Analysis of mutual exchanges of business assets within investment activities in the energy sector
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Foreword

The exchanges of business assets within investment activities in the energy sector are strategic mechanisms that are actively used by the business sector; these exchanges, however, are not widely manifest in research that addresses energy trade economics and law, as opposed to mergers and acquisitions or investment protection issues. The mechanism of asset swaps lies between these two broad areas of inquiry. As shown by the present study, exchanges of business assets in the energy sector can affect internationalisation strategies of the energy companies, and are important considerations under the terms of the international energy cooperation. Therefore, the issue has to be analysed in relation to competition in the energy markets and the investment sector.

The study by Irina Mironova, with research contributions by Zafar Samadov and Tatiana Mitrova, examines the concept of exchange of business assets, as well as practical aspects associated with these deals. The study is prepared in collaboration between the Energy Research Institute of the Russian Academy of Sciences and the Energy Charter Secretariat. The purpose of the study is to inform the wider public, investors and policy makers about the impact of the asset exchanges on risk mitigation and the promotion of cooperation in the energy sector.

Throughout 2013, the study was discussed at several meetings by the Energy Charter Investment Group and Industry Advisory Panel. A summary of the study was published in the Occasional Papers series in November 2013 by the Energy Charter Knowledge Centre. The goal of the Knowledge Centre is to broadly inform interested stakeholders on the energy policy of the Energy Charter and to create a strong network of experienced and young energy professionals. The Centre also promotes the role of the Energy Charter and the Energy Charter Treaty (ECT) in global energy governance.

The study ‘Analysis of mutual exchanges of business assets within investment activities in the energy sector’ investigates how asset exchanges relate to various measures in the sphere of energy security enhancement; contribute to the development of open and competitive markets; are treated by antitrust and national approval processes in different jurisdictions; are implemented in light of challenges with business assets and portfolio evaluation; relate to investment protection provisions under the ECT regime; and improve conditions for mutual investments along the energy value chain. The study, jointly published by the Energy Research Institute of the Russian Academy of Sciences and the Energy Charter Secretariat, is without prejudice to the positions of the contracting parties and signatories, or to their rights or obligations under the ECT or international investment agreements.

Sergey Filippov  
Director  
Energy Research Institute  
Russian Academy of Sciences

Urban Rusnak  
Secretary General  
Energy Charter Secretariat
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Ensuring adequate global energy supply requires significant and timely investment and international cooperation along the entire supply chain. Many national and international energy companies that operate across the borders develop new tactics and strategies to address challenges in order to satisfy complex criteria of energy security for both energy-consuming and energy-producing countries. Exchange of assets is one of the tools that can be used within their tactics.

In the last decade, an increasing number of asset exchange deals have been concluded between the companies in the energy sector, especially with the involvement of the European companies such as Shell (UK/Netherlands), StatoilHydro (Norway), ENI (Italy), Wintershall (Germany), Rosneft (Russia) and Gazprom (Russia). The Russian companies are actively promoting these types of transactions. These companies have implemented multibillion transactions using asset exchanges in the energy sector as part of strategic agreements that include joint activities on geology, geo-science, technology development, field development, well drilling, finance, logistics, safety, health and the environment.

The study aims to analyse how exchanges of assets between energy companies correspond to the main principles of pre-existing legal frameworks of energy trade, in particular in relation to the principle of open and competitive energy markets under the Energy Charter Treaty (ECT) regime. The scope of the analysis is to investigate how asset swaps relate to various measures in the sphere of energy security enhancement; contribute to the development of open and competitive markets; are treated by antitrust and national approval processes in different jurisdictions; are implemented in light of challenges with business assets and portfolio evaluation; and relate to investment protection provisions under the ECT regime.

The study shows that asset exchange is a mechanism of risk mitigation for: (1) investment activities; (2) energy companies internationalisation/globalisation and strategy implementations; and (3) difficult issues in resolving reciprocity access to market segments. Asset exchanges can deeply affect such difficulties that are in full compliance with national legislations. The mechanism is used worldwide.

The proposal made by the Russian Federation stems from the context of Russian – European Union (EU) energy trade and particularly the difficult issues of reciprocity access to downstream and upstream market segments. In the Russian context, this tool is used because it is one of the very few options available for implementing internationalisation strategies of the Russian energy companies.

Exchange of assets does not affect markets or the rules of competitiveness, as it does not decrease the number of companies involved; on the contrary, it actually increases the number of active companies within the separate segments of the supply chain; as part of vertical integration strategies, it improves access to markets for producers and improves access to resources for consumers. It does not alter supply–demand balance and price levels.

Given the relatively limited number of available assets worldwide, exchanging assets is projected to be one of the main mechanisms of promoting cooperation between energy companies. In some specific cases, asset exchange may be a way for a company to achieve the goal of entering a new segment in the supply chain without losing its position in the initial market. This strategy, however, could raise legitimate concerns by antimonopoly and antitrust authorities.

The study concludes that where there is a lack of financial confidence and resources concerning mutual mistrust, the process of exchanging assets helps to provide a stable flow of energy and
capital, and often helps states enhance their respective energy securities. The present analysis shows that energy companies will continue to use asset swap transactions for meeting the challenges of changing energy markets.

Exchanges of assets are in line with and contribute to the principles of the Energy Charter (EC) in relation to openness of the energy markets. Exchanges of assets have the potential to stimulate foreign direct investment, reduce risk and facilitate cross-border trade through greater integration along the supply chain, which contributes towards the delivery of a secure energy supply and increased capital flow.
INTRODUCTION
Definitions

Asset is “a resource with economic value that an individual, corporation or country owns or controls with the expectation that it will provide future benefit.”¹ In relation to the energy sector, asset is property that can generate cash flow, including oil and gas fields, production and transportation equipment and infrastructure, etc. The general definition suggests that asset is any form in which wealth can be held. Three groups of assets are identified: current assets, long-term investments and fixed assets. For this study, we will be talking about the third type, because the first two are financial in nature, as opposed to the physical nature of the third one.

Asset diversification is one of the tools, which is used by energy companies in their internationalisation strategies and is a part of portfolio management activities aimed at levelling the risks associated with different types of assets. Portfolio projects need balance, so that risks in one project are offset by other projects. The principles include combining frontier exploration and known field development (greenfield vs. brownfield); mix of oil and gas projects; getting involved in upstream, midstream and downstream segments of the supply chain; and diversifying geographical locations with the purpose of broadening political risk and accessing different markets.²

In order to diversify assets, companies undertake transactions of asset acquisition and asset sale. For companies working in different sectors one of the possibilities for acquiring needed assets, especially in markets where it is extremely hard to enter and develop new assets, is to conduct an assets exchange deal.

