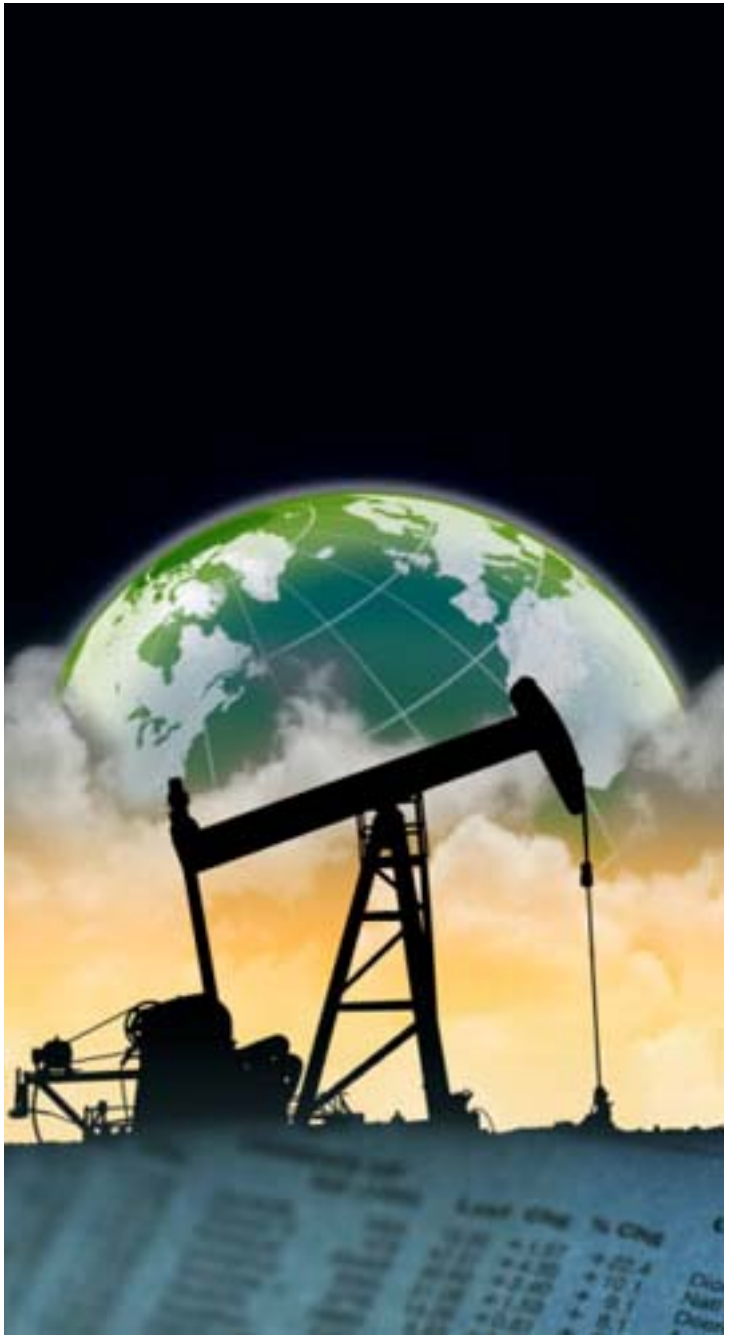

Russian Arctic Strategies and Recent Deals

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Executive Conclusions

- Russia's strategic interests in the Arctic include:
  - Developing natural resources
  - Establishing a transportation route to Asian markets
  - Sustaining claims for seabed boundaries
  - Strengthening national security
- Russia's Arctic will become the core hydrocarbon producing province as production from the West Siberia legacy fields drops. Non-oil mineral riches are another strategic focus
- Besides providing fiscal incentives to develop frontier fields, the government is leading with funding transportation infrastructure to help develop the Arctic and monetize its resources
- The Northern Sea Route is of key importance as it meets several of Moscow's strategic goals, including export diversification and the development of non-oil industries (shipbuilding, nuclear)
- The offshore Arctic provides for huge resource potential (particularly in natural gas). Several strategic deals concluded recently between Russian state company Rosneft and leading IOCs suggest that Moscow is ready to offer access to resources in exchange for technologies, project management expertise, and financing

