages and interruption of supplies.

However, the linking of distribution and transportation networks will require significant financial commitments. It will also depend on harmonizing national legislation in several states and, in many cases, will be affected by domestic politics. Moreover, the pipeline projects generally have a long payback time (12–14

years), while fuel substitution also requires substantial investment in research and development. But, the investment engagements may create mutual consumer-producer dependence as both sides are interested in developing 'energy-supply systems with minimal vulnerability to short- and long-term disruptions'.[20]

Governments should work closely with the private sector to create a technological basis for a truly global energy market. There is a need for fuel energy market. It is necessary to support convergence of the three big regional gas markets (European, North America, Asia) with a transparent and predictable price mechanism, limit speculative trends on the oil market and launch renewable energy financial instruments. The private and public sectors should work together and use the available technology to develop well-functioning regional electricity markets. Furthermore, the price of energy should be linked to the calorific value of each fuel in order to allow better price inter-operability.

Conclusion

The solutions to energy security dilemmas are best found in addressing the psychology of insecurity at a grand strategic level rather than by trying to decide which specific analysis best fits a particular energy sector. The *Shell Global Scenarios to 2025* (released January 2006) underlines the declining interest in energy cooperation in the context of rising nationalism: 'How states will cooperate, bilaterally or multilaterally, will affect how these sources of insecurity can develop'. The Shell report noted a 'loss of sense of common purpose' in approaching energy security.

It is time to promote a re-shaping of the definition of 'energy security' and 'energy sovereignty'. The concept of 'energy security' should include confidence-building measures. This paper concludes that 'energy security' is, first of all, trust in the global energy system, including energy markets and contingency/regulatory mechanisms. We strongly believe that this trust will in itself help to promote necessary technological and investment policies, stabilize energy markets, secure stable and reliable ener-

gy supplies and develop more efficient and environment-friendly technologies, thus restoring confidence in an international energy system.

The international community, including global businesses, should recognize that 'energy sovereignty' resulting in firmer control of energy resources and transport infrastructure is a normal, understandable economic and political phenomenon, incorporating a number of positive trends. A number of countries have developed their own modernization approach, which prioritizes their own country's long-term economic, political and social interests. In the energy sector this trend has resulted in a resurgence of the 'energy sovereignty' approach. Energy producers have a natural and legal right to consider energy resources part of their national sovereignty. However, all parties concerned need to understand the importance of a new political reality, and to develop a set of mutually beneficial 'rules of the game'. Indeed, despite a worrisome level of state control in the energy sector of several producing countries, there is room for mutual cooperation focused on achieving positive outcomes for both consumers and producers.

Policy Recommendations

Leaders in government, business, the media and the community should pursue the following measures:

1. Respond to growing global fears about access to resources by rebuilding confidence in a set of global rules and cooperative approaches that reconcile competing stakeholder interests, especially on fair access to energy supply and to energy transport infrastructure.

2. Create a truly international energy organization. It should include new members (China and India as major energy importers; and major energy-producing countries, such as Saudi Arabia and other leading OPEC members). The new

organization should take into account the vital interests of the key stakeholders (private sector, governments and civil society). Its mandate should be much broader than that of the current International Energy Agency (IEA) and it must provide binding rules for access and supply, and better regimes for emergency response.

3. Focus on two principal goals:
   • to bring the best national resilience and contingency practices to the international level;
   • to promote stable, transparent and efficiency-driven domestic regulatory systems in major consumer countries.

States, working closely with the private sector, should:

4. Individually legislate for more accessible non-carbon or low-carbon options in the energy mix at the same time as making a quantum leap in international efforts to spread relevant technologies, including nuclear power options. These policies should address global warming and other environmental issues, and promote technology sharing in order to accelerate the pace of transition.

5. Undertake urgently a global audit of the energy resource base, understanding that it must include dynamic factors, especially the potential role of market signals for a more rapid shift to renewable energy, both non-nuclear and nuclear.

6. Promote fuel substitution, physical interconnections between existing energy transportation networks, and work toward a truly global energy market.

Notes

1 The authors would like to acknowledge Nick Mabey, Chief Executive of the London-based E3G, as the source for the observations in this paragraph. He was speaking at a round-table organized by the East-West Institute and the Madariaga European Foundation in Brussels on 27 September 2006.

2 Mabey also offered this important observation. It is central to understanding the policy bottlenecks and other institutional impediments to sensible policy on energy security.

3 These consultations were led beginning in 2005 by Vasil Hudak, Daniel Bautista, Danila Bochkarev and EWI's CEO, John Edwin Mroz. One of the authors of this paper, Greg Austin, joined the process in August 2006.

4 Coby van der Linde, 'Energy in a changing world'; inaugural lecture as a professor of Geopolitics and Energy Management at the University of Groningen; Clingendael Energy Papers, No. 11, CIEP 03/2005, pp. 10–11.

5 Ibid.

6 See Joshua Cooper Ramo, *The Beijing Consensus*, Foreign Policy Centre, London, 2004.

7 Comment by Michael Lynch, Strategic Energy & Economic Research Inc.

8 For example, the United States Downstream Oil Emergency Response Plan.

9 The overview of the IEA Emergency response system is available at http://www.iea.org/Textbase/about/ ome.htm. For more details, also see http://www.iea.org/Textbase/work/2003/asean/JACOBY.PDF.

10 David Goldwyn, "The United States, Europe, and Russia: Toward a Global Energy Security Policy", EastWest Institute Policy Brief, August 2002, Vol. 1, n° 5, p. 2.

11 See Angelica Austin, *Energy and Power in China*, Foreign Policy Centre, London, 2005.

12 Planning Commission of India, *Integrated Energy Policy*, New Delhi, 2005, p. 71.

13 This depends of course on the prevailing scientific view that oil and gas are produced through the transformation of carbon deposits over thousands of years.

14 'Peak Oil' also known as 'Hubbert's peak', refers to the peak of the entire planet's oil production. After the Peak, according to the Hubbert Peak Theory, the rate of oil production on earth will enter a terminal

decline. There have been several attempts to apply the same theory to gas and other hydrocarbon fuels.

15 Daniel Yergin, 'How Much Oil is Really Down There?' The Wall Street Journal, April 27, 2006.

16 Michael Lynch, 'Oil Supply Security 2004: Does the Song Remain the Same?', International Research Center for Energy and Economic Development (ICEED), Boulder, Colorado U.S.A., 2004.

17 Quoted by Michael T. Burr, 'The Geopolitical Risks of LNG', in *Public Utilities Fortnightly*, March 2005, p. 30.

18 http://ec.europa.eu/energy/green-paperenergy/doc/2006_03_08_gp_document_en.pdf

19 For more details see http://www.cera.com/aspx/cda/public1/news/articles/newsArticleDetails.aspx?CID=8207

20 Dr. Andrey Konoplyanik, 'Energy Charter: the Key to International Energy Security', in *Petroleum Economist*, February 2006, pp. 19–20.

Shoichi Itoh

Sino-Russian Energy Partnership: Dillemma of Cooperation and Mutual Distrust

In November 2006, the International Energy Agency (IEA) published its "World Energy Outlook 2006", which contained the forecast that world energy demand would increase by 53 % by 2030, against the background of sharp increases in demand in China and India.[1] The "Asia/World Energy Outlook 2006" published by the Institute of Energy Economics, Japan in September of this year estimated that China and India would account for about a quarter of worldwide primary energy consumption by 2030, as well as accounting for about 40 % of the global increase in energy consumption (and about 40 % of the increase in oil consumption).[2] In Northeast Asia, Russia and China — i.e. a major energy producer and a major energy consumer — exist side-by-side and the stability of world energy markets in the near future will be significantly affected by the type of energy cooperation framework that can be built in this region.

Energy Cooperation in Northeast Asia, however, has been limited in scale to date, because of lack of an effective institution, mutual distrust among the nations, excessive unnecessary geopolitical calculations, etc. Nonetheless, it seems that two dimensions of possible policy coordination between the supplier and the consumers on the one hand, and among the consumers on the other, would generate a fertile ground for multinational international cooperation, taking into consideration of the follow-

ing three factors: 1) the rising importance of Eastern Russia's energy potential in Moscow's national energy strategy; 2) China's increasing energy demand and its proactive advancement to oil and gas equities abroad; and 3) Japan's peak in primary energy demand around the corner.

Generally speaking, geopolitical connotation and confrontational nature of energy security in Northeast Asia has been emphasized in the mass media and scholarly debates. When it comes to a question of constructing the ESPO (East Siberia—the Pacific Ocean) pipeline in Russia, among other things, the Sino-Japanese "scramble" over a prioritized access to the pipeline has gathered a worldwide attention. The author still argues that this ESPO project would provide an opportunity for Northeast Asian countries to find "common denominators" of interests *if we emphasize economic feasibility and business calculation rather than stereotyped geopolitical* images, given that the project is full of investment and technological risks.

Russia Looks East

As of today more than 70 percent of Russia's oil and natural gas has been produced in Western Siberia, and until recently the nation did not pay serious attention to the development of Eastern Russia, i.e., Eastern Siberia and the Far East. According to Russia's *Energy Strategy towards 2020* (RES2020), published in August 2003, it was predicted that the production of both crude oil and natural gas in Western Siberia would reach a peak around 2010, while that of Eastern Siberia and the Far East would experience steady growth. While by an optimistic scenario, oil production in Western Siberia will increase from 325 million tons in 2005 to 344 million tons in 2010, the volume will be reduced to 315 million tons in 2020. According to this forecast, while the share of Western Siberian energy in Russia's total oil production will decline from 71 percent in 2010 to 61 percent in 2020, that of Eastern Siberia and the Far East will likely increase from 7.8 percent to 20 percent during the same period. Meanwhile, according to

RES 2020, Russia will aim to increase its share of crude oil exports to the Asia-Pacific region from 3 percent to 30 percent by 2020. Similarly, by an optimistic scenario, natural gas production in Western Siberia will likely peak in 2010, at a maximum volume of 572 billion cubic meters. While this amount is predicted to decrease to 541 billion cubic meters by 2020, the volume of Eastern Russia's production should increase from 8 billion cubic meters to 106 billion cubic meters. During this time, the latter's share in Russia's total natural gas production will grow from 8 percent in 2010 to 15 percent in 2020.

In addition to prioritizing the development of oil and natural gas fields in Eastern Russia, Moscow must accelerate the construction of eastward pipelines — particularly those transporting crude oil in the immediate future — for the purpose of securing access to Northeast Asian energy markets. Without such prospects, it would be difficult to attract the investment needed to tap the hydrocarbon deposits scattered in Eastern Russia's vast — sometimes permafrost — terrain. When President Putin emphasized the importance of diversifying Russia's oil export routes in his annual speech to the parliament in April 2004, the eastern dimension of the country was no exception[3]. According to Russia's contemporary plan, the first stage covers the distance of about 2,300 km, reaching from Taishet to Skovorodino and terminating about 70 km to the north of the Sino-Russian border. It should be completed by the latter half of 2008, by which point it would transport 30 million tons of crude oil per year from Western Siberia. The second stage of the pipeline would subsequently begin, stretching about 1,900 km, from Skovorodino to the Pacific side.[4] While completion of the second phase would allegedly allow for the annual transportation of 80 million tons of crude oil in its full operation, the feasibility of procuring this amount of crude oil from Eastern Siberia remains uncertain today. In making the ESPO project realized in a economically feasible way, Russia cannot help but resolve the questions (associated risks) with regard to 1) increase in proven reserves; 2) improvement of the reserve

replacement rate in accordance with the growth in oil production; 3) and acceleration of investment in exploration, development, and production of Eastern Russia's upstream. The delay in formulating a clear investment scheme for potential investors has had inflows of foreign capitals limited in volume to date[5].

The Problem of the Quantity of Proven Reserves and Production of Crude Oil

Many experts recognize that the reserves of hydrocarbon resources in Eastern Russia, the development of which had previously been lagging behind, hold immense potential, but when it comes to proven reserves or recoverable reserves, assessments vary. Speaking to the Parliament in April 2006, Deputy Minister of Industry and Energy Andrei Dementiev stated that 40–50% of the crude oil lying beneath Russia was located in the eastern regions, but he did not mention any figures as a breakdown (proven, estimated, projected), so there are still question marks over this.

Amidst hopes that the basic increase in crude oil production will be achieved through development in the eastern regions, the Ministry of Economic Development and Trade forecasts that the volume of production in these regions will rise more than threefold from 23 million tons in 2006 to 74 million tons by 2015. At the same time, according to the Eastern Siberia and Sakha Republic Geological Survey Program adopted by the Ministry of Natural Resources in 2005, the quantity of crude oil produced in Eastern Siberia is estimated to reach 30 million tons in 2012–2013, rising to 80 million tons after 2020 (around 2025). [6]9 According to estimates by the Novosibirsk-based Institute of Oil and Gas Geology (IGNG) of the Siberian Branch of the Russian Academy of Sciences, crude oil production in the eastern regions is forecast to rise to 35.5 million tons in 2010, 67 million tons in 2015, 90 million tons in 2020 and 145 million tons in 2030.[7]

Meanwhile, calculations by the Ministry of Natural Resources suggest that it is necessary to secure at least 10 billion barrels in reserves, in order to achieve the crude oil production envisaged

in the *2020 Energy Strategy*. However, in Russia of late, there has been a declining trend in the ratio of secured new reserves to growth in production (reserve replacement rate) and, as of 2005, more than half of crude oil produced by Russian oil companies is gobbling up previously discovered reserves and the increase in reserves through new geological surveys is not covering this.[8] Valery Garipov, who held the post of Deputy Minister of Fuel and Energy between 1996 and 2001, has disclosed that the Russian state is losing its ability to undertake the rational control of crude oil, and that, on the basis of development to date, it cannot secure sufficient reserves and resources to achieve the planned annual production volume of 490–520 million tons set forth in the *2020 Energy Strategy*. The construction of the ESPO pipeline is being promoted by the Russian government on the grounds that increasing production volumes in Eastern Siberia and the Far Eastern region is essential to ensuring the maintenance and future growth of crude oil production. Conversely, if Russia does not succeed in securing continued increases in the production of crude oil in these eastern regions and a comparable quantity of reserves, not only will it not be possible to ensure the profitability of the ESPO pipeline, but also Russia, which wants to expand its influence in the Asia-Pacific region using energy as a "weapon", will be unable to translate its state strategy into reality.

In February 2005, Deputy Minister of Natural Resources Anatoly Tyomkin reported at a State Duma hearing that, if relying on existing reserves in Eastern Siberia and the Far Eastern region, it would be possible to continue producing 30 million tons annually up to 2030, but that if this figure went up to 50 million tons annually, it would be necessary to upgrade the portion positioned as "stock" to the status of "reserves" and begin developing them by as soon as 2010–2012.[9] According to a 2004 assessment by the Ministry of Natural Resources, the geological surveys required to transport 30 million tons a year via the ESPO pipeline would cost $8 billion, rising to $19 billion in the case of 50 million tons and about $40 billion in the case of 80 million tons. However, for

instance, in the two years to 2004, the government and oil companies only spent a few hundred million dollars.[10] The fact that Russian oil companies only spend about one-third of the amount spent by foreign companies on exploration and exploratory drilling was acknowledged as a problem by experts at the Baikal Economic Forum held in Irkutsk in September 2006. If we look at the amount invested per ton of oil extracted, as of 2002, the figure was $16.6 in Russia, whereas it was $48 in other countries. In the *2020 Energy Strategy*, the amount of annual investment required in Russia's oil and gas sector is estimated at $22–25 billion, but actual investment is no more than $10 billion and some experts fear that, if the current situation continues, there is a possibility that Russia's oil reserves will fall to 65% of the 1991 level by 2020.[11]

Introduction of the Concept of "Strategic Mining Deposits" and Unclear Investment Scheme for Foreign Investors

Putin's administration has positioned energy resources such as crude oil and natural gas, not to mention other sub-soil resources, as strategic materials that determine the fate of the nation, and is gradually eliminating the influence of foreign companies, which began to strengthen in the 1990s. In May 2005, President Putin instructed the government to formulate a bill limiting foreign investment in companies linked with national security, and the Ministry of Natural Resources has been making preparations for this.[12] In October of the same year, the Ministry of Natural Resources formulated a bill as an amendment to the Law on Use of Sub-Soil Resources (enacted in 1992), defining oilfields with at least 150 million tons of reserves, gas fields with at least 1 trillion m3 of reserves, copper deposits of at least 10 million tons and gold deposits of at least 700 tons as "strategic deposits", and stipulating the condition that the share of stock held by foreigners should be less than 50% (in other words, it was mandatory for Russians to hold 50% +1 share). However, on the grounds

that the definition of "strategic deposits" did not adequately protect national interests, the bill was rejected at the request of the president's office, immediately before its first reading at the State Duma.[13]

In May 2006, when President Putin held a meeting with Minister of Natural Resources Yuri Trutnev, he instructed the minister to reconsider the "strategic deposits" criteria.[14] In June of the same year, the minister revealed a new bill, in which the deposit reserves targeted by restrictions on entry by foreign investors (as stated above) were set at 70 million tons or more in the case of oilfields, at least 50 billion m3 in the case of natural gas fields, at least 500,000 tons in the case of copper deposits and at least 50 tons in the case of gold deposits. According to Mr. Trutnev, based on this new definition, while around 30 oilfields and 40 natural gas fields across Russia will fall into the "strategic mining deposit" category, an appropriate framework with a focus on the entry of foreign capital into Eastern Siberian "strategic mining deposits" that will be supplied to the ESPO pipeline is still in the making.[15]

Uncertainties in Russo-Japanese Energy Partnership

While Russia is the world's second-largest oil-producing nation (and the largest natural gas producer), Japan's energy self-sufficiency rate is extremely low at 4% (rising only to 16% even if nuclear power is included), so it is dependent on imports for almost all of its crude oil supplies. If we focus solely on this point, even a non-expert can see that Japan and Russia have a highly complementary relationship with regard to energy demand and supply. However, in fact, with regard to energy cooperation between Japan and Russia, the Japan-Russia Action Plan (Jan. 2003) and the Detailed Agreement Concerning Cooperation in Individual Energy Fields (Nov. 2005) have not developed in the direction originally hoped. In relation to this, Russian criticism of Japan (including media reports in general) is focused exclusively on the stereotypical issue that, "Japan, which should be desperate for

oil, will not undertake energy cooperation with Russia for political reasons, as it is obsessed with the Northern Territories issue". Are such assertions really on the mark? The biggest reason why Japanese financial cooperation in the ESPO pipeline scheme has not progressed smoothly is that Russia has been lagging behind in upgrading the domestic investment environment. Today, the country that has a strong tendency to link business and economic problems to political issues is actually Russia rather than Japan.

The Delusion That "'Middle East Risk' = Japan Desperately Wants Russian Oil"

Unlike Europe, Japan has fulfilled its energy demand without effectively being dependent on energy supplies from Russia. Even assuming that Russia does not become a supplier of energy to Japan in the future, it is impossible to imagine that this would become a factor that threatened Japan's energy security.

Certainly, fears about the country's continued excessive reliance on the Middle East as a source of crude oil supplies are persistent even within Japan, and the dispersal and diversification of actual sources of energy supply is a major proposition in Japan's energy policy. On the Russian side as well, alleviating Middle East (geopolitical) risk is the cliché trotted out when calling for investment in its energy sector. However, amidst a situation in which Russia has recently been asserting the "validity" of its resource nationalism, while positioning energy resources as a national strategic "weapon", and has been trying to reinforce its geopolitical position within Northeast Asia, it is not necessarily the case that reducing Japan's Middle Eastern dependence and increasing its dependence on Russia by the same amount would lead directly to the various geopolitical risks relating to Japan's energy security being overcome.

Furthermore, there are good reasons why Japan is maintaining a high level of dependence on the Middle East as a source of crude oil supplies (about 90 % at present) and why, although its dependence on the Middle East actually decreased in the af-

termath of the second oil crisis, it has risen once more since the mid-1980s. If businesspeople decide that it will not be profitable, they will not invest in new projects. Naturally, business involving the Middle East is continuing in spite of the chronic geopolitical risks inherent in that region precisely because it is deemed possible to make a profit. Japan has sufficient world-class oil refining facilities and the fact is that, although oil from the Middle East is of poor quality, as long as it can be purchased cheaply, it is often profitable in business terms, even when the cost of shipping it by sea in tankers over long distances is taken into account. Ironically, because crude oil from Eastern Siberia and Sakhalin is generally of high quality because of its low sulfur content, one cannot necessarily say that it is competitive in terms of price, when considering its entry into the Japanese market, so it is something of an unknown quantity.

The Problem of Eliminating the "Asian Premium"

One of the main reasons why Japan became interested in Russian crude oil was the potential for eliminating the so-called "Asian Premium" on crude oil produced in the Middle East. In general, Asian countries are said to pay a premium of about $1 per barrel on crude oil purchased from the Middle East, over and above the price paid by European countries. Japan would like competition between supply sources and markets to be realized with the construction of the ESPO pipeline. However, Russian oil companies are currently aiming to make a profit in the form of the "Asian Premium" by exporting to the east rather than the west. If the "Asian Premium" is not eliminated, the appeal of Russian crude oil will diminish accordingly.

Japanese Demand is About to Peak

Japan has learned lessons from the two oil crises and has developed world-class energy conservation technologies. Today, while the country continues to make further efforts to develop measures to tackle global warming, the rate of population growth has

already begun to decline. According to forecasts by the Ministry of Economy, Trade and Industry, Japan's primary energy demand will peak in 2014–2026. In other words, this will more or less coincide with the period when Russia will increasingly be trying to accelerate energy development in its eastern regions. Furthermore, even if Japan experiences only a gradual decline in oil demand, it is not going to increase again. The question of the share of Russian crude oil and oil products accounted for by the Japanese market in the future will depend on the previously mentioned issues of price and quality.

Uncertainties in Sino-Russian Energy Partnership

Twists and Turns of the Projects

In light of the progressive development of the Sino-Russian partnership, it seems likely that a number of their energy agreements would come to fruition. Ironically, however, despite the complementarities existing between a supplying country and a consuming country, Sino-Russian mutual distrust has been aggravated by the very energy issues that could have otherwise strengthened their partnership.

China's importation of Russian crude oil has steadily increased in recent years. While Russian crude oil exports to China reached 3.5 million tons in 2003, 6.4 million tons in 2004, and about 8 million tons in 2005 by rail, the targeted export level has not yet been realized. According to the Sino-Russian Action Plan (2005–2008) signed in October 2005, President Putin and President Hu Jintao agreed that Russia would aim to increase its crude oil exports by rail to China by more than 10 million tons in 2005 and more than 15 million tons after 2006.[16] One could attribute this failure to an unfavourable business environment in Russia, including high shipping tariffs, export taxation, and the underdeveloped infrastructure of exporting by rail. Under such circumstances, it would not have been lucrative enough for Russian oil companies to increase their exports to China by these proportions.

Despite the completion of a trilateral feasibility study (FS) by RUSIA Petroleum, CNPC, and Kogas in November 2003, the construction of a natural gas pipeline from the Kovykta field in the Irkutsk Oblast region to China has been held up. This project had been an enduring symbol of Sino-Russian energy partnership since the mid-1990s. The Russian government opted ultimately not to sanction the international FS and, around the same time Moscow designated the state-owned natural gas monopoly Gazprom, which previously had no interest in the Kovykta project, as the chief drafter of a comprehensive development and utilization program of natural gas in Eastern Siberia and the Far East (known as the "Eastern Program") in July 2002. Although the capacity of the Eastern Program has become increasingly clear, the Kovykta field's gas production is positioned for use in domestic gasification rather than for export purposes.[17]

Consequently, despite both governments' commitment to assess the project's feasibility in their bilateral action plan (2005–2008), all progress achieved in previous dialogues regarding the Kovykta project has been compromised.[18] Most notably, Moscow and Beijing have failed to agree upon suggested prices of natural gas. It was reported that while Russia had requested US$160–170 per thousand cubic meters, China was prepared to pay only US$70 per thousand cubic meters as of December 2005. In addition, it must be noted that natural gas in the Kovykta field contains high volumes of helium. The Russian side, especially the military, is wary of exporting helium, as this strategic chemical component could be potentially diverted to China's military operations.[19] During President Putin's visit to Beijing in March 2006, it was established that Gazprom would export as much as 80 billion cubic meters of natural gas to China each year via pipelines from Eastern and Western Siberia.

Aside from being indirectly "implied" upon mention of the eastern route, there was no explicit reference to the future of the Kovykta project. Nonetheless, the so-called "Altai Pipeline" project was announced, with the proposal that a maximum of 30~40 bil-

lion cubic meters of natural gas annually would be transported from Western Siberia to China by 2011. Despite Gazprom's intention of raising Europe's energy prices by finding a new market in China; its ability to increase natural gas production to a level capable of satisfying both eastern and Western markets with cost-effective prices is unlikely at this point.[20] It would be difficult to interpret the proposed "Altai Pipeline" in and of itself as a sign of Sino-Russian energy partnership.[21] In effect, Moscow sought to dangle the "China card" before both Europe and the United States, who had stiffened their attitudes toward Russia following Russia's suspension of gas supplies to the Ukraine at the beginning of 2006. Secondly, although the "Altai Pipeline" is presumably to be connected with the East-West Pipeline, the suggested amount of gas to be supplied — 30–40 billion cubic meters per year —exceeds Russia's maximum export capacity, which at present stands at 12 billion cubic meters per year.[22] Ultimately, a supplemental pipeline parallel to the East-West Pipeline would be required to fill this current gap.[23] Thirdly, Russia and China have been unable to negotiate a compromise regarding gas prices. If China's demand for natural gas increases incrementally as anticipated, it still remains unclear in the interim whether the Altai Pipeline can satisfy Chinese market conditions. At present, China's strategy of supply diversification includes LNG terminal construction projects along the east coast, as well as natural gas development in its own western province.

It seems rather unlikely that China and Russia will reach an agreement easily on natural gas prices in the foreseeable future, because there is no rational reason for China to make more concessions than it could have when negotiating the Kovykta project. President Putin's visit to Beijing in March 2006 seemed to signal potential bilateral energy cooperation, above all, in the joint venture agreement signed by Rosneft and CNPC, indicating their intention to collectively explore and mine CNPC-controlled oil fields.[24]

Rosneft had signed a memorandum with China Petroleum

and Chemical Corporation (Sinopec), seeking to establish a joint vecdénture in exploration of the Venin mining field of Sakhalin III, and also reached a basic agreement with CNPC on the exploration of a mining field in Magadan Oblast in July 2005 (i.e., prior to the 2006 agreement). It should be noted, however, that foreign investors have been disinterested in these fields to date due to a lack of economic incentives. If Russia were to engage China as its sole partner in exploration and extraction of more lucrative and strategically important mining fields, it would be a watershed for a higher stage in Sino-Russian energy partnership. However, considering the rising tide of resource nationalism in Russia, it is rather unlikely that China, -a geopolitical rival- would enjoy such a privileged status unless its influence were effectively counterbalanced by other foreign investors. Overall, one should not overestimate Sino-Russian energy partnership at this stage. It is more appropriate, on the whole, to view the diplomacy of both sides as a "political show," effectively camouflaging the limits of cooperation in economic terms.

Russian Perception of the "China Threat"

There is no doubt that historically, national boundary disputes have been the greatest cause of Sino-Russian conflict. The final legal compromise of this issue, containing complaints on both sides, however, has done little to reduce mutual distrust. Russia's perception of the so-called "China threat" has not waned and has even increased to an extent. Overall, Russia's concern with the rising influence of China encompasses both demographic and economic pressures. These two factors are mutually contingent and have consumed a majority of Moscow's geopolitical anxieties, thereby impeding bilateral energy cooperation both directly and indirectly. In effect, energy projects—the largest potential medium for Sino-Russian economic interaction—would likely incite a massive influx of both China's population and its financial capital into the underdeveloped and sparsely populated Eastern Russia.

Demographic Pressure

In the Russian Far East, the population has decreased by more than 1 million since the collapse of the Soviet Union, falling below 7 million by the beginning of the 21st century. In comparison with Heilongjiang Province, which alone has more than 38 million people, the Russian Far East and Eastern Siberia together have only 16 million inhabitants. The population in the three north-eastern provinces of China, combined with that of Inner Mongolia, has reached more than 130 million and is increasing very fast. Regardless of the rising standard of living in Eastern Russia, albeit not comparable to that of the European region of the country, the declining trend of the regional population has not been reversed. Whether or not life conditions improve, it seems that the ever-widening population gap between the geographically adjacent areas of Russia and China is an irreversible phenomenon in the foreseeable future. Russian society has gradually experienced a positive trend in the formation of Chinese "communities". Although in the 1990s, the Chinese had lived in a sparser and disorganized fashion, it was too early to suggest during that decade that "China towns" had emerged that were comparable to what is found in major global cities at present.[25] Russians, however, can reasonably perceive increases in the variety and circulation of local community newspapers and bulletins among the Chinese in Eastern Russia, as a sign of Chinese settlements, albeit in an incremental scale.[26]

China's Economic Presence in Eastern Russia

Sino-Russian border trade has increased significantly in recent years. In examining the percentage of total trade volume by country in each federal district, as of 2004, China accounted for 38.0 percent in Primorsk Krai, 45.8 percent in Khabarovsk Krai, 82.7 percent in Jewish Autonomous Oblast, 69.8 percent in Amur Oblast, and 96.0 percent in Chita Oblast. During the period 2000–2004, Russia's total trade with China has at least doubled in most federal counties along the Sino-Russian border, increasing by 2.2

times in Primorsk Krai, 1.9 times in Khabarovsk Krai, 2.1 times in Amur Oblast, 3.4 times in Chita Oblast.[27]

The energy field provides further evidence of Russian anxiety regarding China's economic influence. To this effect, China has been driven out of active involvement in the spheres of both finance and infrastructure development in the Russian energy sector. When CNPC made a bid for 75 percent of Slavneft's stocks in December 2002, the Duma responded by passing a non-binding resolution to remove the Chinese company from the list. The former Deputy Prime Minister Boris Nemtsov, one of the leading supporters of this resolution, warned that Chinese ownership of such important shares might jeopardize Russia's long-term geopolitical interests.[28] When the "Pacific route" to bypass the Chinese territory came to the forefront of discussions in Russia as early as 2002, the CNPC indicated its readiness to provide funding for the pipeline construction from Angarsk to Daqing, including part of its route within the Russian territory. Moscow, nonetheless, promptly dismissed the "offer" for fear of risking her geopolitical interests. According to a public opinion poll conducted by the All-Russian Public Opinion Research Center in August 2005, which included 1,600 respondents in 46 federal districts, 25 percent believed that both Russia and China would benefit equally from the development of bilateral economic relations, but 53 percent felt that China would benefit more than Russia. With regard to the Far Eastern Federal District and the Siberian Federal District alone, 75 percent and 54 percent of respondents, respectively, considered that China's benefit would outweigh Russia's. Moreover, 81 percent and 71 percent of respondents in these respective districts worried about Chinese firms or labourers participating in Russia's natural resource development.[29]

Proposal for Future Cooperation in Northeast Asia in the name of "Risk-Sharing"

Despite all the difficulties and uncertainties associated with the realization of the ESPO project, however, it seems that this project

could become a big stepping-stone towards multilateral cooperation, rather than being a source of conflict in Northeast Asia. Promoting energy development in Eastern Russia and creating new flows of stable, long-term supplies of crude oil to world markets corresponds to all the consuming countries within Northeast Asia and beyond. In order to do this, it would be preferable to share the burden of investment risk among the countries concerned through the implementation of this project. It would be impossible to avoid countless uncertainties and the concomitant large-scale investment risks in realizing the ESPO pipeline project. Regardless of how much financial leeway has recently emerged in Russian oil companies due to the influx of abundant oil money, is it really possible for Russian companies alone to conduct investment that covers all risks?[30]

If this is indeed possible, Russia would bear all the costs of developing greenfields, which would be the best option, and there would be nothing for other countries to worry about. However, energy development in the eastern regions is a fight against the clock for Russia. It cannot have another 30–50 years left to implement preparations in order to cover the decrease in production in Western Siberia and secure a certain level of production and reserves, while also ensuring stable exports. At this point in time, it is not possible to predict when the second phase of the ESPO pipeline will commence and be completed. Let us assume that things go according to Russia's initial wishes and it succeeds in transporting 80 million tons of oil to the Pacific coast each year. Most experts predict that the majority (perhaps in excess of 60%) of the oil that reaches the Pacific coast (this may include not only crude oil, but also oil products) will, in any case, be shipped to China by sea. Let us then say that all of the 30 million tons per year that is the oil transport target for the first phase is shipped to China. If this is the case, then there is a strong possibility that by the time the second phase is completed, rough calculations suggest that as much as approximately 70% of the oil will be being exported to China. In light of this, one can see that there are

grounds for Japan not to cover much investment risk alone and thus to call on other possible investors, including China, to share the risk to an appropriate degree, although this assumes that Russia does not fall back on resource nationalism and does not intensify its stance of excluding foreign capital all the way out. When President Putin held a meeting with former Prime Minister Koizumi in July 2006, he announced a policy of conducting the construction of the ESPO pipeline on a commercial basis, without the provision of state guarantees.[31]

Ironically, this is what consuming nations in tandem should have taken the initiative in stating itself, and all it has to do is hope that Russia continues with its stated policy. The question of how many new oilfields have been discovered in Eastern Russia and when the stable supply of oil to international markets will be achieved could have a major impact—both tangible and intangible—on the global energy demand and supply structure in the near future. Japan and China are not the only countries with a growing interest in energy development in this region. Some countries including the ROK and India are also biding their time. If Russia really wants to rush ahead with the development of this region and it has the courage and confidence to behave like a "responsible energy power", it should hold the line against the "resource nationalism" to which small and medium-sized countries such as Nigeria and Venezuela are driven to resort; moreover, it should put forward a proposal for a fair and impartial investment framework, without fearing the entry of foreign capital, and be proactive in calling for the construction of a multilateral cooperation system that would promote energy development in the eastern regions. For Russia itself, diversifying the countries that invest in these regions of high geopolitical importance should be a good plan, strategically speaking, in the sense that no specific country will have excessive influence. However, if, in doing so, Russia resorts to the traditional "divide and rule" mentality of power politics, it will end up delaying the progress of the ESPO pipeline project as a whole. In aiming to realize this project as

soon as possible, Russia should understand and welcome cooperation among consumer countries as something that will ultimately secure its own national interests in the future, while also eyeing the potential for forming a new international consortium with multilateral participation.

Taking into account of the future importance and implication of realizing this project for both Northeast Asian (the Asia-Pacific) regional and eventually global energy markets, we should also expect the United State's proactive involvement in this mega project in the long run. Searching for a "positive-sum" rather than a "zero-sum" oriented traditional geopolitical game would be possible through "internationalization" of the ESPO project. It would also provide us with a heuristic example and atmosphere of building an entrenched basis for multinational regional cooperation on which we could continue to discuss even the future of Korean Peninsula's security regardless of the trajectory of the Six Party Talks focused on the North Korean issue at this point of history.

References

Shoichi Itoh, "Prospects and Limits in Sino-Russian Energy Partnership" (Forthcoming: March 2007).Shoichi Itoh, "The Pacific Pipeline at a Crossroads: Dream Project or Pipe Dream", *ERINA Report*, vol. 73, (Forthcoming: January 2007).

Shoichi Itoh, "Can Russia Become a 'Regional Power?' Implications from Contemporary Energy Relations with China and Japan", Center for East Asian Studies Occasional Paper, the Monterey Institute of International Studies, October 2006

http://gsti.miis.edu/CEAS-PUB/2006_Itoh.pdf.

Shoichi Itoh, "Energy Security Revisited: A Catalyst for Multilateral Cooperation in the Asia-Pacific and the Role of U.S.-Japan Alliance", posted on the homepage of the Center for Global Partnership, Japan Foundation

http://www.cgp.org/index.php?option=article&task=default&articleid=337.

Shoichi Itoh, Vladimir Ivanov, Zha Daojiong, "China, Japan and Russia: The Energy Nexus" in Niklas Swanström (ed.), *Conflict Prevention and Conflict Management in Northeast Asia* (Uppsala: Central Asia–Caucasus

Institute and Silk Road Studies Program, Uppsala University, 2005), pp. 121–140.

Notes

1 http://www.iea.org/Textbase/press/pressdetail.asp?PRESS_REL_ID=187
2 http://eneken.ieej.or.jp/data/pdf/060921kito_ymorita.html
3 *Rossiskaia gazeta*, May 27, 2004.
4 http://www.minprom.gov.ru/activity/auto/docs/law_mpe/1 (Accessed on May 2, 2006).
5 President Putin already requested that the Japanese side should cooperate in making investment in Eastern Siberia's oil fields, but in vain so far. *Mainichi Shimbun*, 18 March 2006.
6 "Trudnaia neft' Vostochnoi Sibiri: Pereiti ne nee polnost'yu VSTO cmozhet posle 2025 goda", *RusEnergy*, 8 September 2006. The *2020 Energy Strategy* expresses the expectation that production in Eastern Siberia and the Sakha Republic alone will reach 50–80 million tons by 2020, under the steady and optimistic scenarios, respectively.
7 A. Korzhubaev, "Perspektivy dobychi nefti i gaza v Vostochnoi Sibiri i na Dal'nem Vostoke Rossii", *Problemy Dal'nego Vostoka*, no.6, 2005, p.51.
8 "Dobycha nefti pastet: Nadolgo li ee khvatit Rossii pri takikh tempakh?", *RusEnergy*, 11 May 2004.
9 "Doklad Zamestitelia Ministra prirodnyx resursov RF A. A. Temkina "O programme geologicheskikh poiskov i razvedki mestorozhdenii nefti i gaza v Vostochnoi Sibiri ii na Dal'nem Vostoke Rossii", http://www.mnr.gov.ru/part/?act=more&id=110&pid=351.
10 "Povtorenie proidennogo: Novaia trassa VSTO byla pazpabotana v 2004g., no otvergnuta "Transneft'yu"", *RusEnergy*, 9 June 2006.
11 "Uchenye: Rossiiskie neftekompanii vkladyvayut slishkom malo sredstv v razvedku i dobyshu nefti", *Nefte Gazovaia Vertikal'*, 13 September 2006.
12 "Strategicheskii spor: FSB, FAC i administratsiia prezidenta dumayut, kak ogranichit' inostrantsev", *Vedomosti*, 21 October 2006.
13 "Trutnev osortiroval mestorozhdeniia", *Vedomosti*, 18 October 2005; "Strategicheskii manevr", *Vedomosti*, 3 November 2005.
14 "Inostrantsam khodu net: Dobycha nefti i gaza — delo rossiiskikh kompanii", *Vedomosti*, 6 June 2006.
15 *Interfax*, 19 January 2006.
16 http://www.president.kremlin.ru/interdocs/2004/10/14/0000_type72067_78193.shtml?type=72067

17 See a presentation by the advisor to the Deputy Chairman of the Board of Directors, Gazprom in *2005 Japan-Russia Energy Forum in Niigata* (ERINA Booklet Vol.4, 2006), pp.3–5.
18 http://www.kremlin.ru/text/docs/2004/10/78193.shtml).
19 "Official: Helium Will Delay Kovykta Work," *The Moscow Times*, April 10, 2006.
20 "Kitai — eto hadolgo," *Ekspert*, no.12, March 27, 2006.
21 "Pastavki gaza v KNR likvidiruyut zavisimost' Rossii ot rynok Evropy," *Nefte Gazovaya Vertikal'*, March 22, 2006.
22 The East-West Pipeline, one of the key elements of China's Greater Western Development Plan in the10th Five-Year Plan (2001–2005), was completed in its entirety (about 4,200lm from the Tarim Basin in the Xinjiang Uighur Autonomous Region to Shanghai) in September 2004.
23 Masumi Motomura, "Rossia/Torukumenisutan: Chugoku shijo wo meguru tennen gasu paipurain no jiwo-ekonomikusu," http://oilresearch.jogmec.go.jp/enq/frame.php?lurl=/information/pdf/2006/0604_out_j_ru_altai_pipeline.pdf
24 Rosneft's press release http://www.rosneft.ru/infocenter/press/press_22-03-06-1.html (Accessed on March 28, 2006).
25 Yet for this kind of concern, see "U Sibiri-Zheltoe litso: Kitaiskaya ekspansiya v Irkutske prinimaet neobratimyi kharakter," *Nezavisimaya gazeta*, September 30, 2002.
26 For example, *Shangwu Zhinanbao* (late 1990s, Blagoveshchensk); *Huaren Youbao* (2000, Vladivostok); *Dongfang Qiaobao* (2002, Vladivostok); and *Yierkucike Huaren Daobao* (2002, Irkutsk). Vladivostok); *Dongfang Qiaobao* (2002, Vladivostok); and *Yierkucike Huaren Daobao* (2002, Irkutsk.
27 Data obtained from the Department of External Economic Relations under the Secretariat of the Interregional Association of the Far East and Zabaikal (Khabarovsk). Interregional Association of the Far East and Zabaikal (Khabarovsk).
28 "Slavneft ne otdadut kitaiskim kommunistam," *Kommersant'*, December 16, 2002.
29 "Kitai dlya Rossii — partner ili konkurent?" http://www.wciom.ru/?pt=59&article=1607.
30 Transneft President Semyon Vainshtok has declared that the company has already met its financial target for pipeline construction, but the cost of constructing the pipeline itself is only one part of the ESPO pipeline scheme as a whole, which also includes oilfield development.