One of the initial difficulties is defining what actually a transaction of assets exchange is. Two types of transactions are labelled interchangeably with asset swap/exchange terms: the first one comes from banking/accounting:

“Asset swap is an acquisition of assets of the company in exchange of cash or shares of acquiring company.”³

Another one is from investment management:

“Acquisition of another company by purchase of its assets in exchange for cash or stock.”⁴

For this study, we will need to explore thoroughly the principles incurred in a specific variety of exchange of assets. Firstly, the topic under discussion must not be an acquisition because there is sufficient literature, as well as regulation in place for the case of mergers and acquisitions (M&A). Secondly, we must not deal with the transaction in which the asset is exchanged for cash for the same reason – it is a transaction of asset sale/acquisition/divestment.

We will use the following definition:

Exchanging assets is “trading what they [companies] have for what they want – without exchanging money.”⁵ Assets exchange, or asset swap, is thus a transaction in which companies agree to mutually transmit ownership rights to previously matched assets.

Asset swaps are highly sophisticated financial and technical transactions that involve the evaluation and matching of the assets; these transactions are treated with caution in the context of liberalising markets.

**Background**

In November 2010, the Energy Charter Conference adopted the road map for the Modernisation of the Energy Charter Process (road map), which, among other activities, included the analysis of mutual exchanges of business assets within investment activities in the energy sector. The 23rd Meeting of the Energy Charter Conference took place on November 26, 2012 and “provided the necessary strategic direction to widen the geographic scope of the Energy Charter and to strengthen its framework for cooperation.” The meeting framed the direction of negotiations over an updated version of the Energy Charter Declaration 1991 which in its turn “will provide an excellent opportunity to accelerate the modernisation of the Energy Charter, and to find the right balance of interest within its broad constituency”.

Notably, the initiative to review the exchange of assets within investment activities in the energy sector came from the Russian perspective throughout the 2006 G8 Summit in Saint Petersburg and the Conceptual Approach to the New Legal Framework for Energy Cooperation. It is important to understand that the initiatives proposed by the Russian Federation deserve attention from the EC side because of the role that Russia plays in international energy trade; similar issues, however, are likely to arise with other countries that appear in the EC's expansion process (also considering the universal nature of the asset exchanges mechanism – which, as will be shown below, is used by diverse companies worldwide).

![Figure 1. Study on assets exchanges within investment activities in the energy sector: timeline](image)

In the course of 2011, the Energy Charter Secretariat (ECS) prepared a background note that was upgraded into the Terms of Reference and outlined an in-depth analysis on mutual exchanges of business assets. The study, implemented in 2013, was based on the Memorandum of Understanding between the ECS and the Energy Research Institute of the Russian Academy of Science (ERI RAS). The first draft of the study was discussed at the Energy Charter Investment Group meeting in May 2013. The advanced report was presented at the Investment Group meeting in October 2013.

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7 Ibid.

Outline and scope of analysis
The study aims to analyse how exchanges of assets between energy companies correspond to the main principles of already existing legal frameworks of energy trade, in particular in relation to the principle of open and competitive energy markets under the ECT regime.\(^9\) The scope of the analysis is to investigate how asset exchanges:

- relate to various measures in the sphere of energy security enhancement;
- contribute to the development of open and competitive markets;
- are treated by antitrust and national approval processes in different jurisdictions;
- are implemented in light of challenges with business assets and portfolio evaluation; and
- relate to investment protection provisions under the ECT regime.

The reasons to study this issue can be summarised as follows.

Firstly, on an international scale, all major examples of international cooperation in energy are based on (or supported by) exchanging assets. Do exchanges of assets actually simplify international cooperation, and if so, in what way? Should the underlying mechanism be viewed as a way of risk mitigation? And, on the basis that the exchanges of assets are exclusively used by the companies, what should be the stance of the national governments (in particular, in their negotiations over international treaties in trans-border energy trade) in relation to this particular mechanism?

Secondly, in the Russian context, exchanges of assets fall within the strategy of supporting the internationalisation of Russian energy companies. These, in fact, are some of the few tools available for the actual implementation of this strategy, and thus will remain high on the Russian agenda in energy trade discussions and negotiations, including its relation to the ECT.

The structure of this study will include a section explaining the status of exchanges of assets within the internationalisation strategies of oil and gas companies; an overview of practical aspects of asset exchange operations; and their relation to the ECT principles. Finally, policy conclusions and recommendations will be given.

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EXCHANGES OF ASSETS WITHIN ENERGY SECURITY AND BUSINESS STRATEGIES
Context

What exactly is the motivation for the Russian Federation in paying specific attention to the mechanism of exchange of assets and for trying to include it into the (proposed new or existing) international legal framework of the energy trade?

The Energy Strategy of Russia for the period up to 2020 (ES-2020, launched in 2003) states that one of the strategic aims for the development of the oil [and gas] industry is wider presence of Russian energy companies on the international markets and participation in production, transport and distribution assets abroad. According to the Energy Strategy of Russia for the period up to 2030 – the updated version of the document, which also takes into consideration the impact of the 2008–2009 economic downturn and assesses the dynamics of ES-2020 implementation – one of the core conditions for efficient development of the energy sector is further integration of the Russian energy sector into the international energy system, maintaining its presence on existing markets and its expansion into new markets, and diversifying exported products, while also strengthening new forms of international cooperation and broadening the presence of the Russian energy companies abroad. Figure 2 demonstrates the stages of energy strategy implementation, and the influence that asset exchanges have on this venture during the first stage (up to 2015).

Russian energy companies, in their turn, are also rather interested in foreign projects. The problem is limited international experience or the absence thereof. Russian companies pursue various projects (exploration and production (E&P) as well as other activities along the value chain) abroad, either independently or in collaboration with partner organisations within the framework of joint ventures and consortia.

Figure 2. Stages of Russian energy strategy - external dimension

<table>
<thead>
<tr>
<th>2009</th>
<th>2015</th>
<th>2020</th>
<th>2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAGE 1: Forming the Basis - Intergovernmental agreements promoting interests of Russian companies - Promotion of international cooperation of energy companies (incl. deals of asset swaps) - Political and economic support for the companies</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STAGE 2: Strengthening the Position - Strengthening the position in regional cooperations - Promotion of cooperation with national energy corporations - Strengthening the position of Russian nuclear power</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STAGE 3: Globalisation of Business - Establishment of global production and processing chains - Labour division and efficiency increase in production</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

10 Energy Strategy of Russia for the period up to 2030. pp. 61–62. [Стратегическими целями развития нефтяного комплекса являются: <...> расширение присутствия российских нефтяных компаний на зарубежных рынках, их участие в производственных, транспортных и сбытовых активах за рубежом.]
11 Ibid. p. 5.
12 Ibid. p. 9.
13 Ibid. p. 10; 35.
However, the competencies that can be brought into international projects by the Russian companies are rather limited. Therefore, the option of bringing in assets becomes a competitive advantage for the Russian companies.