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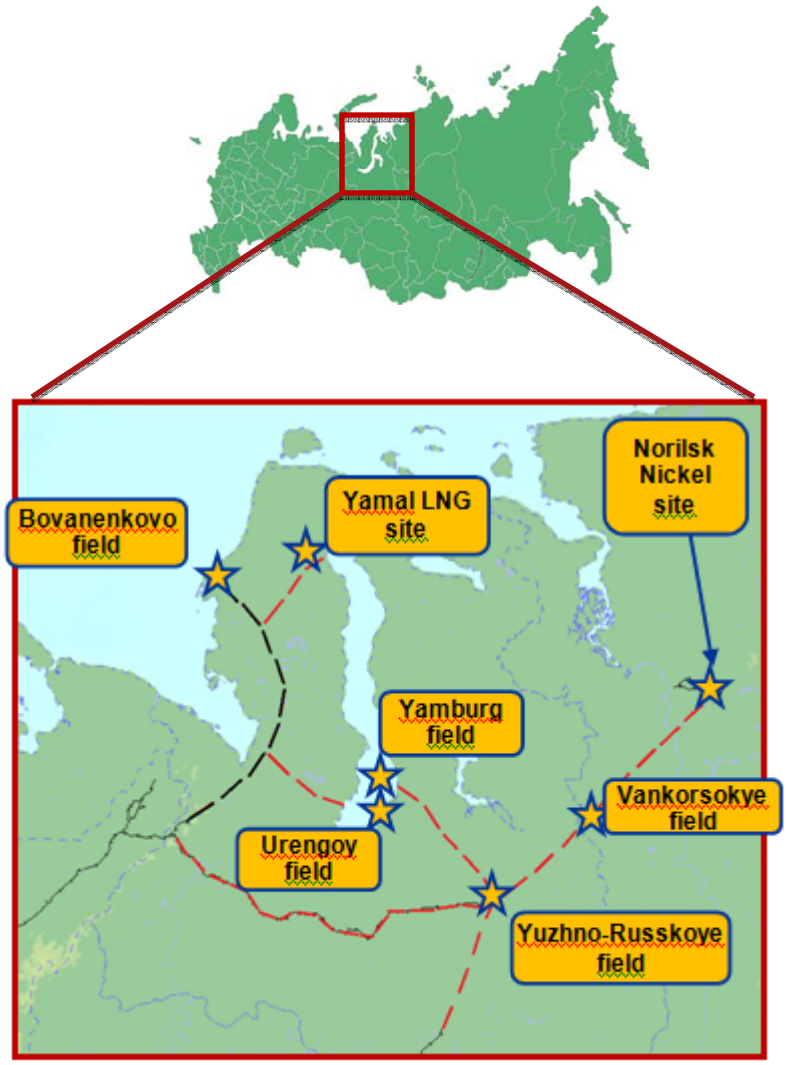
Natural Resources Drive Arctic Development

- Russia's Arctic is a key gas producing region. As Soviet legacy giants like Yamburg, Urengoy and adjacent fields have passed their production plateau, new Arctic gas fields in Yamal present the only comparable alternative
- Besides hydrocarbons, the region is estimated to hold strategic reserves of various minerals. This creates an even more compelling reason for the government to spur the development of this region
  - The minerals include chromites, black-iron ore, phosphates, copper, bauxites, diatomite, barium, gold, etc.
- Resource development is contingent on infrastructure. Under the so called "Urals Industrial – Urals Polar" initiative launched in 2005, the governments of the five Russian regions of the Urals Federal District develop transportation networks
  - This includes a major Arctic railroad connecting developed areas in Yamal's south with strategic production sites, including Gazprom's Yuzhno-Russkoye field, Rosneft's Vankorskoye field, and the production site of Norilsk Nickel – the world's largest producer of nickel and palladium