31 "Pacific Pipe Depends on Oil, Putin Warns", *The Moscow Times*, 17 July 2006.

Lijun Zhang

Growing Teamwork: Towards Energy Security, the Search by China and India for Energy Cooperation on a Worldwide Basis

In recent years, energy relations have increasingly become a significant challenge for the development of China-India relations. The two countries have worked out and implemented their own energy strategies, such as expanding the exploration and production of foreign energy resources, to ensure their energy supply security, but that has, to a certain extent, caused competition between the two countries in this area. The two Asian countries now face a similar energy predicament and both have sought to expand their overseas energy sources as an important way of ensuring their own national energy security, a result of rising energy demand and the increasing reliance on foreign energy resources. For example, the investment in overseas energy development by the China National Petroleum Corp. (CNPC), one of the world's leading integrated energy companies, totals $40 billion. India's state-owned Oil and Natural Gas Corp. (ONGC) has spent $3.5 billion on overseas energy exploration and production. Since most of the world's oil and gas resources are in hands of transnational companies based in the United States and Europe, China

and India have to look for and develop energy resources in some high-risk locations or in countries which have tense political relations with the United States. Therefore, there is an 'energy rivalry' between China and India.

Indeed, they have already crossed swords in some cases. In Asia, the rivalry was evident in the bid to acquire Petro Kazakhstan, Kazakhstan's third-largest commercial oil producer, in August 2005. China won the competition at a cost of $4.18 billion. An Indian oil company and CNPC also competed to acquire 38 percent of the shares of PT Medco Energi International, Indonesia's largest listed oil and gas company. India also gained the upper hand in controlling oil and gas resources in Bangladesh, based on its geographic advantage.

In Africa, oil companies from the two countries competed for the development rights to an oilfield in Angola. China prevailed in that case, but had to pay $2 billion more than the fair market price. In South America, the rivalry for oil between China and India was evident in Ecuador in September of last year. India's OVL Co., an arm of ONGC, competed with a joint venture of Sinopec Group and CNPC, China's two largest oil companies, in bidding for Canadian company EnCana Corp's oil and pipeline assets in the South American country, and China won again.

From Rivalry to Cooperation

Because India set out much later than China to explore the international energy market, it is now relatively weak in the energy struggle with China, which has prevailed in most cases. But India's participation in the international energy market often forced China to pay more for assets. That damages the interests of both countries. After all, there would be a loser, and the winner would always pay a much higher price. The two countries must pay attention to bilateral coordination and communication and strengthen their cooperation in the energy field, so as to create their own energy security system.

Fortunately, leaders of both countries are aware of this need.

Recently, both countries have expressed a strong will to cooperate in the energy field. During his visit to India in April 2005, Chinese Premier Wen Jiabao said that energy cooperation is an indispensable part of the bilateral cooperation between the two countries. The joint declaration issued by the Indian prime minister and China's premier said that both sides agreed to cooperate in energy security and conservation, including encouraging relevant sectors to team up in exploring and developing oil and gas resources in third countries.

After the visit, the officials of the energy sectors and heads of energy companies of both countries frequently exchanged visits as a follow-up action to implement the joint declaration. The two sides also signed some memorandums of understanding on energy cooperation. The Indian side also hopes to set up a supervision mechanism for energy cooperation. Indeed, this teamwork was quite a success story: two state-run oil companies, CNPC and ONGC, cooperated well in jointly developing oilfields in Sudan.

In February 2005, India's GAIL Ltd. signed an agreement with China Gas Holdings Ltd. that allowed this Indian gas company to invest $243 million to purchase 9 percent of the shares of China Gas. In December last year, oil companies of the two countries jointly (50–50) acquired a 38 percent stake in an oilfield in Syria, worth $578 million. In January and February 2006, China, India and the European Union held a dialogue on energy cooperation and reached a series of agreements, including the memorandum of understanding on China-India energy cooperation, which has radically altered the harmful competition between China and India over acquiring overseas oil and gas resources.

Focus on the Central Asia

All of this is just a beginning, and there is room for China and India to cooperate further. They can work together in any place if the conditions are right. However, Central Asia seems to be the ideal place for the Chinese-Indian cooperation as it is geographi-

cally close to both countries and possesses huge hydrocarbon deposits.

There is a good political foundation for India and China to cooperate with these countries. Russia has paid attention to developing tripartite cooperative relations, and looks on China and India as important partners for the regional energy cooperation. From a long-term perspective, there is the possibility for China, India and Russia to build a tripartite energy alliance. Indeed, China and Central Asian countries are members of the Shanghai Cooperation Organization (SCO). India, which has observer status in the organization, is likely to become a formal member, which will enable the three sides to carry out and strengthen energy cooperation within the framework of the SCO.

Apart from this, China and India may also align with some other Asian countries to restrain high international oil prices. The two countries have in fact reached a consensus with some Asian countries on jointly coping with high international oil prices. In the future, they are likely to strengthen their cooperation to maintain the rights and interests of the Asian oil-consuming countries. The possibility of joint cooperation between China and India on Iran's energy development is increasing. Oil imports from the Middle East account for over half of China's total oil imports, and Iran is China's second largest oil supplier in the region. In October 2004, China and Iran signed a memorandum of understanding on the development of an oilfield in Iran, which will make China one of the largest energy investors in Iran. India also maintains close cooperative ties with Teheran. In September 2004, India and Iran signed a series of energy cooperation agreements, including one in which Iran will export liquefied natural gas to India. India also has the right to explore and develop three Iranian oilfields, while the two countries will jointly develop natural gas resources and India's state-run ONGC will participate in expanding Iran's oil refining facilities.

Currently, the United States is exerting political and economic pressure on Iran. Many analysts do not exclude military

operations against Iran, which would represent a serious threat to China and India's oil supply security, and is likely to push forward energy cooperation among China, India and Iran.

Asian Countries Seek Cooperation to Deal with the Difficult Energy Situation in the Region

Asia has become one of the major oil-consuming regions in the world, with its consumption accounting for 40 percent of the world total energy consumption. China, Japan and South Korea, the major oil-consuming countries in Asia, have respectively become the second, third and seventh largest oil consumers in the world. Analysts forecast that the rate of increase in Asia's energy demand would further increase in the next 20 years.

Despite of being an important oil producer, China has become a net oil importer since 1994 because of its rising energy demand driven by rapid economic development. Japan and South Korea, two East Asian countries that lack oil resources, are fully dependent on imported oil. Furthermore, the two countries rank respectively as the world's first and second liquefied natural gas consumers. The dependence of Asian countries on imported oil is expected to rise from 62 percent in 2000 to 74 percent by 2010, which will make Asia the center of the world oil consumption market, replacing North America. Faced with such a tough energy situation, most Asian countries have worked out or adjusted their energy strategies on both the regional and global arenas. These include developing relations with major oil producers, seeking new energy sources by developing alternative oil and natural gas resources, repairing and expanding energy transportation pipelines, and supporting large-scale state-owned energy companies to expand overseas.

This will inevitably lead to competition and contradictions among major Asian energy consumers, which may affect their bilateral relations and the stability and development of the entire region. For example, the energy conflict between China and Japan has already become public. Two countries are also compet-

ing for the Russian oil, trying to get the pipeline to run to their countries. The rivalry between Tokyo and Beijing has also occurred in the development of the oil resources in the East China Sea. For example, it is expected that continental shelf of the East China Sea might be one of the richest oil fields in the world. In the South China Sea area, China, Vietnam, the Philippines, Malaysia, India, Indonesia and some other regional countries have also competed in tapping oil and natural gas resources there.

The collaboration among Asian countries in the energy field has been far from that of the Western countries. As the Asian countries have relatively limited sources of energy, the oil market in Asia is rather fragile, which has produced higher energy prices in Asia than in other international markets and damaged the common interests of all Asian countries (so-called 'Asian premium') Since 1992, Asian countries have paid $1 to $1.50 per barrel more for oil from the Middle East compared to the European and U.S. markets, including liquefied natural gas and petroleum gas contracts. It is estimated that Asian oil consumers have been overcharged $5 billion to $10 billion by oil-producing countries every year.

Basis for Cooperation

Having realized that energy security is a common problem of the international community, Asian countries decided to cooperate with each other and increase their emergency response capacities. Moreover, they have some basis for cooperation in the energy field. Firstly, Asian countries are very closely connected by land or sea, which makes them an integrated part of a geographic energy strategy. Secondly, Asian countries are abundant in various energy resources, and they have the basic conditions for establishing a more efficient energy supplies system. Thus, in the region, energy problems can be resolved in a peaceful way. Relations among regional countries can be strengthened through energy cooperation, which is a chance for both energy exporting and importing countries. For example, the Middle East region

still has a huge potential to increase its energy output, Russia and Central Asia have become new regions of increased energy production capacity, and some other parts of Asia have significant oil and natural gas reserves.

The sustained rapid economic development of some Asian countries will make these countries increase their input in the energy field, which could enhance cooperation in the region. For instance, cooperation can be carried out in the joint development of oil and gas resources in East Asia and the construction of a pipeline network. Regional countries can also cooperate in developing the energy resources in the South China Sea area. In related areas, such as raising funds for energy development, energy security maintenance, energy technology and energy utilization and conservation, cooperation is also needed and is possible.

In November 2005, Indian Oil Minister Mani Shankar Aiyar came up with an ambitious plan for energy cooperation at the first roundtable meeting between oil-producing countries in Central and North Asia and major Asian oil-consuming countries held in New Delhi. The plan suggests constructing oil and gas pipelines that connect major energy-producing countries, such as Russia and Central Asian countries, and major energy-consuming countries. The initiated natural gas pipeline network would run more than 20,000 km, connecting Russia, Japan, South Korea, China, India, Thailand, Myanmar, Bangladesh, Pakistan, Iran and the Central Asian countries, and it is expected to cost $22.5 billion.

Most representatives attending the meeting hold that establishing an Asian energy network will increase job opportunities in the region, advance trade and investment activities and boost the stability of the Asian energy market. At the same time, it will also facilitate the economic integration of Asia.

In addition, the sub-regional economic cooperation organizations among Asian countries can provide a good platform for the energy cooperation. These organizations mainly include the Asia-Pacific Economic Cooperation forum, the free trade area

of the Association of Southeast Asian Nations (ASEAN), the 10+3 (ASEAN plus China, Japan and South Korea), the China-ASEAN free trade area, sub-regional economic cooperation in the Tumenjiang River area, sub-regional economic cooperation in the Lancangjiang River-Mekong River area and regional cooperation in South Asia.

At the third foreign ministerial meeting of the Asia Cooperation Dialogue held in June 2004, energy security and cooperation were the main topics. The meeting approved the Qingdao Initiative, setting action guidelines for regional energy cooperation in Asia. That shows that Asian countries have begun to resort to regional cooperation mechanisms with mutual benefit to secure their energy security and guarantee diverse energy supplies.

U.S. President George W. Bush recently announced that the United States has joined a new Asia-Pacific partnership on clean development, energy, security and climate change with Australia, China, India, Japan and South Korea. The partnership is aimed at boosting the research and development of clean and highly efficient energy technologies, improving energy efficiency and encouraging the use of nuclear, biological, hydro, wind and solar energy for civilian purposes, in order to meet their targets for the reduction of pollution emissions.

Urgent Need

Asian countries need urgently to develop new oil deposits. The decrease in oil production in the region and the high costs of developing oil resources mean that Asian countries have to make joint efforts in developing new oil resources in remote and deep-water areas. The state-owned energy companies should play a crucial role in such exploitations. Recently, official representatives of Indonesia and Malaysia said that their governments support state-owned oil companies of the two countries to set up a joint venture company to develop new oil resources and carry out related technological research. Building up an oil reserve mechanism as soon as possible is another important task. In this field,

Japan and South Korea lead others in Asia. An oil reserve mechanism could enable Asian countries to prevent the possible shock of a sudden oil supply cut and help to maintain the stability of international oil prices.

Energy-importing countries need to expand their sources of energy and try to avoid extreme energy dependence on the Middle East oil. To this end, Russia and West African countries are good choices.

The Asian market mechanisms should be adjusted in order to attract more foreign investment. David J. O'Reilly, Chairman of ChevronTexaco, the second largest oil company in the United States, calls on Asian countries to further open their markets, increase transparency, eliminate trade barriers and strengthen infrastructure construction in order to attract foreign capital in oil and gas resource development. Therefore, there is a need in a basic framework for long-term energy cooperation.

Asian countries should push forward the establishment of a cooperation platform and mechanism. For example, an Asian Energy Agency similar to the International Energy Agency could be set up. Many experts suggest making the energy forum of the Bo'ao Forum of Asia a regular meeting, which will provide a long-term and stable opportunity for Asian countries to discuss energy problems.

Asian countries could also join hands in cracking down on piracy and terrorist activities, securing regional stability, improving energy facilities and the transportation network, and maintaining the security of important ports and energy transportation strongholds. Although the oil consumption of East Asia equals that of the European and U.S. markets, there is only one trading center in Asia (Singapore) Therefore, Asian countries need to create an international oil market with China, Japan and South Korea at its center, which will increase Asia's role in setting international oil prices and eliminating current problem of being overcharged.

To Asian countries, exploring and developing energy resources in some controversial areas will undoubtedly lead to regional

political tensions. Setting up multilateral energy cooperation companies will be an ideal mode, which will avoid some bilateral conflicts and strengthen the technical and capital complementarity among different countries. The energy cooperation among China, Japan, South Korea and Mongolia is a good example. These countries signed a memorandum of understanding on developing natural gas resources in Russia's East Siberian area in December 1997. Energy companies from these countries are planning to jointly develop a natural gas field in Russia that will result in a $10 billion investment project.

Hongtu Zhao

Some Thoughts on Sino-U.S. Energy Cooperation

During U.S. President Bush's visit to China on September 19–21, 2005, leaders of the two countries stated that China and the U.S. would further enhance strategic dialogues and cooperation in various fields including energy. Taking a series of recent events, such as Sino-U.S. strategic dialogue, Sino-U.S. energy dialogue and the newly opened U.S. Energy Office in China, into consideration, we have reasons to believe that Sino-U.S. energy frictions sparked by "China oil threat" and CNOOC's (China National Offshore Oil Corporation) bid for Unocal will be further defused and that Sino-U.S. energy cooperation which is well based is likely to embark on a new phase. As the world's two most important energy consumers and importers, the trend of their energy cooperation will not only affect the future relations of these two big powers, but also reshape the international energy structure and even the international political and economic structure.

Necessity and Importance

In the backdrop of economic and energy globalization, it is of great significance to reinforce Sino-U.S. dialogues and cooperation in the energy field. By doing so, it will not only meet the need of both countries to take on the challenges posed by energy security and price risk, but also enable the world's two biggest energy consumers and importers to shoulder the international responsibility. Besides, it will help ease the increasingly intensified and sensitive bilateral relations.

In recent years, energy security problems of both countries have become increasingly prominent as their energy demand and oil import grow rapidly. Due to stagnant oil production, steadily diminishing oil reserves and an ever increasing demand, U.S. oil import dependence largely increased from 35% in 1983 to 64.76% in 2004,[1]and will be further raised to 70% in 2010 according to the prediction of U.S. Department of Energy. The growth of China's energy consumption and oil imports is even more dramatic. Ever since China turned into a net oil importer in 1993, its net oil imports swelled from 9.9 million tons that year to 149 million tons in 2004, meanwhile its oil import rose from 6.69% to 40%.[2] It is estimated that China's oil imports will reach 200–240 million tons and 320–360 million tons in 2010 and 2020 respectively while its oil import will rise to 60% and 70% accordingly. The National Security Strategy of the United States of America highlights the importance of using multi-methods to safeguard overseas oil supply. In China, energy security is also elevated to the level of national security and diplomatic strategy, drawing great attention from both the government and ordinary citizens.

The new round of oil price hikes greatly impacted both China and America. The oil price in the U.S., the world's biggest oil consumer and importer, increased from $1 to $3 per gallon over more than one year, inevitably affecting other aspects of consumption and investment by Americans. U.S. Treasury Secretary Snow indicated that, though the U.S. could cushion the shock of oil price surge, the high oil price, undoubtedly, had exerted adverse impacts on the economic growth. When testifying in Congress in July 2005, Greenspan said that the rise of oil price reduced U.S. GDP growth rate by 0.5% in 2004, and was estimated to knock off 0.75% in 2005, thus setting the GDP growth rate between 3.75 and 4%. In fact, the annual growth rate of GDP for the second quarter of 2005 was only 2.8%, which is below the predicted 3% and marks the lowest level since the first quarter of 2004.[3] As projected by U.S. economic websites, U.S. economy will reverse if oil price skyrockets to $75 a barrel.

As a developing oil consumer and big importer, China is also impacted by the high oil price. Its national foreign exchange expenditure expanded, and the deficit in oil trade mounted to $37.88 billion in 2004. As a result, the pressure on inflation and RMB appreciation was significantly built up. It has been analyzed that China's GDP growth rate will decrease by about 0.01% every time the world oil price rises by 1% and stays on that level for a year. In 2004, China's GDP growth rate lost about 0.4% when the world oil price rose by 30.7%.[4] As China is still in a period of extensive economic growth, its capacity of endurance and resistance against the high oil price is relatively weak, and it is impacted harder than the Unite States.

In the global energy market, China and the U.S. have become important powers that could influence both the market trend and the energy structure. As two big economies, China and the U.S. consume nearly one third of global oil supply, with energy consumption of about 13.6 and 22.8% respectively in 2004. They are also the biggest coal consumers in the world. In 2004, coal consumption in China and America reached respectively 956 million and 564 million tons of oil equivalent, accounting for 34.4% and 20.3% of that of the world as a whole. As for oil consumption, the U.S. and China rank first and second respectively in terms of consumption, and first and third in import. In 2004, the U.S. and China consumed 20.517 and 6.684 million barrels per day (mbd), which amounted to 24.9% and 8.2% of world consumption respectively. Their oil imports were 12.898 and 3.41 mbd, taking up 26.8%and 7.1% of the world total.[5]

The two countries are not only big in their aggregate energy demands, but also take up large proportions in increased global demand. The growth rate of their energy consumption and imports is much higher than the world average level. The global oil consumption increased from 68.219 to 80.757 mbd between 1994 and 2004. Of the world's total increase of 12.538 mbd, the U.S. and China alone held 50.54% while consuming 2.798 and 3.539 mbd respectively.[6] It has been calculated that China will overtake

Japan as the second largest oil importer by 2010, with its import dependence approaching U.S. current level.

The rapid expansion of the two countries' aggregate energy demands and the continuous increase of their share in the international oil market will inevitably and greatly influence the world energy situation by, for example, catalyzing the adjustment of the world energy pattern, widening the gap between the global energy demand and supply, increasing the pressure on world environment and intensifying the international competition for oil. As the world's most important energy producers and consumers, the two countries have duties and obligations to stabilize international energy market.

The competition and frictions in the energy field have become a hot issue and a new conflicting point in Sino-American relations, affecting the normal development of their bilateral ties. As early as the end of the 20th century, public opinion in the U.S. pointed out that, China, when becoming a big oil importer, would alter the political pattern of the Persian Gulf and further pose a threat to U.S. oil supply in the area. After the Bush administration came to power, it conducted a secret investigation on the oil trade between China and Iran and paid a special attention to China's move on oil in the report on National Energy Policy issued in May 2001. In 2002, a report submitted to the Congress by a U.S. official think tank claimed that a war for the global energy resources between the U.S. and China was unavoidable. U.S.-China Economic and Security Review Commission under the Congress began to probe the impacts of China's huge oil demand on U.S. energy supply. Ever since then, the "China energy threat" gained momentum in the U.S. as the energy demand piled up and the world oil price surged. The U.S. then converted its worries about China's energy strategy into concrete actions by intensifying its efforts to prevent China's oil and gas companies from expanding their overseas markets. In 2004, for instance, U.S. Embassy to China came out to block cooperation between Sinopec (China Petroleum & Chemical Corporation) and Iran in

the fields of oil and natural gas exploration and exploitation.

Sino-U.S. energy frictions further escalate in 2005. The worldwide attracting event, CNOOC's bid for Unocal, drove the "China energy threat" to the top in the U.S., and further worsened the Sino-U.S. relations which had already been plagued by the textile trade dispute, the problem of RMB appreciation and EU's decision to lift its arms embargo on China. U.S. Congress conducted various hearings on issues concerning China. Between June and September of that year, U.S. Senate Committee on Foreign Relations conducted three hearings on China over the energy issue, more than those discussing the policies toward Iraq. Mikkal Herberg, director of Asian Energy Security Program in the U.S. National Bureau of Asian Research, pointed out on July 26, 2005 that China's increasing energy demand has become a key question affecting Sino-U.S. relations. U.S. Deputy Secretary of State Zoellick, while leading a delegation to attend the first Sino-U.S. Strategy Dialogue, warned that China must make a decision on the energy issue. Many Americans in the political arena, especially in the Department of Defense and Congress, deem China's resource demand as a new strategy challenge. For instance, though many analysts did not think that CNOOC's bid for Unocal would pose any threat to U.S. national security, the House of Representatives nevertheless passed a resolution with a vote of 398 to 15 assuming that such a move would threaten U.S. national security.[7] Meanwhile, because of the involvement of U.S. Departments of Defense, of State and of Homeland Security, the Report on China's Energy[8], which was due to conclude in December 2005 as planned by U.S. Department of Energy, was postponed to February 2006. In addition, the panic over the ever-increasing oil price among the ordinary people of U.S. has been transformed into dread for the "China oil threat."

Possibility and Feasibility

Because China and the U.S. are two big oil consumers and importers, it is undeniable that there are collisions of interest and

competition between them in their attempts to diversify energy supplies, explore and tap the overseas energy resources, but their competition and conflicts do not cancel out the need for cooperation. If there is more competition in tapping and exploiting the external resources, there is a bright outlook for cooperation in many fields such as stabilizing the world market, developing new energy, saving energy, enhancing efficiency and protecting the environment. From a perspective of "mega-energy" or "mega-security," which encompasses oil, gas, coal, electricity and renewable resources, China and the United States find more cooperation than competition.

In essence, China's energy strategy is not incompatible with that of the U.S. Just as Dr Fiona Hill, a senior fellow in the Brookings Institution and an expert on international energy issues, points out, China's oil strategy will not conflict with that of the U.S. whether at present or in the long term.[9] The two countries are interdependent on energy issues, sharing many common interests. The main target of U.S. energy security policy is to ensure that there is enough oil in the world market, so that the U.S. and other big western oil consumers can always have access to sufficient oil supply. Because the world oil market is highly integrated, a cut-off of oil supply anywhere will impact the whole market, menace global oil security and affect world economic growth. Against a backdrop of globalization, the U.S. can hardly go it alone on energy issues. As fast growing economies and big oil consumers and importers, both China and the U.S. need a stable and reliable energy supply, and they desire a steady oil price.

As the trend of economic globalization further develops and their interdependence in trade, investment and other fields increasingly deepens, China and America become a fate community. China's energy demand will fuel global economic growth, thus consolidating the prosperity of U.S. economy. Meanwhile, China spends most of its trade surplus on U.S. government bonds. If the money is quickly withdrawn, American interest rate may be pushed up and its economic growth hampered. Some Americans

have already recognized the fact that China's economic growth now serves as an engine for the economic prosperity of the whole world, in which the U.S. is a member. For some Americans, dread of China's economic rise has been replaced by worries about deceleration of China's economic growth. They fear that any shortage of energy supply will hinder China's economic growth, thus darkening American and even the whole world's economic outlook. Therefore, both conflicts in the oil field and China's economic recession resulting from energy shortage will in the end harm the interests of both sides. Furthermore, China and the U.S. need to grapple with many identical problems and challenges in the fields of energy and environment. As the world's two largest energy consumers, they are also the two biggest coal users and carbon dioxide emitters, facing ever-increasing pressure from the international society to reduce greenhouse gas emission. In recent years, the risk of international energy transportation has markedly increased because of large expansion of the volume of international trade, extension of the supply chain and increase of regional conflicts, terrorist attacks and organized crimes. Being two big marine transporters of oil, both countries have stakes in safe sea-lanes and have an urgent need to strengthen their cooperation in fighting terrorism and piracy on the sea.

China and the U.S. complement each other in the energy field and there is ample space for cooperation. The U.S. possesses advanced management experience in the fields of developing new and renewable energy, saving energy, raising energy efficiency and protecting the environment, and enjoys advantages in technology, capital and manpower. Meanwhile, China's energy and environmental industries ranging from electricity production, oil and natural gas tapping, coal belt methane exploitation, energy saving, new energy developing, to atmosphere purification, are facing an unprecedented opportunity, thus creating a huge market demand for technologies and managing experience in many fields such as developing new and renewable energy, raising energy efficiency and protecting the environment.

The possibility for the Sino-U.S. energy cooperation also stems from the concrete energy cooperation base, which has been built up for many years and the effective cooperation mechanism. The history of Sino-U.S. energy cooperation can be traced back to the years even before formal relations were established between the two powers. In October 1978, U.S. Energy Secretary Schlesinger visited China, and tried to probe the possibility for his country to participate in coal production, hydroelectricity station, renewable energy exploitation and nuclear energy developing in China, thus marking the beginning for their energy cooperation. In January 1979, the then Chinese Vice Premier Deng Xiaoping visited the U.S., and signed Sino-U.S. Agreement on Science & Technology Cooperation with U.S. President Carter. Under the provision of the agreement, the two governments then signed several cooperation protocols or understanding memorandums in the fields of environment protection, nuclear security and energy efficiency,[10] thus building up a good foundation for their further cooperation. Since then, Sino-U.S. energy cooperation has deepened and broadened.

In the fossil energy field, China and the U.S. have developed positive cooperation on a governmental level and signed several agreements since the mid-1980s. In 1985, China's former Ministry of Coal Industry signed the "Protocol of Sino-U.S. Fossil Energy Developing and Utilizing Cooperation" with the U.S. Department of Energy. In 1994, China's former National Science and Technology Committee signed the "Clean Coal Technology Cooperation Appendix" with the U.S. Energy Department, which initiated co-research on clean coal technologies. In the Sino-U.S. Technology Conference held in Washington D.C. in October 2004, energy was listed as one of the main area for future Sino-U.S. science and technology cooperation. In April 2005, "Protocol of Sino-U.S. Fossil Energy Developing and Utilizing Cooperation" was to be prolonged by 5 years.

On the enterprise level, since the 1980s, American oil companies have participated in exploring China's oil and natural gas on

land and under ocean and have signed 57 exploring projects. One of the representatives was the first phase of Bozhong 25-1 oil field project in China's Bohai, which was co-explored by CNOOC and Chevron Texaco. The project had potential reserves of 200 million barrels, and a producing period of 20 years with a daily production of 16 thousand barrels. Chevron Texaco and China United Coal Bed Methane Corporation (CUCBM) signed China's first contract on coal bed methane cooperation. Since then, CUCBM signed 21 cooperation agreements with 10 foreign companies from the U.S., Australia and others, covering an area of 33.8 thousand square kilometres. Up to May 2005, 127 coal bed methane wells had been drilled, with an investment of $121 million[11]Oil companies from China and the U.S. have also developed fruitful cooperation in other countries. The most representative are 16 oil fields in Ecuador. Sinochem holds 14% of the field's shares while Murphy Switch owns 20%.

China and the U.S. have carried out fruitful cooperation in environmental protection. They have incorporated environment protection in their energy cooperation since U.S. Vice President Gore's visit to China in March 1997. In October the same year, Chinese President Jiang Zemin visited the U.S., and signed the "Sino–U.S. Proposal on Environment and Energy" with U.S. President Clinton. During Clinton's visit to China in 1998, the two countries signed a "Letter of Intent on Urban Air Quality Monitoring Project." In April 1999, Chinese Premier Zhu Rongji paid a visit to the U.S. and co-chaired the second meeting of the Sino-U.S. Environment and Development Forum with U.S. Vice President Gore.

China and the U.S. have also made remarkable progress in cooperation in the clean energy field. On August 30, 2001, the "Sino-U.S. Clean Energy Technology Forum and Technology & Equipment Exhibition" was held in Beijing. On January 12, 2004, the two countries signed in Beijing "Cooperation Protocol for Clean Energy Tech for 2008 Beijing Olympics." They have held several symposiums and exchanged a number of visits since 2002.

For example, three Joint Working Group meetings were opened successively in Beijing and Chicago, aiming at exploring the areas and content of cooperation on clean energy technology.

Besides, the increase of energy frictions urges the need for dialogues. Now Sino-U.S. energy dialogues have evolved into a relatively fixed dialogue and communication mechanism. Since 1998, six forums on oil and natural gas have been held by China and America in turn. On May 23, 2005, when participating in the 9th International Energy Forum in Amsterdam, Holland, vice director of China's National Development and Reform Commission (NDRC) Zhang Guobao and U.S. Energy Secretary Spencer Abraham signed an understanding memorandum to enhance bilateral dialogue on energy policies, deepen mutual understanding on the energy issues and policies and promote information exchanges in the energy field. On June 30, 2005, the first Energy Policy Dialogue was launched in Washington D.C. On the same day, U.S. Department of Energy declared that it would set up an office in Beijing, in a bid to strengthen bilateral cooperation on energy and nuclear energy security. In August 2005, China and the U.S. launched their first strategic dialogue in which energy cooperation topped the agenda. At present, the need to consolidate energy dialogue and cooperation has become a consensus among many Chinese and U.S. officials and scholars. Exchanges and dialogues in this regard between governments, enterprises and scholars of the two countries have also become more and more frequent.

Major Challenges

The Sino-U.S. friction and conflict over energy resulted from multiple reasons. In terms of international dimension, they stem from rise of oil price and tension in energy situation, in terms of bilateral economic field, they are from increased trade friction and "China threat" resulted from China's rapid economic development and the strengthening of China's comprehensive power, in terms of political and diplomatic dimensions, there are from

strengthening of conservative forces in the United States and the relatively difficult period of Sino-U.S. relations. Among these elements influencing further cooperation between the two countries, the major obstacle is that the two sides have big differences in their understanding of energy security.

Due to the differences in history, culture and economic development, China and the United States have different understandings of their energy security and risk, the strategy of energy supply. Therefore the two nations sometimes do not have correct understanding of their respective strategic intentions or even misunderstood each other. Some American public opinions believe that the Chinese government often got a deal with a price above the international level due to reasons for long-term energy supply, and so distorted the market prices. As a matter of fact, this is to a large extent due to the relatively poor marketing of Chinese companies and weak international competitiveness. Actually, the causes lie in the fact that the U.S. limited the exploitation of energy-rich countries due to political considerations, and so distorted the oil market, and greatly influenced the dynamic balance of international market. The United States on the one hand actively promotes its own diversification of oil supply, and on the other hand limits the production of some oil-rich countries, for example, its oil embargos on Sudan and Iran. Apart from that, on the issue of Caspian oil pipeline, the U.S. paid no attention on market rules and economic costs, preventing with all its might the pipeline from passing through countries which have difficult relationship with the United States. The policy of diversification of oil supply of U.S. and other western countries lowered their energy security, but it inhibits the production of oil-produce countries with great reserves of energy, thus increasing the risk of global oil supply.

In recent years, Chinese energy enterprises have quickened their overseas-oriented steps, and strengthened their cooperation with some countries in the Middle East and Africa. This has attracted the attention of the United States, especially China's en-

ergy cooperation with countries like Sudan and Iran, which is seen as a challenge to U.S. global strategic interests and its world domination. In fact, China's oil-related activities are largely preventive, aiming to lower the fragility of its oil supply to the maximum. As a newcomer in the world oil market, the regional choice for Chinese companies to go abroad is very limited. Due to commercial considerations, Chinese companies often choose those regions where they do not have face-to-face confrontation with Western transnational companies. Well-known U.S. energy expert Daniel Yergin has observed that some Americans have a bias towards Chinese demand for oil; they think China is inciting its national-owned oil companies to snatch oil resources abroad. Although such view is stupid, it is very flammable in a situation where conservative forces are growing. For example, Gal Luft, executive Director of the Washington, D.C. based Institute for Analysis of Global Security, referring to China's signing of investment agreements on oil and gas with Venezuela, Peru, Argentina and Brazil, pointed out that when China purchases one barrel from America, it means a reduction of one barrel of oil supply from the U.S. market. If China ever strengthens its cooperation with Saudi Arabia, Venezuela, and Iran, more and more oil from OPEC would flow to the Chinese markets, and OPEC in turn would decrease its oil supply to the United States, "the oil market could not satisfy U.S. and Chinese demand simultaneously."[12]

Those views to a large extent resulted from a narrow understanding of the international market with political hues. In fact, the international reserve and production of oil is a dynamic concept. In a situation where the oil-reserves in the world are still very rich, with more investment for oil exploitation, oil would be in abundant supply in the world market. In the future, the major obstacles to international oil supply will be the elements of investment, cost, technology and environment instead of the amount of resources. So, cooperation between China and some oil and gas-rich Latin American countries will not decrease oil supply for U.S. market, but will increase the oil supply in the

U.S. and the world market as well. Under the circumstances of ever-increasing integration of the international oil market, if oil from OPEC to China increased, in turn the demand of the Chinese oil market in other regions would decrease. In fact, even in the 1970s, when Arab countries implemented an oil embargo on the United States, the U.S. still could purchase Arab oil through middlemen, although the price was a bit higher. With the increasing improvement of the international oil market, political intervention in oil market has somewhat decreased. For example, since the 1990s, countries like Iraq and Iran advanced the idea of withstanding the enemy with "oil weapons," but they got no response.

On the Chinese side, they should also gradually improve their understanding of U.S. energy security and America's strategic intentions. While Daniel Yergin emphasized that Americans are biased against China's energy demands, the Chinese also have a similar bias against Americans. For example, China thinks that the U.S. intentionally prevents it from obtaining oil resources, intentionally destroys China's oil supply routes, and encourages transnational companies to push China aside. In recent years, some reports on China's security of energy supply appeared in the Chinese media and related documents have shown that indeed quite a few people think that the major threats to China's energy security come from the United States, especially on issues like marine transport routes including the Malacca strait. Some Chinese scholars and ordinary people are also more worried more about America's embargo than about pirates and transportation accidents. At the same time, with the rise of oil prices, the idea of an "oil price plot"—that Americans have intentionally increased oil prices in order to inhibit China's economic development—may also find currency among some people.

In recent years, the United States successively launched the Afghanistan war and the Iraq war, and further expanded its military presence in central Asia and the Indian Ocean. All this has increased China's sense of energy insecurity. Some scholars have

pointed out that: "with more and more oil tanks shuttle those lines controlled by American navy, Chinese become more worried about American oil blockade."[13] These concerns resulted from the fact that the United States had blocked and imposed sanctions on China before, possible massive American intervening when military conflict broken out in the Taiwan straits and also due to the contrast between American and Chinese navy. In recent years, the U.S. tried to intervene militarily in the Malacca strait, prevent China's cooperation with Middle East countries, especially forced out a Chinese company's acquisition of an American oil company, these developments also added to China's worries.

Whether in terms of strategy or technology, with the ever-increasing interdependence of China and the U.S., it is unlikely the U.S. would impose oil blockades on China. And seeing from the world situation, the result of American sanctions against Libya, Iran is that the oil companies from France, Italy and Spain took advantage of the vacuum and consolidated their existence there. The several decades' American sanctions against Cuba also could not prevent Cuba from getting its necessary resources including oil. At present, China's oil security is mainly due to domestic concerns, comparing with oil supply, the problem of China's oil consumption model and energy efficiency are more prominent. Among all big issues, it is by far the most important issue for China's energy security in adjusting the economic growth model and the energy consumption model. Even on the question of energy supply route, the main threats facing China are piracy, terrorism, illegal armed raids and transport accidents in peace times, not American sanctions.

As for the American "oil price plot," generally speaking, it lacks enough evidence. On the one hand, it is very difficult for the U.S. to control the oil market due to the current model of the international market; on the other hand, high oil prices and the stagnation of China's economy are not in the interest of the United States. It is the various oil groups that pushed up the oil pric-

es. If such a plot exists, it was invented by some oil groups and speculation capital which want to make money from higher oil prices, but not from governments. In fact, the interest of American oil groups is not always in accordance with the American government, even in contrast with the government in some situations, the government sometimes is enslaved to the oil groups. But due to historical inertia and America's hegemonic actions in international affairs, this sort of thinking still exists among ordinary people and even among some elites, and it will last for a very long time.

In concrete fields, Sino-U.S. energy cooperation is often disturbed by politics, and the potential for cooperation is still far from being optimized. For example, although Sino-U.S. cooperation in the field of nuclear energy has been under consideration for several years, the concrete fruit is very limited. In 1985, China and the U.S. signed an agreement for peaceful use of atomic energy, but due to American sanctions against China in 1989, the U.S. Congress approved the agreement till 1998. In 1998, China and the U.S. signed an agreement for peaceful use of nuclear energy technology. Although at present America's legal restrictions on export of nuclear power equipment and technology have already been abolished, in practice, the U.S. government often still controls the proper bilateral business under the excuse of preventing nuclear proliferation, for example, the U.S. government forced out Westinghouse Electric Corporation's export of nuclear power equipment to China. In this situation, the developers of China's nuclear energy projects often have great misgivings about introducing American technology, because they are worried about the possible intervention of American government in their business, which would result in considerable economic losses on the Chinese side. Another example is the U.S. political force preventing CNOOC's bid for Unocal. The reasons for these interventions include national control of the company, and lack of confidence in integrating two companies, but the most important element is the objection of the U.S. Congress and the much-noised "China

threat." At the same time, a Colorado-based gas corporation intended to introduce Chinese drilling equipments and personnel, but Congress also objected. All this "reflected the widespread influence of geopolitical thinking in America's concern for China's company's exploitation of international market."[14]

Apart from that, in terms of Sino-U.S. cooperation in the fields of new energy, renewable energy, energy efficiency and the technology of environmental protection, the extent and scope of cooperation are not in accordance with the two countries' great power status, and the potential for cooperation is far from being fully exploited.