Table 1. International activities of the Russian companies

<table>
<thead>
<tr>
<th>Company</th>
<th>Region</th>
<th>Projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gazprom</td>
<td>Europe, America, Asia, CIS*, CEE**</td>
<td>Downstream, Upstream, Refineries, gas stations</td>
</tr>
<tr>
<td>Lukoil</td>
<td>CIS, CEE; MENA†, America</td>
<td>Upstream; acquisitions along the value chain</td>
</tr>
<tr>
<td>Rosneft</td>
<td>CIS, Europe (Germany), Asia (China)</td>
<td>Upstream, Refinery, Refinery</td>
</tr>
<tr>
<td>TNK-BP</td>
<td>Latin America, Asia (Vietnam), CIS</td>
<td>Upstream, Gas stations</td>
</tr>
<tr>
<td>Novatek</td>
<td>MENA (Egypt)</td>
<td>Exploration</td>
</tr>
</tbody>
</table>

*Commonwealth of Independent States; **Central and Eastern Europe; †Middle East and North Africa.

Table 2. What do their counterparties need?

<table>
<thead>
<tr>
<th>Counterparties need:</th>
<th>Russian companies can provide:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital</td>
<td>✓ Capital</td>
</tr>
<tr>
<td>New technologies and expertise</td>
<td>✓ Some technologies</td>
</tr>
<tr>
<td>Access to the final market and to distribution channels</td>
<td>X</td>
</tr>
<tr>
<td>Skills:</td>
<td></td>
</tr>
<tr>
<td>* Complex governance and project settings that involve CIS**, and different types of NOCs†</td>
<td>X</td>
</tr>
<tr>
<td>* Collaborative project development process</td>
<td>X</td>
</tr>
<tr>
<td>* Management of stakeholders and the mitigation of political and social risks in a complex project</td>
<td>✓ Political support of the stakeholders in the certain countries, regional and cultural proximity</td>
</tr>
<tr>
<td>* Management of complex global subcontracting hierarchies</td>
<td>X</td>
</tr>
<tr>
<td>* Selecting, engaging and/or managing correct joint ventures agreements that deliver both commercial success and protect the company against costly disputes</td>
<td>X</td>
</tr>
</tbody>
</table>

**= commonwealth of independent states; †= national oil companies.

Most internationalisation strategies are opportunity-driven (other motivations for asset swaps will be discussed below) where uncertain values may be created for the company; the main value brought to the recipient country is capital. But capital is something that can also be brought by Asian (and particularly, Chinese) companies. Therefore, the option of bringing in assets becomes a competitive advantage for the Russian companies.

15 Table based on companies’ publicly available information.
17 Ibid.
The mechanism of exchange of assets is about the only tool available through which the Russian companies can deepen international cooperation. At the same time, asset exchange transactions may become a concern from the European side.\(^1\)

It is important to mention that the issue of asset exchanges is not a novelty in international energy business and, obviously, goes beyond the framework of Russia–EU energy relations. National and international energy companies from around the world are at least looking into the possibilities of asset exchanges in the target markets, if not actively implementing these transactions already.

International scale is very important. By attracting international players, companies have opportunity to widen variety of the ongoing projects in other countries of the world. Therefore, exchange of business assets for companies helps to resolve two objectives: attracting international players in projects, and entry of companies in new projects in focus regions.

One of the examples of cooperation involving exchange of assets is the deal between Statoil and Total: “In 2011, Statoil and Total E&P Norge AS have signed a sales and purchase agreement whereby Statoil acquires Total’s full share in the Valemon unit, 2.5%, for a transfer of a 2% share in Hild to Total. Statoil regards this as a natural increase and consolidation in a Statoil-operated asset in a core area on the Norwegian continental shelf with an interesting upside. The transaction is an example of active portfolio management as a core measure to enhance value creation.”\(^2\) Other companies seeking to use the asset swap mechanism include Statoil of Norway (for building a stronger international portfolio\(^3\)), Sonatrach of Algeria (for acquiring know-how\(^4\)), KazMunaiGaz of Kazakhstan (for deeper integration into international oil industry\(^5\)), and many others (see also Annex 4. Assets exchange examples).

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\(^1\) Most often concerns are in line with the antimonopoly regulation; and particularly in case of the Russian company Gazprom (European Commission investigation of Gazprom’s abuse of its dominant position in the European market). Theoretically, a company might gain a dominant position in the market by acquiring assets of companies working in this market.


**State perspective versus corporate perspective**

Besides corporate perspective, business transactions in the energy sector have always had a projection on the energy security of the state. The following paragraphs will look at how asset exchanges relate to the national energy security priorities.

Stable energy supplies are essential for the national economy and development, while energy security is at the core of national energy policies in many countries. There are three key elements that constitute energy security of a state: ample, uninterrupted and affordable supplies of energy resources. Thus, the three main aspects are access to energy resources, reliable transport (and transit) routes and reasonable pricing (see Figure 4). In order to meet the requirements of energy security, it is essential that the following conditions are met:

- Sufficient and timely investment ensures adequate development of resource base and delivery infrastructure,
- Market conditions ensure balance of interests between various participants,
- Government and regulations adjust the first two processes, as well as the impact on environment and consumer protection.

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Energy security can be characterised as a stable flow of energy and capital. In addition to the key conditions, it is important to keep balance of interests between producer and consumer (in the form of a pricing mechanism and the resulting price that is sufficient for the producer to justify further investment, and that is reasonable and affordable for the consumer), and the timely development of export/supply infrastructure. Investment is essential for the latter. The interests of producers and consumers can coincide: both need to be assured on perspectives, and where the producer is concerned – on predictable and stable demand; and for the consumer – in ample and uninterrupted supplies. In other words, both sides need to mitigate volume risk and price risk, as well as other risks, such as interrupted flow of energy resources, non-payment upon delivery, environmental threat, non-performance of companies, and project non-performance.

Mutual ownership of assets helps to guarantee the cooperative behaviour of business partners in liberalised energy markets where states decrease their participation in economic activities, but opt for stronger roles in regulation activities.

Investment protection is any type of insurance or guarantee that an investment made will not be undone. Asset acquisition (which is a part of assets exchange) can be classified as investment, and is eligible for investment protection measures. The simultaneous transaction carried out by the mutual acquisition of a partner company’s asset could theoretically ensure safety of this operation, depending on the type of asset and the initial goals of each company. This is why it is important, when engaging in an assets exchange transaction, to consider specific objectives pursued by the companies.