Source: PetroView, PFC Energy

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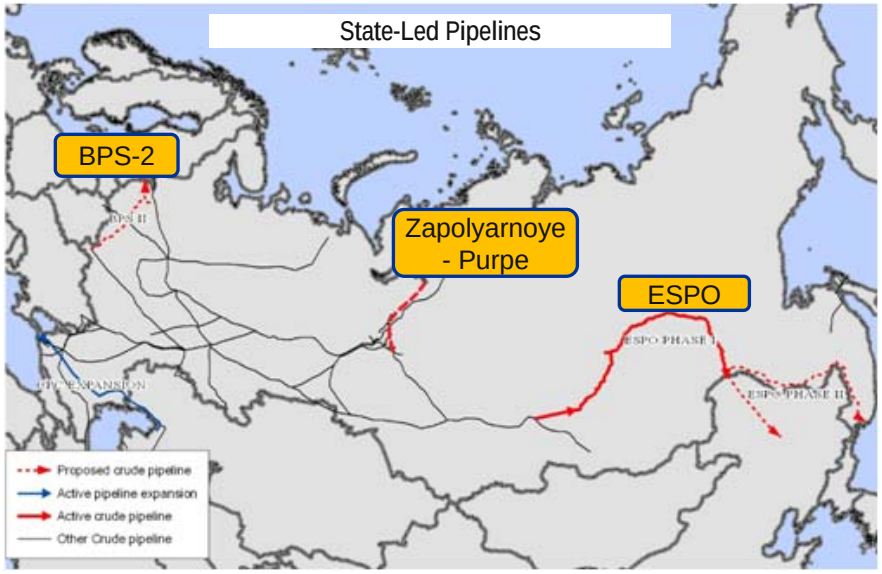
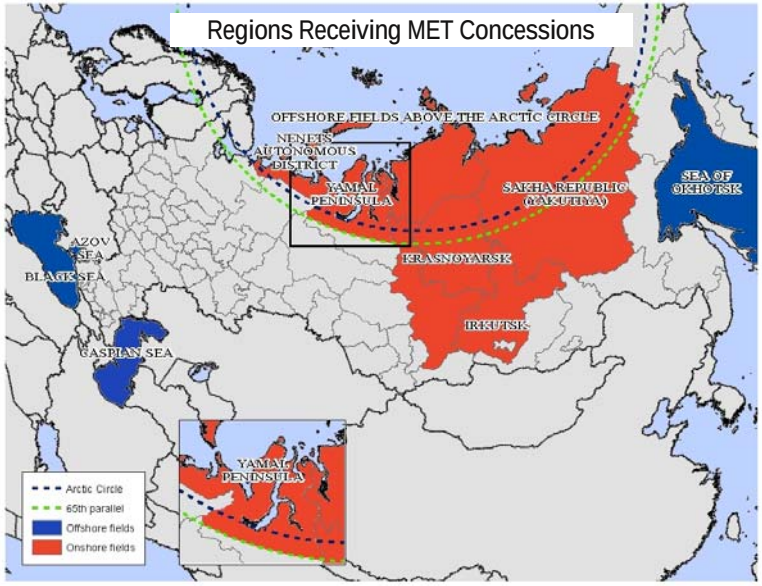
Russian Government Provides Incentives

- To incentivize new production, Moscow provides **tax concessions** to develop Greenfield regions.
  - Concessions for the Mineral Extraction Tax (MET) are provided for specific regions on a long-term basis
  - Concessions/exemptions for the Export Duty are provided on an ad-hoc basis for specific fields



Source: PFC Energy



Source: PFC Energy

- Another support is the development of **infrastructure**
  - The East Siberia – Pacific Ocean (ESPO) pipeline allowed for a new oil export outlet, providing the impetus for developing Eastern Siberia fields
  - State-owned Transneft is building a new oil pipeline to export crude from yet-to-be-developed Arctic fields near the Yamal Peninsula