Furthering Sino-U.S. Energy Cooperation

Recently growing friction over energy has arrested the attention of the two countries, dialogue and exchange between the two sides is becoming more and more frequent, and the two sides also have more common views on some related issues. This reflects the desire of the two sides to boost cooperation and reduce confrontation, and this forms a basis for further cooperation in the future. But the two countries will still to need work hard, and also need political intelligence and skills in order to consolidate current gains, realizing the true understanding of energy issues between the two countries' and the essential breakthrough in energy cooperation.

Like the above-mentioned, there are no great or essential differences and conflicts between China and the U.S. in concrete energy fields. The friction and conflict mainly exist in political and diplomatic fields, and the latter mainly resulted from the two sides' misunderstandings. So in order to reduce misunderstanding and friction, it is very important to enhance exchange in policy areas between the two countries, and boost the extent and scope of dialogues, and establish multiple harmonization mechanisms. Moreover, when the two sides understand each other better in their aim and policy, the two countries can gain more benefits from bilateral cooperation.

Some American scholars pointed out that China lacks a sense of security with regard to energy issues, so in order to satisfy its own energy needs, China even cooperates with some "rogue states." It is a fact that China indeed lacks a sense of security with regard to energy issues. However, this is, on the one hand, due to China's deepening dependence on other countries, and, on the other hand, also due to the international "China energy threat" and the repeated failure of international energy cooperation.

In resolving the sense of energy insecurity, besides China's own endeavor (such as boosting efficiency, energy-saving, further exploiting of new energy, promoting the market-oriented reform of energy industry, etc.), common efforts should be made by the United States and the international community, thereby creating an environment for proper international cooperation and competition in the field of energy. Putting it in detail: first, to see Sino-U.S. energy competition objectively. In fact, the competition for energy between China and the U.S. is not more serious than that between the U.S. and Germany, Japan, or other big energy-import countries, and the essence of this competition is about profit but not about snatching resources. The principal aim of big western oil and gas companies to enter Russia's Far East region is to get rich profit from markets like China, and oil exploited by China's companies abroad also largely flowed to international market not to China. The U.S. oil companies also want to cooperate with Chinese companies for finding an oil and gas consumption market. Moreover, with regard to Sino-U.S. relationship, "the two countries' ever-increasing energy needs will not only result in competition, but also a lot of common interests." "Eventually, the energy resources competition and energy security will become the main element to boost cooperation between China and the U.S."[15] Second, playing down the argument of "China energy threat." This argument strengthened China's sense of being contained and being not secure. In fact, as Robert Priddle, former executive Director of International Energy Agency said, the increasing demand of China for oil will stimulate the world invest-

ment in the energy field, "and so is a guarantee for the stability of international energy supply, it is a great contribution to the international energy structure."[16] Third, playing down the argument of energy crisis. The excessive clamor about energy security increased people's fear and horror. In fact, in comparison with the former two oil crisis in the 1970s, more and more open market and active global competition have made the world energy security situation better. The president of BP John Brown once said at a world oil conference, "If they are exploited in a sustainable way, oil and gas can satisfy the long term needs of human kind."

The U.S. and China should promote essential cooperation in concrete energy fields. For example, the U.S. can help China enhance its energy efficiency and exploit hydroelectricity, gas, nuclear energy, solar power and wind power, etc., and supply advanced technology in saving energy and environment protection and experience, help China gradually becoming a non-oil dependent economy. Through this, it will not only relieve the stress of China's oil demand for the world and the international environment, but also boost American export to China, further increase interdependence of China and the U.S., and increase their mutual understanding. In this regard, China should pay greater attention to efficiency of energy usage and new energy, boost market level in the fields like energy, and quicken its step towards engagement with international market. And the U.S. should play down the geopolitical and ideological elements in energy cooperation, and give up zero-sum game with regard to its relationship with China, reduce its restrictions on technologies about new energy and nuclear energy, avert intervention in export of technology and equipment to China, and also create conditions for American companies to participate in China's construction in atomic electricity, transfer of technology in the field of nuclear energy.

It is in the interest of both the U.S. and China to encourage China to take part in international energy cooperation, integrate itself into international energy trade system and the mechanism of international energy cooperation. At present, China strongly

desires to strengthen cooperation with Western countries and the related international energy institute, and China has also worked hard for such aim. But obstacles are still there, especially the intervention of political elements. With regard to CHOOC's bid for Unlocal, some scholars commented, "It should be decided by shareholders not but by politician." [17] Some others even pointed out that, it would be counterproductive if China's offer was rejected, and that would enhance its sense of energy insecurity, and make more of its capital flow into "rogue states." Economist Albert Keidel from Carnegie Endowment for International Peace said, "We could indicate to China that her energy security surely can depend on a series of international mechanism, including competition on product and resources, or we could give China an impression that she can satisfy her energy needs with 'non-market 'ways."[18]

Notes

1 BP Statistical Review of World Energy 2005.
2 BP Statistical Review of World Energy 2005.
3 Chen Baosen: "How Does Oil Price Hikes Affect U.S. Economy?" *People's Daily,* August 30, 2005, page 4.
4 "World Oil Conference Sending out Mixed Messages," September 30, 2005, http://www.xinhuanet.com.
5 Calculations according to some related data from BP Statistical Review of World Energy 2005
6 Calculations according to some related data from BP Statistical Review of World Energy 2005.
7 David Zweig and Bi Jianbai: "China's Global Hunt for Energy," *Foreign Affairs,* September/October 2005, p.37
8 This report, prepared upon the demand of US Congress, mainly probes the influence of China's energy demand on US political, strategic, economic and national security.
9 Tang Yong: "U.S. Energy Expert: China's Oil Strategy Does Not Collide with That of the U.S.." *People's Daily*, June 17, 2004.
10 Zha Daojiong: "Sino-US Energy Cooperation: Challenge and Opportunity," *International Petroleum Economics*, October 2005, p.53.
11 "Perspectives of Sino-U.S. Cooperation on Energy and Oil-Gas," http://www.usea.org.

12 Gal Luft, Hearing on China's Future Energy Development and Acquisition Strategies, Presented before U.S.-China Economic and Security Review Commission, July 21, 2005.
13 "The Dragon Tucks in" *The Economist,* July 2, 2005, p.61
14 Zha Daojiong, "Sino-U.S. Energy Cooperation: Challenges and Opportunities", *International Petroleum Economics,* November 2005, p. 53.
15 Randall G. Schriver, "Prospects for U.S.-Japan-China Trilateral Cooperation", Paper to "United States, Japan and China Relations: Trilateral Cooperation in the 21st Century" August 15–17, 2005, Honolulu, Hawaii, p. 5
16 Kong Yuanyuan: "China's Oil Need Is a Contribution to the World", Interview with former President of International Energy Agency Robert Priddle, *China Petroleum and Chemicals*, No. 3, 2004, p.20.
17 Edward M. Graham, "No Reason to Block the Deal", *Far Eastern Economic Review,* July 2005, p. 27
18 Xu Lin, http://www.washingtonobserver.org, July 20, 2005.

Part II
Regional Cooperation as a Conflict Prevention Tool (the Barents Sea and South Caucasus)

Svante Cornell

Europe's Energy Security: Role of the Black Sea Region

Europe's growing dependence on imported fossil fuels has emerged as an increasingly major political issue. The ever-tightening global oil markets have led the price of oil to rise above levels unimaginable only several years ago, with gas prices following suit. Meanwhile, Europe's growing consumption of natural gas is being met principally by Russian exports. Growing concerns have nevertheless developed in Europe regarding Russia's reliability as an energy supplier, following increasingly reckless Russian behaviour towards its neighbours and toward European investors. Following the adage that energy security lies mainly in diversity, a new quest for alternative energy resources that could alleviate some of Europe's dependence on Russian energy has developed. The Caucasus region plays a crucial role in this context, because it is the only area in Europe's vicinity that has the potential to serve as a key producer and transit area for new sources of European gas supplies. There is a clear match between the European strategic interest and those of the states of the Caspian region. Europe is in need of diversified access to energy, and other supply routes to Europe, and to have strategic access to the Central Eurasian inland, while the states of the region desire closer ties in the economic and security fields to Euro-Atlantic institutions. As such, the Caspian region is an example where oil and gas resources can function as an object of cooperation rather than tension.

Russian and Eurasian Gas and European Markets

Among the top policy priorities for EU energy development is avoidance of strategic dependence. Yet a number of EU member countries are already in a position of strategic dependence on Russian natural gas, and which is deepening. Particularly among new members in Central and Eastern Europe, there is close to 100 percent dependence on Russia's monopolistic gas supplier, Gazprom. Even France and Germany are increasingly dependent on Russian gas. Meanwhile, Europe's natural gas demand is projected to increase substantially in the future. Even under conservative scenarios, the demand for importing natural gas to the EU will double from 200 billion cubic meters (bcm) per annum in 2002 to 400 bcm by 2030, with total demand rising from 400 bcm to up to 600 bcm in same period.[1] The greater portion of this increase is likely to come from gas producing countries of Eurasia. Indeed, significant untapped production capacity likely to emerge in Europe's neighbourhood is mainly located in Russia and the Caspian Sea basin—adjoining the Wider Black Sea region.

It is also clear that Russia is in no position to single-handedly provide a substantial portion of this increase—even with immense investments that do not seem to be forthcoming. As former Russian Deputy Minister of Energy Vladimir Milov has observed, Russia "faces an investment crisis, especially in gas", and had "done nothing" to invest in infrastructure that would enable it to increase production substantially, particularly on the important Yamal peninsula.[2] Indeed, Gazprom has consistently failed to invest in new field infrastructure, relying on large Soviet-era fields for the bulk of its production. With the exception of the large Zapolarnoye field in Western Siberia, Gazprom's fields are either stable or declining in production.[3] Hence Russia's own natural gas production has reached a level whereby it cannot grow considerably—let alone generate substantial new export capacities—without substantial investments in the billions of dollars. Indeed, Russia will soon need to invest heavily in new fields to maintain its current output level.

On the other hand, the energy producing states of the Caspian basin — Azerbaijan, Kazakhstan and Turkmenistan — have large untapped potential production of both oil and natural gas. Turkmenistan alone produced 90 bcm per year in the late Soviet era — a substantial amount compared to Gazprom's exports to Europe, which at present are of the order of 140 billion. To this should be added smaller capacities in Azerbaijan, which may reach 30 bcm by 2012, and Kazakhstan and Uzbekistan. The energy producers of the Caspian region hence have a production potential equal to or greater than Gazprom. Meanwhile, their domestic markets are considerably smaller, whereas Russia's export capacity stands to be affected by domestic consumption.

It is hence a near-certainty that gas from Azerbaijan, Turkmenistan and Kazakhstan will be reaching Europe in increasing quantities in the following decades. This process has already begun with the completion of the Baku-Tbilisi-Ceyhan oil pipeline in 2006, which is presently delivering light Azerbaijani crude oil to European refineries, with a capacity set to expand to 1,8 million barrels per day (ca. 85 million tons per year). As for gas, there is every reason to believe Caspian gas will reach Europe in the next decades.

If this appears certain, the question is through which export routes these resources will be transported to Europe. That new pipeline capacity is needed is obvious, and this gas can reach Europe in various ways. It can be transported independently and directly from producer states through a varied set of routes to European markets, increasing Europe's energy security by diversifying its supply routes. This, of course, requires the building of new transportation networks, which will be discussed below. Yet unless such alternative delivery options are constructed to bring natural gas from fields in Azerbaijan, Turkmenistan and Kazakhstan to Europe, Russia is likely to fill the vacuum by controlling the transportation of this region's gas — using its monopoly position in Central Asia to buy gas cheaply and using its monopoly of supply in Europe to sell gas at several times the price to Europe.

Indeed, Gazprom's pledges to increase exports to Europe to 180 bcm by 2010 are not likely to come from domestic production;[4] instead, it would re-export Caspian gas at a profit. In the process, Moscow would make a large profit while increasing its political leverage over both Europe and the states of Central Eurasia. This is consistent with Russian energy policy, but as seen below, this represents a prospect that lies neither in Europe's interest nor in that of the producer states.

Russian Energy Policy

Russia has had a clear and discernible policy regarding energy resources as relates to both Europe and the Wider Black Seas region. This policy has consisted of a number of facets, all of which have sought to capitalize on energy as the main vehicle for the strengthening of Russia's influence over its neighbouring regions. The strategy has had several main aspects: state control over the production of gas for export; keeping a monopoly on acquiring Central Asian gas at cheap prices; achieving increasing dominance over the European consumer markets; and utilizing dominance over both the import from and export to CIS countries of gas for political purposes.

To begin with, Moscow has ensured that the Russian government exercises control over the energy sector in the country. It has become patently clear from the Yukos affair and subsequent developments that private or foreign actors will only play a role as minority shareholders in major Russian energy assets. The treatment of Western companies in recent times, locked out of the Shtokman field and bullied by the government on environmental charges in the Sakhalin-2 context provides examples of this. The position enjoyed by Gazprom, in particular, and its symbiosis with the highest echelons of the state, have made the relationship between the Russian state and its largest corporation increasingly murky. Gazprom is neither a corporation with distinct interests; nor a direct tool of the government, in the sense of being subordinate to it. Indeed, most of the decision-makers determining

Gazprom's moves are also decision-makers in the Russian state, and also have personal stakes in business entities connected to Gazprom. This lack of transparency bodes ill for the future, as it is a factor of instability in case a new redistribution of assets takes place in Russia similar to the campaign against the oligarchs that President Putin conducted after coming to power.

Gazprom has been surrounded by murky deals. In numerous cases, the company has accorded beneficial deals to newly created companies whose ownerships structures have been unclear. For example, companies like Eural Trans Gas and RusUkrEnergo have been subcontracted to manage gas deliveries to Ukraine. In 2003, Eural Trans Gas — a company with no hard assets — netted a profit of $767 million on this scheme, money that Gazprom had little reason to let go by subcontracting a subsidiary. This has led to growing worry among Gazprom's minority shareholders that individuals with stakes in the company are also personally benefiting from offshoots of this kind. Obviously, this lack of transparency created long-term doubts on the company's viability.

On the foreign policy front, Moscow's policies — understood here as a symbiosis between Gazprom and the Russian government — have been consistent. The main purpose has been to secure Moscow's monopoly on the transit of all oil and gas from the former Soviet republics to consumer markets in Europe. This in practice implies securing Russian control over the energy exports of the states of the Caspian region.

Moscow's overarching objective has been to secure continued monopoly over Caspian gas supplies. Indeed, prices for the sale of Russian gas in European markets have been rising as the global oil price has increased. Meanwhile, Moscow has been able to secure continued low prices for acquiring gas from Central Asian states, which have no other outlet for their gas. By the early 2000s, the price differential had reached ridiculous proportions. Moscow paid Turkmenistan $57 per thousand cubic meters (mcm), of which half was in cash and half in barter — implying goods estimated worth half their cash value in reality. Hence Moscow

effectively paid Turkmenistan around $45 per mcm. Importing this gas enabled Moscow to use cheap Central Asian gas to supply the Russian domestic market, freeing up gas production that was instead sold to European consumers at over $250 per mcm. This amounted to a four- to five-fold profit, even accounting for transit costs. In this way, Moscow was able to hold off investments in the billions of dollars in its own fields—growing exports needs could simply be substituted by Central Asian gas supplies. Instead of *spending* billions on investments in infrastructure, Moscow could *make* billions on the price difference.

With regard to non-energy producing former Soviet states, ranging from the Baltic States to Ukraine and Georgia, Moscow has used its continuing monopoly on energy deliveries for political purposes. Moscow has prevented Kazakhstan from using Russian pipeline networks to deliver oil to the Baltic States for export. This may constitute an anti-competition policy, but Moscow's use of the energy card has taken much more serious proportions, especially against Georgia. On numerous occasions, Moscow has cut gas and electricity supplies to Georgia for blatantly political reasons. This has been related mainly to the Georgian ambition to have Russian military bases removed from its territory. In 2001, for example, Russia cut gas supplies on January 1, in spite of the gas deliveries being paid in advance by the American AES company, at that time running Tbilisi's gas distribution system. Perhaps the main and most famous incident was in January 2006, when Moscow targeted Georgia and Ukraine simultaneously, cutting gas supplies to Ukraine after having sought to force Ukraine to pay European prices for gas overnight. As far as Georgia was concerned, mysterious explosions destroyed gas pipelines and electricity wires carrying energy to Georgia, explosions that have never been resolved but which have been blamed on Russia's security services. Likewise, a minor oil spill provided cause for Moscow to shut down deliveries to Lithuania in July 2006, while the same pipeline continued to deliver energy supplies to Belarus.[5]

Another element has been Russia's aim to make inroads into downstream infrastructure and distribution systems in Europe. Indeed, Gazprom's ambitions to gain control over assets in Western Europe led to a controversy with the United Kingdom in 2006. When British regulators raised doubts of Gazprom's plans to acquire Centrica, the owner of British Gas, Gazprom CEO Alexei Miller noted that "Attempts to limit Gazprom's activities in the European market and to politicize questions of gas supplies, which are in fact entirely within the economic sphere, will not produce good results".[6] This was followed by threats that Russia's gas exports would be reoriented towards Asian markets. Russian attempts to gain control over downstream assets stands in steep contrast to Russia's increasingly staunch refusal to let economic consideration determine ownership structures upstream, in Russia itself.

Third, Moscow has sought to sustain its control over the former Soviet Union's oil and gas suppliers and to make up for the damage where it has failed to do so. Moscow lost its total monopoly on West Caspian oil with the building of the Baku-Tbilisi-Ceyhan pipeline. However, its priorities are to ensure continued monopoly over Caspian gas from both the eastern and western shores, as well as a monopoly over East Caspian oil. As far as Azerbaijan is concerned, Russia's monopoly over gas exports is threatened by the building of the Baku-Erzurum gas pipeline, which flows in parallel to the BTC pipeline, and which will deliver gas from the Shah-Deniz field to Turkish markets.

However, Moscow has tried to offset the loss of control over Azerbaijan's oil supplies by seeking to commit the Turkish market to growing volumes of Russian gas supplies. This prospect was greatly aided by the building of the Blue Stream pipeline, crossing the Black Sea, delivering an eventual 10 bcm to Turkey by 2010. The Turkish market is already heavily overcommitted in terms of gas, having committed to supplies from Azerbaijan, Turkmenistan, Iran and Russia that the Turkish market cannot absorb. The building of the Blue Stream pipeline—a $3.2 billion

project — cemented Moscow's influence on the Turkish gas market. This entails that Turkey is in no position to buy volumes of Azerbaijani gas from Shah-Deniz beyond the phase one gas supplies from 2007 to 2011. The larger volumes to be produced from 2012 onward will simply not be consumed by the Turkish market, forcing producers to find alternative markets.

It is in this context that one should see Moscow's ambitions to have Russian gas flow through the Blue Stream pipeline and from there onward to Central European markets. In principle, Moscow's strategy is to shut out alternative transit routes from the Caspian region by committing Russian gas to Europe from a variety of transit routes that will fill up capacity that could be utilized by Caspian producers. It is exactly in this context that the North European Gas Pipeline should be seen. This pipeline, to stretch from Russia's short coast on the Baltic Sea across the seabed to Germany, will cost approximately $10,5 billion. This exorbitant cost makes the pipeline much more expensive than a line crossing Ukraine or Belarus, for the very purpose of achieving an export pipeline that does not cross former Soviet countries on its ways to European markets. In other words, Gazprom will be able to cut gas supplies to Ukraine without European customers having to be affected. By the same token, an expanded version of the Blue Stream pipeline will allow Gazprom to commit volumes of gas, probably taken from Central Asia, to European markets, thereby preventing Caspian gas suppliers from selling gas to European markets independently.

Yet Moscow's energy strategy does not stop at this. Beyond seeking to sustain a monopoly on European gas supplies from the East, it is also seeking a greater influence over other alternative supplies to Europe, primarily from Northern Africa. Indeed, Moscow has aggressively pushed for influence over Algerian and Libyan exports to Europe. As Vladimir Socor observes, "In Algeria's case [the third largest gas supplier to Europe], Russia has successfully offered multibillion-dollar arms deliveries as well as debt write-offs in return for starting joint extraction projects in

Algeria and joint marketing of the fuel in Europe."[7] This and similar Gazprom activity in Libya has led to growing worries that Moscow is seeking to build a gas cartel to control prices to Europe.

In sum, it appears obvious that Moscow is increasingly capitalizing on energy—and particularly the less fungible commodity that is natural gas—as a tool to boost its influence and might vis-à-vis Europe. Moscow is monopolizing CIS gas supplies to Europe, using its dominance in the CIS for political purposes, acquiring influence over North African producers, seeking control over downstream energy assets in Europe, and simultaneously restricting foreign companies' access to the Russian energy sector. The picture is clear: Moscow is aiming to dominate Eurasian energy, and has repeatedly shown its readiness to use this domination for political purposes. Political use of energy has been blatant in regard to former Soviet states, including EU members such as Latvia and Lithuania. But it has also been present in a more subtle way with regard to Western European states. Indeed, former German Chancellor Gerhard Schröder's decision to take up a senior management position at Gazprom even before resigning as German Chancellor raised many eyebrows and led to suspicion that Germany's support for the North European Gas Pipeline was determined in part by Schröder's private interests. Aside from this, it is already obvious that Russia is seeking—and achieving—an instrument limiting the level of criticism from Europe regarding its domestic turn away from democracy, as well as its treatment of its neighbours and neo-imperial ambitions. European dependence on Russian energy in the final analysis limits Europe's leverage against Russia: its abilities to influence Russia's domestic development and long-term stability is being hit by this dependence, as is Europe's ability to influence Russian foreign policy toward pro-Western states in the CIS such as Georgia, Azerbaijan, Moldova or Ukraine.

This situation makes it all the more crucial for Europe to pursue options in terms of energy supplies that would reduce its de-

pendence on a single, major and to that assertive energy supplier. Luckily for Europe, options are present, in the Caspian region.

Europe's Alternative: The East-West Corridor

Europe's future growth in gas supplies is likely to be met not mainly by growing Russian gas production but by gas supplies from the energy-rich states of the Caspian region: primarily Azerbaijan, Kazakhstan and Turkmenistan[8]. These are nevertheless bifurcated both in regional terms and in terms of output. The first main division is geographic: Azerbaijan on the West Caspian is considerably closer to Europe, while the major producers are the states of Central Asia on the Eastern shore of the Caspian. Azerbaijan is mainly an oil producing country, with exports reaching one million barrels per day in 2010, though its gas production may reach substantial levels of 30 bcm in the next decade. On the East Caspian, Kazakhstan is mainly an oil producer, foreseen to produce up to 3 million barrels of oil per day (ca. 140 million tons per year) by 2015, with much less significant gas production. Turkmenistan, on the other hand, is the exact opposite: gas production constitutes the bulk of Turkmenistan's future promise, with the world's fourth of fifth largest gas reserves, depending on estimates, and a production capacity that could easily reach over 100 bcm, almost all of which is available for export. Finally, Uzbekistan has considerable deposits of both oil and gas; but a larger domestic market and therefore a more limited export capacity.

Only several years ago, the export of Caspian oil and gas to the EU would have seemed utopian. Yet important developments since have made this prospect utterly realistic. This is in great part due to the completion of the Baku-Tbilisi-Ceyhan pipeline. This pipeline effectively connects the West Caspian shore with European markets, providing top-of-the-line infrastructure for oil and a parallel gas pipeline. This also makes the prospect of East Caspian resources reaching Europe more realistic than ever, as the infrastructure is now in use just across the Caspian.

The Caspian alternative to increasing dependence on Russia was implicitly acknowledged by the EU through the realization of the INOGATE project, implying the construction of pipelines that will connect Europe to the gas producers of the Caspian region. This process is already in course — through the integration of European gas transportation networks on the one hand, and the building of a new energy transport infrastructure connecting Azerbaijan to Turkey, on the other hand. As such, there are two major priorities for the realization of a full East-West corridor: linking the Turkish gas network to the European one; and linking the West Caspian to the East Caspian by Trans-Caspian pipelines. This will create a virtual South Caucasian corridor to Europe, and can be complemented — if found economically viable — by a connection linking the South Caucasus to Ukraine across the Black Sea.

It is obvious that the potential entry of Caspian natural gas to Europe through the South Caucasus and Turkey would help Europe diversify its energy supplies, and to reduce dependence on the state-owned Russian monopoly Gazprom. Indeed, there appears to be little reason for Europe to have the same resources reach Europe via Russia, allowing Gazprom as a monopolist to control prices, while making Europe vulnerable to voluntary as well as involuntary supply interruptions. Developing pipelines directly to the Caspian region will perfectly complement major reforms planned in the European gas sector, aiming at the creation of a competitive market of multiple operators with the benefit of different options of delivery routes.

Such a competitive market is in the long-term the interest of Europe — but is objectively speaking also in Russia's interest. Diversification of supply routes and gas sector reform in Europe will eventually drive the Russian monopolistic supplier, as well as the Russian gas sector in general, towards much-needed reforms and transparency that will give it sustainability and stability. Indeed, a driver behind the development of the South Caucasus Energy Corridor has been the inflexibility of the Russian state

monopolies, Gazprom and Transneft. By dominating access to markets and by creating barriers to access for others, they have forced producers to look for alternative means to the market. By choosing to exploit its control of energy export as a geopolitical weapon, Russia has forced its southern neighbours to respond with initiatives that will preserve their sovereignty in the face of such threats. The result has been the development of alternative routes, which in turn makes Russia nervous and suspicious. Furthermore, without market liberalization, it will be impossible to attract investments to the Russian gas sector, and without investments, Gazprom will not succeed in meeting its ambitious production goals.

BTC as a Tool of Cooperation

The Baku-Tbilisi-Ceyhan pipeline is important to global oil markets as it provides an additional million barrels of non-OPEC oil a day to world consumers, with a potential to be expanded to 1,8 million bpd. Most important, it is far from the global oil markets' biggest chokepoint, the straits of Hormuz, through which fully 17 million barrels of oil are exported daily. BTC also avoids use of the narrow Turkish straits, which are already at their limits with 3 million bpd already passing through the narrow channel, which is barely a half-mile wide. In this regard, BTC has significant advantages as it avoids major transportation chokepoints. This makes BTC the best option for delivering Caspian oil to markets in a safe, timely and economical, and environmentally sound manner.

But the consequences of BTC go beyond the purely economic. For everyone involved, within as well as in every direction from the South Caucasus, the building of the BTC pipeline reconfigures the mental map with which political observers and decision-makers look at the world. Azerbaijan and Georgia will see their futures in more direct relation to Europe through the economic and political link that BTC constitutes. For Turkey, with its significant trade relations to Russia (including the Blue Stream gas

pipeline across the Black Sea), BTC is a cause to revisit its eastern vocation even at a time when the Turkish government may otherwise be less inclined to do so. This time, a greater outreach to the Turkic and other lands across its eastern border is not an alternative to Turkey's western aspirations but an enrichment of its connections with Europe. In the eyes of Iranians, the completion of BTC gives greater grounds for perceiving its neighbour, Azerbaijan, not as a weak newcomer to be manipulated but as a truly independent actor, even as one that can effectively mount and conclude significant projects. For even the most sceptical Russians, BTC gives powerful evidence that the states of the South Caucasus are not only independent and sovereign, but have powerful friends abroad that can persist in backing a single initiative over more than a decade, where Russia has a natural right to influence, but not to dominate or dictate policy.

The BTC pipeline is a symbol of the development of inter-state cooperation and cooperation between governments and the private sector in the region. To begin with, the realization of BTC required a long-term political investment on the part of all three participant countries: Azerbaijan, Georgia, and Turkey. Such was the importance of the pipeline project to the leadership of the three states that the project received the continuous backing of consecutive governments. Various political parties ruling Turkey endorsed the project, while the most ardent support came from then-President Suleyman Demirel. In Azerbaijan, the successive administrations of Abulfez Elçibey, Heydar Aliyev and Ilham Aliyev have been supporting the westward export of Azerbaijani oil. Of course, the oil strategy was mainly designed by Heydar Aliyev's long tenure in power. And in Georgia, the transition from Shevardnadze to Saakashvili entailed continuing support for the project. The same can be said for the consecutive U.S. administrations and British governments that supported the project.

Indeed, the BTC project was one of few examples in the former Soviet Union where cooperation on an inter-state basis has been born not out of the dominating influence of a great power but on

the basis of joint and mutual interests of the participating states themselves. As such, the BTC pipeline created a very concrete example of the need of Georgia and Azerbaijan to support each other's sovereignty and develop a strategic partnership, as well as a strong force linking Georgia and Turkey, helping to overcome a historically antagonistic relationship. BTC gave Azerbaijani, Georgian and Turkish diplomats across the world a common cause to cooperate on, enabling them thereby to develop links of friendship and mutual interests that have developed into other sectors and contributed to cordial relations among them even where disagreements have emerged.

Secondly, the BTC project provided a venue for former Soviet states to interact with private entities from the West. This is no mean accomplishment: the signing of Power-Sharing Agreements (PSA) between consortia of primarily western companies and the regional governments were a novel element for an elite that almost exclusively hailed from the Soviet era, entailing a devastating lack of experience in economics and private ownership. To that should be added the fact that unlike most energy-rich countries, Azerbaijan has continued to refrain from the temptation of seeking a renegotiation of the oil contracts. Even in Kazakhstan, pressures for renegotiations are strong, with the logic that they were signed at a time when the countries were weak and the companies strong. But the steadfastness of the Azerbaijani government in rejecting such domestic calls, voiced periodically by the opposition, indicates a socialization process into the governing rules of western business principles.

Looking to the Future: Kazakh Oil and Turkmen Gas

For the United States and Europe, BTC provides further impetus for western involvement in the energy and security sectors of the wider Caspian basin — and indeed, proves that the lofty but near forgotten ambitions of building an east-west corridor linking Europe to Central Asia and beyond via the Caucasus are not only possible but are being realized.

Kazakh Oil: Which Way?

The first major post-Soviet pipeline to come online was the Caspian Pipeline Consortium pipeline linking Kazakhstan's Tengiz oil field on the Caspian shore to Russia's Black Sea coast. Though being mainly on Russian territory, CPC is the first oil transportation system operating independently from the Russian state monopoly, Transneft. But the quantities of oil coming out of the Kashagan project—forecast at 450,000 barrels per day in 2010 and eventually up to 1.2 million bpd—will require at least one major new export pipeline. For this oil, Kazakhstan could look at variations of three options: a parallel CPC line, feeding Kashagan oil into the BTC pipeline, and exporting to China. Each of these options presents both economic and political challenges. Although CPC can be expanded significantly, the entire flow from Kashagan is unlikely to be fed into CPC for the obvious reason that the Turkish government is highly unlikely to allow an additional million bpd of oil to pass through the heart of Istanbul. The prospect of constructing special lines to bypass Istanbul to the north or south adds to the cost of delivery and further dilutes Russian control. In any case, Kazakhstan has recently shown a desire to reduce its reliance on Russia for the export of its energy resources. It is significant to note that Kazakhstan officially joined the BTC pipeline at its inauguration in Baku in May 2005, and that operators of the Kashagan field own a substantial portion of the pipeline. Initially, Kazakh oil will cross the Caspian by tanker, but Kassymdzhomart Takaev, Kazakhstan's foreign minister, has repeatedly declared that it will construct an underwater pipeline linking its port of Atyrau and Baku. For it to be commercially viable, the construction of this 500-mile extension of BTC would require BTC's capacity to be upgraded to 1.7 million bpd.

Meanwhile, Kazakhstan has deepened its relations with China in the energy sector. For some years after the collapse of the USSR, Russia kept alive the hope that it could persuade Kazakhstan to feed oil for the Orient through Russia's emerging Siberian pipeline system. Since this would have simply rebuilt on

its eastern exposure what it was seeking to escape to the west, Kazakhstan declined, turning instead to China. Over a decade the two countries repeatedly discussed the possibility of building a pipeline connecting western Kazakhstan's oil fields with China's Xinjiang province, but each time the two parties concluded that the project was not economically viable. However, as regards both the pipeline and Chinese acquisitions of energy assets abroad, China's mainly state-owned companies have proved willing to pay above-market rates far beyond what a rival might offer; China's 2005 acquisition of the Canadian-based Petrokazakhstan company, Kazakhstan's third largest oil producer, for a sum that set tongues wagging, is only the most recent example of this practice in Kazakhstan. In 2004, construction began on the Kazakhstani section of a three billion dollar pipeline, capable of carrying up to 400,000 bpd, linking western Kazakhstan to western China. Initially, oil for this pipeline will be provided mainly from the Kumkol deposits operated by Petrokazakhstan. Indeed, China's acquisition of Petrokazakhstan gives valuable indications of China's interest in controlling both production and transportation of energy resources, enabling it to ensure a safe flow of oil to China. But to reach full capacity and hence become commercially viable, the Kazakh-China pipeline will need more oil than is now allocated to it. To address this problem it is expected that at least a part of the oil flowing from the vast Kashagan fields will be fed into this pipeline.

Thus, it is evident that a decade and a half after achieving independence, Kazakhstan is effectively implementing an export strategy of its most valuable product based on multiple routes. As was the case with BTC, decision regarding the balance among them will eventually be guided as much by political as by economic concerns. In all likelihood, Kazakhstan will continually readjust the balance between the amount of oil being sent into each of the three eventual channels: Russia, China, and the South Caucasus energy corridor. This emerging strategy, if accomplished, will serve towards Kazakhstan's ambition to become a major actor in

global energy markets in the coming decades. More important, it accords with Kazakhstan's geopolitical strategy, which is to seek a balance between the three major powers with which it has close relations, using each to keep in check the others, even as it benefits from links with all three. By successfully diversifying the channels for exporting its most valuable product, Kazakhstan has thus fortified its sovereignty and independence of action.

Turkmenistan's Gas

Even though the government of Turkmenistan may wishfully confuse estimated reserves with proven reserves and hence overstate its potential wealth, no one disputes that that country possesses formidable deposits of oil and especially gas that are bound to make their mark on its national life, the region, and world energy markets. Like Azerbaijan and Kazakhstan, the challenge has been to break Russia's imperial monopoly over its exports and to create efficient export channels that will reduce what might be called the "distance tariff." In the late 1990s, talks were well underway for the creation of a trans-Caspian pipeline bringing Turkmen gas westward, via the South Caucasus, to Europe. Despite the length of the planned pipeline, it would have delivered gas to European markets at relatively moderate cost. But when gas rather than the expected oil was discovered in Azerbaijan's Shah-Deniz field, Azerbaijan ceased being merely a transit country for gas to Europe but a significant producer. As this happened, Azerbaijan temporarily lost interest in the trans-Caspian gas pipeline to Turkmenistan. The fact that the two countries fell into a bitter dispute over competing claims to mid-Caspian deposits only prolonged the standoff and added to the ill-will. Russia, taking advantage of this situation, managed to extract a long-term agreement from Turkmenistan to export gas through Russia. With these developments, a significant component of the so-called East-West energy corridor disappeared.

The vision of a trans-Caspian energy corridor linked with Turkmenistan remains unfulfilled. Whether or not it is revived

will depend on future political developments in Turkmenistan, which are unknowable. For the time being, Turkmenistan remains legally bound to export gas through Russian pipeline systems at a price that is still below world market levels. Interestingly, there are indications that the Turkmen leadership is becoming increasingly frustrated with this situation. As a result, Ashgabat has begun to look around for potential buyers elsewhere, notably in Ukraine and in Pakistan and India. The former has led to deals that begin to offset the huge burden of forced sales to Russia. The latter has led to the resurrection of a decade-olds project to build gas or oil pipelines clear across neighbouring Afghanistan to Pakistan and thence on to India. This Trans-Afghan Pipeline (TAP) was initially projected by the American firm Unocal, which managed to elicit a huge degree of cooperation even among otherwise warring Afghan warlords. With the rise of the Taliban, however, the project broke down, only to be revived at the initiative of Turkmen president Niyazov.

Grasping the continent-wide economic and strategic significance of the project, The Asian Development Bank took a keen interest in it, among other things seeing in it an income stream for the new Afghan government that could help offset the influence of drugs. A feasibility study completed in 2005 offered an encouraging picture for the future, and both Chinese firms and the Russia gas monopoly Gazprom have informally expressed interest in it, as have Indian firms, which have also begun eyeing oil and gas investments in Kazakhstan and Uzbekistan.

The TAP project continues to suffer from several problems, most importantly the fact that its ultimate success is dependent on Pakistan and India resolving their differences to the extent that they could allow hydrocarbons to cross the Pakistan-Indian border. To the extent that India is reluctant to rely on Pakistan's word for its own energy security, the prospects of building TAP are stalled. This problem, along with what will doubtless be an expensive construction process in Afghanistan itself, will likely put off the TAP for several more years.

But this does not mean that TAP is dead, any more than the project to build a trans-Caspian gas pipeline is dead. If world gas prices remain high and Turkmenistan becomes serious about exporting its huge gas reserves, both options will become fully feasible. Another stimulus to reviving the latter project could be a decision by Europe to reduce its reliance on Russian energy, although there are no indications that such a decision is in the offing. At the same time, India's increasing energy needs (not to mention Pakistan's) are likely to force it to review its objections to a gas line via Pakistan, especially if bilateral relations between the two improve.

Traceca Revived: A Priority for the EU

Against this background, it is significant to note the substantial initiative that the European Union launched to create a Transport Corridor to connect Europe via the Caucasus to Asia, known as the TRACECA project. An ambitious project designed to build a variety of East-West road, rail and sea links across the region, TRACECA was launched in the early 1990s. Unfortunately, the project was never followed up with significant resources and political attention. As a result, in spite of its truly enormous potential to change the transportation systems of Eurasia and to connect the EU with Central Asia, China and India in a novel and efficient manner, TRACECA has in practice accomplished very little. The failure of the EU to follow through on its initiative and in practice to allow it to self-die has had profound implications for the credibility of the EU as an actor in Central Eurasia.

The building of the Baku-Tbilisi-Ceyhan pipeline (BTC) has brought a revolutionary development to the prospects of reinvigorating the transportation links linking Europe to Central Eurasia through the Wider Black Sea region. Indeed, it is no exaggeration to say that it has changed the mental map of the region for state as well as business entities. BTC will palpably increase the mutual interdependence between Europe and the South Caucasus by adding a million barrels of oil a day to the European mar-

ket. This may not seem much in view of the oil consumption of Europe, but it is a very significant addition of oil on the margins. To that, it is oil that is neither Russian nor OPEC in origin, thereby serving to diversify European energy sources. As such, BTC and Azerbaijani oil will have an impact on European energy supplies and perhaps on prices that is far beyond what is apparent from its quantities. Once Azerbaijani oil is flowing into the European energy system, any break or interruption of supply would have an instant impact on European consumers, in spite of the fungibility of oil markets. A sharp interruption of supply would be immediately felt. This in turn gives Europe an important stake in the security, stability and development of the South Caucasus as a whole. September 11 showed the need for hypothetical access to the region; this is a weaker link than the very real risk of breaks in supply of energy. Logically, then, Europe will gradually realize the need for investing politically and economically in the security of the regional states.