Policies in achieving energy security differ for producers, transit and consumers. The mechanism of assets exchange allows horizontal and vertical integration of different business segments, thus contributing towards stable flows of energy and capital.
Risks and portfolio management

Portfolio management includes activities involving company assets and securities with the purpose of achieving specific investment goals. In the oil and gas industry, portfolio management is based on the understanding of risk and uncertainty inherent for this industry and grows out of the tolerance for risk analysis, risk management and portfolio analysis. Mergers, acquisitions and divestment (MA&D) of assets are important factors in portfolio management. “Acquisitions have the potential to achieve growth more rapidly than can be achieved organically through exploration and exploit synergies with an existing portfolio. Divestments have the potential to monetise non-core assets, reduce overheads, and improve focus on material assets. Mergers have the potential to achieve step changes in size, economies of scale, and benefits from regional synergies.” Therefore, MA&D activity is an essential part of portfolio management.

The fundamental purpose of portfolio management is designed to increase capitalisation and level the risks of one group of projects with another group (portfolios of projects need balance, so that risks in one project are offset by others). Two fundamental principles of portfolio management are balance and diversification. “Diversifying by going from one to two independent projects reduces risk significantly.” In order to balance the risks, companies need:

- A mix of frontier exploration and a recognised field for development (greenfield vs. brownfield);
- A mix of oil, gas, and, increasingly often, renewable energy;
- A mix of upstream, midstream and downstream sectors; and
- A mix of geographical locations to broaden political risk and to access different markets.

This explains why, firstly, gas makes up an increasingly large portion of the production of the supermajors, and secondly, why national oil companies (NOCs) are so eager to develop assets in other countries and deal with other segments of the supply chain and learn from the supermajors.

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Figure 5. Minimisation of risks: areas where MA&D* (including asset swaps) are relevant

Figure 5 shows the various objectives of asset exchange operations, including geographic diversification, vertical integration, horizontal integration, and business diversification. As has already been noted above, asset swap allows a company to achieve the goal of entering a new segment in the supply chain without losing its position in the initial market, which is often already monopolistic. This is why the use of this mechanism raises some concerns. While asset swaps may not be aimed at reducing or strengthening the role of a monopolistic supplier per se, this measure accords with the energy security imperative to mitigate various risks. When the possibilities for decreasing the influence of a monopoly supplier by means of supply source diversification are exhausted, joint participation in projects and/or companies along the supply chain may be a possible way of mitigating risks. Exporters in turn try to become co-owners of the companies which are in charge of trunk pipelines, distribution networks, terminals, refineries, etc.

In this context, asset exchange means strategic cooperation between states and/or companies. The key idea is to create an integrated supply chain, where the companies from different countries jointly own assets both upstream and downstream in the networks that are technologically linked. In such a scheme, the importer is guaranteed supplies and the exporter has the guarantees of demand. Thus the risks of energy dependency and discriminatory access are mitigated despite the market concentration of suppliers and consumers. Besides, the supply chain “is part of a complex system that must be balanced and managed, it is still possible to have competition.”

31 Source: ERI RAS
33 Cameron, Peter. op. cit.. p. 4.
Overall, exchanges of assets play an important role in portfolio management, because these transactions provide a relatively secure environment to diversify business portfolios in different market segments and geographical locations.

**Business strategies**

The first case, in which an exchange of assets transaction is an investment protection tool, is when both parties are looking for a *strategic partner*. The energy sector is characterised by a high degree of investment specificity (firstly, assets have fixed locations and cannot be moved; secondly, equipment is engineered for a specific project; thirdly, the infrastructure is constructed in order to connect a fixed set of participants), which might lead to opportunistic behaviour by one of the business parties. Thus, measures taken to establish strategic partnership relations between companies are useful in these circumstances. Asset exchanges are one option available to the company; other options involving operations with assets include establishment of joint ventures, shared assets and consortia.

In a joint venture, the parties are seeking to reduce their individual levels of risk. They are also aiming at sharing the significant costs and at establishing their preferred principles within the joint venture. The agreement thus creates a joint venture between parties in the interest of mutual benefit. Each party’s entitlement to ownership and benefits, as well as liability to cost, expenses and risk, is determined by the percentage interests set by the joint venture agreement.

International consortium is a specific type of a joint venture. An international consortium in the energy sector is a temporary union between two independent companies created to execute E&P activities (at the fields), construction of energy transportation systems (pipelines and electricity grid), processing and effective distribution of energy materials and products, etc. One of the purposes of consortia establishment is to increase competitiveness of the companies in international energy markets. Consortium is a format that can be used by both companies and states. Unlike the typical joint venture, a consortium is created for the implementation of a specific project; and when the project is completed, the venture ceases its existence as well. The share in the consortium depends on the agreed amount of investment to be provided by each contracting party.

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35 Ibid. p. 15.
One of the examples of a strategic cooperation in the energy sector in partnership is that between Russia’s Gazprom and Germany’s Baden Aniline and soda factory (BASF). In 1990, companies agreed to market Russian natural gas in Germany on a long-term basis. The companies now cooperate in the development of gas reserves in Siberia (Yuzhno-Russkoye field and the Achimov deposits in the Urengoy field), with gas transports to Germany (Nord Stream and the South Stream projects), and in the sale of natural gas with their trading company WINGAS. As can be seen from Figure 6, BASF and Gazprom are symmetrically present along the supply chain. Both companies are interested in the continuous and stable functioning of the supply chain. Asset exchange transactions help to strengthen this strategic partnership, not only in that they bring relevant assets to the respective company, but in that they lead to the situation when companies act in favour of their partners in their own respective markets.

Besides partnership, other company strategies may also include exchanges of assets.

Firstly, one of these strategies is **horizontal integration**, or growth sector presence; for example, by promoting exclusive expertise abroad; and business diversification (or horizontal diversification) – when a company enters a new business.

Secondly, vertical integration is a strategic decision of the company to integrate along the value chain. The situation is rather common when companies, in charge of certain segments of the chain and in order to ensure security of supply and maximise profits, decide to focus on acquiring assets in other segments. For producers, the objective is to integrate downstream activities into the supply and participate in processing (refining) and distribution, as well as in the generation sector.  

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stabilise financial results of a company and, ultimately, to increase its capitalisation, as well as introduce new segments without losing its (often monopolistic) position in the initial market. Considering vertical integration as such (in relation to general business strategy, and not only asset swap deals), the key to success for the energy companies, whether those are state companies or multinational corporations, is twofold – control over resources and control over processing and distribution (and over power generation and transmission). Given the relatively limited amount of available assets worldwide, the asset swap mechanism is projected to be one of the main means of promoting vertical integration, both backward and forward.