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Moscow Pursues Export Diversification, Promoting Other Industries

- Development of new options to access global markets is Moscow's strategic goal. In the Arctic, the Northern Sea Route (NSR) is a key project: it is expected that full scale development of the route will not only be logistically advantageous, but will also drive the development of additional oil, gas and non-hydrocarbon resources
  - Using the NSR may result in as much as 40% less travel time and 40% lower fuel costs in comparison to the trip via Suez. However, to be competitive with the total transportation costs through Suez, the tariffs for needed ice breaker support will have to be 25% lower than they are now. This can be achieved through economies of scale (higher traffic)
- Another strategic dimension is the multiplicative effect of the NSR's realization on different industries, including shipbuilding – one of the six key sectors where Russia has a comparative advantage globally and which it therefore prioritizes
  - For Yamal LNG, ice class LNG carriers are to be constructed in Russian yards
  - The world's only atomic icebreaker fleet operated by Rosatomflot – an arm of Rosatom National Nuclear Company – will be utilized to support LNG transportation. Rosatomflot plans to build three new generation ice breakers by 2020. The investments are estimated at about $1 bn per ship and will be financed from the federal budget
- Moscow also seeks to benefit from commercializing the NSR internationally. The first foreign exporter to use the route in 2010 was Norway's Nordic Bulk Carriers, which delivered iron ore from Norway to China. In 2011, for the first time, a Suezmax-size tanker carrying 120 thousand tonnes of condensate for NOVATEK sailed through the NSR to Thailand. Overall, about 1 mmt of cargo were shipped through the NSR in 2011. Moscow expects to push this up to 5 mmt in 2012 and to as much as 60 mmt in 2020