Implications for Europe and the South Caucasus

The EU and its member states can do at least five things for the South Caucasus, and by extension for itself. The first would be to revive TRACECA with a serious political commitment and serious financial resources. BTC proved what can be accomplished by combining governmental political support and private as well as development funding. Indeed, as EU states are increasing their development cooperation with the South Caucasus and Central Asia, it is crucial that substantial amounts of this funding be vested in the building of transport and communications infrastructure. Secondly, Europe can expedite the integration of the South Caucasian states in the broader Transatlantic partnership and in NATO, which the U.S. has been supporting and continental European states have been resisting. Third, Europe can actively facilitate the internationalization of conflict resolution processes in the South Caucasus, which are currently monopolized by Russia, which has shown little interest in actually working for the resolu-

tion of those conflicts. Fourth, in addition to reviving TRACECA, continuing strong support for the development of pipeline projects of both oil and natural gas is needed. Of particular importance is to reengage Turkmenistan in the development of the TransCaspian natural gas pipeline project, which can substantially balance the energy security of Central and Eastern European countries. Finally, Europe plays a key role in continuing support for the democratic political process and economic recovery, based on rule of law, private property and free entrepreneurship.

The case of BTC proves that politically motivated projects can become commercially viable. Technological and engineering advancements may lead to commercial viability for the greater traffic between Central Asia and Europe via the Black Sea and the Caucasus. It is in the interest of Georgia and Azerbaijan, as well as the U.S. and Europe, to promote infrastructure development in the Black Sea, which would connect Central Asian and South Caucasian transportation system directly to the Western shore of the Black Sea via ports in Georgia, using ferry connections, and potentially even pipelines to Ukraine. This East-West axis will be important to develop further the cooperative spirit that has dominated in Caspian energy affairs despite pressures from regional forces opposed to the project.

Notes

1 Gordon Feller, "Gas Pipelines Vital For European Security", *Pipeline and Gas Journal*, October 2004.

2 "How Sustainable is Russia's Future as an Energy Superpower?", Summary of presentation by Vladimir Milov at Carnegie Endowment for International Peace, 16 March 2006.[http://list.carnegieendowment.org/t/80287/192304/42757/0/]

3 "Natural Gas Supply for the EU in the Short to Medium Term", Clingendael International Energy Program, March 2004; "Turkmenistan: Putting Gazprom—and Russia—in a Bind", *Stratfor.com*, 15 April 2005.

4 "Gazprom expects to increase gas exports to Europe to 180 bums by 2010." *Gateway to Russia*, 17 December 2004. [http://www.gate-

way2russia.com/st/art_260393.php]

5 Vladimir Socor, "Seven Russian Challenges to the West's Energy Security", *Eurasia Daily Monitor*, 6 September 2006.

6 "Gazprom Warns EU to Let it Grow", *BBC News*, 20 April 2006.

7 Vladimir Socor, "Seven Russian Challenges to the West's Energy Security", *Eurasia Daily Monitor*, 6 September 2006.

8 This section builds and develops on the chapter "Geostrategic Implications of the Baku-Tbilisi-Ceyhan Pipeline", by Svante E. Cornell, Mamuka Tsereteli and Vladimir Socor, published in *The Baku-Tbilisi-Ceyhan Pipeline: Oil Window to the West*, Washington and Uppsala: CACI & SRSP, 2005.

Atle Staalesen

Regional Cooperation in the Pipeline? Big Power Interests in a Regional Perspective

When US ambassador to Russia, Mr. Aleksander Vershbow, visited Murmansk in the summer of 2004, he stressed that the strategic location and the rich natural resources of the region should serve as the basis for a new era of cooperation between Murmansk and the USA. One of the main reasons behind the official US visit to Murmansk was the projected oil pipeline from fields in Siberia to Murmansk. This pipeline project, which was initiated by oil major Yukos together with four other Russian oil companies was to have an export capacity of more than 100 million tons per year.

Later, at a conference in September the same year, the ambassador stated that the US was ready to import an annual 50 million tons of oil from Murmansk, and that the country would pay 1 USD extra per barrel if the oil was exported to the US and not to Europe.

The statements of Mr. Vershbow are interesting in several respects. Firstly, the ambassador showed exclusive and extraordinary interest in a federal subject in Northwest Russia, thus in a quite direct way seeking dialogue with a representative of the regional level of power in Russia. Secondly, the statements confirmed the potentially very important role of Murmansk and the Barents Sea in US, and international petroleum affairs. Visiting

one of the most militarized areas in Europe, and the home base of the Russian Northern Fleet, the US ambassador exclusively spoke about oil.

And thirdly, Mr. Vershbow with his statements explicitly showed the level of competition, not only between companies, but also between states, in the race for the oil and gas resources of the North.

Many things have changed since 2004. A new US ambassador has replaced Mr. Vershbow. The oil pipeline project to Murmansk has been declared dead and the initiator of the project, Mr. Mikhail Khodorkovskii and his Yukos Company, are both, literally speaking, out of business. In addition, the ever-stronger Kremlin left regional leaders with few chances to engage in foreign policies and rule over natural resources and has curbed the regional level of power in Russia.

Still, the core of the issue remains the same. About 25 percent of remaining global hydrocarbon reserves is believed to be in the Arctic, and fields in the Barents Sea are first in the line with regard to northern offshore field development. With oil and gas still being the main fuel source in the foreseeable future, the Barents Sea will sooner or later become a vital international supply area for oil and gas.

Looking alone at the Shtokman field with its at least 3.6 trillion m3 of gas reserves, this field would be able to supply Germany with the gas needed for the next 25 years. Consequently, it comes as no surprise that the large EU countries on the one hand, and the USA on the other hand, have competing interests in the region.

Cooperation or Conflict?

The resources in the Barents Sea could well serve as the basis for stronger international cooperation in the High North. They might also, however, lead to a higher level of tensions between the states with interests in the region.

Having this picture in mind, Norway has tried to take the role as mediator between big power interests in the region. Being a small non-EU state, Norway does what it can to keep channels open with involved countries thus limiting the chances of being excluded from important decision-making processes. The Norwegian energy dialogue initiatives, which have been opened with a number of selected countries, must be seen in this light.

Indeed, Norway seeks stability in the High North. Foreign Minister Jonas Gahr Støre has repeatedly stressed that he wants the Barents Sea to be a "sea of cooperation", and a "bridge between East and West". How then to bridge the East and West in the Barents Region?

The Barents Cooperation

In the Barents Cooperation initiative, officially established in 1993, four countries — Russia, Finland, Sweden and Norway — broke new ground in cross-border relations. With its regional and multilateral approach, this cooperation initiative marked the start of a new period of contacts and interaction between the regions and states involved.

In a quite unique way, the Barents Cooperation is anchored in the regional level of power. Thirteen regional entities, of which five are Russian, are included, and regional politicians and officials meet regularly. Few, if any, European cooperation initiatives include Russian regions in such a way.

The Norwegian Barents Secretariat, which works with facilitating Norwegian-Russian cooperation within the Barents structures, is confident that regional level cooperation is a key for constructive cross-border contacts and development. Through people-to-people initiatives within business, culture, social affairs and health, youth issues and environment, a sustainable and long-term foundation for cooperation between Russia and its western neighbours could be established.

The Barents initiative was taken in order to facilitate peace and stability in an area marked by Cold War military tensions. Today,

the Barents Cooperation, with its developed structures and networks across the borders can be used to promote stability, as the Barents Sea again becomes a hotspot in international affairs.

The Norwegian Foreign Ministry has proposed to the other countries in the Barents Region that the regional structures are strengthened with the establishment of a new International Secretariat. Such an international secretariat will also facilitate closer day-to-day contacts with the EU institutions.

The EU Barents Dimension

From the beginning, the Barents Cooperation initiative was seen as part of the European integration process. This perspective should not be forgotten.

The Norwegian government stresses that its High North policies are a vital part of the country's foreign and EU policies. In a recent speech at the Institute of European Affairs in Dublin, Foreign Minister Støre underlined the future importance of the High North and the Barents Region for all of Europe. In this speech he also underlined the need to prevent isolation of Russia in European affairs.

With its energy potential and with its experiences from East-West regional cooperation, the Barents Region could well be made a component of EU strategies towards Russia. In the ongoing negotiations on a successor agreement to the EU-Russia Partnership and Cooperation Agreement, and the new Northern Dimension Framework Agreement, the Barents experiences will have useful contributions.

It will benefit the Barents Cooperation to have a stronger EU dimension. We are confident that it will also benefit the EU Northern Dimension to include a strong Barents perspective.

Bjørn Gunnarsson & Nigel Chattey

Energy as a Catalyst for Trans-Border Cooperation — A New Positive Debate on Environment and Regional Maritime Regimes

Large-scale hydrocarbon development in the harsh environment of the Arctic Ocean will necessarily be a catalyst for a number of other activities taking place in the Arctic region. This could lead to increased cooperation between major Arctic stakeholders, and as stated by the Norwegian Minister of Foreign Affairs Mr. Jonas Gahr Støre in a speech at the Moscow State University in February 17, 2006: "It is my vision that the Barents Sea will develop into a sea of cooperation"[1]

Previous authors have drawn attention to the fact that Europe's growing energy import dependency is reaching a critical dimension — thus the potential for conflict and the need for conflict prevention in this arena can also be expected to reach critical levels — the question is not if, but when?

EU's Growing Energy Import Dependency and the Critical Role of "Choke Points" in the EU's Energy Future

Europe's import energy dependency was 70 % in 2005 and is expected to rise to 80 % by 2030, based on International Energy

Agency (IEA) forecasts.[2] In addition, as it relates to security of supply, one third of this dependency lies in the politically volatile Middle East and North Africa.

The EU's continuing, and growing, dependency on oil (largely for transportation use) remains one of its greatest long-term problems. World oil supply is tightening as total world demand continues to rise more rapidly than new sources are being discovered and developed. In addition, competition for the increasingly scarce commodity, confirmed by current high oil prices, also continues to rise, in large measure as a result of rapidly growing Asian demand.

Compounding these problems is the fact that nations are using oil as the "political weapon" of choice. In part because at over $50/bbl the revenue stream to these nations is so great that they have the choice, among other options, of using funds to finance non-governmental surrogates to achieve their political objectives.

One direct result is that in the Middle East, the region with the world's greatest remaining oil reserves, the geopolitical situation continues to deteriorate and threatens its role as being the traditional market stabilizer. Another direct result is that the transportation route from this oil region to the EU passes through "choke points" of increasing volatility and political risk. The four choke points with closure potential between the EU and Middle East are the following: the Strait of Homuz; the Strait of Yemen; the SUMED pipeline; and the Suez Canal.

These choke points lie adjacent to or in nations with proven and rising radical Islamic militant activity. The worst case scenario for the EU results from the relative ease and relatively low cost of such groups interdicting any or all of these choke points. Gamal Nasser's sinking of forty ships in the Suez Canal during the 1956 Middle East conflict, and the continuing present day sabotage of oil pipelines in Iraq, are just two indications of how easily such interdictions can be achieved.

Other developments east of the Suez Canal are also increasing the EU's energy import risk. The IEA forecasts that energy con-

sumption will increase by 188% in China and 166% in India by 2030.[3]

Potential for Conflict in the Development of Russian Energy Reserves

It is not surprising, therefore, that the Barents and Kara Seas are drawing so much attention. According to the Russian Ministry of Energy this hydrocarbon region contains reserves totalling 88 billion tons of oil equivalents, with amounts rising sharply eastwards:[4]

Disputed Barents:[5]	6.4 billion toe
Russian Barents/Pechora:	27.6 billion toe
Kara Sea:	54.0 billion toe

Even assuming these figures may be inflated for political reasons, which is one of the worldwide problems affecting reserve estimates; there is no question of the strategic implications of energy reserves of even half this size.

Currently there are two disputes with potential for conflict in relation to the development of hydrocarbon resources in the shallow Arctic Seas. Both are politically motivated but very different in focus and execution. One is the Norwegian/Russian Barents Sea delimitation, and the other—Russia's instituted renegotiation of previous hydrocarbon development contracts with international corporations.

Norwegian/Russian Barents Sea Delimitation —UNCLCS Recommendations

In 2002 the United Nations Commission on the Limits of the Continental Shelf (UNCLCS) issued its recommendations on the Russian Federation's submission to extend its Economic Zone in four areas in the Arctic beyond the two hundred nautical miles: the Barents Sea; the Bering Sea; the Sea of Okhotsk; and the Central Arctic Ocean. The UNCLCS recommendations were

included in the Secretary General's Report to the UN General Assembly, titled Oceans and Law of the Sea:[6]

> In the case of the Barents and Bering Seas, the Commission recommended to the Russian Federation, upon entry into force of the maritime boundary delimitation agreements with Norway in the Barents Sea, and with the United States in the Bering Sea, to transmit to the Commission the charts and coordinates of the delimitation lines as they would represent the outer limits of the continental shelf of the Russian Federation extending beyond 200 nautical miles in the Barents Sea and the Bering Sea, respectively.

This recommendation has given the Russian Federation a choice. If it is to proceed, under the UN Convention of the Law of the Sea (UNCLOS) to which it is signatory, and continue its UNCLCS submission to extend its economic zone beyond two hundred nautical miles into Arctic waters, it must first reach agreement on its boundary disputes with Norway in the Barents Sea and the United States in the Bering Sea.

It is more than likely, given what is at stake geographically between the two choices –(Arctic Zone expansion as a whole versus the limited gain from the two disputes), that the Russian Federation will settle the long-standing delimitation boundary issue with Norway in the Barents Sea. Thus, resolution on one of the two areas of potential conflict mentioned above may in fact already be well in motion. However the other area of potential conflict, being of a very different kind, may prove more difficult to resolve.

The Emergence of a "New ARAMCO"

In any discussion of Arctic hydrocarbon reserves, it is critical to understand that, as of this date, 84% of this energy reserve base is estimated to be natural gas — which brings into play the government monopoly and state ownership of Russian natural gas and gas transmission — now increasingly under the control of Gazprom.

In 2006, Gazprom surpassed Shell and BP to become the second largest energy company in the world, after Exxon Mobil. "Western", European, and Far Eastern interests, however, are finding it increasingly difficult to reach long-term business deals with Gazprom. Thus another type of potential for conflict is looming, which is not primarily geopolitical as in the disputed Barents Sea delimitation, but rather between two vastly different natural resource development philosophies — government monopoly and state control versus free or global market capitalism.

For example, Shell, along with its Japanese partners Mitsui and Mitsubishi, has invested heavily in developing the Sakhalin II LNG Project in the Russian Far East. Equal to 7% of world LNG production, this will be the largest and most expensive LNG project in the world. Finally Gazprom managed to press Shell and its other stakeholders and was able to renegotiate its original agreement, in effect to give Gazprom a 50% plus one share in Sakhalin II.

In another instance, BP had been developing (with its Russian partner TNK) a major gas find near the Chinese border. Gazprom subsequently caused TNK-BP to give up their natural gas export rights from this project — which was the main reason for BP having invested in this development in the first place.

With regards to Sakhalin II, Gazprom was using the environmental agency Rosprirodnadzor to institute the first stages of withdrawing Shell's environmental permit. The reasons being given were pollution of a salmon river by a pipeline crossing, and excessive logging along a pipeline route.[7] One could only wish that the same agency would show similar due diligence concerning the catastrophic environmental impacts resulting from, for example, spills from oil and gas development in Russia's Arctic North; heavy metal pollution in the Murmansk Oblast; and nuclear waste dumping in the Russian Barents.

Exxon Mobil is now facing similar pressure from Rosprirodnadzor, acting apparently on behalf of Gazprom, to renegotiate its original agreements to develop Sakhalin I. The three projects

mentioned above each represent a total investment of between $14–20 billion.[8] Investing in Russian energy is becoming a very expensive chess game indeed.

A commercial conflict, similar to Sakhalin II, may now face the proposed development of the Shtokman gas field in the Russian Barents. The Shtokman field, so far the largest offshore gas field identified on the Barents shelf, is located 550 km northeast of Murmansk at a water depth of 280–380 meters. The original plan was to land Shtokman gas at a spot east of Murmansk, from which it could either be exported through a new gas pipeline to Europe, or as liquefied natural gas (LNG) by ship to the US and elsewhere. Gazprom's partners to develop the field were initially selected to be two Norwegian companies Statoil and Norsk Hydro, in addition to Total, Chevron, and ConocoPhillips. Gazprom has now withdrawn this joint development, before it even formally started.[9]

These political and institutional issues regarding business partnerships in Russia were addressed in recommendations of a working group of energy experts and private sector focusing on energy security, established by the EastWest Institute in September 2005.[10] The working group's recommendations included: (a) "An open and transparent energy sector in the Russian Federation will reduce political risks for investors and will bring higher rents to Russia and her citizens; (b) The Russian government should establish clear legal requirements for international investors in its energy market. Transparency and clear, stable rules are critical for strategic investments that will position the Russian Federation as a key G8 energy supplier; (c) Cross-ownership (swapping downstream and upstream assets between major Russian and foreign oil and gas companies) should be further explored as a way to further deepen the integration of energy networks between Russia and its G8 partners, as well as with India and China; and (d) The application of the production-sharing agreement should be reviewed in light of new realities in the Russian Federation".

It is becoming clearer every day that passes that Russia's politi-

cal goals are now being serviced by its energy reserves. No other proof is needed in this regard than the story of two important chairmen — that of Gazprom is the Deputy Prime Minister of the Russian Federation, and that of the new German/Russian Trans-European Gas Pipeline is the former Chancellor of Germany. The Russian Federation is not necessarily in favour of a "European" solution to Europe's energy future. It is already demonstrating a preference to deal bilaterally with individual countries as it is now doing with Germany, France and Italy.

Russia's Need for Arctic and Deep-water Technologies

Up till now, Russia has been using mid-20th century technologies to develop its northern gas and oil fields — including the use of shuttle tankers in the ice-infested waters with predictable and dire environmental consequences.

If offshore Arctic reserves are to be developed, Russia needs both the modern offshore and Arctic technology of such leading Norwegian companies as Statoil and Hydro, the technology, financial strength, and markets of international hydrocarbon majors, including Exxon Mobil, Total, ConocoPhillips, Chevron/Texaco, Mitsui, Mitsubishi, Shell and BP.

How will this potential for commercial conflict play out? Within this, and the broader context of EU energy dependency, five points need attention.

1. Advanced Offshore Exploitation Technologies

For one, as already stated, offshore hydrocarbon development in deep waters is very costly and technologically challenging, and will require the use of state-of-the-art hydrocarbon exploration and transport technologies. This fact alone will lead to necessary partnerships in the Arctic Ocean between the major international oil companies in offshore hydrocarbon development.

But hydrocarbons are likely found at still deeper waters in the Arctic Ocean. Recent exploration of the Lomonosov Ridge in the deep Arctic Ocean indicates that there may be significant hy-

drocarbon reserve potential on either side of it, in the Amundsen and Makarov Basins.[11] These basins lie outside the 200-mile economic zones (or their possible extensions) of any of the eight Arctic nation stakeholders.

Confirmation, survey, development, production and transportation of hydrocarbons from these deep basins, and under such hostile environmental conditions, would require high levels of international political cooperation. Technological trends may though be increasingly in favour of such development. One aspect of sustained high oil prices is that at current levels it pays to develop offshore oil reserves even at depths of 10,000 meters below sea level, and in waters over 2,500 m deep. It has taken a decade for this technological breakthrough to occur and investment of more than $5 billion.

The announcement by Chevron and Devon Energy on September 5th, 2006, that the 10,000 meter Jack 2 Well in the deep Gulf of Mexico came in at a sustained 6,000 bbl a day confirms that a new era of ultra-deep hydrocarbon production from such deep reservoirs and under such high pressures is indeed starting. By comparison the basins on either side of the Lomonosov Ridge are in waters 3,500–4,500 m deep. New production and loading technology, such as submerged Turret Loading Systems, offer the potential for use under pack-ice conditions. Satellite navigation and naval architecture technologies have been developed that allow a drill vessel to maintain stationary, even under drifting ice pack conditions.

In addition, naval architecture advances have resulted in the design and construction of double hulled, double acting tankers — tankers powered by twin articulated Azipod propellers which allow the vessel to turn into an ice ridge and use the propellers to cut through it. The technologies may, therefore, already be available to develop hydrocarbon reserves in the higher Arctic. Importantly from a geopolitical standpoint, much of the area lies outside the 200-mile economic zone of any Arctic nation and thus falls under the UNCLOS.

2. Protection of the Arctic Marine Environment

Second point: Increased offshore hydrocarbon production in vulnerable Arctic waters will lead to increased emphasis on pollution prevention in the Arctic Ocean. The Barents Sea is relatively rich in biodiversity, and particularly important are fish stocks, which are jointly harvested by Norway and Russia.

There is always a risk of accidents, spills and pollution in offshore oil and gas operations, but those risks can be mitigated by compliance with the most stringent environmental standards. The environmental and safety issues must therefore be addressed properly from the start.

It is a well-known fact that if the first exploration projects in the Barents Sea fail to live up to environmental standards, any further development will be difficult, both commercially and politically. Therefore, much is at stake to do it right from the outset.

Scientists have known and warned of the catastrophic impacts that can occur from the release of hydrocarbons in a high latitude environment. Although the monetary cost of full environmental compliance will be high, as the cases of Exxon Valdez, Torrey Canyon and Amoco Cadiz have shown, the cost of non-compliance can be considerably higher.

Even in waters without ice cover, oil spills can last for a far longer time than in warmer waters that allow break-up and evaporation to take place. It is also exceedingly difficult to clean up oil in ice-covered waters. For example, along either side of a convoy lane through first year Arctic ice, any spill will migrate by current under the multi-year ice pack. Once, there it can persist for years, and even decades. Oil can also be transported with drifting ice over long distances. The overall strategy for Arctic oil spills must therefore be preventative. New regulations for ships, offshore structures, port facilities and other coastal activities, and land-based structures must be designed to reduce the risk of spills through enhanced construction standards and operating procedures. Effective response strategies need to be developed to deal with spills in ice-covered Arctic waters.

3. New Marine Transportation Routes and Needed Infrastructure

Third point: There is now reason to believe that the outer NSR (the shortest route from the Barents Sea to the Bering Strait) may open to commercial navigation much sooner than originally thought. Global warming is causing a faster rate of change in environmental conditions over the Arctic region than anywhere else on Earth (with the possible exception of Antarctica).[12]

As a result, the multi-year ice is shrinking at an accelerated pace. An example of what may be coming was seen in the ice map for March 2006. Along the entire NSR route, well outside and to the north of the 12 mile territorial waters of Arctic nations, the multi-year pack ice is seen to have retreated to the point where only first year ice remained.[13] As stated earlier, state-of-the-art of naval architecture makes it already possible to construct ice-strengthened, double hull, double acting vessels capable of maintaining service speed in first year ice, all the more so were they to sail in convoy. Within ten years, even if the same rate of environmental change continues (though this rate is expected to accelerate), commercial, deep water, trans-Arctic navigation might become possible along the NSR.

Because the outer NSR represents the shortest distance between manufacture in the Far East and markets in the W-Europe the first commercial use of this emerging new trans-Arctic navigation route may well be by specially designed large container vessels. But it is this impending development, which will also enable specially designed oil and LNG tankers to sail the same route.

For this to be possible on a sustained basis a large-scale global investment is needed in transportation infrastructure to provide safety, route reliability, and environmental protection along the NSR.

This includes, for example: a) Real-time delivery of high resolution satellite data, aviation services and ice reconnaissance, and real-time data from ground-based monitoring and forecasting platforms;

b) Route optimization and icebreakers assistance; c) Sophis-

ticated communication systems organized under one umbrella for the entire length of the NSR (i.e., to report on weather and sea-ice conditions); d) Emergency preparedness, search & rescue, and emergency assistance; and e) Pollution prevention and state-of-the-art spill clean-up technologies. In addition to aids to navigation and pollution prevention, a fleet of large powerful ice-class cargo ships and tankers needs to be built, as well as transshipment hubs on both the west and east gateways to the Arctic Ocean, to transfer cargo between ice-strengthened and non-ice-strengthened feeder ships. Among the many political, legal and administrative issues that also need to be addressed are: a) Issues of sovereignty in an ice-reduced Arctic Ocean, and resolution of any disputes over waterways and Arctic resources; b) Security issues, as increased shipping will require an increase in monitoring and enforcement of domestic and international laws governing smuggling, environmental standards, and ship safety; and c) A number of other social, cultural, and environmental concerns which are likely to arise as marine access increases.

4. Network of Arctic Monitoring and Research Stations

The fourth point: The rapid climatic and environmental changes occurring in the Arctic, and resulting increase in offshore oil and gas development as well as shipping, all call for better observations and monitoring of the circumpolar Arctic environment.

The Arctic System is rather poorly understood today, as are the various interconnections between the Arctic and the whole Earth System. These limitations make assessing future changes in the Arctic more difficult, and filled with more uncertainty than for most other parts of the Earth System. Particularly problematic is the lack of continuous observations and long-time series data on various Arctic geo-climatic processes. Another problem is the lack of coordination between various Arctic projects, which often leads to limited communication and sharing of observation and research results. Furthermore, standardization of measurements and monitoring techniques need to be addressed. Differ-

ent methods of observation and instrumentation, makes integration and cross-correlation of measurements between Arctic regions difficult.

As a response to these limitations we propose that a network of sophisticated monitoring and research stations will be established by the eight Arctic nations throughout the circumpolar Arctic, in the terrestrial, marine and cryospheric environments. These stations should provide standardized high quality and continuous real-time measurements of changing environmental conditions, with data transferred via satellites to research and data centres. The monitoring stations should be located in those areas, which are most representative of environmental conditions in the Arctic as well as in areas showing noticeable variations from the norm. As many stations as possible should be jointly operated, and staffed by scientists from the eight Arctic nations (e.g. Roshydromet-NOAA joint observatory in Tiksi, Russia).

The network of circumpolar Arctic monitoring/forecast stations should include the following: a) Major research and monitoring stations in fixed strategic locations in the circumpolar Arctic; b) Smaller stations in fixed locations between the major stations) A network of fixed hydro-meteorological and oceanographic stations; d) Mobile monitoring platforms in the terrestrial, cryospheric, and marine environments (i.e., research vessels, icebreakers, ice-flows, buoys, submersibles) in areas of particular interest to provide more detailed short-term observations; and d) Satellite and other remote sensing platforms (e.g., MODIS, AVHRR, SAR; observation from aircraft). This circumpolar network should establish improved methods of communication and sharing of collected data, both to the scientific community as well as to other stakeholders, and translate this knowledge into impact assessments, policies and adaptation strategies. Research universities in Arctic nations should play a key role in monitoring and research efforts, and in the training of the next generation of young scientists requested to study, model, manage and ensure the effective stewardship of our changing Arctic.

5. The Significance of UNCLOS in the Arctic

The fifth and last point: The Arctic Ocean is already defined by the United Nations Convention of the Law of the Sea (UNCLOS) as being one of the "High Seas" and, subsequently, any production of hydrocarbon from its deep sea-beds outside the 200 mile territorial waters of Arctic countries, or marked by the outer limit of their continental shelf beyond 200 miles if that applies, would fall under the UNCLOS umbrella. Since 1982, when the original Convention came into force, it has been ratified by 146 countries, including seven of the eight Arctic nations.[14] The Arctic, Atlantic and Pacific Oceans meet the definition of the "High Seas" under UNCLOS. Egress and access between the high seas of the Arctic Ocean and those of the Atlantic and Pacific can only be accomplished by transit through one of five choke points or straits.

In the West three choke points link the Arctic and Atlantic Oceans: (a) The Fram Strait (between Greenland and Svalbard); (b) The strait between White Island (Kvitoya) and Victoria Island (Ostrov Viktoriya) — islands between Svalbard and Franz Joseph Land (Zemlya Frantsa Josifa); and (c) The strait between Greem'Bell and Ostrov Ushakova — islands between Franz Joseph Land and Severnaya Zemlya. In the East one choke point links the Arctic and the Atlantic Oceans: The strait between Lowther and Griffith Islands in Barrow Strait — between Vincent Melville and Lancaster Sounds in the Canadian Arctic "Northwest Passage". Only one strait links the Arctic Ocean to the Pacific Ocean: The Bering Strait between the Russian Federation and Alaska.

An optimal window of opportunity may now exist for Arctic nations to reach agreement on a new protocol under UNCLOS, addressing in particular Arctic high-seas-and-straits transit and navigation. There is still sufficient time remaining for such an agreement to be negotiated, before actual commercial development of the NSR. The provisions for such a regional agreement already exist within UNCLOS, including the rules and regulations in *Part III, Section 1: Straits Used for International Navigation*, *Section 2: Transit Passage*, and *Part VII* dealing with *High Seas*.

While a political and institutional approach seems timely and necessary for reaching an international agreement on navigation and open transit throughout the Arctic Ocean and adjacent straits, the environmental implications and constraints that have to underlay such agreements must be clearly understood. UNCLOS *Part XII: Protection and Preservation of the Marine Environment* provides the framework for such a regional cooperation by Arctic nation stakeholders.

In any such effort the considerable bodies of work already undertaken by organizations such as the International Maritime Organization (IMO), the Barents Cooperation and the Arctic Council and its working groups are of considerable importance. Integration of the work already done by these bodies and other organizations could greatly shorten the time it would otherwise take to reach such an agreement. In any discussion of this kind, it is worthwhile to remember key points raised by Javier Solana in the 2005 Edition of the Anna Lindh Publication: *Development, Security and Conflict Prevention*. In his introduction Mr. Solana outlines the key necessities: (a) "Prevention must be concrete; (b) The EU believes firmly that effective multilateralism is essential to conflict prevention. The United Nations is at the center of multilateral world, and must remain so. The UN, nevertheless, is not the only actor; and (c) regional organizations have a role to play. However, if they are to be credible, these regional organizations must not only have the ability but also the will to address serious challenges, including early intervention to prevent conflict." With these criteria in mind a three-step action plan is suggested to facilitate conflict prevention, not only in the Barents Region but also within the broader scope of trans-Arctic navigation, all within the existing framework of the UN Convention of the Law of the Sea:

Step 1: The Arctic Ocean stakeholders and the EU signatories to UNCLOS should convene and reach agreement on a binding overall environmental plan and a strategy for implementation, covering all necessary environmental preconditions.

Step 2: Once agreement is reached on this environmental compact, to convene and reach agreement on all aspects relating to free transit of the Arctic High Seas and adjacent straits for peaceful commerce and research.

Step 3: With this second agreement in place, to implement actions leading to the formation of an international consortium of sufficient technical, environmental, and financial capability as to competently establish the feasibility of hydrocarbon production and transportation from higher Arctic regions, specifically from outside the Economic Zone of any stakeholder.

Should such feasibility be determined and approved under the UNCLOS provisions as being suitable for regional development, it might well prove to be an important factor in bringing about conflict prevention, and a more predictable environment for hydrocarbon development and shipping, not only in the Arctic Basin as a whole but also in the Barents Sea.

Notes

1 Mr Jonas Gahr Støre, *"Norway—A Cooperation Partner in the High North"* a speech by Norwegian Minister of Foreign Affairs at Moscow State University, Moscow, 17 February 2006; available at http://www.dep.no/ud/english/news/speeches/minister_a/032171-090516/dokbn.html

2 World Energy Outlook 2004, International Energy Agency, Paris, Table 8.3: *Primary Energy demand in European Union, 1971–2030*, p. 251; BP Statistical Review of World Energy, London, June 2006.

3 Ibid: Chapter 8, Regional Outlooks, pp. 263–267.

4 Alexei Bambulyak, Bjørn Frantzen, *Oil Transportation from the Russian Part of the Barents Region*, Svanhovd Environmental Center, January 2005, available at www.svanhovd.no/index_innhold/oil_report_eng_net.pdf, see: 3.1 Reserves of Hydrocarbons, 3.14 The Barents and Pechora Seas (including Disputed Barents), and 3.15 The Kara Sea.

5 Ibid: Disputed Barents.

6 United Nations General Assembly—*Report of the Secretary General on Oceans and the Law of the Sea (A/57/57/Add. 1)*, October 2002, Section

III, Maritime Space — Para. 38 — *Recommendations of the United Nations Commission on the Limits of the Continental Shelf (UNCLCS) in regards to the submissions made by the Russian Federation.*

7 The Asahi Shimbun (English Edition), Tokyo, September 14, 2006: "*Moscow suspends Sakhalin II*"; September 21, 2006: "*Sakhalin Project in Doubt*"; October 7, 2006: "*Pipeline to Limbo* ".

8 New York Times, Business Day, New York, October 6, 2006: "A mix of oil and environmentalism — Russia's Government plays the regulation card in its energy deals"; Sakhalin I — "Just now Exxon Mobil is clashing with the Kremlin over whether it can send its first tanker exports of crude oil from the $17 billion Sakhalin I Project"; Sakhalin II — " An even bigger target lately is Shell and its $20 billion project Sakhalin II, which represents the largest foreign investment in Russia and is the world's largest combined oil and natural gas development". MSNBC, London, September 20, 2006: "TNK-BP Gas field development faces suspension — The $14 billion joint venture between TNK and BP to develop the massive gas field in Eastern Siberia (Kovytka) was created in 2003 before the Kremlin began to take control of the country's energy sector".

9 Reuters, Moscow, October 11, 2006: *"Russia's gas monopoly Gazprom delivered a blow to international energy firms, saying it would develop the $20 billion Shtokman field alone"*; Gazprom Chief Executive Alexey Miller: *"Gazprom gas decided the project will go ahead without international participation and Gazprom will own 100 % of it".*

10 Dr. Vasil Hudak, *Energy Experts' & Private Sector Recommendations in Support of the G8's Focus on Energy Security in 2006*. Working Group on Energy Security and Cooperation — Building a Public-Private Energy Partnership within G8 Plus, EastWest Institute, November 2005; available at EWI webpage http://www.ewi.info

11 *Ibid: 3.1 Reserves of Hydrocarbons; 3.13 The Arctic Shelf;* "At least 4.3 million km2 of this area are the Arctic Shelf (of the Eurasian Continent) and 0.4–0.5 million km2 of the deep water areas are expected to have good prospects in oil and gas discovery". The New York Times, New York, October 10, 2005: *"As polar ice turns to water dreams of treasure abound"; "All told one quarter of the world's undiscovered oil and gas resources lie in the Arctic, according to the United States Geological Survey".*

12 *ACIA, 2005, Arctic Climate Impact Assessment*, Cambridge University Press, 1042 p.

13 The Russian Federation State Scientific Ice Centre, Arctic and Antarctic Research Institute (AARI), St. Petersburg, Russia, March 2–6,

2006—Stages of Development (Thickness): *"Ice Analysis from Satellite Imagery*, programmed by Stivedov, E.G., boundary analysed from visual/infrared/radar observations.

14 The United Nations Convention on the Law of the Sea (UNCLOS), since its promulgation in 1982, has been ratified by 149 countries including: Iceland (June 1985), Finland, Norway, and Sweden (June 1996), Russian Federation (March 1997), European Union (April 1998), Canada (November 2003), Denmark (November 2004). The United States is the lone Arctic Nation (via Alaska) that still has not ratified UNCLOS.

Jakub M. Godzimirski

Pipelines and Identities. Current European Debate on Energy Security, Shtokman and NEGP Case

No geographical space better than the Barents region represents a striking illustration of the complex relationship between energy and conflict. Firstly, this region has become a model for cooperation between countries that only fifteen years ago belonged to the two opposite military-political blocs — or remained formally neutral — and after the end of the Cold War, under new political circumstances, decided to tear down the regional dividing lines and open a new chapter in their relations. Secondly, the area is believed to contain huge energy resources and may become a new energy province providing both Europe and the rest of the world with energy.

In other words, developments in the Barents region have proven that reconciliation over the old dividing lines is possible if there is a political will to do so, but, at the same time, the discovery of huge energy deposits in the region may lead to a raising of the stakes and turn it into an area where new conflicts of interests can emerge, this time not of ideological but rather of economic character. What makes the situation in the region even more complicated is that the Russian part of the region has traditionally played a crucial role in Russian military strategy and planning,

and is still described as a strategic bastion.[1]

When we, in addition, know that the current Russian leadership directly links the country's grand strategy with its energy resources, we have all the ingredients that may make a study of the relationship between energy and conflict in this particular area a rather daunting task.

In order to address this problem I will focus on two energy projects that are directly linked to the Barents region and look at how these two projects are viewed by various actors who are involved in their realisation or may be affected by it. Then I will identify the main issues relevant for the European debate on energy security, and conclude the study by looking at how the identity of the actors involved may impact on their choices of various energy strategies and how these policy choices may either increase or decrease conflict potential in Europe.

Energy Projects and their Readings

The two energy projects that will be in the focus of this study are the planned development of the Shtokman gas field and the Northern European Gas Pipeline (NEGP).

The *Shtokman gas and condensate field,* located 550 km northeast of Murmansk, was discovered in 1988. It has proven natural gas reserves of 3,200 bcm of the gas,[2] which is about twice as much as the Troll field in the North Sea, Europe's biggest producing offshore gas field. According to various plans the development of the field is to begin in 2007, 2010, and 2015 or even in 2020. The field is to produce between 60–90 bcm of gas per year and the required investments could amount to some $30 billion, including the planned LNG plant. The most important market for gas produced at Shtokman is West Europe — via a planned pipeline — and the US where the gas is to be shipped on board of a fleet of LNG ships.

In order to provide Western Europe with gas from Shtokman, there was a plan in the beginning of the 1990s to build a gas pipeline going from the area of Murmansk through the Kola Penin-

sula and Karelia to the Gulf of Bothnia and then under the Baltic Sea to Germany and other Western European gas customers. The pipeline was to be built by a Finnish-German-Russian consortium, but at the end of the 1990s it seems that these plans were postponed or even dropped. However, on 8 September 2005, German and Russian companies BASF, E.ON and Gazprom signed a deal for the construction of the gas pipeline to be used to deliver Russian gas to Germany.[3] Since Russian President Vladimir Putin and German Chancellor Gerhard Schröder were present at the ceremony, the deal was immediately read both by its supporters and opponents, not only as an economic agreement, but also as a political one.

NEGP is to be a 1200 km long gas pipeline that is to be built by 2010 under the Baltic Sea from Portova Bay (Russia) to Greifswald (Germany), in order to supply the Western customers with 55 bcm of Russian gas per year. The Russian gas giant Gazprom owns 51% of the shares in the project, while the two German participants — BASF and E.ON — control 24.5 % each. The owners of the project present it as "a new chapter in the history of cooperation with European gas consumers" and its main goal is to deliver "Russian natural gas to Western Europe avoiding transit states along its route". The main economic rationale for the project is the expected rising demand for gas in Europe, which is going to need 100 bcm of gas more than it consumes today by 2010. According to an official reading of the project, the opening of the new route is to result in a diversification of export routes, "make supplies more flexible and directly connect gas transport networks of Russia and other countries in the Baltic Sea area to the European gas grid. In addition the NEGP will bypass transit states reducing sovereign risks and costs of Russian gas delivery and enhancing reliability of export supplies." Another important goal of this project is to "expand gas supplies to Scandinavian countries as well as provide reliable gas supplies to consumers in Western Europe, North-Western region of Russia and Kaliningrad Region". [4]

These two energy projects are possibly the most important new developments in what could be termed a new chapter in the European energy game. They are to help Russia export its energy resources to Western markets, and help the West solve its own energy security dilemma.