Figure 7. Energy resources supply chains and directions of integration/diversification

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40 Consult. Обмен энергетическими активами как инструмент обеспечения энергетической безопасности. С. 12.
40 Source: ERI RAS
Thirdly, geographic diversification, which from the one hand has a potential to level out political risks, and from the other, to give access to the new resource base.

Fourthly, technologies and expertise are an important target for companies that go international. “Some NOCs still lack the know-how and the capital to get to their oil on their own, and thus seek out supermajors to help”.

**Putting asset exchanges on the map**

Russian and Chinese companies are active in their internationalisation strategies worldwide. Notably, nearly all of these strategies are supported by the mechanism of exchange of business assets and thus the mechanism should not be attributed to the Russia-EU context only. (Firstly, it is used by the Russian companies in their activities worldwide; secondly, it is also used by companies of other countries, worldwide.)

**Conclusions**

Ensuring adequate global energy supply will require significant and timely investment and international cooperation along the entire supply chain. Many national and international energy companies that operate across the borders develop new tactics and strategies to address challenges and to satisfy complex criteria of energy security for both energy-consuming and energy-producing countries. Exchange of assets is one of the tools that can be used within their tactics.

The issue of asset exchanges, obviously, goes beyond the framework of Russia-EU energy relations. National and international energy companies from around the world are investigating the possibilities of asset exchanges in the target markets, if not actively implementing these transactions.

Several conclusions can be made, based on the analysis of the implemented asset swaps.

Firstly, asset exchanges allow entry into new markets in the context of globalisation/internationalisation strategies for companies in the energy sector. This means that where companies in different states have common objectives, these can be accomplished inter alia by the use of asset exchanges. From an open market prospective, exchanges of assets have the flexibility to lower entry barriers to new markets and provide opportunities for closer cooperation between energy companies.

Secondly, the relative rise in the number of asset swaps (and hence more active discussions and analysis) may be the result of the global economic recession. As the Financial Times notes, “the financial crisis, which has deprived many of cheap bank debt, has forced mergers and acquisitions bankers to come up with innovative ways of structuring deals, including using assets and existing stakes as acquisition currency. In theory, asset swaps are designed to provide companies with a way of expanding a core business or entering a new market, while eliminating the need either to pay a cash premium for an asset or to sell a business at a significant discount”.

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Thirdly, in many cases, asset swaps are only part of several strategic agreements among energy companies, including joint activities in geology, geo-science, technology development, field development, well drilling, finance, logistics, safety, health and the environment.

Finally yet importantly, asset swaps are used to mitigate risks as part of portfolio diversification and in balancing activities.
PRACTICAL ASPECTS
OF ASSET EXCHANGE OPERATIONS
Evaluating and matching assets

The process involved in the exchange of assets entails a complicated business transaction. The preparatory work on any acquisition of oil and gas assets, including acquisition within a swap operation, is as important as the negotiation of the deal itself. Incomplete or inadequate preparatory work can undermine success of a deal. Several methods can be used to determine the value of an asset, including comparison with similar assets, assessing cash flow, acquisition cost, replacement cost, and deprival value. In evaluating cash flow potential, the system of an aggregate of discounted projected cash flows in relation to risk-weighted assets is the method advocated with probability distributions of a company’s cash flow. Intervening variables include general factors that will affect all assets across the portfolio, such as cost of capital, forecasts of oil and gas prices, cycle times for activities, parameters for resource use, and parameters for operating costs, asset-specific data and uncertainties.

Approval process and competition law

Approval of the transaction is another important consideration. This approval is needed for various reasons – one of which is the compliance with the competition rules. (This is relevant for North America and Europe because these two regions are most actively promoting the principles of competitive markets.) In other regions, approval processes are also needed for transactions of asset acquisition, but more where government control is involved with the assets located in its territory – which might be of strategic importance.

Competition is a widely discussed topic within energy sector regulation debates, particularly in relation to the network-bound energy industries such as electricity and gas and their liberalisation, and not only in the EU. Discussions are also evolving about possible market liberalisation in Asia Pacific. (A consumer-centred paradigm of increased competition entails “the institutional configuration of a system based on the technically-centralised model [that] can be restructured, and monopoly rights withdrawn to permit different suppliers to compete for customers.”)

The process, of course, is not easy. All attempts at protecting competitiveness stem from national-level regulation (principally within the boundaries of nation-states). As noted in the monograph analysing competition in EU energy markets, “until recently the physical characteristics of networks – such as fixed grids and pipelines – seemed to have constrained the scope for <…> liberalisation and market-opening. A further constraint has been perceived in the high degree of government ownership and control in these industries. <…> Supervision by public authorities has seemed necessary to protect the large numbers of captive consumers dependent upon energy supplied through transmission and distribution networks.”

These arguments are relevant for both national and regional/international energy markets and go back to the necessity of access to infrastructure (access to resources/access to markets), as well as necessary investment, which create favourable conditions for vertical integration of energy companies. For example, the new European energy and competition policies are aimed

44 Skaf, Mazen A. Portfolio Management in an Upstream Oil and Gas Organization. Interfaces. 29/6. p. 92.
at “(1) establishing free, integrated and transparent energy markets for gas and electricity; (2) ensuring regulated third-party access to energy infrastructure, including transmission/distribution system and liquefied natural gas facilities, of the basis of published and non-discriminatory tariffs; (3) providing transparent third-party access to gas storage; (4) enforcing unbundling of transmission and distribution system operators from entities involved in energy production or supply; and (5) setting independent regulation of gas and electricity markets”.

**Competition legislation** promotes competition by monitoring anticompetitive conduct by companies. Modern competition law has historically evolved at a country level in order to promote and maintain competition in markets principally within the territorial boundaries of nation-states. The protection of international competition is governed by international competition agreements. Market access in the energy sector sometimes depends on having access to transportation and distribution networks. These networks may be owned by large vertically integrated state-owned monopolies and may remain in the hands of [a] monopoly provider, whether public or private, even after privatisation of the energy sector. The general agreement on trade in services (GATS) includes disciplines on monopolies and exclusive service suppliers (Article VIII) and restrictive business practices (Article IX), but these have been said to offer only ‘partial remedies’ to the problems that may arise where networks are controlled by monopoly suppliers.

There are significant regional differences in competition laws across the world. The most notable are the systems that are used in the US and in Europe.

The United States antitrust law is established on federal and state government laws, regulating the conduct and organisation of business corporations in order to promote fair competition. Antitrust law established specific procedures for corporate mergers, according to which “each corporation must initially pass a resolution adopting a plan of merger. The Secretary of State issues a certificate of merger to authorise the new corporation.” Other transactions with assets are also scrutinised, as they can be a way of evading the antitrust law.