Source: Nordic Bulk Carriers

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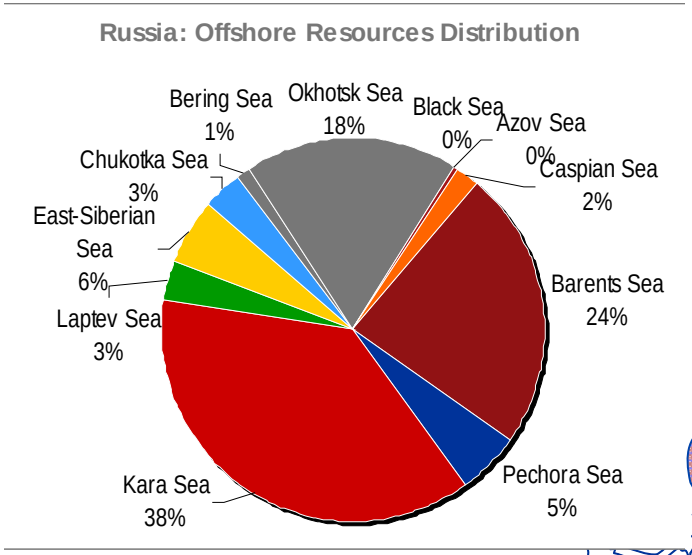
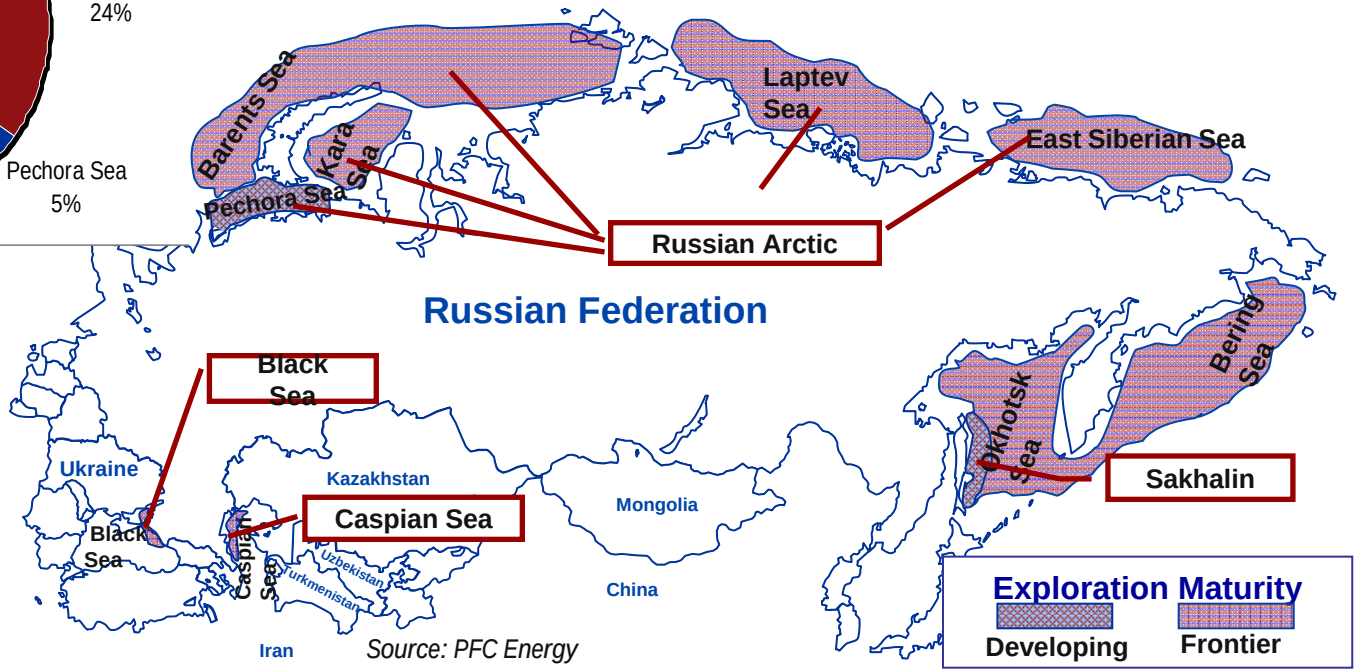
Russia's Long-Term Oil and Gas Prospects Are Offshore…



- Russia's continental shelf is the largest in the world: its combined territory exceeds 2.4 million square miles, of which over 1.5 million square miles is expected to hold hydrocarbon reserves
  - Russian Arctic reserves are likely to be mainly comprised of gas