However, these two projects have been read in different ways by different European actors. Some of them have expressed huge interest in joining these projects, while others believe that the realization of some of these projects could be harmful to their national, economic, and even security, interests. In order to understand why the various European actors read these two projects so differently, it is important to start with a brief presentation of these readings, followed by an attempt to explain the reasoning behind the different readings of these two projects that, apparently, are to help Europe address its energy security dilemma.[5]

When we look at the current state of the European debate on energy security and the readings of these two projects — including Russia's role — in the European energy security game, we notice that Norway presents one of the most enthusiastic approaches towards energy cooperation with Russia, while Poland represents the opposite end of the scale and can be properly described as the country that has shown the most reluctance in the deepening of its energy cooperation with the same actor. What has made these two European actors, and Russia's neighbours, adopt such different strategies for energy cooperation with Russia? What has made them present future energy cooperation with Russia in such different discursive manners, either as an opportunity or as a threat?

Norway and Shtokman: an Opportunity?

Concerning the Norwegian reading of future energy cooperation with Russia, Norway adopted a strategy of presenting this cooperation as an opportunity for Russia and Norway to develop their relations in the North, and as a chance for the Norwegian companies Statoil and Hydro to join the Russian gas giant Gazprom

in the development of a difficult and challenging gas project at the Shtokman field. The two Norwegian companies decided to participate in a bid for Shtokman, and after the first round they were among the five Western companies — the others being the French Total, and the US-based ConocoPhilips and Chevron-Texaco — on the Gazprom's so-called short list of potential cooperation partners. Also, Norwegian policy makers adopted a similar approach to the deepening of energy cooperation with Russia, a cooperation that was presented by both the Norwegian and Russian policy makers as a strategic partnership.

There were, however, two slightly different rationales for this cooperation. President Vladimir Putin was aware of the fact that the main reason why foreign companies were interested in cooperation with Russia was the country's mineral wealth and its mineral raw material resources, which were at the same time seen as having "important potential for the country's economic development".[6] It was, however, widely believed that in Putin's Russia the Western companies would be given access to Russia's mineral wealth first and foremost in a situation when the development of the new assets would require competence that is "currently beyond Russian firms' capabilities".[7] This was also the main Russian rationale for having accepted the Western — and the Norwegian — bid for Shtokman. In his comments on the development of the Shtokman field President Putin presented a rather pragmatic view on why Russia was interested in developing closer cooperation with Norway: "You have indeed heard that we have talks with many countries on the development of various fields. But the Norwegian companies are on the top of our list. We are very pleased to have them working with us. They work without any arrogance and in a very professional manner. They have already developed infrastructure in the High North while their own production sinks. That means that it would be natural to combine our efforts without spending extra money on unnecessary infrastructure."[8]

As far as the Norwegian rationale for closer energy coopera-

tion with Russia, especially in the Barents region, the reasons for that were presented by the Norwegian Foreign Minister, Jonas Gahr Støre in his Washington speech[9] in which he outlined the main lines of Norwegian foreign policy. In Støre's words, developing Norway's relations with Russia is a cornerstone of Norwegian High North Policy and the Norwegian management of this bilateral relationship has been a real contribution to peace and stability in Northern Europe. He also added that Norway wanted to "move forward in developing a new kind of relationship built on joint opportunities, in improving the management of living resources and not least in pursuing what president Putin has called a strategic energy partnership between Norway and Russia". Støre was also clear in his assessment of the role of energy when he added that energy is a new dimension that contributes to reintroducing the High North to the political scene. He also clearly showed that he understood the role energy policy plays in Russian designs and referred to the question of energy security, energy supply, and energy dependency as important elements of a new political game in Europe, pointing also at the fact that consumers and providers could have different approaches to these issues.

It was not only official Norway that has been showing interest in increasing the level of energy cooperation with Russia. A brief analysis of the titles of articles published in main Norwegian media over the last months shows that this cooperation was seen as an important element of Norwegian strategy, but also that this cooperation was seen as bound with some risks. On 24 April 2006, one of the main Norwegian newspapers, *Dagbladet*, published an article entitled "Gas, Bread and Circus. Statoil and Hydro want to serve Putin's tool Gazprom". On 21 May 2006, *Bergens Tidende* included an article on "Energy bear that roars in the North". On 15 June 2006, *Dagens Næringsliv* wrote about Norwegian companies "running after Putin", while on 2 July 2006, Norwegian press agency NTB had an article entitled "Russians fish for Norwegian oil expertise". On 18 July 2006, *Dagens*

Næringsliv wrote that 'hope for cooperation on Shtokman is on increase' and, on 10 August, *Nordlys* published an article entitled "While we wait for Gazprom".

The Norwegian companies, policy makers and public hoped that the cooperation between the Norwegian and Russian energy sectors would result in a qualitatively new situation in the High North; that by joining forces, Gazprom and its Western partners would be able to establish a new European energy province. Norwegian companies' offshore activities have been moving towards the High North since the beginning of the Norwegian oil and gas adventure, and the High North was to become a Russian-Norwegian energy meeting point, where Norway was to cooperate with Russia on the development of huge energy assets, when it was "time to integrate Norwegian and Russian expertise".[10] Norway was to provide state-of-the-art offshore technology while Russia was to retain control over its energy assets, using them as a policy tool in the country's energy strategy and in its relations with various actors interested in strengthening energy cooperation with Russia as a way of addressing their own energy security dilemma. There were also some hopes among the Norwegian energy policy makers and managers that the energy cooperation with Russia in the High North could result in a sort of melting of Norwegian and Russian energy interests in the North. According to this vision, Russia was to take in use the Norwegian pipeline networks that were to have free transport capacity due to the expected decrease in Norwegian production of gas and oil on the continental shelf. In that sense, cooperation with Russia in the High North was not only to provide an opportunity to Norwegian companies to participate in an ambitious and challenging energy project in the Shtokman field, but also to prolong the whole life cycle of the Norwegian gas and oil industry, which faces a sharp decrease in production in years to come.

This 'Shtokman as an opportunity' vision was, however, completely shattered by the Gazprom's 9 October 2006 decision to develop Shtokman on its own. According to *RIA Novosti* Alexei

Miller, Gazprom's CEO said that his company had failed to find partners able to propose acceptable conditions for the development of the deposit. In that situation, Gazprom plans to develop Shtokman on its own and send gas from this deposit to European customers via the planned NEGP pipeline. Also, President Putin said that Russia was reconsidering its plans and that gas from Shtokman may be sold not on the US LNG market, but be pumped via a planned pipeline to Germany, who is to play a special privileged role in Russian energy designs for energy cooperation with Europe.[11] Putin's proposal on assigning Germany a special energy role was repeated during his September and October meetings with the new German Chancellor Angela Merkel, with whom Putin did not mange to develop such a cordial relationship as with her predecessor Schröder. However, it seems that Merkel's Germany may be interested in pursuing a more balanced policy towards energy cooperation with Russia and base it more on a common European energy strategy. If it is to be the case, this shift in German attitude towards energy cooperation with Russia would be more than welcomed by at least some Central European actors, and especially by Poland, who has voiced many concerns in connection with Russian-German energy rapprochement under Schröder.

Poland and NEGP: a Threat?

While Norway treats possible energy cooperation with Russia as an opportunity to strengthen overall cooperation with its Eastern neighbour, the Polish attitude to energy cooperation with Russia is completely different. The Polish overdependence on Russia as a supplier of energy is interpreted as a threat to the country's energy security and national sovereignty. In the Polish security doctrine of 4 January 2000, the importance of this issue was underlined in the chapter dealing with the questions of economic security in the following words: "Securing the energetic security of the country requires diversification and protection of the sources and channels of supply of the most important imported

sources of energy such as oil and natural gas. It is necessary to secure guaranteed, long-term supply of the energy resources to our country and to try to find suppliers both in the countries that are our allies and in other countries".

Poland has voiced many concerns about the use of energy for political purposes; therefore, one of the top priorities of the Polish political establishment has been to find new alternative sources of energy supplies that would make Poland less dependent on deliveries from Russia. This was the main rationale behind the signing in September 2001 of a Polish-Norwegian deal on deliveries of Norwegian gas to Poland. This project was dropped by the new Polish government, which came to power only weeks after the signing of the agreement. However, the issue of Poland's need for the diversification of the country's energy supplies re-emerged after the 2005 elections and is today again defined as a top political priority.[12]

Until recently, Poland has played a double role in the European energy game-in-the making. Especially after the construction of the so-called Yamal Gas Pipeline, Poland was not only to be treated as a final market for Russian gas and oil, but also as a transit country for supplies of Russian energy to the rest of Europe. This transit role secured Poland a certain level of energy security, because any action against Poland would also do harm to other Russian energy customers in Europe and, in that sense, damage Russia's credibility as a strategic partner of core European countries, especially Germany, France and Italy. However, when Russia and Germany decided to continue with the NEGP project, it was immediately read in Poland as a threat to the country's transit role, and therefore an immediate threat to the country's overall energy security. When Russia, in addition, showed in January 2006 that it was willing to use energy as a political weapon in order to make Ukraine pay more for Russian gas—and indirectly punish Ukraine for the Orange revolution—the Polish establishment became nervous; consequently, the debate on energy security and possible ways of addressing this serious challenge gained momentum.

While the owners of the project present it as a chance for Europe to meet its growing gas demand, the Polish establishment reads it as a threat to the country's energy security, as well as a political and even geopolitical challenge.

As far as the political dimension is concerned, the realisation of the project is, according to the Polish reading, to have huge political consequences, not only for the countries that were to be circumvented by the pipeline, but for the whole European integration project. This project is seen as a clear proof of the lack of the ability on the part of the European Union to have a common energy policy. By signing this deal, it is said; Germany confirms that its bilateral economic and political relations with Russia are more important than cooperation with the country's important EU partners facing similar energy dilemmas. According to this reading, the NEGP is to be realised not so much to provide European customers with Russian gas, but to provide German customers with Russian gas, to cement German-Russian economic and political bilateral cooperation, and to deprive the actual (Poland, Ukraine and Belarus) and potential (the Baltic countries) transit countries of their leverage in relations with Russia. This could expose them to Russia's unveiled threats of using 'energy leverage' as a political tool. In addition, this deal shows a lack of a common EU energy policy, and a lack of intra-EU energy solidarity. An EU that is not able to cooperate on such important issues as energy security of its member countries could not be seen as a serious actor and could not provide viable protection against what was seen as possible Russian energy blackmail. This deal was seen simply as a manifestation of economic egoism and re-nationalisation of long-term strategy in the field of energy security on the part of one of the core countries of the EU. This did not bode well for the future of the European integration project and for the future of common European energy policy.[13]

As far as the geopolitical dimension of the project is concerned, the project is interpreted as an attempt at regaining geopolitical influence in Central Europe. According to this reading, Germa-

ny could realise its Mitteleuropa dream of becoming the main player in the region and project its political, economic and cultural power on that area under an EU-disguise, while Russia was to strengthen its geopolitical grip on the area, which is seen in Russian geopolitical discourse as vital for the country's survival as an important geopolitical unit and 'projector' of geopolitical influence. Read in this manner, the NEGP is seen as a symbol of the rebirth of the regional Russian-German concert of powers symbolised in the past by the cooperation of these two powers in the partitions of Poland, in their secret military cooperation in the time of Weimar Republic and Bolshevik Russia, by the Rapallo Treaty and, in the most dramatic way, by the Ribbentrop-Molotov pact of August 1939, which resulted in the outbreak of the Second World War. This concern was voiced in the strongest way by the Polish Minister of Defence, Radoslaw Sikorski, at a conference held in Brussels in May 2006. Commenting on the NEGP project, he said, "Poland has a particular sensitivity to corridors and deals above our head. That was the Locarno tradition that was the Molotov-Ribbentrop tradition. That was the 20th century. We don't want any repetition of that".[14]

Having in mind the dramatic consequences this German-Russian cooperation had for the whole region, it has to be said that Sikorski's statement — that was widely criticised in Germany as improper — could be interpreted not only as an attempt to politicize but also to securitize the issue, to present it as a threat not only to cohesion of the EU and its energy policy, not only as a threat to energy security of the region circumvented by the planned pipeline, but also a threat to the very existence of Poland — and probably some other countries — as an independent subject of European politics. Regardless of whether this reading was right or wrong, this particular understanding of the NEGP was put on the European agenda and has thus become a part of what could be labelled 'official European NEGP discourse'. One can, however, ask why this particular energy project involving Russia is read as an almost existential threat, while another en-

ergy project that also involves Russia seems to be read by Norway, a country that seems to share the same values and live up to the same norms as Poland, has been, until quite recently, read as an opportunity. To find a proper answer to this intriguing question one has to take a look at two other aspects of the broader context of the European energy security debate: the debate on the energy security itself and its identity dimension.

Energy and Security Nexus and Conflict Potential

When addressing the issue of energy security it is practical to start with an attempt to map the concept. Energy security can be said to have at least four aspects and the debate on energy security may address either all of them or focus on only some. Threats can be seen as stemming from the lack of available resources and labelled resource related threats to energy security. These threats may also have a purely economic dimension, meaning that energy commodities are available physically but the price you have to pay for gaining access to them is prohibitive or too high. Discussion on energy security may also focus on technological aspects. For instance, it may concentrate on the issue of transport bottlenecks; on the threat energy transport may pose to the environment; or on the use of other, easier available raw materials as a replacement for the energy commodities that are either too expensive or unavailable for other reasons. In many cases, the debate on energy security also focuses on what could be termed the political aspects of that issue. Among the most important questions policy makers have to address when discussing this dimension of energy security include the question of the use of energy resources as a political leverage, the question of political stability of the country that is to supply one with energy, and the precautions that can be taken in order to minimize the risk of being exposed to politically motivated energy threats.

When addressing the issue of energy security, policy makers should also have in mind what sort of threat their country is to face. To what extent potential threats are probable and what is the

scope of the energy security threat — such are only a few of questions that have to be addressed. Is the energy security relevant threat of imminent character, or is to be treated as something that can happen only in theory? Do we face a low-scale threat that we can cope with without big problems, or do we face something that can be described as an existential threat to our society or to our vital economic interests?

The very nature of the potential threat is also an important issue policy makers have to deal with when addressing energy-related threats to security. They have to understand whether they face technological problems that can be coped with if one assumes another technology or transport method. Are the threats to be addressed of political character, like political pressure, where our ability to address the problem is rather limited, or are they related to the increasing shortage of energy resources due to the depletion of global gas and oil deposits? Another problem they have to face is the economic challenge linked with increasing energy prices at the international market and suppliers' demand for higher price for their energy commodities.

When discussing the issue of energy security, one also has to bear in mind that energy security means different things to different actors involved in the international energy game. An energy producer approaches the issue of energy security in a completely different manner than an energy customer, while transit countries may view the issue from yet another angle. This means that the energy security-related interests of these three groups of actors do not necessarily overlap, and sometimes are even on a clear collision course. This may make cooperation in addressing energy security- related concerns a rather challenging task, and may increase rather than decrease potential for conflict in relations between actors with such different approaches to this issue.

Energy and Security Nexus in the Barents Region[15]

There are three important elements of energy security equation to be dealt with in the Barents region. Two of them are of more local

character, while the third may have impact beyond the borders of that region. One has to understand that the Barents region is to be treated more as a virtual energy province than as a real one. It is true that there are some energy resources identified in that region, but little is known about how big they are, how economically and technologically feasible is their exploitation, and to which markets they are going to be directed.

The first issue that has to be addressed when discussing the future development of the Barents region as a new energy province can be termed as" a hard versus economic security problem". The area that is going to be developed as a new energy province is also an area of high concentration of Russian strategic naval forces and their main area of deployment, transit, and operations. Important decisions on the future of these Russian strategic assets have to be made, and solutions have to be found to address the issue of the coexistence of Russia's nuclear strategic assets in the region and the development of the regional branch of the country's energy sector. According to various Russian plans, the Murmansk region, which is today the area of concentration of Russia's strategic nuclear forces, is to become an international energy hub and Russia — and maybe international operators — are, according to these plans, to export huge quantities of oil and gas to international markets. An important emerging issue, therefore, is how to make the country's strategic forces and its regional branch of the energy sector live side by side, with both of them accommodating one another.[16]

If these energy developments plans are to be realized in the region, we will probably see a huge increase in the maritime traffic along the Norwegian coast, and this could cause some problems in bilateral Russian-Norwegian relations, especially as far as the protection of environment and minimization of the risk of environmental catastrophe are concerned. Another issue that has to be solved in bilateral relations is the issue of sovereignty and border delineation in the region, as well as the issue of slightly different interpretation of international regimes and agreements.

Russia and Norway have not yet decided where their maritime border in the Barents regions is to go, and Russia does not fully accept the Norwegian interpretation of the Svalbard Treaty and its consequences for exploitation and management of maritime and natural resources in the region. Having in mind a clearly visible disparity of economic, demographic and not least military capabilities of the two countries, this may result in some tensions and problems, especially in a situation when Norway may have some problems with persuading its traditional NATO allies that they should support the Norwegian claims. This disparity of potentials and uncertainty as to the direction Russia is going to take in the near future may be labelled Norway's Russian dilemma, and is seen as one of the long-term strategic challenges Norwegian policy makers have to deal with in the regional context.[17]

Developments in the Barents region, especially the possible development of the region as a new energy province, will also have a huge impact on the European energy security debate, as the resources to be discovered and exploited in that region may help Europe — and maybe the USA — address its own energy security dilemma. Europe is going to become increasingly dependant upon energy imports, and Russia is indeed one of the most important actual and future energy providers. To what extent European energy needs are going to be met by supplies coming from the Barents region remains still to be seen, but the region is already seen as an important potential source of energy for Europe.[18]

Certain European actors display, however, a certain feeling of insecurity as far as the future of European energy cooperation with Russia is concerned. The main reason for this is that they see a clear tendency on the part of Russia's current leadership to use energy as a political tool. The political use of energy has been evident in many examples of recent history, most evidently in the row between Ukraine and Russia in 2005 and 2006, which culminated in the halt of gas supplies to Ukraine in January 2006.

What makes some of the members of the EU nervous is the

clear linkage between the Russian energy sector and the country's grand strategy realised by Vladimir Putin.[19] Russia is today an important supplier of gas to the EU, covering more than 42 % of import and approximately 20 % of demand. More than 60 % of the whole export of gas from Russia goes to the EU. This makes Russia the most important supplier of gas to the EU, and the EU the most important gas customer of Russia. Russia's energy cooperation with the EU, defined formally as the Russia-EU energy dialogue, is an important part of Russia's overall energy strategy, which, in turn, has become the centrepiece of Putin's national grand strategy. With Putin's ascent to power we could see that Russia was redefining the goals — and instruments — of its national grand strategy. What has been the trademark of Putin's approach was a shift from traditional power politics to a more geoeconomic and pragmatically oriented approach.[20]

Indeed, the energy sector plays a central role in this new Russian grand strategy. The main elements of this energy-centred grand strategy can be described as follows:

- The consolidation of the state's role in the energy sector (Rosneft and Gazprom);
- The strengthening of the link between the country's political and economic elite by making them overlap;
- The maintaining of the state's control of the pipeline system (Transneft);
- Control by Russia of the main export routes linking Russian energy 'deposits' with the global markets, known also as the strategy of transit avoidance;
- The policy of preventing access to markets of actual and potential suppliers of energy (Uzbekistan, Kazakhstan and Turkmenistan);
- The policy of using energy as a political tool;
- The strategy of the limiting of the role of Western companies in the Russian energy sector;
- The policy of using the Russian energy sector as a way of

increasing Russia's economic and political influence in the countries defined as important from a geopolitical point of view;
- The adoption of a comprehensive approach to the energy sector (Putin's thesis) and its problems.

During a conference organised by the Moscow International Petroleum Club in 2000, the then Russian Minister of Foreign Affairs Igor Ivanov described the interdependence between Russian foreign and energy policy in the following way:

> One main priority of our foreign policy is further expansion and deepening of mutually advantageous cooperation with foreign countries and assisting in the implementation of large-scale investment projects in the energy sphere.

The Russian Minister of Fuel and Energy V. Kalyuzhniy described the importance of gas and oil for the well being of the Russian state and its citizens even in a more dramatic way:

> Oil and gas is a sharp-edged and effective foreign policy weapon and an efficient vehicle of mutually beneficial international cooperation in developing fuel and energy resources, enhancing the effectiveness of their use, and expanding to new and promising energy markets.[21]

Kalyuzhniy was also aware of the fact that Russia needed substantial amount of money in order to make its energy sector sustainable when he said that:

> Russia's oil and gas industry needs billions in investments. Without this it will just get bogged down and choke of its own problems.

The attraction of new investors was, however, not possible without having access to a reliable market, and this need for invest-

ments/access to markets dilemma has probably been one of the main inputs in the work on the new Russian grand strategy, developed by the country's new leadership. Another important issue that had to be addressed if the implementation of this new energy strategy was to be successful was the problem of Russia's dependence on transit countries, through which Russia had to export most of its energy commodities and the problems of infrastructure bottlenecks that posed problems for Russian exporters.

It seems that at least some of these strategic problems could be solved by the development of Russia's energy assets in the High North (Shtokman), and by the construction of a pipeline circumventing transit countries (NEGP). However, the fact that Russian leadership treats these two energy projects as strategic ones makes actors who could be affected by their realisation rather more than less nervous. On the one hand, the two projects are being presented as a potential solution to Europe's energy security dilemma; however, on the other hand, their realization is going to increase, rather than decrease, Europe's energy dependence on Russia, making it even more difficult for Europe to diversify its supplies of energy. This explains why the Polish attitude towards the NEGP has been so negative, and why Poland seems to have problems with accepting the energy rapprochement between Russia and Germany.

When the decision of the construction of the NEGP was made public, Polish policy makers voiced their strong concerns for three reasons. Firstly, they claimed that the construction of the NEGP would mean the abandonment of the Yamal II project, would be contradictory to the Polish-Russian gas agreement. Secondly, the construction of Yamal II aimed to increase Polish transit capacities, which was seen as consistent with the country's energy security priorities. Thirdly, they referred to what was described as Central and Eastern Europe's problematic experience in cooperation with Russia in energy sphere.[22] It seems that this last issue, especially, has played a major role in Central Europeans' reading of Russia's intentions with the NEGP. In order to under-

stand why Central Europeans have displayed so much distrust towards Russia — and towards tightening its energy cooperation with Russia — we have to look at two aspects: one that has much to do with their current overdependence on Russia, and another, which has to do with Russia's role in the shaping of Central and East Europeans' political identity.

Energy and Identity: What is This all About and What can be Done?

As mentioned above, there are two reasons why some EU member states are sceptical when it comes to tightening energy cooperation between the EU and Russia. First, there are clear economic and political risks linked with the overdependence on energy — especially gas — supplies from Russia. While the EU as a whole covers only slightly less than 25 per cent of its gas needs by importing gas from Russia, the new member countries cover almost 75 percent of their consumption of gas by importing it from Russia. Some of them — Latvia, Lithuania, and Estonia — import 100 percent of the gas they consume. These countries may feel that their overdependence on Russia may cause not only economic but also political problems, as Russia may be tempted to use its energy leverage to gain political concessions, to increase its political influence, and limit their sovereignty.

The fear of Russia and its intentions is deeply rooted in the history of Russia's relations with the countries of the region. This fear has also been one of the main driving forces in these countries' post-Cold War choice of strategy of seeking closer cooperation and full membership in the two Western clubs. NATO was to provide them with military security against what was defined as a potential revival of the imperial thinking in Russia, and the EU was to provide these countries with additional economic support on their way towards what they saw as European economic and social 'normalcy', and to help them decrease their economic dependence on Russia.

However, although these countries seem to have been able to

escape Russia's sphere of geopolitical influence, somehow leaving Russia's sphere of interests, they still feel that their energy dependence on Russia may cause problems in the future; namely, that Russia may use its energy leverage to the detriment of their overall security. Although they are safely anchored in Western institutions, they feel that these Western institutions nevertheless lack a deep, first-hand knowledge of Russia, and have a naive view of Russia. At the same time, they may fear that Western Europe's growing dependence on energy supplies from Russia may make the West reconsider its policy, and cause some of the core EU countries—like Germany or France—to embark on a bilateral rather than a multilateral energy cooperation with Russia, and ultimately destroy one of the fundamental elements of the European integration project: the solidarity of its members.

The way actors view each other in the field of energy policy, and the way they interpret each other's intentions and designs, has much to do with these actors' identity as players on the international stage. Identity is, however, not given once and for all; it is not a constant, but rather something that is constantly negotiated and renegotiated, something that is shaped not only by the actors' historical experiences, traumas and moments of glory, but also by their current social and political interaction with other actors on the international stage. This may also provide a solution to what is today seen as an increasing conflict of interests between the countries that view energy dependence on Russia as a long-term threat—or at least risk—and those who still view Russia as a reliable strategic partner in the energy sphere.

What seems to be at the very core of the problem today is the reading of Russia's long-term intentions in the sphere of energy policy—and more generally the choice of the path of the development of Russia. Whether something is defined as a threat depends on two factors: the capability of the actor to inflict damage on other actors' interests, and his intention to do so. Some EU members seem to believe that Russia has both the capability and the intention to do so, while others claim that although Russia

has the capability to inflict damage, the country has no intention to do so, as it would be detrimental not only to the West's interests, but also to Russia itself. This liberal economic interdependence argument may have some hold, but in regions that, over the few last centuries, have been exposed to so much conflict and cruelty, the reality is read mostly in purely realist terms; in such countries, other states are suspected of having the intention of acting in a rather predatory manner. What can be done in order to change this attitude?

Norway may provide a good example to follow. Although during the whole Cold War period the Soviet Union had been defined as the main source of existential threat to Norway — and this was the most important reason why Norway decided to join NATO — after the collapse of the Soviet Union, Norway embarked on a policy of engaging Russia. In order to do so, Russia, Norway, in co-operation with its Nordic neighbours and other allies (the EU, the US), has been trying to establish a new framework for interaction in the region. In January 1993, a new regional body, the Barents Euro-Arctic Region (BEAR), was launched by the signing of the Kirkenes Declaration.

This document called for a closer co-operation in the following areas:

- the environment
- economic co-operation
- scientific and technological co-operation
- development of regional infrastructure
- the situation of indigenous peoples
- human contacts and cultural relations
- tourism

From its outset, BEAR has been a highly politicized project, and its main aim was bridging various gaps in a former 'frontline' area.[23] BEAR was to serve as a testing ground for ideas on development of regional co-operation over the former Iron Curtain.

The creation of BEAR was a project involving former Cold War foes who, in this way, were contributing to the elimination of what was perceived as a negative burden of the past.

Notwithstanding the fact that Norway was still a member of NATO, a military bloc perceived by Russia as a relic of the past, the country was lending a helping hand to its great neighbour in the east, thereby attempting to bridge a number of gaps in bilateral and multilateral relations. What has been a special feature of Norwegian policy towards Russia in the post-Cold War period is the attempt made by the Norwegian political establishment at supplementing the old relationship with Moscow based on the Norwegian NATO membership with a new bilateral Norwegian-Russian agenda.

Norwegian policy towards Russia in the post-Cold War period has been based on the traditional policy of a close co-operation with NATO, providing Norway with hard security guarantees in a time when Norway was also willing to develop more balanced bilateral relations with Russia. These relations were to be a part of a broader new liberal-institutional European framework of co-operation. Due to internal developments in Russia in the early 1990s, and to Norwegian choices and decisions in foreign and security policy, these relations have, over the last fifteen years, become less 'geopoliticized' and more co-operative; more attention seems to be paid to co-operation in fields where both parties see their interests served. If the countries compete with each other, they compete not so much as members of military alliances, but rather as actors defending their interests mainly in the economic sphere.

The Norwegian example is interesting because it shows that is it is possible to embark on a new policy towards a country that for more than four decades had been seen as a source of strategic existential threat to Norway. The fact that Russia/the Soviet Union had been perceived as a threat, and had contributed to forming modern Norwegian political identity as the most important constituting and threatening other, has not prevented the

Norwegian establishment from embarking on a new policy towards the country's largest eastern neighbour. It is not that Norway does not have its concerns in its relations with Russia; that is, it is not to say that Norway does not trace the recent developments in Russia with some nervousness. This does, however, mean that the Norwegian leadership has made a conscious effort at opening a new chapter in relations with Russia, the fears of former period notwithstanding.

Norway has embarked on an active policy of building institutional bridges and narrowing the political gaps in relations with Russia, a policy that could be described as rooted to a very large extent in an institutional-liberal perception of the realm of international relations. One of the most important Norwegian initiatives 'expressing' this institutional-liberal approach was the creation of the Barents Euro-Arctic Region (BEAR) in January 1993. The creation of this form of regional co-operation was a manifestation of the political will to make Russia a part of a broader European institutional network, and it seemed that Russia itself was interested in this political rapprochement with its Western neighbours, as the Russian foreign policy discourse of 1992 was dominated by the so-called 'Atlanticist' approach, which sought to establish closer co-operation between Russia and the West. Norwegian policy towards Russia can be described as a policy of the stretching of hands towards Russia. Due to the fact that Norway was a part of an effective military alliance, the country felt secure to pursue a policy of inclusion towards its eastern neighbour. NATO membership gave Norway a secure anchor in the transatlantic community, and made the policy of opening towards Russia a safe game, as Norway could always count on the support of its NATO allies in case something went wrong in its bilateral relations with Russia. In addition to its institutional security anchor, Norway, itself a great global energy power, has not felt threatened by Russia's energy strategy to the same extent as the countries that depend energetically on Russia may have felt.

In the case of Central European countries, like Poland, the pol-

icy towards Russia has been driven more by historical experience and by the search for a new 'international role' than by a sober assessment of interests and goals. The main goal of Polish policy in the formative years of independent Polish statehood could be described as escaping the Russian sphere of influence. To manifest and underline the pro-Western policy of new Poland, it was very important to 'dissociate' from Russia. For Poland, NATO and EU membership was a means of securing the achievement of the strategic goal of 'escaping' the Russian sphere of influence. By obtaining NATO security guarantee and becoming an EU member, Poland could open a new chapter in its relations with Russia, and pursue a policy of building relations based on a true recognition of each others' legitimate interests. However, the developments in both Russia, with a shift towards a more authoritarian and less democratic regime, and towards a more assertive foreign and security policy, and Poland, with a shift towards a more historical foreign policy, have contributed to souring bilateral relations and the re-opening of some historical wounds. To what extent Poland is going to be able to follow the Norwegian path in its relations with Russia, opening a qualitatively new chapter in bilateral relations and accepting a greater role for Russia — as well as the Russian part of the Barents region — in European energy policy remains to be seen. The outcome will depend not only on the ability of the Polish leadership to open this new chapter, but also on the ability of the Russian leadership to convince Poland — and other actors — that Russia can be treated as a credible economic partner with no hidden imperial agenda, and on the ability of Poland's EU and NATO partners to provide Poland with the self-confidence that will enable the country to make this new opening.

The goal of this paper was to look at how energy, security, and identity interplay in the Barents region, and how this interplay may contribute to increasing or decreasing conflict potential in the region, and in Europe as a whole. This brief study focused on how the identity of the actors involved in the realization of

energy projects in the region affects policy choices, and how this identity may impact conflict potential in Europe. By looking at two specific energy projects, illustrating how several actors interpreted these projects in various ways depending on their identity, we established a direct link between the reading of international scene in geopolitical, geoeconomic, and identity terms. By focusing on Polish and Norwegian policies towards energy cooperation with Russia, we have tried to show that identity does indeed matter. At same time we have, however, tried to show that it is possible to attempt to overcome the burden of the past and open a new chapter in bilateral and multilateral relations.

Notes

1 For more on the military dimension see Kipp, Jacob (1999) Russia's Northwest Strategic Direction, Military Review, July-August, text available also at FMSO under: http://fmso.leavenworth.army.mil/fmsopubs/issues/rusnwstrat/rusnwstrat.htm
For a Russian view on that issue see Kokoshin, Andrei (2003) *Strategicheskoye upravleniye. Teoriya, istoricheskiy opyt, sravnitelnyy analiz, zadachi dlya Rossii* (Strategic Management. Theory, historical experience, comparative analysis and the tasks for Russia), Moscow: MGIMO and ROSSPEN, pp.319–320.

2 According to a more recent assessment the field may have as much as 4 000 BCM — for more details on that see http://lenta.ru/news/2006/10/19/shtokman

3 For more on that see: http://www.polit.ru/news/2005/09/08/ecothbasf.html

4 http://negp.info/

5 For more on various readings of NEGP see Godzimirski, Jakub M. (2006) How to Read Readings of the NEGP?, *Baltic Mosaic* nr.1, pp.34–47. The whole issue of the journal was devoted to the question of NEGP and how this project is read by various European countries.

6 Balzer, H. (2006). 'Vladimir Putin's Academic Writings and Russian Natural Resource Policy'. *Problems of Post-Communism* 55(1), pp.48–54.

7 Balzer, H. (2005). 'The Putin Thesis and Russian Energy Policy'. *Post-Soviet Affairs* 21(3), pp.210–225.

8 *Dagens Næringsliv*, 17 July 2006.

9 Jonas Gahr Støre's speech in Washington on 15 June 2006. The text of the speech is available at: http://www.odin.no/ud/english/news/speeches/minister_a/032171-090614/dok-bn.html

10 Carlsen, Henrik (2005) *Challenges and opportunities in the Far North*, Presentation given at Troms County Committee on 6 December 2005, available from Statoil.com.

11 *Expert on-line*, 25 September 2006 and *Gazeta.ru*, 11 October 2006.

12 For the Polish reading of energy security, see Raport: Bezpieczenstwo energetyczne Polski, *Bezpieczenstwo narodowe* nr.1/ 2006, pp.14–27.

13 On the reading of the NEGP by the Polish President Lech Kaczynski see http://service.spiegel.de/cache/international/spiegel/0,1518,404675,00.html

14 http://serwisy.gazeta.pl/swiat/1,34174,3321425.html and http://service.spiegel.de/cache/international/0,1518,413969,00.html

15 For an interesting analysis of how the discovery of energy resources may change various actors' approaches to this region see Godzimirski, Jakub M. (2005) The New Geopolitics of the North?, *Security Policy Library* nr.2, The Norwegian Atlantic Committee: Oslo.

16 For an interesting analysis of that issue see Åtland, Kristian (2003) *Russisk Nordområdepolitik etter den kalde krigen: forholdet mellom næringsinteresser og militærstrategiske interesser*, FFI Rapport — 2003/00713; Forsvarets Forskningsinstitutt

17 For more on that dimension see Udgaard, Nils Morten (2005) Nordområdendes strategiske betydning i et nytt årtusen, *Kort-Info* nr.7, The Norwegian Atlantic Committee: Oslo.

18 For more on the Norwegian perspective on this issue see Austvik, Ole Gunnar (2006) Oil and gas in The High North — A perspective from Norway, *Security Policy Library* nr.4, The Norwegian Atlantic Committee: Oslo.

19 For more on that link see Smith, Keith (2006) Russian energy policy and its challenge to western policy makers, *Security Policy Library* nr.4, The Norwegian Atlantic Committee: Oslo. See also Hill, Fiona (2004). *Energy Empire: Oil, Gas and Russia's Revival*. London: The Foreign Policy Centre and Olcott, Martha B. (2005). *Vladimir Putin and Russia's Oil Policy*. Washington: Carnegie Endowment for International Peace for an even more insightful analysis of Putin's energy strategy.

20 V. Putin elaborated on that issue in an interview with Indian journalists that is available at the following web address: http://www.cdi.org/russia/johnson/4549.html

21 Both Ivanov's and Kalyuzhniy's texts can be found in a special issue of

International Affairs devoted almost exclusively to Russian energy sector (*International Affairs* vol.46, nr.2, 2000).

22 For more on that see presentation given by a Polish expert Iwona Wisniewska at Harriman Institute on 10 April 2006 available at http://www.harrimaninstitute.org/MEDIA/00492.pdf. Also two other presentations given at the same seminar focus on positive and negative sides of increased energy cooperation between the EU and Russia. These two are available at http://www.harrimaninstitute.org/MEDIA/00491.pdf (Ariel Cohen's presentation on NEGP) and http://www.harrimaninstitute.org/MEDIA/00493.pdf (Jonathan Stern's presentation on history of European — Russian energy cooperation).

23 More on that in Tunander, Ola (1994) 'Inventing the Barents Region: Overcoming the East-West Divide', in: Schramm Stokke, Olav and Ola Tunander (eds.) (1994) *The Barents Region: Co-operation in Arctic Europe*, Sage; London and Jervell, Sverre (1994) 'The Barents Co-operation Initiative: Security in Northern Europe after the Cold War', in: Bæcklund Göran (ed.) (1994) *Common Security in Northern Europe after the Cold War*, Stockholm: Olof Palme International Centre. On the Russian reading of BEAR, see Sergounin, Aleksander (1999) 'The Barents Regional Co-operation and the Russian Security Discourse', in: Flikke, Geir (ed.) (1999) *The Barents Region Revisited*, Conference Proceedings, Oslo: Norwegian Institute of International Affairs.

Ole Gunnar Austvik

Energy Interests of Key Energy Powers in the Barents Region: Implications for Norway

Energy consuming countries' interest in Barents Sea oil and gas is heavily linked to the current high international oil (and other energy) prices. The high prices are predominantly driven by high economic growth in Asia, coupled with concentration of resources and a lack of sufficient production increases of oil in the Persian Gulf, or elsewhere. Demand is growing faster than supply and has given us a fourth oil shock. Political unrest and war in the Middle East creates an additional pressure on prices. Consequently, there is a desire from consuming countries to increase and diversify the supply of fossil fuels.

High prices create the prospect of expensive field developments that in a low price scenario would not be profitable. Development of Barents Sea oil and gas depends on higher prices than for example North Sea oil and gas. High prices, and company interests in attaining profit, are together with energy consuming countries' push for more energy and a desire to improve their security-of-supply situation, heavily influencing domestic petroleum policies and contributing to a speeding up of field developments in both Norway and Russia.

In the European Arctic region, the land and sea areas are dominated by Norway and Russia. The first licenses for oil and gas exploration in the Norwegian Barents Sea were awarded in 1980, leading to the discovery of Snøhvit in 1984. On the Russian side,

offshore seismic surveying started in the 1970s, leading to the discovery of giant fields like Shtokmanovskoye, Ledovoye and Ludovskoye. Further south in the Pechora Sea many smaller fields were identified. More than 100 wells have been drilled in total, and the assessment is at present that there is some 5–6000 mtoe in the Barents Sea, some 80 % of this on the Russian side. In the Kara Sea, to the east of Novaya Zemlya, Russians have discovered two other giant gas fields (Leningradskoye and Rusanovskye). In addition there is also potential for oil and gas deposits in the disputed area between Norway and Russia, where no drilling has as of yet taken place. The seismic surveying conducted in the area by the Soviet Union prior to 1982 provided cause for optimism.[1]

Offshore, the Snøhvit gas field is the only field that so far has been considered commercially viable (and is under development) in the European Arctic. But exploration activities have not been very intensive on either the Norwegian or the Russian side. The assessment of the reserves is accordingly somewhat vague. The assertion that 25 % of world reserves are to be found in the Arctic (US Geological Service) remains unfounded. But there is no doubt that reserves are substantial in a global context. Some three quarters of these are expected to be natural gas. The exploitation of most of these resources depends, inter alia, on the availability of new sub-sea technologies and concepts, substantial amounts of capital, political will and, on the Russian side, a predictable legal and political framework.