The EU competition law is also targeted at maintaining competition and preventing corporations from abusing their market power. Primary authority for applying EU competition law, as well as the authority to track and punish the breach of the competition law, belongs to the European Commission and its Directorate-General (DG) for Competition. Mergers and acquisitions that lead to concentration have to be reported to the Commission: “Concentrations with a Community dimension defined in this Regulation shall be notified to the Commission prior to their implementation and following the conclusion of the agreement, the announcement of the public bid, or the acquisition of a controlling interest.”

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51 Ibid.
52 Yanovich, Alan. op. cit. p. 33.
54 Ibid.
Initial reporting is followed by the stage of approval. The task for applying EU law is implemented with the support of regulatory authorities, which participate in legislative activities (codifying and enforcing rules and regulations and imposing supervision or oversight).56

How does this translate into the actual developments in the oil and gas industry? In the report of the Organisation for Economic Cooperation and Development (OECD) on competition in the natural gas industry the following comments are mentioned: “Antitrust authorities have addressed a number of cases in the gas industry, particularly in the area of mergers. Mergers between firms, which have activities at the same stage of production (e.g., two producing firms, two transmission pipelines, or two distribution companies) will, as in other industries, often have a direct impact on competition. Mergers between firms at different stages of production (i.e., between pipelines and producers or pipelines and retailers) raise concerns about raising incentives to deny access”.57 In order to prevent monopolistic influence on the energy markets, unbundling is used. “Attention to structural policies can make a material impact on competition. In particular, vertical separation of the pipeline network from upstream producers and downstream customers/retailers can enhance competition among gas producers and gas retailers. Although structural separation has been adopted in a few countries, a large number of countries have retained a large degree of structural integration through the reform process”.58 The break-up of the supply chain and other possible measures taken by the antitrust authorities are contrary to the strategy of companies in the energy sector, which by vertical integration aim at reducing their transaction costs.

The rule is of reporting works in other regions. In case of China, “most acquisitions by an international purchaser of Chinese companies or Chinese assets will need approval by at least one governmental authority. Many acquisitions will need to be approved by the Ministry of Commerce”.59 In case of Russia, foreign direct investment has to be reported to the Federal Antimonopoly Service; deals with natural resources of strategic importance need the approval of the Governmental Commission.60

**Conclusions**

Two types of practical challenges associated with asset exchanges were identified – (a) the challenge of technically evaluating assets, and (b) the challenge of approving the transactions with the antimonopoly authorities. Both challenges are not exclusive for these types of transactions; the first one stems from asset valuation methods; the second arises from the point of view of authorities concerning the position of large corporations on the energy markets (EU, US) and/or the intent to control the activities with the country’s assets. Overall, concerns can be broken down into two main considerations: decreased competitiveness of the market and growth of monopolistic influence of a single company.

In any case, the challenges are specific for each region and have to be dealt with respectively. In relation to the competition rules, there should be a clear understanding of the problem of over-regulation. Where the intent of higher government control is concerned, the exchange of

58 Ibid. p. 9.
assets can actually be an easier way to enter the new market rather than acquisition. For instance, in the case of China the government might be interested in promoting the internationalisation of its companies‘ activities and thus be more willing to approve of transactions that will put its companies‘ assets in the upstream area, or for other reasons as discussed in section 2.4.
EXCHANGE OF ASSETS
IN RELATION TO THE ECT PRINCIPLES
The Energy Charter Treaty

As globalisation of the world economy increases, the interdependence of the energy sector, and the long-term and highly capital intensive nature of energy projects will flourish; thus, multilateral rules for international cooperation are needed. The ECT was negotiated to meet that need. The ECT principles include: competitive markets; investment protection; assurance of reliable cross-border energy flows; dispute settlement; and energy efficiency. The fundamental aim of the ECT is to strengthen the rule of law on energy issues, by creating an equal opportunity of rules to be observed by all participating governments, thus minimising the risks associated with energy-related investments and trade.

The host country’s perceived degree of political risk considerably affected the decision of foreign companies to invest in the first place, as was the likely rate of return. When the political risks that foreign investors face in the host country are reduced, the ECT seeks to boost investor confidence and to contribute to an increase in international investment flow.

Exchange of assets in relation to access to international markets

The ECT, Article 3, states that the contracting parties shall work to promote access to international markets on commercial terms and generally to develop an open and competitive market, for energy materials and products.

One of the objectives of internationalisation strategy is geographical diversification. Where there is a limited possibility to start a new project in the target region, companies engage in existing projects by acquiring shares in the project or the company which operates it; acquisition of the company which operates the project; asset swap with the company operating the project; or extrusion and replacement of the company operating the project (often by using political pressure). Acquisition of assets does not necessarily mean access to the market, however. The necessary condition is in the form of a technologically linked supply chain along which the assets are located. In this case, companies that exchange assets receive access to the respective markets.

In general, exchange of assets implies improved access to international energy markets based on the principle of reciprocity.

Exchange of assets in relation to ECT principle of investment protection

Under the ECT Articles 10–16, foreign investors are protected against the most important political risks, such as discrimination, expropriation and nationalisation, breach of individual investment contracts, damages due to war and similar events, and unjustified restrictions on the transfer of funds. The dispute settlement provisions of the Treaty, covering both inter-state arbitration and investor-state dispute settlement, support investors’ rights.

The ECT contains a broad, non-exhaustive, “asset-based” definition of an “investment”. According to Article 1(6), “investment” means every kind of asset. Asset exchanges are thus protected by the ECT if such transactions meet the ECT definition of “investment”, and definitions of Economic Activity in the Energy Sector and of Energy Materials and Products.

Exchange of assets in relation to the ECT competition regime

In addition to investment protection challenges, companies that wish to implement asset exchanges may face barriers to competition; technological factors, as a result of uncommon norms and standards, exemptions and arbitrary public procurement policy decisions, may
restrict the entry of firms. In order to overcome such barriers, the energy sector should be persuaded to adopt continuous and consistent levels of international cooperation on issues of competition.61

The Energy Charter Process encourages liberalisation and competition in energy markets in order to facilitate cross-border investment within the ECT constituency. The ECT provides the legal framework for such cooperation. Article 6 of the ECT paves the way for technical assistance and cooperation on the development and implementation, and in the enforcement of competition rules among the contracting parties within the ECT constituency (see also Annex 3. Excerpts from the Energy Charter Treaty).

Because asset exchanges are implemented strictly on a commercial basis and often provide access to international markets, these business transactions generally correspond to the principles of the ECT in relation to competition. However, as noted in section 3.2, asset exchange could allow a company to achieve its goal of entering a new segment in the supply chain without losing its dominant position in the initial market – a move which might raise legitimate concerns.