Source: PFC Energy

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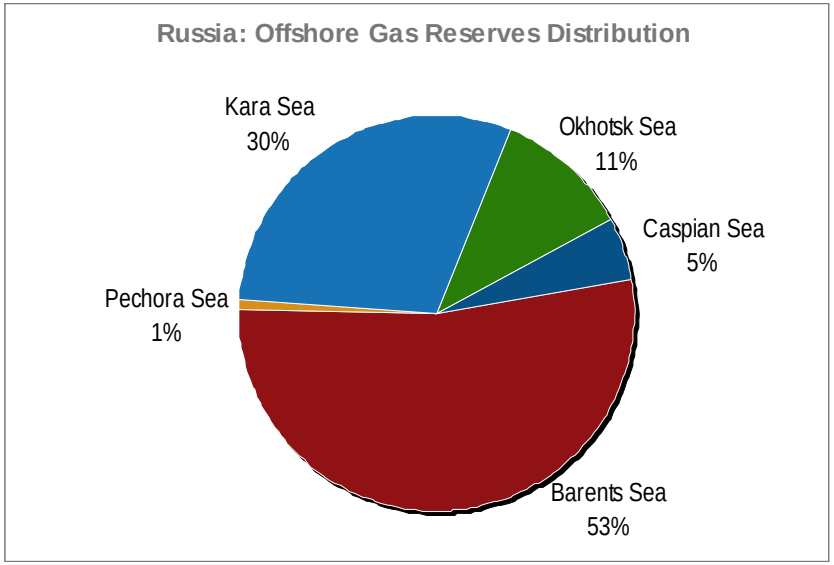
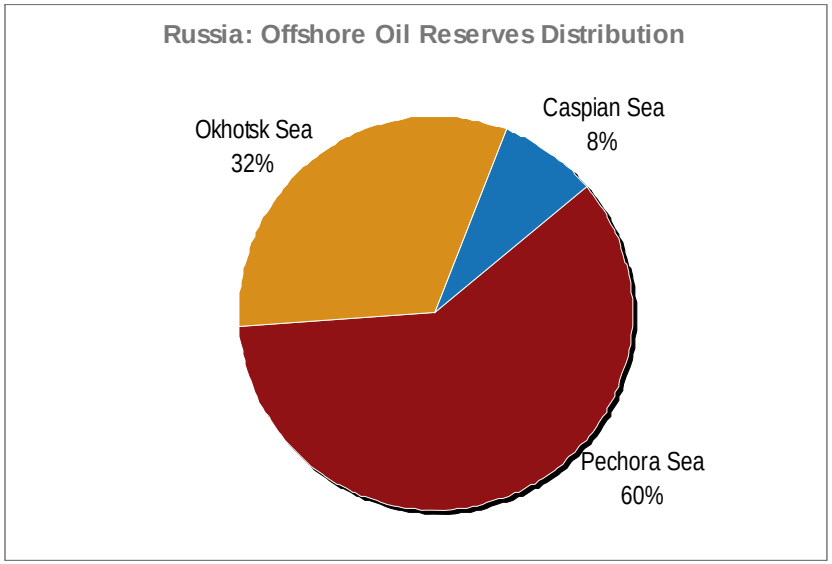
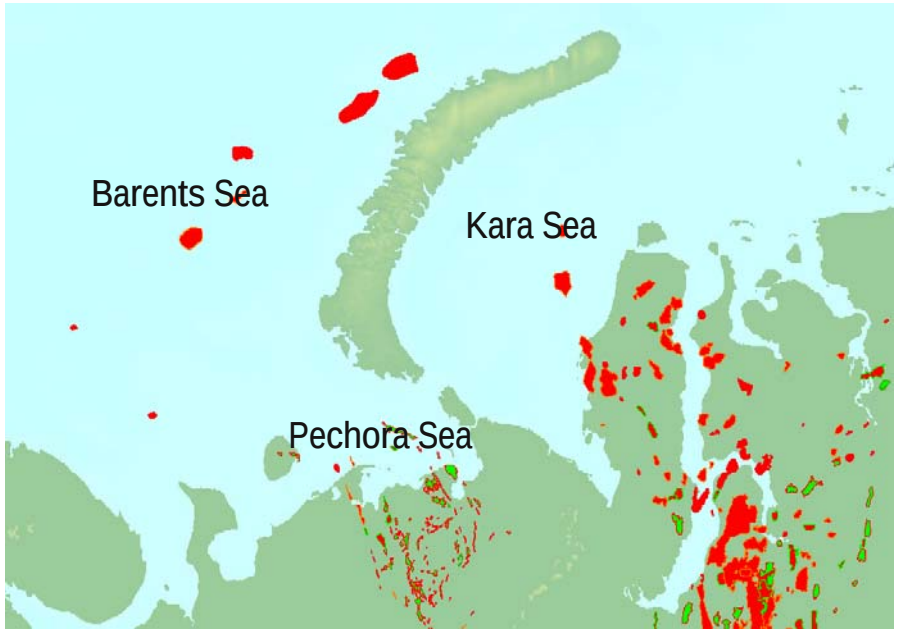
…With the Strategic Focus on the Arctic Shelf







Source: PetroView, PFC Energy

- **Arctic shelf reserves are mainly gas: over 4 tcm (~140 tcf) of recoverable gas reserves discovered on Russian Arctic Shelf**
- **Strategic priority areas for primary development: Barents, Kara, Okhotsk Seas**
- **Rosneft and Gazprom control most licenses; private companies participate via farm-ins and JVs**

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Russia's Offshore Blocks

Source: PetroView

- Exploration in Russia is focused on the Arctic offshore and Okhotsk Sea.