This article discusses economic and political energy interests of Russia, the US and the EU, in the Barents region. The second section focuses on challenges for Norway. Norwegian areas of interest discussed are related to the petroleum industry, rent and control, the environment, regional matters, fishery, jurisdictional problems, security-of-energy-supply, foreign relations and military security. The closing comments draw together aspects of present challenges.

Russian Oil and Gas Developments – "Imperial Overstretch"?

After years of production decline during the transition period following the Soviet break-up, a significant recovery in Russian oil production has taken place. In 2005, it reached some 9.5 mbd of which almost 7 mbd were exported. It is believed that Russia will be able to expand its oil production still further. Oil reserve figures indicate that Russia can be one of the world's key oil producers for at least the next 40 years.

Reserves of Russian natural gas are even more abundant than oil and estimated to be available for the next 100 years at current production levels. With almost no decline after the break-up, Russia produced 600 BCM of natural gas in 2005 (7.5 times more than Norway). Production is projected to increase in the coming years and reach some 900 BCM by 2020 (EIA 2006).[2] Russia is now the world's largest producer and exporter of natural gas, and the second largest of oil, making it the major single energy producing country in the world (larger than Saudi Arabia).

The Ukrainian gas dispute[3], that reached a preliminary climax in January 2006, added to Russia's feeling that they were politically and economically locked in. Russia needs foreseeable terms of trade and transit with CIS countries. Russia also needs more alternative transportation routes. The dependency on petroleum exports for foreign currency earnings make these issues a top Russian political priority.

Norway and Russia have competed in energy markets since the 1970s, but their adherence to opposite economic and political poles oriented exports to a large extent to different markets. Norwegian oil and gas was almost entirely directed to Western European countries (and some oil to the U.S.), while more than half of Soviet exports were devoted to Eastern Europe and the Soviet Republics. After the break-up, Russia has notably increased its exports to Western Europe. The political awareness of joint interests in market developments, prices and contractual terms between Norway and Russia became stronger in the 1990s.

As Russia moves (slowly) towards a market economy and in-

tegration into the EU and world economy, it is converging with Norwegian petroleum policies in some areas. Even though Russia has no EEA agreement with the EU, it is integrated into EU energy markets (although not in such a one-sided manner as Norway), and been influenced in similar ways as Norway by downstream market changes and policy measures, such as market regulation and taxation. While Russian gas policy is not "domestified" within the EU, it has been able to arrange her petroleum industry in a rather independent manner. As a result Gazprom has not been forced to unbundle its activities, and instead strengthened its position over the past years as a producer and transporter of gas within Russia. Abroad, Gazprom still wants to sell its gas before a field is developed.[4] The government has made efforts to strengthen the direct control of the company.[5]

The fact that Russia is not fully integrated in the international economy, as for example in terms of membership in the World Trade Organization, has had some negative impacts on Russia. Relatively low competitiveness of Russian products and a number of out-dated production technologies developed during the Soviet era are still in operation, giving it a technological disadvantage.[6] On the other hand, free trade allows for the import of competitive technology to Norway as a full member of the international trade system, and has contributed to the development of the high-tech Norwegian petroleum industry.

The restructuring of the Russian petroleum industry has not reached completion. There are however significant differences between the oil and gas sectors. There is a struggle over competence between the government and the oil companies, while there may be less political interest in changing the non-competitive structure of the natural gas industry. Any heavy involvement of international oil companies will take time, although the need for it is increasingly apparent. So far foreign companies' participation in Russian oil and gas sector has been very limited. The new German-Russian consortium to build the Baltic gas pipeline may be a signal from the Russians that from a capital and technological

perspective they may involve themselves more directly with foreign companies in the future.

The crucial differences in size of the two countries and geographical positions, and not least, in cultural and historical features, create some rather different perspectives. Norway, as a small country, has a relatively insignificant influence on the world community. Russia with its vast territory located in the "middle of the world" and with its enormous natural resource reserves, will inevitably profit from combining economic as well as geo-political goals (as in the Soviet era). The Russians may, hence, from a power perspective, play more evenly with the EU, EU countries and the US than Norway

With the development of offshore fields in the Barents Sea, Norway and Russia share interests in the development of infrastructure and industrial technology. Being a small neighbouring country, this may lead the Russians to invite Norwegian companies to participate in the development of high-tech fields in the area, such as the Shtokman field. Given cooperation, Norway will need alliances and partnerships with non-Russian parties in dealing with its greater neighbour, as when a "mouse goes to bed with a bear". Such cooperation will be especially challenging if cooperation taking place within the disputed area if it remains unsettled.

It is however important to notice that the Barents Sea poses only one of several options for the Russians in their desire to increase (oil and) gas production. Even more abundant resources are located in Western Siberia, mostly onshore. Many fields are also located in Eastern Siberia and can serve Chinese and other Asian markets in the relatively near future. Because of the anticipated lower costs of these fields, their relative proximity to fast growing energy-needing Eastern markets, as well as the Russians' long expertise in mastering land based gas projects without the help of foreign companies (although often inefficiently), it is not certain that they will choose to develop Barents Sea gas first. Although Gazprom expresses a desire to expand in several markets

simultaneously, and is planning for extensive field and infrastructural developments, the Russian may run the risk of an "imperial overstretch" as the world energy superpower.

The decision not to include foreign companies as part owners in the Shtokman field, may also contribute to a delay of its development.[7]

The United States as a Global Energy Player

Oil and gas has been produced onshore since the 1970s in both the American (Prudhoe Bay) and European (especially western Siberia) Arctic regions. The technological challenges in offshore developments in both regions share many similarities. The Americans have an interest in developing deep-water and cold-weather technology both for themselves and as an export service to Norway and Russia (and vice versa).

In the 1980s, the U.S. interest in Norwegian petroleum policy was predominantly founded on super-power rivalry with the Soviet Union. The break-up of the Soviet Union and the evolving global economy in the 1990s changed U.S. interest in Norwegian petroleum. With the end of the Cold War and the internationalization of the economy and globalization of markets, U.S. energy policy has become more global and comprehensive. The geopolitics of energy has become more important for international affairs and U.S. foreign policy. Norwegian oil and gas are now of prime importance for the overall global energy balance, as part of U.S. interests and worldwide foreign policy.

Planned supplies from the Barents Sea directly to the U.S. create an additional bilateral interest in the development of the Norwegian (and Russian) natural gas sector. The US Ambassador to Norway expressed in a speech in Stavanger on January 2005 a desire to speed up Barents Sea gas developments on both the Norwegian and Russian sides [8]

In a situation with high energy prices and no specific restrictions on Norwegian production, as opposed to in the 1970s and 1980s when the US pressured for higher Norwegian gas pro-

duction[9], the energy-relations between U.S. and Norway are at present not controversial. Rather the two countries may work together to realize projects. If, however, Norway should choose to delay decisions and exploration activities where field developments are commercially possible, one might expect American pressure to change Norwegian policy.

The European Union and Security-of-Gas-Supply

Until Snøhvit gas is produced and gas is used for power production in Norway, all Norwegian gas will continue to be sold to EU countries. Germany is the most important country in terms of economic and political size and energy consumption. Its geographical location makes it a most important transit country for both Norwegian and Russian gas. EU countries have an interest in Barents Sea developments both from a security-of-supply and industrial perspective. From both perspectives they will have an interest in participating in projects, including industrial cooperation and partnership.

Norwegian-EU processes from the 1970s and 1980s were in many respects replaced by a "domestification" of Norwegian policies by EU policies from the mid-1990s. The relationship between Norway and the EU has changed and political arrangements are not only negotiated at the international EU-Norway table anymore. The EEA agreement from 1994 made laws and regulations in the EU more or less automatically Norwegian law. The influence of EU policies is however not limited to the EEA agreement. The market integration of Norwegian gas into EU single energy markets is also important.

As economic integration leads to political integration, Norway is affected by EU policies, irrespective of the EEA agreement. This is however to some extent true also for Russia.

The initial rather orthodox form of gas market liberalization that took place within the EU was possible because processes for the most part took place when energy prices were modest and international affairs calm. The power that Norway and other re-

source-rich states were assumed to have in the 1970s and 1980s was in Europe, to a large degree, replaced by EU power to regulate markets and pass taxes in the 1990s and beyond. The jura and norms for regulating the market(s) were however not directed towards the particularities of (oil and) gas as a non-renewable resource. On the contrary, general competition principles were laid down to guide the regulation of the natural gas market.

The reciprocal dependence between Norway and the EU and EU countries is not symmetrical, and seems to change in favour of Norway when markets are tight and in favour of the EU when markets are weak. In tight markets, resource ownership gives Norway (and Russia) high profits and a leverage to influence the terms of exchange, while in weak markets the EU is stronger in formulating market regulations and taxation on general competition principles.

When oil prices started to increase from 2000 and world politics became tense after 11th September 2001, the issue of security-of-supply returned to the top of the political agenda, as it was in the 1970s and 1980s. This started to modify EU energy policies, and it shifted the balance of dependence somewhat back to (oil and) gas producers. The EU-Russian and German-Russian energy dialogues are examples of policy change speeding up as supply and transit problems through Ukraine and other countries have come increasingly into focus.

The EU will need much more natural gas over the next decades and most of it must come from "new" production areas. In this context, the EU and EU countries are those with the most direct interest in speeding up the development of Barents Sea gas. As with the Americans, Norway may find useful partners in these activities with European companies, EU countries and the EU. If however activities are slowed down or delayed, one would expect pressure on Norwegian policy in the direction of speeding up developments from the EU as well as from the Americans.

Norway: Small Country with Big Stakes

Already, Norway and Russia share the dominant positions in the European gas market, with Russia as the leader. Norwegian gas production reached 85 BCM in 2005. While Norwegian oil production is expected to have peaked at 3.3 mbd in 2004, its potential for natural gas production is higher than 100 BCM per year in a few years time. Market shares are expected to grow to between 30 and 40 percent in important countries like Germany, France and Belgium. Together with high oil production and high oil prices, the growth in natural gas exports will give the petroleum sector an even more important role in the Norwegian economy.

There is now less conflict between the international interest in increasing natural gas production and domestic interests as previously expressed in politics. In the 1970s and 1980s, a specific Norwegian production ceiling was set; 50–90 mtoe combined oil and gas production as opposed to an actual production of 223 mtoe in 2005. As first of all the Ministry of Finance earlier put restrictions on production levels in order to avoid "Dutch disease" problems in the Norwegian economy, the creation of the Petroleum Fund in the 1990s removed much of their cautiousness against too high production levels.

Norway has developed and maintained a highly professional petroleum administration led by the Ministry of Petroleum and Energy. The Ministry and the bodies under it, together with the Ministry of Finance, have been rather successful in making industrial arrangements efficient and to the interests of the Norwegian government and companies. Industrial interests seem however to have become more important in the definition of a relevant Norwegian production level. Furthermore, other governments express a desire to speed up developments from a security-of-supply perspective, influencing the Ministry of Foreign Affairs and *it to be an explicit part of Norwegian foreign policy.*

The definition of what is a "national interest" is ambiguous and changes with the constellation of domestic actors[10]. As Nor-

wegian national interests (implicitly) are defined today, there seems at present to be no strong political domestic "macro"-force against a further increase in production levels and the development of the Barents Sea, except for environmentalist groups.

The situation however poses huge challenges domestically, with respect to creating macroeconomic, social and alternative industrial policies. Apart from the petroleum industry and some regional interests, Norwegian domestic economic interests may not necessarily share the logic and emphasize expanding the petroleum sector still further. Instead, they desire the creation of a more competitive industry in other sectors and the development of society at large. Some of this is shown in a gradually more intense debate about how to use the Petroleum Fund domestically, i.e. for infrastructural purposes. One should expect rivalries between such interests in the future, if political actors do not balance them well.

Industrial Interests

Both the maturing of the Norwegian petroleum industry and international economic and political integration processes led to its internationalization. The industry became competitive at home, and a strong interest in competing abroad emerged. With the privatization of Statoil in 2001 the profit horizon became shorter, with the consequence that the company is interested in higher production and new licenses faster than before.

The highly competent and specialized Norwegian petroleum "cluster" is well positioned to the development of fields on both Russian and Norwegian sides (Hydro, Statoil, Aker Kværner and others). The sub-sea technologies developed at Ormen Lange and Snøhvit, horizontal drilling expertise, laying of long-distance subsea pipelines, LNG-technology and other innovations are important elements with respect to "know-how". Parts of this Norwegian technological leadership are shared by sub-contractors in a European and international network. Capital needs are another element where other international companies and financial in-

stitutions may contribute, including holdings in the fields, as in other parts of the NCS (Norwegian Continental Shelf).

If engaged on the Russian side, however, the Norwegian industry needs to be supported politically in order to achieve stable and predictable law making, taxation policies, political good will, and infrastructural development, secure sub-deliveries etc. Norwegian authorities must provide this support, but the industry could also need the support of EU countries and the US. EU and American companies may become partners with Norwegian companies and/or suppliers to projects on both Norwegian and Russian sides.

Although Russians primarily seem to wish to develop oil and gas fields by their own efforts, political objections may be outweighed by technological advantages in the West. For Norway, if Norwegian companies were engaged on the Russian side, it would improve the chances of efficient regulation and protect the environment and sustainable resource extraction.

The question of knowledge, good relations and confidence building becomes important for how Norway and Russia can cooperate in the Barents region (in line with the ideas of the established Barents Cooperation since 1993). To further such demanding integration between the two in the field of petroleum, beyond the direct business interests, there could be reasons to invite the Russians to participate on the Norwegian sector (such as on Snøhvit and Ormen Lange). It would improve communications on a practical level, enhance the competence of the Norwegian petroleum system and possibly help exporting it to (parts of) the Russian system. Likewise, the Russians could (or 'should') invite a Norwegian company to play the role as operator of a field (such as Shtokman) in order to introduce not only technological, but also managerial and organizational, competence to its development and operation.[11]

Another aspect of industrial cooperation could be the transportation of natural gas from the Barents area. Apart from LNG projects, gas must be transmitted in pipelines. With the Russian-

German Baltic line now planned, one additional route for Siberian gas to Germany will be established. This line could also supply gas from the Barents area if a link between Kola and St. Petersburg is built. One alternative is however to link Barents Sea gas to an extended Norwegian pipeline system which at present reaches Mid-Norway. Besides the industrial interest of serving as a transmitting country for Russian gas, Norway would gain a more important political position in Europe's most important energy market, and the Russians would further diversify her export routes.

Rent Distribution

Most countries share Norwegian interests in price and market stability and predictability, but in terms of rent distribution, producing and consuming countries are on opposite sides of the table. Rent can end up with producing companies, the treasuries of producing countries, downstream companies or consuming countries' treasuries. It may also end up as consumer surplus. Rent may be redistributed when prices change, industries are reorganized, ownership changes, market power change, taxation either in producing, transit or consuming countries, law-making, regulation etc.

In this respect Norway should embark upon a dialogue with the Russians — but also with receiving countries like Germany and other EU countries — to create mutual understanding of common interests, so that Norway can attain the maximum sustainable price over time. Norway has an interest in price stability and price levels in order to invest in huge, remote and expensive fields and infrastructure ("security of demand"). As most gas will be delivered to EU countries, Norway has an interest that downstream companies and governments also work for a stable market development, providing a basis for a stable investment climate. Producing countries (both Russia and Norway) have some leverage on influencing contract terms and the European energy political environment when markets are tight and prices are high.

Environmental Issues

The Barents area with its cold climate and waters represents a rather vulnerable environment, concerning wildlife, bio-diversity, fisheries and nature. In 2003, the Norwegian government decided to continue oil and gas exploration in the southern parts of the Barents Sea minus some areas defined as especially vulnerable. Environmental regulations are stricter than further south on the NCS. A more integrated plan for the entire Barents Sea concerning resource management, the environment and economic and political interests was presented in spring 2006. [12] There are no plans so far for the opening of northern parts of the Norwegian Barents Sea.

The biggest environmental threats at present are considered to come from the Russian side. There is already a risk of oil spills from the increased traffic of Russian oil tankers off the Norwegian coast. There are also threats from nuclear accidents and handling waste in the area. The additional concerns raised by an increased petroleum activity, lead to calls for greater cooperation with the Russians. The industry has argued that the best way of influencing Russian environmental standards and practices is by showing practically how it can be done on the Norwegian side, and by offering partnerships based upon environmentally sound practices on the Russian side. This would reduce environmental risks for the Norwegian coastline and waters as well. However, the situation also demonstrates a need to create a broader European and international understanding about these challenges.

Within Norway, environmental issues have been a cause of controversy between political parties, as shown in the September 2005 election. If the "green side" of the present Government eventually gains a stronger controlling hand on activities in the area, developments on the Norwegian side may be regulated by stricter environmental standards.

Fisheries

In 1977 the Russian-Norwegian management system for fisheries in the entire Barents Sea was established. It entailed the introduction of a 200-mile exclusive economic zone (EEZ), according to United Nations Convention on Law of the Sea (UNCLOS). As fish do not know the borderlines of international waters, the two countries, and states that have received a Barents quota from one of them, may take part of this quota in the EEZ of the other. The proportion of catch between Norway and Russia is fixed (mostly 50/50) but the total catch is negotiated yearly. There have been disagreements over what is a sustainable catch in the area, where the Russians has argued for higher catches than Norway.

Fisheries and oil activities were in the 1970s heavily debated politically in Norway. The evidence seems however that such conflict is first of all related to problems if an accident occurs and seawaters are heavily polluted. Obviously, in this area with its cold water, oil spills may have greater impact on the environment than in warmer waters.

Regional Issues

Development of oil and gas activities in the Barents Area in Northern Norway is mostly seen as highly beneficial by politicians (although some have emphasized environmental concerns). They look forward to increased activity in the construction periods, benefits of terminals and supply centres where these are established, and moving the development of the Northern areas higher up the political agenda in Oslo and elsewhere. The Barents Euro-Arctic Region (BEAR) has become a framework for many co-operative projects on the regional level across Norway, Sweden, Finland and Russia.

Security-of-Energy-Supply

Easier access to pipelines, new pipelines and LNG facilities built, along with expanded storage facilities should all improve security-of-supply for purchasing EU countries. North Sea transpor-

tation infrastructure is continuously expanding and is now developed from mid-Norway to England, Germany, Belgium and France (these countries represent almost half of total EU energy consumption). Simultaneously, the first LNG plant connected to the Snøhvit field in the Barents area will soon begin operating. With expanded LNG processing plants, the Barents area becomes increasingly more important for the U.S. interest in diversifying their expected increased natural gas import need.

On the other hand, more volatile, uncertain and periodically lower producer prices could lead to a drop in large investment projects and weaken supply security in the long run. Consequently, in terms of economic security-of-supply, it is difficult to see how the EU (countries) can simultaneously offer lower gas prices to consumers, achieve high tax revenues from gas usage, and meet growth in both expected demand and supplies. It will be important for Norway (and Russia) that EU policies are based on the particularities of non-renewable resources, not least with their enormous investment costs in the High North.

The interest in avoiding over-supply of the EU gas market and maintaining a reasonable price are now shared by Norway and Russia. Due to EU interests in ensuring that the European gas market is sustainable over time, and the renewed focus on security-of-supply issues, there could now be room for negotiations between suppliers and the EU on how the market should be organized. EU requirements to increase competition on the supply side have already affected the structure of Norwegian gas industry and changed government control. With only one Russian seller, Russia maintains a stronger bargaining power towards the market and the EU than Norway, leaving Gazprom as the single most important player on the supply side of the European gas market, with Norwegian gas as a competitive fringe player.

Security-of-supply is in economic terms often a question of understanding the dynamics of the political economy of oil and gas. Norwegian policies are challenged domestically in establishing this understanding, and together with the Russians, the EU

and EU countries and the US, to develop this understanding in a way that is beneficial to security-of-supply for consuming nations, and at the same time also to Norwegian interests.

Jurisdictional Issues

The disagreement over the marine delimitation of the economic zone and the continental shelf between Norway and Russia has not been settled. Norway maintains that it should follow the median line principle, while Russia argues that it should follow the sector line principle. The difference represents some 175.000 square kilometres, an area larger than the Norwegian North Sea south of the 62nd parallel. Negotiations have been going on for 30 years.

Russia has argued that some sort of condominium could be established in the area without settled borders. Norway have maintained that cooperation in the area can only be established when a delimitation line is drawn. For fisheries however, an interim arrangement was made in 1978 in the so-called "Grey Zone", regulating the parties' right to inspect vessels in the area. This zone covers some, but not all, of the disputed area within 200 miles, but also some undisputed Norwegian and Russian waters

There is no international disagreement about Norwegian sovereignty over the Spitsbergen Archipelago (Svalbard). Through the Spitsbergen Treaty of 1920, Norway was granted "full and absolute sovereignty" over the islands, defined by coordinates and shown in Figure 6 as the Svalbard zone (often called the "Svalbard box"). However, according to the Treaty, Norway cannot discriminate subjects of other signatories and cannot impose higher taxes than needed for the administration of the islands.

There is some controversy pertaining to the provisions of the Spitsbergen Treaty, especially when it comes to the sea areas beyond territorial waters and the ocean floor. It is not known whether or not there are promising areas for petroleum activities here. Norway maintains however that the provisions of the Treaty do not apply to the economic zone around the islands, and

instead provide unrestricted Norwegian jurisdiction. The continental shelf around Svalbard is a continuation of the continental shelf of mainland Norway (except for the 12 mile territorial waters around the coastline of Svalbard). Some signatories have, contrary to this, argued that Svalbard is entitled to its own economic zone, governed in the same way as the islands.

Norway established a 'Fisheries protection zone' of 200 miles around Svalbard with non-discriminatory regulations in 1977 (same principle as the economic zone but so far only valid for fishery).[13] Those with a Barents Sea quota should accept Norwegian inspections (catch, size etc.) in the Protection zone. Several countries deny the Norwegian interpretation of her rights in the area.

The "Loophole" is an area between Norwegian and Russian EEZs and the fishery protection zone around Svalbard, and is judicially international water. The Norwegian-Russian management system for fisheries has sought to include control of vessels also in this area. There is however a lack of clarity as to the authority to perform inspections in the area, and regulations must therefore be done through diplomatic channels to the countries where the vessels are registered.

Foreign and Security Policy

The oil crises around the Persian Gulf and the conflict connected with the construction of the Soviet gas pipeline in the 1980s are examples that energy was one of the most central objectives for great power rivalry during the Cold War. Access to petroleum resources, trade and prices had great significance both for the military systems and for the development of Western societies. After the fall of the Berlin Wall and the Soviet Union, international politics have changed character with the U.S. as the only global superpower, but with many regionally strong states. The petroleum resources of the world are however still found in countries with considerable political instability, with room for major market disturbances.

For Norway, security political dimensions to the oil and gas activities have been particularly in focus in connection with the possibilities of production in the polar areas. Because of the vulnerable nature of the area, environmental concerns will be a limiting factor for production and transportation of petroleum. The continued great strategic significance of the Kola bases implies that petroleum activity may seem negative for the operational conditions of the Russian Northern fleet, and particularly for its strategic submarines.

Norway's involvement of Western allies in negotiations about the unsettled issues in the Barents Sea is of special interest. If allies are concerned first of all with settling an agreement about encouraging greater oil and gas activities, but are more neutral as to who gets the benefit, they could also pressure Norway to obtain a settlement not necessarily optimal for her.

Petroleum activities can influence military air and sea operations in the Barents area. Submarines will more easily remain undetected, as noise from petroleum activities may be stronger. The larger submarines must pass between Bear Island and Norway because of sea depth. Activities in this area make it easier for submarines to pass to and from Russian Barents Sea. This can, of course, be a disadvantage and advantage to both sides. Furthermore, platforms can be used for radar equipment, electronic warfare, and helicopter bases, meteorological and oceanographic data collection. Probably, these elements, together with consequences also for surface vessels and aircrafts, will lead the Russians to adjust their strategy for their Northern fleet. They will most likely be negative towards any attempt at limiting their access to the Atlantic Ocean.

As Norway is so small and Russia is so big, it is necessary for Norway to co-operate with other countries in securing her interests. The question of Norwegian control becomes a central one. Obviously, Norway needs relevant military capability in this area, as a minimum for doing sufficient "police work" at sea and to remain credible to the Russians and other countries.

Norwegian exports of energy have created new types of dependency on other countries. States that are strategically vulnerable to a loss of Norwegian energy production, such as Germany and the UK, form a new resource for military assistance that might be exploited. Those countries that receive Norwegian gas, plus the US concerned over global energy balances, have a clear interest in the shaping of Norwegian foreign and petroleum policy, and helping to secure the area. Joint military interests can also be developed with the Russians, except in those areas that are related directly to Norwegian-Russian controversies.

Main Challenges for Norway in the Barents Region

The large export of petroleum has increased Norway's international economic and strategic significance and moved the country into an exceptional position within the OECD area. An international image of Norway is now that of a petro-economy. In addition to Norway's traditional interests shared with the industrialized world, it now also shares interests with other petroleum exporting countries. These countries are in most cases quite different from Norway in general economic and political affairs, including Russia.

Norway's role as a major petroleum exporter is, accordingly, relevant not only for her industry and economy, but also for her diplomacy, including security and defence policies. This challenge is particularly apparent for the gas sector, as expensive pipelines link buying, transmitting and selling countries closely together.

During the Cold War security issues dominated Norway's policies in the North, under the US and NATO umbrella. After the break-up of the Soviet Union, international economic and political integration processes have become more comprehensive in depth and scope than ever before.[14] The role of a major gas (and oil) exporter is a challenge for a small state, which otherwise considers herself to be of limited economical and political significance to others. As a basis for Norway's national and international petroleum policy, in general, and for the gas sector, in

particular, it will be important to have an independent understanding and analysis of how economic mechanisms and political actions and actors work. It is also important to understand how domestic and international commercial and political players can influence the situation. Norway's political and commercial partnerships should be chosen in a way that her mixtures of interests be supported over time.

The Norwegian petroleum cluster, including Hydro, Statoil and Aker Kværner, is pushing developments in the High North ahead in line with security-of-supply considerations from consuming countries. The interest in co-operation from, for example, German, French, British and American companies is pushing development in the same direction. On the technological level, this includes areas where Norway is considered to have an advantage, such as in horizontal drilling, sub sea technologies and plants for conversion to LNG.

To defend the large economic interest Norway has in securing the value of both present and future gas contracts in a more liberal market environment, authorities and companies should adjust their way of thinking and acting. Policies in the EU are adjusting to the new environment. The present energy crisis has forced the EU to be concerned about the long-term supply of energy. A renewed focus on long-term-contracts may emerge in line with the desire to speed up developments in the Northern areas. The assets of oil and gas that Norway possesses, in a situation where there is a lack of energy, give her the possibility to a larger extent to set business and political terms for their development.

One challenge for Norway is to mark a line of delimitation with the Russians. A settling of the line would add stability to the region and ease the development of oil and gas resources. When Norway wants to secure a balance with the EU, various EU countries and the US with respect to maintaining sovereignty in the area, it may also face a pressure to settle an agreement. If Russian relations with the West are good, this pressure may work against Norway. Russia will remain the biggest and most

important actor in supplying more energy to both Europe and the world, and be of higher importance to the West than Norway. Norway should accept (and possibly expect) the processes still to take much time to be finished.

The speeding up of development in the Northern waters obviously involves environmental risks, if plans are not well enough developed. Of special interest will be the issue of transportation. There are plans to build a 2 mbd oil pipeline to Murmansk. This would increase the traffic of oil vessels along the Norwegian coast substantially, and demonstrates the need for proper Norwegian regulations.

In developing a strategy to handle this situation Norway must anticipate the attention of other nations. As a Western European country, Norway is relatively isolated in her interests as a natural gas exporter, although it may find partners in many single areas. Developments in EU and EU countries as well as in Russia and other gas exporting countries are important. Gazprom as a single company and market leader is of great importance. Market developments and economic interests will have to become part of Norway's traditional foreign and security relations. This will also be expected from foreign companies and governments.

References

Austvik, Ole Gunnar, 2003: *Norwegian Natural Gas; Liberalization of the European Gas Market*, Europa-programmet Oslo

Austvik, Ole Gunnar & Tsygankova, Marina, 2004: "Auf dem Weg zur Konvergenz? Norwegen und Rußland als Öl- und Gasproduzenten", *Zeitschrift Osteuropa*, no 9–10, September–October

Brunstad, B., Magnus, E., Swanson, P., Hønneland, G., Øverland, I., 2004: *Big Oil Playground, Russian Bear Preserve or European Periphery?* Eburon Academic Publishers

Energy Information Agency (EIA), 2006: *International Energy Outlook 2006*, US Department of Energy.

Lie, Kai, 2005: *The energy resources of the High North; a framework for a dialogue about the prospects of German-Norwegian cooperation*, Draft report 200405.

Miller, Alexey, 2006: *Gazprom — strategy for the energy sector leadership*,

Speech at Gazprom's annual general shareholders' meeting 30 June 2006

Ministry of Environment 2006: *Helhetlig forvaltning av det marine miljø i Barentshavet og havområdene utenfor Lofoten*, Stortingsmelding nr. 8 2005/06.

Moe, Arild, 2004: *The Northern Areas — Resources and Interests*, Gesprächkreis, Nördliche Gebiete, Berlin November 8.

Putnam, R.D., 1988:"Diplomacy and domestic politics; the logic of two-level games", *International Organization* 42, 3

Ryggvik, H., 1997: "Norsk oljepolitikk mellom det internasjonale og det nasjonale" i Olsen, O.E. & Sejersted, F.; *Oljevirksomheten som teknologiutviklingsprosjekt*. Ad Notam

Stern. J., 2005: *The Future of Russian Gas and Gazprom*, Oxford University Press

Stern, J, 2006: *The Russian-Ukrainian gas crisis of January 2006*, Draft paper Oxford Institute for Energy Studies

Notes

1 Moe 2004

2 In this forecast it is anticipated that much of Russia's natural gas production growth will come from independent gas companies such as Novatek, Itera, and Northgaz, although Gazprom will also expand.

3 See Stern 2006 for a discussion of various aspects of this conflict.

4 Miller 2006

5 See Stern 2005 for a comprehensive discussion of Gazprom positions and developments.

6 On the other hand, Russian entry into the WTO will require an increase in domestic oil and gas prices in accordance with world energy prices. As long as there is such high energy intensity in the Russian economy the competitiveness of her products in both international and domestic markets may deteriorate as a WTO member in the short and medium term. Russian governments have been cautious with respect to changing domestic energy policies.

7 Two Russian companies hold licenses to develop Shtokman (discovered in 1988): Sevmorneftegaz (a subsidiary of Rosneft) and Gazprom. In September 2005, Gazprom selected five companies on a "shortlist" of finalists in a search for partners to develop the field: Statoil and Norsk Hydro from Norway, Total from France and Chevron Corporation and ConocoPhillips from the US. Development costs are estimated at USD 15 billion to USD 20 billion. After several postpone-

ments of the decision which company to choose, the Russians declared in October 2006 that they do not want to share ownership with any of the foreign companies, but that foreign companies may participate as sub-contractors.

8 Lie 2005

9 Austvik 2003: 174–193

10 Putnam 1988

11 When the Norwegian petroleum industry was in its infant stage, the American company Mobil was in 1973 assigned the role as operator of the huge Statfjord field, although it owned only 15% of it. Statoil owned 50% but did not, at the time, have the competence to do the job. However, in 1987, Statoil competence had improved to such an extent that the company (according to agreement) took over as operator of the field. The arrangement proved to be very important as part of building the Norwegian petroleum cluster (see i.e. Ryggvik 1997).

12 Ministry of Environment 2006

13 The Svalbard Treaty regulates fisheries in territorial (12 miles) and inner waters.

14 Brunstad et.al. (2004) present three rather different scenarios for the future of Barents Russia as part of these processes.

Lassi Heininen

Barents Sea Energy Resources & Regional Cooperation: New Challenges and Opportunities

Since the start of the 21st century the Barents Sea region has been both rich in natural resources, and also has been a core area for intensive and increasing international cooperation, mostly between the Nordic countries and Russia, and inter-regional cooperation. Because of this there is an assumption that the region is a model for regional cooperation and can also act as an example for positive dispute management for other regions. If the first two facts are starting points of this article, the last one is still an assumption and subsequently also the hypothesis of my article.

State of the Barents Sea Region

Northern peripheries are indeed rich in natural resources, especially in energy resources like coal, natural gas and oil. There are many numbers, figures and statistics to show, or estimate, both the scale of these resources — either already utilized, under utilization or potential — and that of utilization in Northern regions[1].

The Arctic Human Development Report (AHDR) gives one of the recent numbers: according to the Report the annual gross product of the whole circumpolar North was in 2001 about $ 230

billion. This number is significant and essentially based on the intensive exploitation of energy sources "to meet energy needs of developed countries and the centres of them"[2].

The report does not give precise figures of the gross product of the Barents Sea region due to national statistics. However it gives estimates based on a rough calculation that includes on one hand, a large part of $153 billion, the annual gross product of the whole of the Russian North, and on the other hand, $33 billion, the total gross product of Northern-most counties of Norway, Sweden and Finland. These calculations and estimations are big enough on one hand, for scenarios like, for example, the (Russian) Barents Sea region as a "big oil playground", a "Russian Bear preserve" or a "European periphery"[3], and on the other hand, for growing volume of transportation[4] and concern about the environment[5].

As mentioned earlier, an intensive international and regional cooperation is not only a recent trend that is a result of current efforts, but it is also a result of rich tradition of regional social, cultural and trade relations between indigenous societies and other settlements on one hand, and on the other, between Northern peoples and communities, and southern capitals and other centres, and companies. These interactions continued after national borders were established, mostly independently of southern economic and political powers[6]. One example of the common, cooperative history is the Pomor trade, a bargaining trade between northern Norway and the White Sea region from the 18th to 20th centuries. Another is the North Calotte Peace Days between the Northern-most parts of Norway, Sweden and Finland as a part of the Nordic cooperation, and the Murmansk Region in the Soviet Union during the Cold War period, when the Barents Sea was one of the tense military 'theatres' of the two super-powers. The turn of the 1980s and 1990s meant a real boom of international cooperation in the Barents Sea region, or the North Calotte as it is called in the Nordic cooperation. The Barents Euro-Arctic Region (BEAR) was established in 1993 by the governments of

the Nordic countries, the Russian Federation, and the European Commission[7].

Progress Achieved

The recent boom of international and inter-regional cooperation by sub-national governments, indigenous peoples' organizations and NGOs can be taken as a continuity of the rich cooperative tradition. It can also be seen as an example of modern region building with nations as major actors, which are among the main themes, or trends, of circumpolar international relations and geopolitics at the beginning of the 21st century[8]. Indeed, the tradition of regional cooperation has been used as a metaphor for the Barents cooperative region[9].

Regional powers have achieved significant progress in international and regional cooperation and adopted new attitudes towards mutual cooperation[10]. However, there is still no sound common regional identity. The new strategy is based on a number of small and concrete steps such as promotion of Barents Dancers' network, which was an important step towards construction of a mutual trust regime. It was obvious that the outcome of the first ten years of the Barents regional cooperation was generally positive and significantly increased regional stability[11].

As a result, in the Barents Sea region there is now intensive inter-regional and international cooperation run by both active regional and local actors and supported by the governments of the Nordic countries and the Russian Federation with social and political innovations. Further, the Barents Region is currently an interesting geographical region and political entity as well as a geopolitical crossing-point, for international and regional cooperation. Correspondingly, the BEAR can be seen as an example of regional cooperation across national borders, in post-Cold War Europe, and interpreted as a success story of stability building according to the slogan of "cooperation instead of conflict" (although it maybe not yet a real "security community").

Even if the BEAR is an example of a modern kind of regional

cooperation and a success of stability-building, it is not, however, clear what this framework can be transferred to other regions, especially while addressing the linkage between energy and conflict prevention. Here, the definition of "conflict prevention" is based on Anna Lindh's conception. For instance, conflict prevention consists of two different, but equally important forms of positive activities, which are needed for conflict prevention (i.e. both long-term building of sustainable societies/peace-building exercises, and a direct operational and short-term conflict prevention[12]. Further, conflict and war between states have always been costly and dangerous but internal conflicts and/or civil wars are even more costly and dangerous because they destroy both property and trust. The top priority is to mitigate conflicts, in order to keep trust, as trust is the basis of all political life![13]

This article does not discuss the precise or practical implementations of "conflict prevention" or "positive dispute management" by the BEAR or the 'Barents model'. The main aim of the article is to describe the current geopolitical situation and international state of the Barents Sea region, hence putting it into a broader geopolitical picture. Another aim of this paper is to discuss challenges and opportunities of positive dispute management in the field of energy, and its further application to general conflict prevention strategy.

The Region in a Broader Picture

As a social scientist I would like to draw a holistic picture and put the Barents Sea region and the BEAR into a broader geopolitical set. This is necessary both for a better understanding of a place of the Barents region in the international affairs and for the definition of the impact of the BEAR model on conflict prevention and positive dispute management in other regions. Here, I propose to address four different geopolitical issues: a global competition in energy, the EU-Russia relationship, the circumpolar North and its geopolitics, and the Eurasian North.

The first issue, which includes energy security with a special

attention to oil and gas exploration and productions, access to resources, energy pricing and environment problems, has rapidly become a high profile international issue (e.g. the G8 Summit in Saint-Petersburg). The oil and gas industry is directly linked with the global competition for power, which is the case of Central Asia, rapidly becoming a new 'playground' for a number of global players like the EU, the US, Russia and China[14]. It is important to note that both the Barents region and Central Asia possess abundant hydrocarbon resources. Moreover, both regions are somehow considered as buffer zones next to the heartland of Eurasia, which Mackinder (1904) defined as the pivot area and "the greatest natural fortress on earth". We should note that the 'southern rim land' (Central Asia) is seen as a major harbour for international terrorism, especially after the 9/11 attacks.

In this geopolitical context, the Barents Sea region or the Eurasian North can be considered as a periphery and, therefore, the BEAR does not play any significant role. The region has an important place in world politics due to its important energy resources and strategic maritime routes[15]. However, this will depend on the strategic direction of Russian energy policy and Moscow's energy dialogues with the major global consumers such as the EU, USA and China.

The second geopolitical issue is the *EU-Russia relationship* including the Brussels-Moscow Energy Dialogue and establishment of the strategic partnership between the EU and the Russian Federation. Despite slow progress and existing difficulties, this issue is highly important for Brussels[16]. The cooperation between Brussels and Moscow is based on the four "Common Spaces": economic cooperation (including energy); freedom, security and justice; external security; research, education and culture. More specifically, the EU's Northern Dimension policy "addresses the specific challenges of those regions and aims to increase cooperation between the EU member states, the EU applicant countries and Russia"[17]. The Northern Dimension includes different areas of cooperation such as environment, nuclear safety and en-

ergy cooperation. Moreover, the "new" Northern Dimension, which was accepted by the European Union, the Russian Federation, Iceland and Norway in November 2006, includes the four "Common Spaces", plus environment, nuclear safety and natural resources, social welfare and health care[18].