Based on the conventional commitment under Article 6 of the ECT to alleviate market distortions and barriers to competition and to address concerns of asset exchanges related to anticompetitive conduct as per Articles 6 (1) and (2) of the ECT, the EC members could cooperate through non-case-specific recommendations and develop best practices, which could be adopted to facilitate cooperation on promoting competition within the Energy Charter Process.

In addition, direct contact between the national competition authorities within the ECT constituency could be facilitated and/or improved through specialised workshops in order to enhance knowledge and information exchange on complex transactions of asset exchanges.

**Conclusions**

From an open market prospective, asset swaps allow lower entry barriers to assess new markets and provide opportunities for closer cooperation between energy companies.

The mechanism of asset exchange is allegedly covered by the investment protection provisions of the ECT. Asset exchange may be interpreted as acquisition of shares and investment exchange and thus is protected by the provisions of the Treaty.

The mechanism of asset exchange does not contradict the principles of the ECT in relation to competitive markets. In fact, the mechanism of asset swaps contributes to the development of open markets and can stimulate competition in certain market segments. Business asset exchanges are usually implemented on commercial principles. In order to address concerns associated with asset exchanges in the context of anticompetitive conduct, the ECT Contracting parties can cooperate through non-case-specific recommendations and enhanced cooperation among the national competition authorities.

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FINAL REMARKS
Ensuring accessibility to an adequate global energy supply will require significant and timely investment and international cooperation along the entire supply chain. Many national and international energy companies that operate across the borders develop new tactics and strategies to address challenges in order to satisfy the complex criteria of energy security for both energy-consuming and energy-producing countries. Exchange of assets is one of the tools within their tactics.

In the situation of mutual mistrust, lack of financial confidence and resources as well as asset exchange mechanisms can help to provide a stable flow of energy and capital; in many cases it can help states enhance their respective energy securities.

Asset exchange is a mechanism of risk mitigation for (1) investment activities; (2) energy companies’ internationalisation/globalisation strategy implementations; (3) difficult issues in solving reciprocity access to market segments. This mechanism is used worldwide.

Nearly all the latest examples of deepened cooperation or discussions thereof include exchanges of assets, which for foreign companies provide entry into the Russian energy sector on a mutually beneficial basis.

In some specific cases, asset exchange may be a way for a company to achieve the goal of entering a new segment in the supply chain without losing its position in the initial market. This strategy could raise legitimate concerns by antimonopoly and antitrust authorities.

Asset exchange does not affect markets or the rules of competition, as it does not decrease the number of companies involved – it does not alter supply–demand balance and price levels. However, it actually increases the number of active companies within the separate segments of the supply chain. And, as part of vertical integration strategies, it improves access to markets for producers; improves access to resources for consumers, and this is, essentially, why this mechanism works.
ANNEX 1
Analysis of mutual exchanges of business assets within investment activities in the energy sector

Excerpts from the New Legal Framework for Energy Cooperation

According to the Conceptual Approach to the New Legal Framework for Energy Cooperation (Goals and Principles),

“The parties should cooperate in the sphere of energy on the basis of the following principles:

• recognition of indivisibility of sustainable global energy security and interdependence of all world energy exchange participants;

• mutual responsibility of energy-consuming and supplying countries, as well as of transit states for global energy security;

• recognition of security of supply and demand as key aspects of global energy security;

• unconditional state sovereignty over national energy resources;

• non-discriminatory access to international energy markets, their opening and increased competition on them;

• coverage of all types of energy and utilities and their related materials and equipment;

• transparency of all international energy market segments;

• non-discriminatory investment promotion and protection, including new investments into all energy chain links;

• promotion of mutual exchange of energy business assets within investment activities;

• non-discriminatory access to energy technologies and participation in technology transfers;

• smooth energy supply to international markets, including through transit systems;

• technological reliability of all energy infrastructure elements, including transit ones;

• physical security of essential energy infrastructure;

• promotion of infrastructure projects having great importance for global and regional energy security;

• mandatory consultations on and coordination of energy policies and related measures, including in the sphere of establishing a future energy balance structure, energy supply diversification, regulatory documents on energy production, trade, transit and consumption, planning and implementation of infrastructure projects which impact on global and regional energy security;

• creation and improvement of early warning mechanisms which involve supplying, consuming and transit states;

• enhanced efficiency of energy production, processing, transportation and use through national and international initiatives;

• promotion of broad-based scientific and technological cooperation in the sphere of energy, including alternative and renewable energy sources, improved energy efficiency and saving through all energy chain links;
• cooperative efforts towards environmental protection, prevention of new negative consequences of climate change and management of the current ones;
• terminological and notional uniformity of regimes created by new documents.”

Excerpts from the Saint-Petersburg Plan of Global Action

Saint-Petersburg Plan of Global Action: Global Energy Security states: “Ensuring an adequate global energy supply will require trillions of US dollars in investment through the entire energy chain. We shall take measures both nationally and internationally to facilitate investments into a sustainable global energy value chain. High and increasing investment exposure calls for better risks sharing between all stakeholders in energy supply chain which will ensure reliable and sustainable energy flows. It is especially important that companies from energy-producing and consuming-countries can invest in and acquire upstream and downstream assets internationally in a mutually beneficial way and respecting competition rules to improve the global efficiency of energy production and consumption.”63

Excerpts from the Energy Charter Treaty

THE ENERGY CHARTER TREATY\textsuperscript{64}

PART I
DEFINITIONS AND PURPOSE

ARTICLE 1
DEFINITIONS

As used in this Treaty:

[...]

(6) "Investment" means every kind of asset, owned or controlled directly or indirectly by an investor. [...]

A change in the form in which assets are invested does not affect their character as investments and the term "Investment" includes all investments, whether existing at or made after the date of entry into force of this Treaty for the contracting party of the investor making the investment and that for the contracting party in the area of which the investment is made (hereinafter referred to as the "Effective Date") provided that the Treaty shall only apply to matters affecting such investments after the effective date.

ARTICLE 2
PURPOSE OF THE TREATY

This Treaty establishes a legal framework in order to promote long-term cooperation in the energy field, based on complementarities and mutual benefits, in accordance with the objectives and principles of the Charter.

PART II
COMMERCE

ARTICLE 3
INTERNATIONAL MARKETS

The contracting parties shall work to promote access to international markets on commercial terms, and generally to develop an open and competitive market, for energy materials and products. [...]

ARTICLE 6
COMPETITION

(1) Each contracting party shall work to alleviate market distortions and barriers to competition in economic activity in the energy sector.