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Rosneft's Blocks Offered to IOCs

Source: PetroView, PFC Energy

- Rosneft owns licenses for projects in all Russian offshore basins.

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Summary of International Oil Company (IOC) JVs with Russian state company Rosneft

	ExxonMobil	Statoil	Eni
Stake in Russian projects	33.30%	33.30%	33.30%
Spending Commitment	Finance exploration	Finance exploration	Finance exploration
JV Projects in Russia			
Arctic offshore	Kara Sea: Vostochno-Prinovozemelskiy 1,2,3	Barents Sea: Perseevsky	Barents Sea: Fedynsky, Tsentralno-Barentsevsky
Okhotsk Sea offshore		Magadan 1, Lisyansky, Kashevarovsky	
Black Sea offshore	Tuapsinskiy Trough		Zapadno-Chernomorsky
Onshore	Bazhenov formation in W. Siberia (tight oil)	Shale oil in South Russia, Viscous oil in W. Siberia	
Technical Expertise	Creation of the Arctic Offshore Scientific Project Center		
JV Projects outside Russia to be developed with Rosneft			
Upstream	Unconventional acreage in US and Canada. US GOM exploration	Norwegian offshore exploration	TBD (potentially include North Africa, Alaska, Northern Europe)
Downstream			

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What Prompted IOC Interest: Putin's Promise of a New Offshore Tax Incentives

- In April 2012, the Russian Government proposed a favorable tax regime for new offshore developments with four categories based on location and intended to reflect the level of development challenges:
  1. (easiest) Azov Sea, Caspian Sea, shallow water Black Sea
  2. Baltic Sea and deepwater Black Sea
  3. Barents Sea, Pechora Sea, southern areas of Kara Sea and Sea of Okhotsk, Sakhalin Shelf
  4. (most difficult and receiving most incentives) Laptev Sea, Bering Sea, northern sections of Kara Sea and Sea of Okhotsk
- New projects in the Russian offshore would also get exemption from export duties
- Additional incentives include eliminating property and value added taxes on imported oil and gas production equipment that is not manufactured in Russia
- A "stability period" for each category of fields guarantees longer term tax incentives. This stability period could range from 5 years to 15 years, depending on the field category
- The new offshore tax regime is to be implemented by 1 October 2012

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Russian Interests Coincide With IOC Interests

- Russia's strategic interests include leveraging ties with IOCs to build international validation, bring technical skills and financing for risky offshore exploration

  - ExxonMobil brings US ties
    - ExxonMobil's 15-years of experience in partnering with Rosneft in the Sakhalin-1 project creates relationship synergies reflected in multi-year ties at many levels in Russia
  - Statoil brings Norwegian ties
    - Statoil's Norwegian Arctic experience will lead to work on joint opportunities in the Barents Sea
      - The settlement of the Barents Sea territorial dispute between Norway and Russia in spring 2010 has paved the way for increased cooperation in joint offshore exploration
  - Eni brings Italian ties
    - Eni has a long history of relations, dating back to the end of the 1960s when the company started importing crude from the Soviet Union

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IOCs Have Broad Range of Applicable Skills That Russia Needs

- Russia needs offshore technical skills and expertise, along with financial capability to carry its state company participants in the exploration phase