According to functionalist and integration theory, common interests represent the main *raison d'être* to start cooperation.

In spite of this, in the post-Cold War period, at times, Russia has been taken as the 'Other' geopolitically, in the context of both Europe, and in the European Union[19]. However, there are good reasons to argue that Russia is not an exotic 'Other' but a keen and important part of Europe and thus, a natural partner, or even a party. Further, that Russian culture is "one of the most beautiful and brilliant achievements of European thought [...] of the past three odd centuries"[20]. There is a good reason to hope that the "new" Northern Dimension will promote this, because on one hand, it is still a part of the EU's external and cross-border policies, while, on other hand, the Northern Dimension is a common policy of the European Union, the Russian Federation, and Iceland and Norway with concrete and pragmatic activities, "providing a common framework for the promotion of dialogue and concrete cooperation, strengthening stability [...] and sustainable development in Northern Europe"[21].

In this context, the Barents Sea region plays an important role, because first, it is another geographical core and target area of the EU's Northern Dimension together with the Baltic Sea region, and second, the Barents Euro-Arctic Council is one of the regional councils recognized by the EU's ND[22]. Even more important is that the BEAR has potential and good possibilities to bring together the EU (especially because the European Commission is one of the founding members of the BEAR), the Russian Federation including Northwest Russia, and Iceland and Norway. Geopolitically this is even more important, which makes it even more politically significant and academically interesting,

Here, although the European attitude of Russia as the 'Other'

has also its reflections in the Barents Sea region, the region, especially the BEAR cooperation, can be interpreted both as a forerunner for a new kind of common Northern European policy planned under the auspices of the new Northern Dimension Framework, and as example, even a model, for European/EU-Russia relations in general and especially dealing with North Europe.

The third geopolitical context is *the circumpolar North* with its special international relations and geopolitics. This tradition of regional cooperation and social interaction between indigenous people was frozen by military tension and the threatening atmosphere of the Cold War period, but re-opened by Soviet Perestroika. A big part of the circumpolar North is the Eurasian North, the rim land of the 'heartland' of the world, Eurasia[23]. Several aspects of modern international cooperation and flows of globalization are present here at the beginning of the 21st century[24].

Based on the AHDR, the three main themes of Circumpolar International Relations and Geopolitics are:

- An increasing circumpolar cooperation through indigenous peoples' organizations and sub-national governments;
- 'Region-building' process with nations as major actors (e.g. the Arctic Council and the Barents Euro-Arctic Region);
- The Arctic Region's relation with the 'outside world', that has recently become more intense[25], and includes, for example, global environmental issues and the Northern dimensions[26].

In this context, the BEAR plays a unique role in the circumpolar political relations, mainly due to a mosaic structure of the major actors present in the region (regional governments, local authorities, private sector and civil society) The central governments of the eight Arctic states try to control strategic activities, but they cannot determine everything or take complete control. However, there are a number of local actors who enjoy noticeable freedom

of actions and are often able to shape the agenda.

The institutionalized two-level structure of the BEAR is its unique political phenomena. It includes the Barents Euro-Arctic Council, composed of the government representatives, and the BEAR Regional Council, representing the interests of sub-regional governments and the Indigenous peoples' organizations. For instance, this structure helmed the Saami ethnic group to increase their weight in the regional affairs.

Thus, the BEAR is an excellent example of stability-building structure in the post-Cold War circumpolar North, and this policy model has a certain 'export potential'[27].

The fourth and final geopolitical context is *North Europe,* a new 'old' concept for the Barents North. It includes both Western countries (Denmark, Sweden), and Eastern powers like Russia, and was very often seen in the past as a 'battlefield' between the East and the West. However, since the start of the 21st century, it has been one of the most dynamic regions in Europe, at the crossroad between the West and the East.

North Europe is composed of five Nordic countries and three autonomous regions. It is widely seen as a distinctive region with common history, cultural, political and social values between nations who share the same kinds of (modern) values (i.e. democracy, social security and equality[28].

Despite some difficulties in trans-national cooperation, the Nordic region could be seen as a 'success story' of European regional integration.

The Nordic integration is mostly emerging through joint institutions like the Nordic Council for the parliamentarians of the five States and the Nordic Council of Ministers (NCMs) for the governments. Indeed, the Nordic countries have a long history of political cooperation: the five Nordic countries were united under the Union of Kalmar (1397–1523); now they are all (except the Faeroes) members of either of the EFTA or the European Economic Area. However, there is also an element of regional fragmentation, as very often these countries do not belong to the

same political, economic and military organizations.

The Nordic example of regional cooperation is very often seen as an example to follow in the rest of Europe due to the stability, close cooperation and high living standards of the Nordic countries. Thus, the Nordic region can play an important role in European, and even world politics, as has been already proved by a number of historical examples. For instance, in the early Middle Age, the Vikings exercised a significant influence in the North Atlantic, Russia and across Europe, and in the 19th century, the Grand Duchy of Finland was the 'European window' of the Russian Empire.

The 'Nordic influence' on European politics is especially visible in the areas of arms control and disarmament. Moreover the concept of 'peace' itself is seen as a specifically Nordic feature, mostly due to the absence of violent clashes between Nordic countries. Perhaps, as a zone of 'negative peace', the Nordic Region "has been *the* area in Europe where there has been least expectation of conflict", due to the lack of ethnic and cultural differences, common political culture expressed in "interdependence and common institutions"[29].

The Barents Sea region could play important role in the future due to interconnection of a number of geographic, political and economic factors such as Arctic maritime route and important hydrocarbon resources. When the Arctic nations start the exploration of Barents Sea hydrocarbon reserves, the BEAR structures could be used as a framework for positive dispute management in environmental protection (air pollution, nuclear safety, etc.).

Discussion on Major Challenges and Possible Opportunities

Despite the Barents Sea region's promising future, limited resources, poor infrastructure and lack of capital can represent serious challenges for regional development. However, these impediments can be turned into advantages: semi-isolation very often

produces strong confidence in our own forces and leads to technical innovations.

Major challenges and opportunities in the Barents Sea region include:

- Competition among great powers for the scarce hydrocarbon resources may affect the regional stability. Thus, development of huge Arctic oil and gas reserves will affect the EU-Russia/US-Russia relations and, indirectly, world politics.
- This competition may indirectly lead to the re-militarization of the Arctic Region, which could be seen as a distinct security threat[30]. In the Barents Sea region this means that either the States of the region would try to secure their energy resources and have access to them in order to control them, and/or States from outside the region would like to have access to the resources or even try to occupy them.
- New opportunities may arise in the shared control/management of the region's water and land resources. The North Atlantic Marine Mammal Commission (NAMMCO) for regional cooperation on conservation, management and study of marine mammals and oil development on Alaska's North Slope is a good example of this kind of cooperation[31].
- The Barents Sea region is becoming a 'resource frontier region', meaning a periphery region rich in natural resources, but with a poor infrastructure and investment opportunities. Like most peripheries, the Arctic region generally will be likely "to continue to play a role as a reservoir of resources for the rest of the world"[32].
- However, innovative human capital and available technological solutions would help the Barents Sea region to avoid extreme dependence on its hydrocarbon reserves[33]. This may be a relevant policy issue for the EU 'Northern Dimension' policy.
- Last but not least: climate change may represent a serious

challenge for sustainable development of the Barents Sea region that has been debated since the mid-1990s (the BASIS Research Project) by the regional and international communities.

- Environmental conflicts, i.e. the existence of environmental, mostly man-made, hazards and problems like nuclear accidents causing environmental conflicts (e.g. transborder air and sea pollution, disputes in co-managed regions, problems of nuclear safety) may also damage regional stability and have negative socio-economic effects[34] Environment-related conflicts are very often fuelled by industrialization and urbanization, logical consequences of a growth-oriented economy. Another phenomenon is so-called "faith in technology", giving promises of proper technology and knowledge for the risks involved in the mass-scale utilization of natural resources, but in fact there are likely to be more risks than promises, as in for example the concept of a risk society argued by Ulrich Beck[35]. A new interpretation of faith in technology might be to think that there is some sort of "Arctic Risk Technology" for the impact of climate change in the North.

The Arctic Human Development Report (AHDR) underlined that "we need to improve our understanding of the roles that modern industrial activities play in the pursuit of sustainable development at the regional level"[36]. Therefore, we should not hurry and proceed with a mass scale exploitation of natural resources before acquiring environmentally friendly technology. Furthermore, that "if the nature in the North cannot take the industrial exploitation and pollution, is there any sense in investing into new technology, should the production be decreased instead?"[37]

Despite substantial technological progress in mining and petrochemicals, there is still "political inability" to regulate industrialization in the region, which Olav Scram Stokke defined as one

of the environmental threats to the Arctic environment together with "insufficient scientific knowledge" and "technological poverty" in the late 1980s[38].

Conclusions

Rich history of regional cooperation together with the achieved progress and outcomes of the cooperation are enough to prove the hypothesis that the Barents Sea region can be seen as a positive example of both international and interregional cooperation for other regions. The 'cooperation traditions' in the Barents Euro-Arctic Region (BEAR) have already been used as a successful example of 'region building' with governments as major actors in circumpolar international relations and geopolitics.

Thus, progress has been achieved in a short time, especially through decrease in tension and increase in peace and stability. That is the ultimate goal of the peace project of the West in the post-Second World War period in Europe and was reflected in a number of functionalist theories[39] claiming that an increase of stability is a precondition for confidence, that trust is the basis of all political life, and that confidence-building is a 'step by step' process. Northern Europe needs a new step forward — the creation of common Northern European policy under the auspices of the new Northern Dimension Framework. Here, the BEAR can be a good example to follow, even for EU-Russia relations through reframing perception of Russia.

Based on the progress achieved by general international cooperation, cooperation in science and higher education, and between many academics as well as other networks in the Barents Sea region, together with significantly increased scientific knowledge and traditional/local knowledge, there is a readiness to act as an example of positive dispute management in the field of energy issues in environmental protection, in the region as well as for other regions. Finally, dealing with both the context of the EU-Russia relationship, and that of the Eurasian North, the Barents Sea region can act as a workshop for major challenges, with

the aim to create the above-mentioned cross-cutting themes of research and development, and economics and 'tech-knowledge' for environmentally friendly and secure energy production, and to test and develop human responses to the impacts of climate change.

References

Archer, Clive, 2003. Introduction. In: The Nordic Peace. Eds. C. Archer and P. Joenniemi. ASHGATE, Great Britain, 2003, pp. 1–23.

Beck, Ulrich, 1992. Risk Society. Towards a New modernity. London: SAGE Publications.

Brunstad, Björn et al. 2004. Big Oil Playground, Russian Bear Preserve or European Periphery? The Russian Barents Sea Region towards 2015. Eburon Delft 2004.

Caulfied, Richard, A., 2004. "Resource Governance". In: *AHDR (Arctic Human Development Report) 2004*. Akureyri: Stefansson Arctic Institute, Reykjavik, Iceland. p. 121–138.

Cooper, Robert, 2004. "Notes on Conflict Prevention". In: *Developing a Culture of Conflict Prevention. 2004 Edition.* Ed. by Anders Mellbourn. Anna Lindh Programme on Conflict Prevention. 2004 Edition. Madariaga European Foundation. The Bank of Sweden Tercentenary Foundation. GIDLUNDS. Södertälje. p. 47–52.

Declaration on cooperation in the Barents Euro-Arctic Region. Conference of Foreign Ministers in Kirkenes, 11 January 1993 (mimeo).

Duhaime, Gerard, 2004. Economic Systems. In: *AHDR (Arctic Human Development Report) 2004*. Akureyri: Stefansson Arctic Institute, Reykjavik, Iceland. p. 69–84.

EARTH HEARING: A short summary in English. Wednesday 26.7.1989. At the International Peace and Environment Festival in Murmansk in July 1989.

European Union, 2003. "The Second Northern Dimension Action Plan (2004–2006)".http://europa.eu.int/external_relations/north_dim/ndap/ap2.htm (12/11/2003).

Frantzen, Björn and Bambulyak, Alexei, 2003. Oil Transport from the Russian part of the Barents Region on July 1, 2003. Barentssekretariat. Svanhovd miljösenter. http//www.svanhovd.no/nhetsarkiv/OilTransport.Eng.PDF

Feasibility Study, 2005. "Northern Eurasian Geopolitics: from Technology Models to Resource Models, Corporate Globalization, Environmental

Conflicts and Societal Responsibilities" for a Nordic-Russian Research Project. Lassi Heininen (University of Lapland, Finland) and Björn Gunnarsson (University of Akureyri, Iceland). Final Draft of December 2005. (mimeo)

Final Report. International Summer School in Karelia (ISSK'05), "Eurasia". July 4–10, 2005 in Petrozavodsk, Russia. Eds. by L. Heininen and H. Peltonen. Aleksanteri Institute, University of Helsinki. Helsinki 2005. www.Aleksanteri.fi

Gaiffe, Marie-Ange, 2004. "Towards a Stronger Role for Europe as an International Actor". In: *Developing a Culture of Conflict Prevention. 2004 Edition.* Ed. by Anders Mellbourn. Anna Lindh Programme on Conflict Prevention. 2004 Edition. Madariaga European Foundation. The Bank of Sweden Tercentenary Foundation. Gidlunds. Södertälje. p. 16–22.

Golovnev Andrei, 2001. Two Northern Stories Meet Two Northern Projects. In: *North Meets North. Proceedings of the First Northern Research Forum*. Eds. by Thorleifur Stefan Björnsson, Jon Haukur Ingimundarson, Lara Olafsdottir. Stefansson Arctic Institute & University of Akureyri. Akureyri, Iceland. P. 45–48. (also available in the NRF web page: www.nrf.is)

Gounaris, Elias, 2004. "Dialogue of Civilizations: from Theory to Action". *Public Forum Nr. 1/2004*.

Grimsson, Olafur Ragnar, 2006. Presentation in the 1st Plenary at the 4th NRF Open Meeting in Oulu and Tornio, Finland, and Haparanda and Luleå, Sweden, October 5–8, 2006.

Guidelines for the Development of a Political Declaration and a Policy Framework Document for the Northern Dimension Policy from 2007 (adopted 21 November, 2005)

Heininen, Lassi, 2006a. "Northern Eurasian Geopolitics — searching for a holistic picture." A presentation at the International Conference "Revisiting 'Euro-Asia' — Cultures, Connections and Conceptualizations" in February 13–16, 2006, Chandigard, India. Work in Progress, draft of February 2006.

Heininen, Lassi, 2006b. "The Nordic Region as a distinctive region in Europe and world politics, and the/a Nordic peace". In: Final Report of the International Summer School in Karelia 2006. Eds. by Andrey Demidov and Lassi Heininen. (mimeo, and also in Internet)

Heininen, Lassi, 2006c. "Environmental Conflicts in the Eurasian North". A presentation at the International Conference "Perspectives on Eurasia". September 4–6, 2006, Tampere, Finland.

Heininen, Lassi, 2006d. "Changes in Problem Definition of Security in

the North through the nuclear problem of the Barents Sea region". In: *McGill International Review, Fall 2006*. (Forth-coming)

Heininen, Lassi, 2005a. "Northern European Geopolitics: Northern Dimension and 'Northernness' — an essay". In: *Northern Sciences Review 2005 — Northern Dimensions and Environments*. Eds. by Lassi Heininen, Kari Strand and Kari Taulavuori. Oulu University Press, Oulu, 2005. p. 13–50.

Heininen, Lassi, 2005b. About European-Russian Relations. Written presentation in International Conference "Agenda 2007: the Northern and the Eastern Dimensions of the EU's Policy in the Context of the Neighbourhood Strategy. Perspectives for the Northwest of Russia" in October 2005 in St. Petersburg, Russia.

Heininen, Lassi, 2004. "Circumpolar International Relations and Geopolitics". In: *AHDR (Arctic Human Development Report) 2004*. Akureyri: Stefansson Arctic Institute, Reykjavik, Iceland. p. 207–225.

Heininen, Lassi, 2002. "Building a partnership — Russia as a part of Europe" In: Northern Borders and Security — Dimensions for Regional Cooperation and Interdependence. Ed. by Lassi Heininen. Yritystoiminnan tutkimus- ja koulutuskeskus, julkaisusarja. Turku School of Economics and Business Administration, Turku. p. 97–138.

Heininen, Lassi and Segerståhl, Boris, 2001. "Nuclear-waste Policy, International Negotiations and Ecological Restoration in the Barents Region". In: *The Struggle for Russian Environmental Policy.* Edited by Ilmo Massa and Veli-Pekka Tynkkynen. Aleksanteri Institute. Kikimora Publications — Series B: 17 Helsinki, Saarijärvi. p. 159–180.

Helander, Elina, 1996. "The Status of the Sami People in the Inter-state Cooperation". In: *Dreaming the Barents Region: Interpreting Cooperation in the Euro-Arctic Rim. Ed. by Jyrki Käkönen*. Research Report, No. 73. Tampere Peace Research Institute, Tampere. p. 296–306.

Hettne, Björn, 1994). The New Regionalism: Implications for Development and Peace. In: Björn Hettne – Andras Niota: *The New Regionalism*. Forsa: The United Nations University. WIDER. Research for Action. p. 1–49.

Hönneland, G., 1998. Worlds Further Apart? Identity Formation in the Barents Euro-Arctic Region. In: *The Barents Region Revisited*, *Conference Proceedings,* G. Flikke, Ed. (Norwegian Institute of International Affairs, 1998). P. 79–93.

Liuhto, K. (2001): Russian oil and gas — A Source of Integration. Paper presented at the Aleksanteri seminar "Dimensions of Russian Regionalism", 23 November 2001, University of Helsinki. (mimeo)

Mackinder, Halford, 1904. The Geographical Pivot of History. *The Geographical Journal, Vol. XXIII. No. 4, April, 1904*. p. 421–444.

Mitrany, David, 1966. A Working Peace System. Chicago.

Newsweek, October 9, 2006. Is the Oil Boom Over?

Northern Dimension Policy Framework Document. Eastern Europe and Central Asia. Meeting doc. 251/06 REV 1. CION. Date: 19/09/2006. (Approved in 2006 and effective as 1 January 2007)

Petersen, O., 2002. The Vision that Became Reality. The Regional Barents Cooperation 1993–2003. The Barents Secretariat. Kirkenes, October 2002.

Political Declaration on the Northern Dimension Policy. Eastern Europe and Central Asia. Meeting doc. 237/06 REV 1. Commission. Date: 15.09.2006.

Schweitzer, Peter, 1997. "Travelling Between Continents". *Arctic Research of the United States. Vol. 11, 68–72 Spring/Summer*.

Shelley Toby, 2005. OIL. Politics, Poverty & the Planet. ZED BOOKS. London & New York.

Sihvola, Juha, 2006. Suomen ulkopolitiikan etiikka. *Tieteessä tapahtuu 3/2006, 5–14*

Spykman, Nicholas, John, 1944. America's Strategy in World Politics. New York.

Stokke, Olav, Scram, 1990. "Environmental Threats in the Arctic". In: *Arctic Environmental Problems, L. Heininen, Ed*. (Tampere Peace Research Institute. Occasional papers No. 41, Tampere, 1990), p. 22–41.

Stoltenberg, Thorvald, 1993. Barentsregionen. Et regionaliseringsprojekt I det nordligste Europa. Aktuelle utenriksspörsmål. Det Kgl. Utenriksdepartement Nr. 1/93–April 1993.

Trenin Dmitri, 2002. The End of Eurasia. Russia on the Border between Geopolitics and Globalization. Carnegie Endowment for International Peace, USA. (2nd edition of 2003)

Tunander, Ole, 1997. "Post-Cold War Europe: Synthesis of a Bipolar Friend-Foe Structure and a Hierarchic Cosmos-Chaos Structure?" In *Geopolitics in Post-Wall Europe. Security, Territory and Identity*. Eds. by Ola Tunander, Pavel Baev, Victoria Ingrid Einagel, London: PRIO, SAGE Publications. p. 17–44.

UPI News 2005. "Analysis: Oil Rich Norway's Troubles" by Roland Flamini.

Waltz, Kenneth, N., 1979. Theory of International Politics. McGraw-Hill Inc., New York.

Young. Oran, R., 1992. Regional Cooperation in International Society:

The Arctic as a Multiple Use. Region. An essay. (mimeo)
Young, Oran and Einarsson, Niels, 2004. A Human Development Agenda for the Arctic: Major Findings and Emerging Issues. In: *AHDR (Arctic Human Development Report) 2004*. Akureyri: Stefansson Arctic Institute, Reykjavik, Iceland. p. 229–242.

Notes

1 E.g. Liuhto 2001
2 Duhaime 2004
3 Brunstad, et all 2004
4 E.g. Frantzen and Bambulyak 2003
5 E.g. UPI News 2005
6 E.g. Heininen 2004, 207
7 See Declaration 1993
8 Heininen 2004
9 E.g. Stoltenberg 1993
10 E.g. Hönneland 1998
11 Heininen 2004, 215–216, and 2002
12 Gaiffe 2004, 20
13 Cooper 2004, 47
14 E.g. Trenin 2002, 58, 63 and 111
15 Heininen 2006a
16 E.g. Heininen 2002
17 European Union 2003
18 See Political Declaration on the Northern Dimension Policy 2006
19 E.g. Tunander 1997
20 E.g. Gounaris 2004; Heininen 2005b
21 Northern Dimension Policy Framework Document 2006
22 E.g. European Union 2003
23 As a geographical and geopolitical term Eurasia is known best in Russia, and it has faced some sort of renaissance also in Europe at the beginning of the 21st century (e.g. Final Report 2005).
24 E.g. Feasibility 2005; Heininen 2006a
25 E.g. Grimsson 2006
26 Heininen 2004
27 E.g. Heininen 2004, 215–216
28 E.g. Heininen 2006b
29 Archer 2003, 5–19
30 E.g. Heininen 2004, 218–220
31 Caulfield 2004, 130–134).

32 E.g. Duhaime 2004, 82
33 See also Heininen 2005b
34 E.g. Heininen and Segerståhl 2001
35 E.g. Beck 1992
36 Young and Einarsson 2004, 239
37 EARTH HEARING, Wed. 26.7.1989
38 Stokke 1990
39 David Mitrany, 1966

Anatoli Bourmistrov & Jan Oddvar Sørnes

High North Cooperation between Russia and Norway — The North Western University Alliance

Introduction

In this chapter we tell a story about education and research cooperation between Bodø Graduate School of Business (HHB), and the North Western University Alliance (NWUA). Our story focuses on the outcome value of this cooperation, in a competitive environment, and some of our strategies and methods used to meet our goals.

While researchers and practitioners usually talk about cooperation or competition, Stanislav (2004) argues that a "paradigm shift is required — the issue isn't cooperation or competition, but rather cooperation and competition". In our case, all of the cooperating partners aim to meet individual goals, by focusing on a common objective. That is the nature of our business. This opens up for win-win situations, according to Stanislav, where the world is more stable and where cooperation and competition lead to more efficient use of resources and services. Another measure for the quality of cooperation, addressed in this chapter, is how knowledge is accessed and the speed of learning. According to Grant and Baden-Fuller, the important question is the following: How fast can you learn in order to gain advantage? The level, or amount, of cooperation is also addressed, and here we

rely on Deutsch's "crude law" that asserts that cooperation leads to cooperation[1].

This is evident in the story of NWUA and how it has developed through the past 15 years.

The need for cooperation is obvious in the area of education and research. We need to provide our students with the best literature and the best teaching, and through this, introduce them to the best international scholars in a particular field. We need to let our students travel — to other universities, countries, and work in foreign organisations, in order to give them an international experience. This is highly valued by companies hiring our students, and as researchers and teachers we like to think that we graduate better students by giving them these opportunities to learn about foreign countries, new languages, and new cultures. The focus on the academic staff is equally important for the same reasons, but beyond this, it is the academic staff that is the driving force — the engine — in developing university alliances such as the NWUA. In addition, a skilled and efficient administrative support staff is needed for certain aspects of such cooperation to function well. Tasks of a practical nature — such as visa application and handling, are examples of such support. In order to succeed in these areas, cooperation with other institutions is critical, and particularly for attracting resources and funding. Another key point in this story is the focus on individual actors — or "context ambassadors" as we label them. As Triandis (1977) notes, once you identify different individual motivations, it is possible to make inferences regarding an individual's behaviour. The motivation by the individuals, and their organisations, described here, is their ability to turn visions into actions as members of "epistemic communities". But the question still remains: Why does cooperation succeed in some cases but not in others?

In this paper we describe and analyse, based on institutional theory and our story of cooperation in education and research between HHB and the NWUA. While our aim is to describe several projects, we focus particularly on the development of grad-

uate programmes in Energy Management. First, we briefly describe the narrative method used in this chapter, followed by a section which describes the fifteen year history of cooperation between HHB and the NWUA. We then turn to recent developments — establishment of new education and research programmes targeting the needs of the High North and particularly our programmes in Energy Management. The chapter concludes by an analysis of our story of cooperation, in order to develop a model which can elaborate the key factors for successful cooperation, between institutions involved and what implications can be derived.

The Story of our Cooperation

In recent years, the social sciences have placed more value on interpretative story telling. This has occurred in part because of the awareness that stories have powerful pedagogical effects. Teachers are perceived as more attractive, and students remember more about their presentations, when they explain conflicting positions on an issue using stories rather than arguments[2]. Narrative development is particularly useful for our work because our stories exhibit the goals and intentions of human actors and in doing so make disparate data into comprehensible wholes[3].

A good working definition for narrative is provided by Luhman and Boje (2001), who uses White (1987) to delimit it as "the act of an individual, a group, or a society, who construct their understanding by changing 'knowing into telling,' and, in doing so, "endow experiences with meaning," and subsequently send messages "about the nature of a shared reality"[4]. People who use narratives share a fundamental interest in making experiences sensible, and in constructing and communicating meaning[5]. And by using language to tell stories, people bestow their action (and the lack of it) with meaning[6].

Narrative is useful for studying international collaboration because it gives time a human form and it allows for understanding and changing the effects of our actions and subsequently to alter

the direction of our practices[7]. Stories focus on action, agency, and consciousness that develop through a story structure[8]. Also important to understanding stories is punctuating them[9] by giving them a beginning and an end and a particular, repetitive pattern of interaction[10]. What makes narratives challenging for understanding international collaboration is that one must fill in missing premises and information in a story by drawing one's own conclusions from it about what's causing what[11]. Important for understanding narratives, rather than as straightforward stories where the conclusion and key points are well telegraphed, an interesting narrative reveals its meanings in layers that gradually unfold, often surprisingly, as the story progresses. These dramatic conditions make the narrative useful for sense-making under complex conditions because any single event can change a story's progress in significant ways, even though it may not be apparent at the time they happen[12].

Origin stories, such as this one, are a distinctive form of narrative in that they account for how something "began to be"[13]. The sequence of stories connects one's past to the present and marks important events while affirming beliefs and values about cause-and-effect relationships. Analysing narrative sequence is useful for interpreting the meaning of events because the best way to gain an understanding of people's personal understandings of the outcomes of human experience (i.e., why something happened) is through narrative accounting[14].

Education and Research Cooperation in the North-Western University Alliance

Our story starts with dramatic reforms, which began in the beginning of the 1990's in Russia and countries of the former Eastern Block — to a large extent inspired by the achievements of Western societies. The main ideas of the transition were the construction of a Western-like democratic society and market oriented economy. For Eastern societies it meant unlearning mechanisms used for the purposes of the former centralist state and planned

economy, and learning new ideas from the West. However, the main lesson learned with time was perhaps that willingness of central politicians is not enough for a successful transition of any society. It also requires transformations on "a smaller scale", i.e. changes in all institutions of the society and particularly in the ways the people think and act. Transition in the East, thus, required new types of education, new ways of educating and education.

In this sense, Russian educational institutions had a particular challenge during this transition. To build up the institutions needed in the market economy, new types of specialists were required. They had to be familiar with new subjects like marketing, corporate finance and other fields of business administration. Though these fields were common for Western business schools they were practically unknown to the majority of the Eastern universities[15]. These subjects had to be "invented" in the universities and taught to students. There were several ways to do so, e.g. by making translations of Western courses and textbooks, by inviting guest lecturers from or/and by collaborating with Western universities. The West was willing to participate in helping the East to complete the transition, and there were financial resources available from different public and private funds and organisations in Western countries. Many projects were initiated and were directed on giving needed "competence aid" to the educational institutions of the East. The aid nature of the undertaking implied that "the West knows best" about what economic and management subjects should be taught in Eastern universities and how this should be done[16].

Since the 1990s, Bodø Graduate School of Business (HHB) has been building cooperation in the field of business administration education and research with three universities in the North-West of Russia, i.e. Baltic State Technical University (BSTU) in St. Petersburg, Murmansk State Technical University (MSTU) and Arkhangelsk State Technical University (ASTU). The democratisation and openness policies of the Russian state led to increased

communication between local authorities in Norway and Russia. A cooperation agreement between Nordland County (Norway) and Leningrad County (Russia) included among other things cultural exchange and cooperation between business enterprises. Being situated in Nordland County, Bodø Graduate School of Business took advantage of this agreement and entered into a co-operative relationship with educational and research institutions in the North-West Russia, particularly Baltic State Technical University (BSTU) located in St. Petersburg. This was not only the starting point, but also the major turning point in our international cooperation with Russia.

Cooperation with BSTU

Being entirely an engineering and military oriented university, BSTU was very motivated towards adapting to the new situation in society and expanding into subjects of business administration. HHB received funds from the Norwegian authorities and gave in the period 1993–1997 short-term courses for engineering students in the main fields of business administration at BSTU. Around 500 engineering students at BSTU participated in these courses, and some of them continued their education at HHB in Norway as the project was extended in 1994 to also include student exchange. The Norwegian Ministry of Education and Research through the Quota Programme has financed this part of the student exchange programme. From 1993 to 2005 around 90 students from BSTU have studied and received diplomas of Master of Science in Business from HHB. As much as 75% of students have returned to Russia as they were offered attractive jobs in Russian enterprises or Russian offices of international companies. Three Russian students have also completed their Ph.D. in Norway. However, mobility needs to work both ways in order to be successful. Exchange has also allowed Norwegian student to travel to Russia. A group of approx. 10–20 students annually went to Russia on shorter study trips. During the stay in Russia, Norwegian students visited Russian, Norwegian and internation-

al enterprises operating in St. Petersburg. In addition, they were given introductory lectures about Russian business practice.

During this period of collaboration research activities did gradually became a natural part of the project activities and allowed institutions to accumulate considerable knowledge about doing business in Russia. Master theses, reports, working papers and scientific articles were outputs of the cooperation. Some of these articles have been published in international acclaimed journals. Another natural outcome of the student exchange programme and emerging research was increasing the involvement of cooperating institutions into contacts with domestic and international business enterprises and public organisations.

By the end of 1997, it was clear that the cooperative efforts between BSTU and HHB had given fruitful results. The main outcomes of this stage were 1) a well-developed and tested model of how to give Western business administration courses at a Russian university, 2) an integrated student exchange programme, 3) well established contacts with enterprises and 4), and research activity.

These results gave a solid foundation to develop the cooperation further. As the Russian economy was growing, a huge demand for managers for the industrial enterprises was needed. These specialists for production enterprises would be better off if they possessed both business administration and engineering/technological competence. BSTU decided to focus on graduating specialists for industrial enterprises and HHB wanted to assist BSTU, and agreed in 1997 to extend the cooperation by developing a Masters programme in Business Administration and Engineering (MBAE). The programme had to function as an internal programme at BSTU and the idea was to combine comparative advantages of the Russian (e.g. engineering) and Norwegian (e.g. business administration) partners involved. A student would start at BSTU by taking courses in engineering according to the ordinary programmes offered by BSTU. However, in years 4 and 5 their major would become subjects within business administra-

tion. A successful performance in this programme would allow some students to participate in a student exchange programme as well. The two-year Masters of Science programme and the Ph.D. programme at HHB were a possible line of progression for students.

The development of the programme was challenged due to differences in the education systems in Russia and Norway[17]. There were considerable differences in the regulatory environment of institutions, as well as differences in education and research traditions. For instance, the Russian education system was much more hierarchically regulated and required compliance to the detailed ministerial instructions rather then in case of the Norwegian education system. The scope and breadth of education programmes were different and the learning processes were differently organised in Norway and Russia. Even examinations were organised differently. Hence, the cooperation was much dependent on the mutual learning process in order to find ways how two different systems can be integrated for the benefits of cooperation. One important sub-goal of cooperation during this period was an intensification of individual collaboration between Norwegian and Russian professors. A research link using internet and e-mail was also established. To discuss the education and research projects several research seminars and practical oriented workshops were organised in St. Petersburg. To show how Western business schools operates, most of the Russian teachers got the opportunity to stay for at least one month at HHB in order to conduct their self-study and research, and to give guest lectures and seminars. Teachers also had to share membership in the research networks in which professors from HHB were involved. As a result, it was possible to develop courses which satisfied the Norwegian and Russian quality criteria. Another result was that several papers were presented by Russian teachers at international conferences. Some of them were published in international journals. An important milestone, and an important contribution to the programme, was made when one of the former students at

BSTU completed and successfully defended his Ph.D. thesis in Norway in the field of Business Administration.

This cooperation to establish this programme was primary financed by the Cooperation Programme for Central- and Eastern Europe, which made funds available for five year grant period (1997–2001). The full responsibility for the programme was taken by BSTU after 2001. From 1997 to 2005 around 170 students have graduated the MBAE programme in Saint-Petersburg. All of them managed to adapt to the modern business environment and get high-qualified jobs in Russian and foreign enterprises. Some of these students continued their education at HHB.

Russian and Norwegian political authorities provided considerable support to the cooperative project. The support of the Committee of Science and Education in the City Administration of St. Petersburg and the Russian Ministry of Higher Education and Research was realised in accreditation of the programme by the Russian Ministry of Higher Education and Research. It granted BSTU the right to issue a state diploma and the qualification "Master of Business Administration". The project has also received attention from highly-ranked public officials. Russian vice-minister of Education Vladimir Galanov visited HHB in 1999 to celebrate the graduation of Russian students from HHB. The Norwegian consulate in St. Petersburg supports the project in many ways, e.g. issuing visas to travellers, representing Norway at opening and graduation ceremonies. The most prominent example of the political support to the project was a visit of the Norwegian Prime-Minister Jens Stoltenberg to BSTU in June 2001. This visit underlined the important contribution BSTU and HHB have made in cooperation between the two nations.

Cooperation with MSTU

In 1999 the Norwegian Ministry of Defence invited education institutions in Northern Norway to submit proposals for a retraining project for the Russian military officers of the Northern fleet. The project site was Murmansk and the invitation was based on

an initiative from the Russian Ministry of Defence. HHB was chosen by the Ministry of Defence to carry out this project. The idea of the project was to retrain Russian military officers to civil occupations and secure their social adaptation through providing them with jobs. Together with the Ministry of Defence, HHB developed a set of criteria for choosing a Russian partner institution. The choice was Murmansk State Technical University (MSTU). HHB has a long history of cooperation with MSTU, starting in the beginning of 1990's when staff from HHB in cooperation with MSTU developed entrepreneurial courses for Russian women.

Experiences gained in cooperating with BSTU allowed partners to design and successfully implement the retraining model. The programme is fully financed based on annual contributions by the Norwegian Ministry of Defence. The project has been a success due to both its social importance and high level of training quality, and the programme helps to reduce social problems in North-West Russia. Approximately 1200 officers have been retrained and graduated from the courses. The evaluation of the programme and former students showed that around 75% of students found new jobs immediately or within 10 months after completing the courses.

For MSTU the programme allowed to try out different specialisations that were also used in other programmes. Through HHB, MSTU has gained access to network institutions and experience from other programmes in which HHB is involved. HHB has also gained valuable experience in running education programme with such a demanding group of course participants. The model of teaching with translators has been developed (lectures by Norwegian professors are translated by experienced Russian Masters students from Bodø). The retraining model has been successful and was transferred to a similar project in Ukraine. This programme started in 2002, and more than 400 officers have been retrained.

Cooperation with ASTU

Integration of Russia in the international community created a growing need for well-trained specialists and managers with business administration education. Recognizing this need back in 1998, HHB and the Institute for Economics, Finance and Business at Arkhangelsk State Technical University (ASTU) agreed to establish a two-year Master in Business Administration (MBA). The MBA is part the ordinary education programme at ASTU and focuses on international competence in the field of business administration. The two-year programme targets candidates with a high level of knowledge in English and at least two years of work experience. Enrolment is dependent upon receiving a good score in an academic enrolment test focusing on the level of proficiency in academic knowledge and in English.

The programme received financial support for the development stage till August 2006 from equal contributions — the Barents Secretariat and the Eurasia Foundation (USA)[18]. Once the development stages are over, the programme should be self-sustainable.

The curriculum is established in close cooperation between ASTU and HHB, and consists of courses in the field of business administration, including marketing, financial and management accounting, innovation management and financial management. The international focus prevails in these courses and most literature is in English. Norwegian professors visit ASTU regularly to give lectures in subjects highlighting international aspects of business administration. The Russian teachers responsible for the teaching also visit Norway regularly, to improve research competence and to work with Norwegian professors on mutual education courses and research projects.

The MBA programme at ASTU represents a catalyst for involving others in cooperation. ASTU and the MBA programme benefit from the cooperation with Baltic State Technical University (BSTU) in St. Petersburg. ASTU has established tight education and research cooperation with BSTU in running the pro-

gramme and because of this cooperation students are allowed a Russian state authorised Executive MBA diploma.

Russian political institutions were also involved in the programme to assure that the results of this project are made available for other universities and research institutions. For instance, the Russian Minister of Education, Mr. Phillipov, visited in June 2003 the Arkhangelsk region and participated at the conference "International Cooperation of Higher Education". The Minister was impressed by the cooperation with ASTU. The first students were enrolled in 2001, and the first graduated in 2003. Around 70 students have graduated from the programme up to now. By comparing the list of graduates from their previous positions (when studying at EMBA programme) and current positions, the conclusion can be drawn that the employment status for the graduates has been influenced by their EMBA education (e.g. changed from engineering to managerial job, from being a consultant to a CEO position).

Establishing the North-Western University Alliance (NWUA)

Ten years of HHB cooperation in education and research with ASTU, BSTU and MSTU have created favourable conditions for further cooperation. One of the major challenges which the Russian education system faced at that time was acceptance of Russian education programmes at different levels (e.g. Bachelor, Master and Ph.D.) by institutions abroad. One possible solution was a mutual integration of Russian and Western programmes, and their mutual acceptance of authorities and ministries. Both Russia and Norway have signed the Bologna declaration and are committed to its principles. However, it was important to bring visions to reality, and educational programme developed in cooperation between HHB and Russian Universities was a good example of such opportunities of integrating education programmes internationally.

All Russian universities recognised the urgent need for training and recruiting young teachers and researchers for their busi-

ness administration programmes. The former cooperation helped in establishing a faculty in the field of business administration. However, the sustainable development of education and research in this field at Russian universities was greatly dependent on the constant supply of competent researchers and teachers, capable of doing internationally oriented research, being fluent in English, as well as teaching on business administration programmes. The involvement of HHB in establishing such a programme would have guaranteed the international quality of the Ph.D. programme by assuring correspondence to the Norwegian Ph.D. level. These developments were also in the line of the prospects developed in the meeting between the Norwegian and Russian Vice-Ministers of Education and Research in 1998 in Bodø.