ANNEX 4
## Asset Exchange Examples

<table>
<thead>
<tr>
<th>Company (Country) - Company (Country)</th>
<th>Year</th>
<th>Details</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>ExxonMobil (USA) - Rosneft (Russia)</td>
<td>2012</td>
<td>Joint ventures to manage an exploration program in the Kara Sea and Black Sea. Neftegaz Holding America Limited (independent indirect subsidiary of Rosneft registered in Delaware): 30% equity in ExxonMobil’s share in the La Escalera Ranch project in the Delaware Basin (Texas, USA); the right to acquire a 30% interest in 20 blocks held by ExxonMobil in the US Gulf of Mexico. RN Cardium Oil Inc. (an independent Rosneft subsidiary): acquired 30% of ExxonMobil’s stake in the Harmattan acreage in the Cardium formation of the Western Canada Basin (Alberta, Canada).</td>
<td>Target: jointly explore and develop oil and natural gas in Russia and to share technology and expertise. Jointly develop tight oil production technologies in Western Siberia.</td>
</tr>
<tr>
<td>ExxonMobil (USA) - Total (France)</td>
<td>2012</td>
<td>Total will offer ExxonMobil its stakes in the PL089 licence (5.6%) and the Sygna (2.52%), Statfjord Øst (2.8%) and Snorre (6.18%) fields. In return, it will take ExxonMobil’s 4.7% interest in the Oseberg field in the North Sea and a 4.33 % interest in the Oseberg transportation system, along with interests in the PL029c licence (100%) and the PL029b licence (30%), containing part of the Dagny field. Additionally, Total will pay a cash consideration to ExxonMobil.</td>
<td>Target: various producing and undeveloped assets offshore Norway. Objective for Total: fewer but larger assets.</td>
</tr>
<tr>
<td>Chevron (USA) - Shell (UK / Netherlands)</td>
<td>2012</td>
<td>Chevron will transfer its interests in the Browse liquefied natural gas (LNG) project in Western Australia, which has an estimated value of some $30 million, to Shell, while Shell will transfer its 33.3% interest in two gas fields connected to its Wheatstone project, also located in Western Australia. Shell will also make a $450 mln cash payment to Chevron. Shell will acquire Chevron’s 20% interest in the West Browse assets and a 16.7% interest in East Browse.</td>
<td>Chevron’s target: “expansion opportunities for the Wheatstone Project”.</td>
</tr>
<tr>
<td>Wintershall (Germany) and Gazprom (Russia)</td>
<td>2012</td>
<td>Framework agreement specifying the terms and conditions of a potential asset swap deal. Agreement includes the following possible developments: Gazprom and Wintershall jointly develop two blocks of the Achimov deposits in the Urengoy field; Gazprom receives equivalent stakes in Wintershall’s oil and gas E&amp;P projects in the North Sea. At the initial cooperation stage, Wintershall will receive 25% plus one share in the development project for two blocks of the Achimov deposits. In exchange, Gazprom is supposed to receive a 50% stake in the oil and gas projects implemented by Wintershall in the North Sea.</td>
<td>Target: E&amp;P*. Expertise. Exchange of assets located in the same segment of the supply chain (upstream to upstream).</td>
</tr>
<tr>
<td><strong>Company</strong> (Country) - <strong>Company</strong> (Country)</td>
<td><strong>Year</strong></td>
<td><strong>Details</strong></td>
<td><strong>Additional Details</strong></td>
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<td>---------------------------------------------</td>
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<tr>
<td>Royal/Dutch Shell (UK, the Netherlands) - Gazprom (Russia)</td>
<td>2011- current</td>
<td>Joint projects in West Siberia and in the east of Russia; Gazprom’s participation in Shell’s undertakings in developing countries; Increased LNG deliveries to quake-hit Japan from the Sakhalin-II project (Shell wants to boost the plant’s output by 50% and raise its stake in the plant). 2013</td>
<td>Sakhalin-2 Arctic shelf Shale oil (technology and experience) Oil and gas markets (Europe and APR), Upstream (E&amp;P) LNG transport infrastructure</td>
</tr>
<tr>
<td>BP (UK) - BG Group (UK)</td>
<td>2008</td>
<td>BP and BG exchange a package of North Sea assets which is intended to strengthen BP’s position as a major operator in the Southern North Sea and facilitate development activity and investment in the UK Continental Shelf (UKCS).</td>
<td>North Sea</td>
</tr>
<tr>
<td>StatoilHydro (Norway) - Rosneft (Russia)</td>
<td>May 2012</td>
<td>Joint venture to explore the Perseevsky licence block in the Barents Sea and three blocks in the Sea of Okhotsk. Statoil will hold a 33.33% stake in the project. Rosneft’s participation in the exploration of licence blocks in the Norwegian part of the Barents Sea, as well as the possible acquisition by Rosneft of interests in Statoil’s international projects.</td>
<td>Target: Jointly explore offshore fields in the Russian sections of the Barents Sea and Sea of Okhotsk. Joint research to identify effective approaches to developing deposits with hard-to-recover oil and gas reserves European oil and gas markets; Upstream (E&amp;P)</td>
</tr>
<tr>
<td>ENI (Italy) - Rosneft (Russia)</td>
<td>April 2012</td>
<td>Joint venture to explore the Fedynsky and Central Barents fields in the Barents Sea and the Western Chernomorsky field in the Black Sea. Eni will hold 33.33% in the project.</td>
<td></td>
</tr>
<tr>
<td>Statoil (Norway) and Total (France)</td>
<td>2011</td>
<td>Sales and purchase agreement whereby Statoil acquires Total’s full share in the Valemon unit (2.5%) for a transfer of a 2% share in Hild to Total. Statoil’s equity in the Valemon unit will increase from 64.28% to 66.78% post a successful execution of the agreement.</td>
<td>Statoil regards this as a natural increase and consolidation in a Statoil-operated asset in a core area on the Norwegian continental shelf.</td>
</tr>
<tr>
<td>ENI (Italy) - Gazprom (Russia)</td>
<td>2010</td>
<td>Gazprom joins Elephant oilfield in Libya (33% in the project). Eni will be taking part in projects to develop north-west Siberian assets owned by the Arctic Gas company. 2013 Gazprom seeks acquisition of a stake in Mozambique’s Area 4.</td>
<td>Upstream (E&amp;P), oil field; Upstream (E&amp;P), offshore gas fields, LNG.</td>
</tr>
<tr>
<td>ENI (Italy) - CNOOC** (China)</td>
<td>2012</td>
<td>Production agreement in exchange of technology know-how.</td>
<td>Upstream (E&amp;P), deep water block in China South Sea.</td>
</tr>
<tr>
<td>Gas de France/SUEZ (France) - Wintershall (Germany)</td>
<td>2009</td>
<td>Asset swap deal covering acreage in the German sector of the North Sea which will see the French group get 40% of two sectors, and Wintershall gaining 25% of acreage next to the Mittelplate oil field.</td>
<td></td>
</tr>
</tbody>
</table>

* = exploration and production; ** = China National offshore oil corporation


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