  - ExxonMobil
    - ExxonMobil has offshore Arctic operated positions in Hibernia (Eastern Canada) and Sakhalin
    - Broad range of skills and technical expertise, including horizontal drilling and skills for shale oil development.
      - Rosneft has been seeking to explore in West Siberia's Bazhenov formation that has oil shale rocks with low porosity and permeability at depths of 2.5 to 3 kms. It may now do this in conjunction with ExxonMobil. Rosneft estimates Bazhenov oil reserves to amount to over 18 billion barrels
  - Statoil
    - Statoil has substantial exposure to Arctic E&P. It can offer technical solutions developed through its unique experience in the Norwegian Barents Sea under harsh operating conditions
    - Statoil's recent exploration performance has been impressive, with Norwegian discoveries plus Tanzania. Statoil also has offshore experience in Azerbaijan's Shah Deniz field in the Caspian
  - Eni
    - Long experience in the Norwegian Arctic, lately focused on Barents Sea projects. Elsewhere in Norway, Eni participates in numerous fields and licenses offshore
    - Eni has had success as an exploration company over the past few years in Venezuela and East Africa

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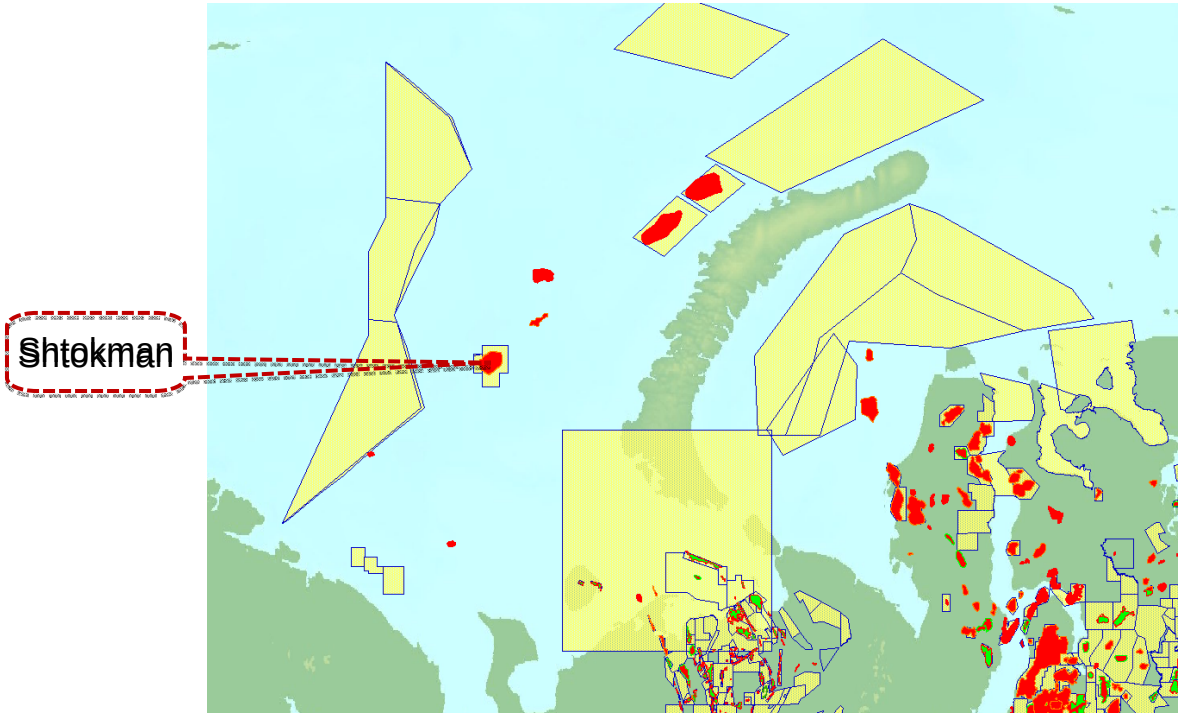
Kara and Barents Seas: Licensed Blocks, including Shtokman



Source: PetroView, PFC Energy

- Kara and Barents Seas are the most explored among Russia's offshore basins: major discoveries, like Shtokman, were made in the 1980s by Soviet geologists. Shtokman is currently awaiting a Final Investment Decision (FID) from its partners Gazprom 51%, TOTAL 25%, Statoil 24%

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