By recognizing these needs and opportunities, ASTU, BSTU, MSTU and HHB established the North-Western University Alliance (NWUA) in 2002. Financial resources were granted for the cooperation from the Cooperation Programme with Russia (2002–2006). Since 2002, the universities of NWUA have been involved in activities of an International Ph.D. programme in Business Studies, administered by HHB and BSTU.

Because of the differences between Russian and international Ph.D. regulations and research traditions in business studies, the programme required students to follow an extra academic year comprising specific courses in Bodø. Students have to stay for multiple one-month stays in Bodø where they attend Ph.D. courses, participate in discussions with supervisors, work in the library and on their course assignments. They also work on their proposal for their Ph.D. research. The additional year allows Ph.D. students time to be involved in teaching activities, and the idea is that they should give some lectures in the Bachelor or/and Master programmes — ensuring that they will gain some experience in teaching business administration courses.

The programme is based on ideas founded in the Bologna declaration. Each Ph.D. student is formally enrolled in the Ph.D. programme at HHB, but at the same time they have formal rela-

tions with a Russian university. Since September 2003, ten students have been enrolled in the International Ph.D. programme. Ph.D. students are employed by Russian universities, but the Norwegian Cooperation Programme with Russia (2002–2006) provides limited number of scholarships, which are meant to cover living expenses in Norway and Russia while studying. Russian universities also provide scholarships for Ph.D. students. The terms of financial support are subject to a formal agreement between each Ph.D. student and the universities involved.

Development of Energy Management Programmes

A new direction for the cooperation has been initiated after 2003 in the NWUA related to establishment of education and research in the field of Energy Management—focusing particularly on issues related to the High North. In light of discovered petroleum resources[19] in the Arctic regions, combined with decisions made by Norway and Russia on petroleum activities in the Barents Sea, the High North[20] is increasingly seen as Europe's new energy region. The area also provides a relative stable political climate compared to other oil/gas regions of the world, enhancing an international interest and commitment.

Cooperation in the High North: Increased Political Attention and Expectations

The potential in the High North has attracted much political attention. When former Prime Minister Kjell Magne Bondevik visited his colleague Prime Minister Fradkov in Moscow in June 2005, an agreement on energy cooperation in the Barents Region was signed[21]. This agreement puts special emphasis on development within oil and gas and includes coordination between commercial enterprises, authorities and research and development institutions, and states that the parties will cooperate

> …to develop common standards and principles for sustainable development of the petroleum sector in the Barents Sea.

Similarly, in a recent speech[22] at Moscow State University, the Minister of Foreign Affairs, Jonas Gahr Støre, said,

> …it makes such good sense for us to work together with Russian partners in the Barents Sea. The combined experience and know-how of Norwegian and Russian oil companies and authorities will create the best possible conditions for efficient development of the petroleum resources in these northern waters. Besides international partnerships build up national expertise.

In order to fulfil these grand goals, the outcome will rely heavily on how enterprises, authorities, research and education institutions collectively handle challenges that are specific to the High North. Perhaps most importantly, this region has unique environmental, societal characteristics and probably a very special role in the future global economy. The vulnerability of the Arctic areas necessitates strict requirements related to safe production and transportation, and increasing costs of surveillance. Furthermore, increased engagement of multinational companies in the region can collide with and even alter the culture, traditions, and languages of the indigenous people living in the region. The picture is complex and there are many uncertainties that must be handled in current and future exploration and exploitation of the vast resources in the High North. Energy production in the High North has to satisfy a number of often conflicting and complicated criteria, such as economic profitability, technological reliability and environmental/societal friendliness. Thus, a demand was expected for specialists familiar with the peculiarities of the oil and gas industries, possessing strong regional knowledge in relation to the High North and professional insight into the field of energy management, energy cooperation, diplomacy and geopolitics.

Energy Management Cooperation

To meet the political vision, and perhaps most importantly, to

offer current and future students relevant educational opportunities, the NWUA was strengthened by accepting a new member — Moscow University of Foreign Affairs (MGIMO University). Bodø Graduate School of Business has started cooperation with the International Institute of Energy Policy and Diplomacy, at the MGIMO University, which represent a well-known education and research institution in the field of energy management, geopolitics, energy security and diplomacy. Therefore, by involving MGIMO in the NWUA, it was possible to explore new possibilities in education programmes, i.e. Master of Science in Energy Management, Executive MBA and Ph.D. MGIMO, possessing unique competence in exploring and analyzing key geopolitical and macroeconomic factors affecting the world energy industry, and Bodø Graduate School of Business, on the other hand, specializing in management disciplines such as innovation, entrepreneurship, marketing, management control, transportation and ethical and environmental management, were partners who possessed the necessary expertise and experience to create these new programmes in Energy Management.

In February 2004, Bodø Graduate School of Business signed a formal agreement with MGIMO University, and established the Norwegian-Russian Institute for Energy Cooperation. The opening of the Institute and the M.Sc. programme in Energy Management was marked by participation of top politicians from the Norwegian and Russian sides — where Finance Minister P. K. Foss and vice-minister of Foreign Affairs A. Yakovenko participated. Three programmes were also developed during a very short period of time: the joint-degree "Master of Science in Energy Management", the Russian-Norwegian Executive MBA in Energy Management and the Russian-Norwegian Corporate MBA Programme for Rosneft "International Business in the Oil and Gas Industry."

Involving energy enterprises and the authorities in the cooperation has been important. International, national and regional energy enterprises such as Nordland County, as Norsk Hydro,

Statoil, ConocoPhillips and Rosneft (Russia) have, through participation, both secured relevance as well as provided financial resources for programme development. Enterprises have also provided part-time faculty staff at the institute.

Given the highly international nature of current and future activities related to energy exploration and exploitation in the High North, involving U.S., partners has also extended the present international network of universities to include faculty at Columbia University at Manhattan, Center for Energy Marine Transportation and Public Policy at the School of International and Public Affairs, and the University of Texas at Austin — Center for Energy Economics, and the School of Communication studies. In addition, adjunct professors, currently employed by Canadian Methanex Inc. in Washington DC, and the Consumer Energy Alliance, Houston, Texas, have joined our programmes part-time. These ties open up trainee positions for our students in the energy programmes.

Developing Energy Management Programmes: Bologna Declaration in Practice

Education systems in different countries nowadays are subject to internationally driven reforms. Cooperation within higher education and research still meet many obstacles as a result of different educational systems, lengths of study programmes, crediting systems, way of organizing the academic year, etc. Therefore, the Bologna process focuses on — among other things — promoting European and international cooperation in education by establishing joint degree programmes, increased quality assurance of cooperation in education and research, facilitation of academic collaboration, student mobility between academic institutions, and academic recognition.

Since Norway and Russia have signed the Bologna declaration, Bodø and MGIMO universities recognised that its principles should be taken as a foundation for development of the cooperative education programmes. For instance, the Master of

Science in Energy Management programme is a joint degree programme, where students should have one exchange year and receive the same diploma. This programme is the first one of its kind in Norway and Russia.

However, the way towards practical implementation of the joint degree programme was far from clear-cut. There were differences in the programme requirements from both Russian and Norwegian sides in terms of subjects to be included in the Master's programme curriculum, allocation of subjects per semester, and how many students should be admitted to the programme. The Russian system of standards was still based on counting class hours while Norwegian system was based on counting ECTS. Therefore, a particular challenge was to transform ideas, adhering to the Bologna declaration, into a complete programme.

The way towards an agreement between parties was the establishment of working groups on both Russian and Norwegian sides, and constructive dialogue took place between these groups where problems were discussed and ultimately solutions proposed. Formal and informal socialisation was an important part of the process, and members of the working groups visited each others' institutions, exchanged information about their institutions and their education practices as well as common presentations of the joint project at conferences and seminars. The dialogue and knowledge exchange between the working groups were mediated by individuals who had formal knowledge of both Norwegian and Russian systems, a cooperative experience between Bodø and other Russian universities as well as informal contact to members of the working group on both sides. Such mediation helped to clarify many emergent and possible misunderstandings and to reduce number of feasible alternatives for discussion. To the end, the constructive dialogue made it possible to introduce adjustments in both Norwegian and in the Russian parts of the programme so that the programme satisfied both Norwegian and Russian requirements in addition to requirements for a joint degree. The same working groups have also discussed practical mat-

ters in respect to tuitions fee, taking care of incoming students, their accommodation, etc.

The M.Sc. programme in Energy Management developed addresses and focuses on issues relevant for the energy field in general, but a special emphasis will be on the oil and gas sector. Student exchange is an indispensable part of the programme where students spend at least one semester at the partner university (see Figure 1). In addition, the programme is organised in such a way that students have at least one year together. This is done in order to strengthen students' networking potential. During the first semester, students enrolled in the programme will follow mandatory courses at their "home" institution. During the second se-

<table>
<tr><td></td><td colspan="2">The Exchange Year</td><td></td></tr>
<tr><td>1st Semester</td><td>2nd Semester (Bodø)</td><td>3rd Semester (Moscow)</td><td>4th Semester</td></tr>
<tr><td>Business Analysis
10 ECTS</td><td>Energy Management in the Norwegian Context
10 ECTS</td><td rowspan="3">Energy Diplomacy and Economy of Fuel and Energy Complex (FEC) Industries

30 ECTS</td><td rowspan="3">Master Thesis
30 ECTS</td></tr>
<tr><td>Economics
10 ECTS</td><td>The World Oil Markets, Government Relations, and the Environment
10 ECTS</td></tr>
<tr><td>Environmental, Philosophical and Ethical Issues
10 ECTS</td><td>Research Methods
10 ECTS</td></tr>
</table>

Figure 1. The model of joint-degree Master of Science in Energy

mester students from Moscow travel to Bodø, and together with Norwegian students, study two specialisation courses, in addition to a course on research methods. In the third semester both Norwegian and Russian students will be at MGIMO, in Moscow, where they study specialisation courses. During the fourth and final semester students will be at their "home" institutions, working on their master thesis.

The second programme developed was The Russian-Norwegian MBA Programme "International business in the oil and gas industry" for the Russian enterprise Rosneft JSC. In November 2005 MGIMO and Bodø signed an agreement with Rosneft and opened the MBA programme targeting middle and top management and administrative staff at Rosneft JSC and its subsidiaries. At the opening ceremony a Memorandum on cooperation was signed by Rosneft President Sergei Bogdanchikov, the Rector of Bodø University College Professor Frode Mellemvik and the Rector of MGIMO Anatoly Torkunov. The ceremony was also attended by Russia's Deputy Minister for Foreign Affairs, Alexander Yakovenko; representatives of the Norwegian embassy, Norwegian oil and gas companies Norsk Hydro and Statoil.

The programme has a two-year perspective (2005–2007), and is tailor-made for the needs of Rosneft with much focus on strategic management issues in the international oil and gas environment. The programme consists of eight modules, where six modules are run in Moscow, and two modules are run in Norway. The programme includes modules covering strategic management, human resource management, public relations, technology management and innovations, international diplomacy and security, politics, ethics and environmental regulation, managing big projects in O&G sector as well as writing a Master's thesis.

Discussion

When we analyse descriptions made in previous sections of this chapter, several factors and processes can be identified that are important to articulate in order to comprehend the story. Here,

we borrow some ideas from institutional theory as we explore a few questions. For instance, how the world of ideas was bridged with the world of changed practices? How were interpretations of the political visions materialised in the cooperative projects and practices of educational institutions? In order to answer these questions, we have to examine concepts like "visions" and "values", and later on turn to examination of cooperation in terms of institutionalisation theory.

"Visions"

In general an idea can be conceptualised as a set of beliefs, dreams, visions about things which should be done in the future[23]. The cooperation between Bodø and Russian Universities started because there was intention behind it, what Czarniawska (1996) call as "a purpose at hand", i.e. an idea about desired output or future results. In the North-Western University alliance, the idea was to help Russian technical universities to build strong faculty and education programmes in the field of business administration. In the Russian-Norwegian institute of Energy Cooperation, the idea was to establish joint degree education and research programmes for the future needs of the Norwegian-Russian cooperation in the High North. These ideas, however, emerged because there were political visions and governmental programmes focusing on the cooperation between Norway and Russia in education and research. There were also political visions regarding the role of education and research institutions in the globalised world (e.g. the Bologna declaration). All of these visions were important motives and facilitators for shaping cooperation between education and research institutions.

"Values"

Any institutional practices, whether education process or a research programme, can be seen to be constrained and governed by "values" shared by the institutional members, e.g. a set of institutionalised patterns of behaviour ("the way we do it here"),

cultures and traditions[24]. Values often constitute the actors' preferences for the way the things should be done in action, and are visible in terms of articulated "rationales" to support a choice of the action. In our case, before the cooperation started, Russian institutions had their ways of conducting education and research programmes and Norwegian institutions had theirs. Differences in values may represent important obstacles for successful cooperation, but also a starting point to find middle ground.

From "Ideas" to "Changing Practices": Institutionalisation and Learning Processes

The fifteen years' cooperation described in the sections above was successful because ideas and visions materialised into action and concrete results. The relevant question is therefore: how and what are new ideas materialised into and, consequently, how are organisational practices changed?

There are possibly two processes involved here. The first process is of institutionalisation/de-institutionalisation. According to the institutional theory, organisations may cooperate in order to gain legitimacy by adopting elements of new ideas from the environment in order to survive[25]. Because the need for and visions about cooperation between education and research institutions were articulated by national politicians and governmental officials, these provided legitimacy for cooperation on the institutional level. Attention to the cooperation from authorities on both Norwegian and Russian sides was important legitimating act. In many cases, financial resources from governmental institutions represented an indispensable condition for starting up the cooperation. Therefore the project-based finance was in itself an important reason for gaining legitimacy by demonstrating results of cooperation in terms of graduates, research publications, alumni lists, etc.

In the same way as new ideas may contribute to establishing new institutional order in cooperative programmes, it may also contribute to de-institutionalisation of old orders. New ideas

may contribute to "a-ha" discoveries when institutional members recognize that new ways of doing things are more legitimate than the older ones. Therefore, non-usefulness of established practices is closely linked to de-institutionalisation[26]. In the Norwegian-Russian education and research cooperation, for instance, it was important for Russian universities to unlearn the dependence on the Russian state as a financial provider and learn how financial resources can be gained from the market for education services, e.g. through successful recruitment campaigns, gaining support from enterprises and authorities in order to secure programmes' relevance, establish programme reputation and run programmes in self-sustainable economical terms.

In the institutionalisation process, the materialisation of ideas requires visions to be transformed into objects and actions at the level of organisation. In the cooperative project, values of Russian and Norwegian partners and especially differences in these values could have influenced the actors' ability to change the practice and shape the possible process of change. Therefore learning about each other's values was important part of the collaboration if visions should be materialised in practice. In cooperation programmes between HHB and Russian universities, partners learned in the course of cooperation about how values of the cooperative partner's world were constructed. Not until these values were confronted in the cooperative projects, have the members constituting the project group been aware of the differences in respect to education and research activities. For ideas of the cooperation to materialize in concrete meaningful actions, adjustment in values and attitudes towards each other's practices had to be made. Not until such adjustments were made meaningful was cooperative learning possible. New procedures and routines were intentionally developed by the cooperative project group through exploration of new possibilities, discovered in visions and emerging knowledge of cooperative partners' values, as well as exploitation of old certainties in its own traditions and systems. Own values had to be rediscovered[27]. The process of socialisation with-

in the project group was important in order to institute a new set of common values shared by the group, with own identity as a cooperative institution. Successful socialisation contributed to common value development in such a way that initial differences in values are not experienced as a threat to but rather an important means of promoting cooperation, allowing experimentation and later synergies and spin-off effects to appear.

"Context Ambassadors": Importance of Ethnography and Action Orientation in Cooperation

As we described above, the materialisation of ideas in an organisation requires transformation of visions into actions. Usually, this transformation of visions into actions requires presence of members of so-called "epistemic communities"[28]. They are conceptualised as a network of professionals who have expertise and competence in the relevant domain, who could claim to have solutions to particular problems[29]. The way from an idea to changing practices can be seen as a translation process[30], and members of "epistemic communities" are therefore indispensable in the process of translation and in this way they change organisational practices. They are represented by different kinds of consultancy enterprises and other professional institutions focusing on offering solutions to policy-makers. Member of "epistemic communities" can be viewed as mediating the institutionalisation process by translating visions into concrete practical solutions by both the way of learning and experimentation at the organisational level.

In the Norwegian-Russian cooperation described, the projects developed in quite another way. The project was developed and translations were made by the cooperative projects groups itself, represented by organisational members from HHB and Russian universities. Consulting professionals were involved to a very little degree and only in cases when there was a need for expertise in some particular areas like contractual relations, or taxation rules. These could be explained by the very nature of the cooperative

project and its perceived uniqueness, and by its complexity, because of the presents of two different contexts — one Russian and one Norwegian.

Unlike the projects implemented in a known context, the participants in cooperative projects are very often confronted by presence of another unknown context. Therefore, solutions developed in one context do not necessarily function in another context. There is not only the challenge of translating visions into practice, but also to develop practical solutions which function well in a cooperative venture shaped by two different sets of values and cultural backgrounds. Two parties in the cooperative project could propose different solutions to a perceived problem and even perceive the same problem in different ways. Differences in languages, cultures and traditions can be critical obstacles for developing a dialogue, which leads to misunderstandings in relations to observed experience. So, the successful cooperative projects require not only experts who can translate visions into concrete practical solutions but also develop them in relation to two different contexts.

The Norwegian-Russian cooperative projects developed programmes which functioned in relation to both contexts. In our opinion it was because individuals involved in the projects from the Norwegian and Russian sides were capable of understanding the major challenges and finding the right solutions. We call these individuals as "context ambassadors", i.e. people who can transform ideas into the practice in the action space on the edge of two different contexts. "Context ambassadors" are people who are able to understand other cultures and traditions and use this understanding for purposeful development of new solutions.

In general, when there are problems of understanding something because there are two different contexts or, to put it in another way, there is a disjunction among different traditions, we have an ethnographic problem[31]. A good cooperative project therefore depends much on those who are involved in it are able and willing to make deeper analysis of meanings attached to co-

operative partners' behaviour. It is often conceptualised as "living another culture" and addressing "lived experience" of individuals from another tradition[32]. The emerging understandings should be based on making meaning out of how experience/practice of individuals in a different tradition is organised[33], and the meaning behind practice and its foundations should be therefore rediscovered. The consequence of the ethnographic approach is that in order to make sense of a "different" practice, partners in a cooperative project have to be present within the culture of other cooperative partner until the understandings emerge. This could be only achieved by institutions, which are committed to long-term cooperation and not only to fulfilling a particular project. The cooperation in itself is becoming an important international institution.

An ethnographic approach is also important because it may help to build understandings of sources for cooperative problems and reasons why some solutions formed in one context do not or will not work in another context. However, the cooperation requires that new solutions be developed, solutions that make sense, are legitimate and function from the perspectives of both contexts/traditions.

In many ways, the approach to action taken in the Norwegian-Russian cooperative projects could be characterised by logic of so-called "action research". It is characterised as an approach of making action, which is dependent on practical change experiments where both solving the "real-time" problems occurs as well as contributing to emergence of new knowledge about the sources of the problems[34]. In general, the action research approach presupposes that those who are involved in making experiments work closely and in cooperation with practitioners in order to identify and solve problems. The Norwegian-Russian cooperative projects were essentially built by institutional leaders who were at the same time researchers in one or another field of social sciences. Some of them had even conducted action research before and this methodological experience was an important tool in de-

veloping solutions based on reflections of what is functioning or not in the cooperation project. The person who was developing the project was at the same time a researcher. In such situations, he or she should function as a mediator between solutions, understandings and contexts[35]. As in action-oriented research, the development of the cooperative projects was based on integration of the facts, opportunities and actors' values under the notion of a practical reason[36] — to move the cooperation further. Through frequent meetings, discussions and observations the actions in the cooperative projects were collectively constructed, based on good understanding of the cooperative history, the current situation with its problems and achieved agreement about the path from current facts to the future cooperative opportunities.

In summary, the model can be developed which summarizes the main ideas developed in this article (Figure 2). Successful cooperative projects between institutions in two or several countries require institutionalisation of visions into changing practices of cooperative institutions. The differences in values of cooperative partners, which stem from partners' belongingness to different traditions, should in one or another way be handled during the cooperation. It requires individuals, e.g. "context ambassadors",

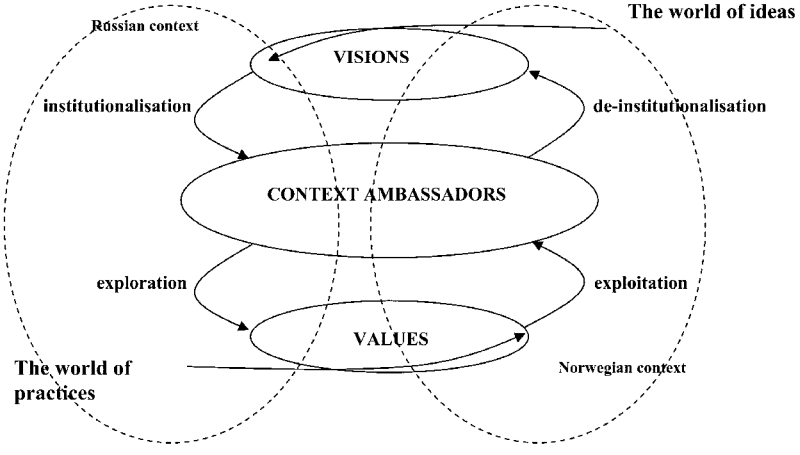

Figure 2. The model of cooperation

who mediate the institutionalisation process by promoting learning through exploitation of old certainties found in the cooperative history as well as experimentation with new solutions. These individuals function as ambassadors because in this way they bridge two different contexts in one action space of a cooperative enterprise. By doing so, these individuals should inherently employ ethnographic and action research oriented approaches.

Implications from the Model: Why do Cooperative Efforts Fail?

The model can be applied to make the analysis of why not all cooperative projects function and can give birth to conflicts. Though there can be many reasons for that, we advocate in this chapter that the role of "context ambassadors" should not be underestimated as a success factor when seeking cooperation. In some conflicts, the differences in values and cultures can be so huge that even the emergence of "context ambassadors" is unthinkable. This represents a big challenge for not only solving, but even developing a comprehensive approach to resolving the long-term conflict situations. In some cooperative projects, the lack of progress and expected results can be explained by "one sided" advice and implementation of standard solutions. Sometimes too many of such "solutions" are sought to be implemented in projects despite the fact that they were developed for application in a completely different context. "Context ambassadors" are important by developing context-fitted solutions by making appropriate translation of cooperative ideas into sound concepts and to the actions.

Cooperation may stagnate when the role of "the context ambassadors" is underestimated. One consequence can be that older beliefs and values in one of the parties in the process of cooperation may not be properly de-institutionalised in the course of cooperation. For instance, Røvik (1996) showed that de-institutionalisation is linked to non-usefulness of established practices, and therefore cooperation may fail when one of the parties adhere to

older values. Necessity is the mother of invention, and the need for new cooperative practices should be experienced in order to make a change. It is an important role of "context ambassadors" to question the present practices and therefore doubt their usefulness, and stimulate the search for new cooperative solutions.

References

Agar, M. (1986). Speaking of Ethnography. Sage, Beverly Hills.

Boland, R. & Pondy, L. (1983). Accounting in Organization: A Union of Natural and Rational Perspectives. *Accounting, Organizations and Society, 8(2/3)*, 223–234.

Bourmistrov, A., & Mellemvik, F. (2002). Norwegian-Russian Cooperation in Business Education and Research: Experiences and Challenges. *Bodø Graduate School of Business, Bodø University, HBO-Report N.11.*

Browning, L., Sætre, A. S., Stephens, K., & Sørnes, J-O. (2004). Information and

Communication Technologies in Action: Linking Theory and Narratives of Practice. Copenhagen: Copenhagen Business School Press, 301 p.

Brunsson, N. (1982). The Irrationality of Action and Action Rationality: Decisions, Ideologies and Organizational Actions. *Journal of Management Studies, 19(1)*, 29–44.

Brunsson, N., & Olsen, J.P. (1998). (eds.) Organizing Organizations, Fagbokforlaget, Bergen-Sandviken.

Chase, S. E. (1995). Taking narrative seriously: Consequences for method and theory in Interview studies. In R. Josselson & A. Lieblich (Eds.), *The Narrative Study of Lives* (3, pp. 1–26). Thousand Oaks, CA: Sage.

Colesante, R. J. & Biggs, D. A. (1999). Teaching about tolerance with stories and arguments. *Journal of Moral Education, 28* (2).

Czarniawska – Jorges, B. (1994). Painful Transformation: Privatization in East And Central Europe — Introduction: The Tragicomedy of Errors. *Industrial & Environmental Crisis Quarterly, 8(1),* 1–6.

Czarniawska-Joerges, B. (1994). Narratives of individual and organizational identities. *Communication Yearbook, 17,* 93–221.

Czarniawska, B. and Joerges, B. (1994). Winds of organizational change, how ideas translate into objects and actions, in Bacharac, Samuel, Cagliardi, Pasquale (Eds), *Research on Organizational Sociology*, JAI Press, Connecticut, NJ, .

Deutsch, M. (2003). Cooperation and conflict: A personal perspective on the history of the social psychological study of conflict resolution. In

M.A. West, D.J. Tjosvold, & K.G. Smith (Eds). *International handbook of Organizational Teamwork and Cooperative Working*. Wiley & Sons.

DiMaggio, P. and Powell, W. (1983). The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields. *American Sociological Review, 48*, 147–160

Engel, D. M. (1993). Origin myths: narratives of authority, resistance, disability, and the law. *Law and Society Review, 27.*

Grant, R., & Baden-Fuller, C. (2004). A Knowledge Accessing Theory of Strategic Alliances. *Journal of Management Studies 41(1).*

Haas, P.M. (1992). Introduction: Epistemic Communities and International Policy Coordination. *International Organization, 46(1),* 1–5.

Hirokawa, R. Y., DeGooyer, D., & Valde, K. (2000). Using narratives to study task group efficacy. *Small Group Research, 31,* 573–591

Jönsson, S. & Lukka, K. (2005). Doing Interventionist Research in Management Accounting.

Working paper N. 10, Bodø Graduate School of Business, Bodø University College.

Jönsson, S., & Macintosh, N. (1997). CATS, RATS and EARS: Making the Case for Ethnographic Accounting Research. *Accounting, Organizations and Society, 22 (3/4),* 367–386.

Laughlin, R., & Pallot, J. (1998). Trends, Patterns and Influencing Factors: Some Reflections.

In Olson, O., J. Guthrie & C. Humphrey (Eds) *Global Warning! Debating International Developments in New Publis Financial Management*, Cappelen Akademisk Forlag, Oslo.

Letterman, D. (1998). Ethnography. In R. Bickman (Ed.) *Handbook of Applied Social Research Method*. Sage Publications, Thousands Oaks

Maines, D. R. (1993). Narrative's moment and sociology's phenomena: Toward a narrative sociology. *Sociological Quarterly, 34,* 17–38.

McBurney, J. H. (1936). The place of the enthymeme in rhetorical theory. *Speech*

Monographs, 3, 49–74.

McNulty, N. (1992). Management education in Eastern Europe: Before and after. *Academy of Management Executive, 6(4),* 78–87.

Meyer, J., & Rowan, B. (1977). Institutionalized Organizations: Formal Structure as Myth and Ceremony. *American Journal of Sociology*, 340–363

Pettersen, I.J, & Mellemvik, F. (2005). Action and interaction. On the role of the researcher in the research' in I S. Tengblad, R. Solli, & B. Czarniawska (Eds.) *The art of science*, Copenhagen: Liber & Copenhagen Busi-

ness School Press, pp. 39–62.
Polster, E. (1987). *Every person's life is worth a novel.* New York: W. W. Norton
Reed, J. S. (1989). On narrative and sociology. *Social Forces, 68,* 1–14.
Richards, E., & Singer, M. (2001). Representation of Complex Goal Structures in Narrative Comprehension. *Discourse Processes, 31*, 111–135.
Røvik, K. (1996). De-institutionalization and the Logic of Fashion. In B. Czarniawska and Sevón, G. (Eds.) *Translating Organizational Change*. De Gruyter, Berlin.
Stanislaw, J. (2004). Energy Competition or Cooperation: Shifting the Paradigm. *Economic Perspectives.* May
Sørnes, J-O., Stephens, K. K, Sætre, A. S., & Browning, L. D. (2004). The reflexivity between ICTs and Business Culture: Using Hofstede's theory for a comparison between Norway and the United States. *Informing Science, 7* 2004, 1–30
Sørnes, J-O. (2004). Information and Communication Technologies in Practice — A study of Advanced Users in Norway and the United States. Unpublished Doctoral Dissertation. Norwegian University of Science and Technology, Norway.
Tsoukas, H., & Hatch, M. J. (2001). Complex thinking, complex practice: The case for a narrative approach to organizational complexity. *Human Relations, 54,* 979–1013.
Volkova, M., Korneliussen, T., & Grønhaug, K. (2001). Marketing Education in Russia: An Institutional Approach, in E. Breivik, A.W. Falkenberg and K. Grønhaug (Eds.) *Rethinking European Marketing: Proceedings of the 30th EMAC Conference*. Norwegian School of Economics and Business Administration, Bergen, Norway.
Volkova, M. (2000). Higher Education in Russia. Paper presented at a brown-bag session, April 2000, Bodø Graduate School of Business.
Weick, K. E. & Browning, L. D. (1986). Argument and narration in organizational
communication. *Journal of Management, 12,* 243–259.
White, H. (1987). *The content of the form.* Baltimore: Johns Hopkins University Press.

Notes

1 Deutsch, 2003
2 Sørnes, 2004; Colesante & Biggs, 1999
3 Richards, & Singer, 2001
4 Luhman & Boje, p. 158

5 Chase, 1995
6 Czarniawska-Joerges, 1994
7 Richards & Singer, 2001
8 Browning, Sætre, Stephens, & Sørnes, 2004; Maines, 1993
9 Polster, 1987
10 Stacey, 2000
11 McBurney, 1936; Weick and Browning, 1986
12 Tsoukas & Hatch, 2001
13 Engel, 1993, p. 785
14 Hirokawa, DeGooyer & Valde, 2000
15 Volkova *et. al.*, 2001; Volkova, 2000; McNulty, 1992
16 McNulty, 1992
17 Bourmistrov & Mellemvik, 2001
18 Support is provided by the United States Agency for International Development (USAID) through the Eurasia Foundation.
19 U.S. Geological Survey (UGS) has estimated that ¼ of the world's undiscovered petroleum resources are in the Arctic.
20 The High North is a region consisting of the northern regions of Nordic countries and Russia.
21 http://odin.dep.no/odinarkiv/norsk/oed/2005/p30007979/026021-070169/dok-bu.html
22 http://www.dep.no/ud/english/news/speeches/minister_a/032171-090516/dok-bn.html
23 Brunsson, 1982
24 Sørnes, Stephens, Sætre & Browning, 2004
25 Meyer and Rowan, 1977; DiMaggio and Powell, 1983
26 Røvik, 1996
27 Czarniawska-Joerges, 1994
28 Laughlin & Pallot, 1998
29 Haas, 1992
30 Czarniawska & Joerges, 1994
31 Letterman, 1998; Agar, 1986
32 Jönsson & Macintosh, 1997; Boland & Pondy, 1983
33 Agar, 1986
34 Jönsson & Lukka, 2005
35 Pettersen & Mellemvik, 2006
36 Jönsson & Lukka, 2005

Postscript

Greg Austin & Danila Bochkarev

This volume demonstrates that energy security, like security itself, is indivisible. This principle is one that Anna Lindh understood well. The consideration of one dimension of energy security — whether it be commercial, social, economic, technological or political — quickly brings in the other. The interests of the consumers cannot be separated from those of the producers. And regional issues (the Barents Sea, South Caucasus/Central Asia, the Asia-Pacific region) all have a global aspect that brings in broader functional policies (such as problems of delimitation of the Continental Shelf, transportation and transit issues, and foreign investments).

Although no major war has been exclusively related to the control of an oil or gas field (with a possible exception being the Chaco war between Bolivia and Paraguay between 1932 and 1935), disputes over hydrocarbon reserves have regularly been an undeniable part of many armed conflicts.[1] Disputes over use of nuclear energy lie at the heart of several current confrontations that have a high potential to turn into armed conflict.

The papers in this volume address the clear need to reduce international tension on energy security issues. Unstable and high prices, growing competition between major development/modernization policy models and increasingly worrisome 'ideological' divides between energy importers and energy exporters reveal the

1 The authors would like to acknowledge Olivier Appert, CEO & President of the IFP (French Petroleum Institute), as the source of the observations in this paragraph. He was speaking at the joint EWI — IEF — MEF Conference on 'Energy and Conflict: Current controversies' in Rueil-Malmaison (Paris) on April 26th, 2007.

crucial importance of this sector for global strategic stability and sustainable economic growth.

The central conflict-producing tension in energy security is between energy-exporting and energy-importing states. The former consider security of demand as a key priority, while the latter concentrate on security of supply. However, the dividing lines do not only pass between exporters and importers. There are also some serious if hidden tensions between 'developed' energy importers (North America, Europe and Japan) and 'emerging' energy importers (China, India, developing Asia and Africa). On the one hand, high oil and gas prices raised the profile of the hydrocarbon-exporting countries. On the other hand, a number of new energy-importing economies (China, India, etc.) substantially increased their standing on the international energy arena. This is a major (though latent) threat not to be ignored by key political and business decision-makers.

Fear related to the (future) scarcity of oil and political instability in the majority oil and gas producing regions increase the effects of oil shocks and aggravate security concerns generally. For instance, it is very often underlined that the world economy does have enough oil to sustain current operations indefinitely. Another problem is that outside OPEC and the countries of the former Soviet Union, there is not much oil. This makes other countries, the consumers, nervous. Moreover, Western oil companies have only limited control of global oil and gas reserves (owning only 15 per cent of global hydrocarbon reserves). The remaining 85 per cent is in the hands of national governments.

Moreover, even though energy markets are relatively liberalized and interconnected, we do not have accurate information about reserves and the energy trade. Transparency is indeed very important, but no actor wants to give the other actors sensitive information.

The situation is complicated by the arrival of new actors (both governmental and non-governmental), by new industrial giants (China and India), and by rapidly emerging national oil com-

panies, such as Malaysia's Petronas, actively penetrating Western downstream markets and successfully competing with old 'oil majors'.

High oil prices affect social stability in the major energy exporting countries. The high levels of oil income immediately give rise to complaint about fair distribution of the 'energy rent' among various segments of the society. Osama bin Laden accused the Saudi government of squandering the country's oil wealth. Terrorist attacks are increasingly focused on the energy producing assets and transportation infrastructure. Also, some states try to use energy as a 'political weapon' or at least as a source of competitive strategic or foreign policy advantage.

In order to address those issues many authors in this volume proposed either a redefinition or more precise definition of the concept of the 'energy security'. The 'lack of sharp definition makes it prey to distortion in policy debates'. As Nick Mabey noted, energy security has a dualistic nature—a disposition toward state control and the need nevertheless to rely on energy markets to deliver secure supplies. This dualism affects objective 'situation analysis' and lead countries to 'adopt markedly different strategies when faced with similar external circumstances'.

Applied to the Asia-Pacific region, the 'ascendant logic of "securitization" implies that there must be significant potential gains from broad co-operation' (and application of a broader view of the 'energy security' concept) in order to make a deeper multilateral approach to energy security in the region worthwhile. In this particular region, 'securitization' of energy has resulted in a number of negative trends:

- Geopolitics-based bilateral energy alliances are weakening global collective action to reduce other security threats.
- State-to-state relationships on energy access are increasing instability in producer states and result in long-term poor economic performance of developing countries with high dependency on natural resources.

- Strategic rivalry over access to energy resources decreases trust and makes cooperation between consumers and producers rather difficult.

The Barents Sea region presents a much more secure energy future, with cooperation, not confrontation the norm. This was the consistent message from Scandinavian experts who presented detailed analyses of challenges and opportunities in that region. Their contributions demonstrated convincingly the principle that energy security is indivisible, and their work showed how multilayered cooperation was producing energy security.

Last but most importantly, climate change is the most pressing security threat facing the world. Therefore, achieving climate security must become a fundamental priority in energy security policies. To come close to that situation, there is a pressing need for much greater political coherence, everywhere from the ground level of energy production to new institutional structures at the global level, with special attention being paid to more robust investment signals for energy businesses to mitigate climate change much more rapidly than is the case now.

Acknowledgements

The Madariaga European Foundation and the EastWest Institute would like to express their gratitude to Hydro for its generous support of this publication, result of a larger project initiated in 2006.

For this 4th edition of the Anna Lindh series, several people have been instrumental in allowing this volume to be completed. In addition to the regular editorial team a special word of thanks should go to the staff of the EastWest Institute and the Madariaga European Foundation and especially to Danila Bochkarev, Sara Khodarahmi and Magali Auquier for their help and assistance in many aspects of this publication.

The usual diligence of our proofreader, Lorna Carson as well as the professional assistance of Krister Gidlund and Anders Svedin, the publishers, are also greatly appreciated.

Last but not least we would like to thank the Bank of Sweden Tercentenary Foundation, initial partner of the programme for its advice and encouragement. Thank you also to the Barents Institute for its valuable support.

Glossary of Acronyms

AHDR	Arctic Human Development Report
APEC	Asia Pacific Economic Cooperation
ASEAN	Association of Southeast Asian Nations
BEAR	Barents Euro-Arctic Region
BCM	Billion cubic meters
BTC	Baku-Tbilisi-Ceyhan pipeline
CCGT	Combined Cycle Gas Turbine
CIS	Commonwealth of Independent States
CNOOC	China National Offshore Oil Corporation
CNPC	China National Petroleum Corporation
CUCMB	China United Coal Bed Methane Corporation
ECT	Energy Charter Treaty
EEZ	Exclusive economic zone
ESPO	East Siberia-the Pacific Ocean pipeline
EU	The European Union
G8	Group of Eight
GDP	Gross Domestic Product
GECF	Gas Exporting Countries Forum
GTL	Gas-to-liquids
IAEA	International Atomic Energy Agency
IEA	International Energy Agency
IEF	International Energy Forum
IMF	International Monetary Fund
LNG	Liquefied Natural Gas
MTOE	Million tons of oil equivalents
NAMMCO	North Atlantic Marine Mammal Commission
MBD	Million barrels per day
NCS	Norwegian Continental Shelf

NEGP	Northern European Gas Pipeline
NCM	Nordic Council of Ministers
NDRC	National Development and Reform Commission (China)
ONGC	Oil and Natural Gas Corporation (India)
OPEC	Organization of Petroleum Exporting Countries
SEC	Securities and Exchange Commission (United States of America)
SPE	Society of Petroleum Engineers (United States of America)
TAP	Trans-Afghan Pipeline
TRACECA	Transport Corridor Europe Caucasus Asia
UN	United Nations
UNCLOS	United Nations Convention of the Law of the Sea
UNFCCC	United Nations Framework Convention on Climate Change
WTO	World Trade Organisation

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