The Oil Drum
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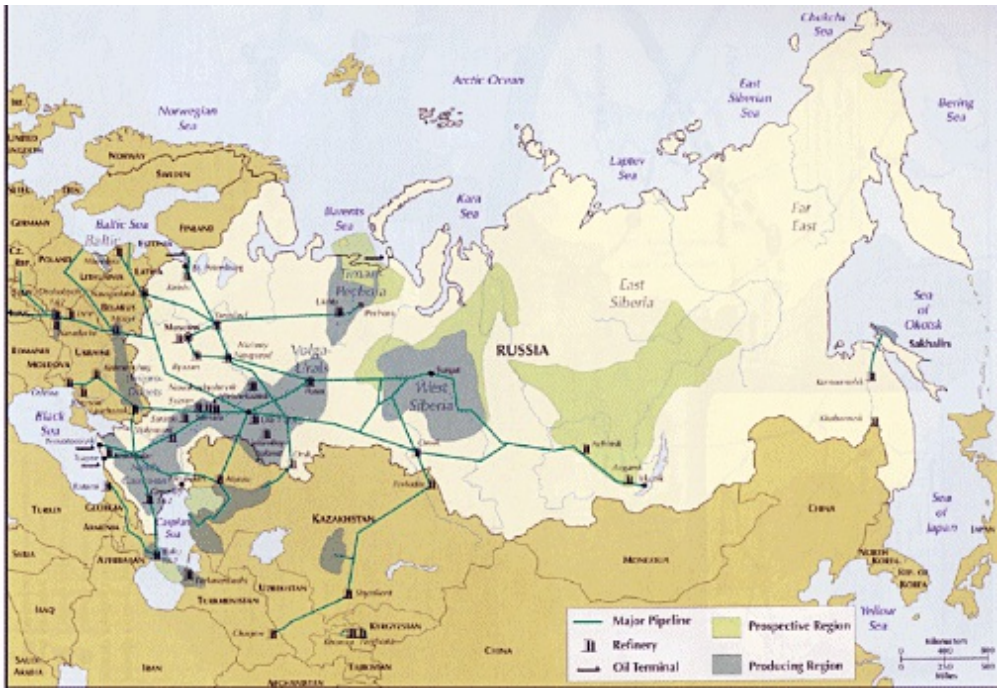
Tech Talk - Oil Production from Timan-Pechora

Posted by Heading Out on February 19, 2012 - 4:50am
Topic: Supply/Production
Tags: crude oil production, natural gas production, russia, timan-pechora [list all tags]

In the review of the BP view of energy supply over the next 20 years, I noted BP anticipated that Europe would be largely self-sufficient in Energy:

> we foresee both the Americas and Eurasia - or Europe including Russia and the former Soviet Union - achieving self-sufficiency in energy

Foregoing, as yet, is a review of the FSU states that lie south of Russia. The initial question that this series is seeking to examine at present is how sustainable, or how much potential for growth, lies in Russian oil and gas production.

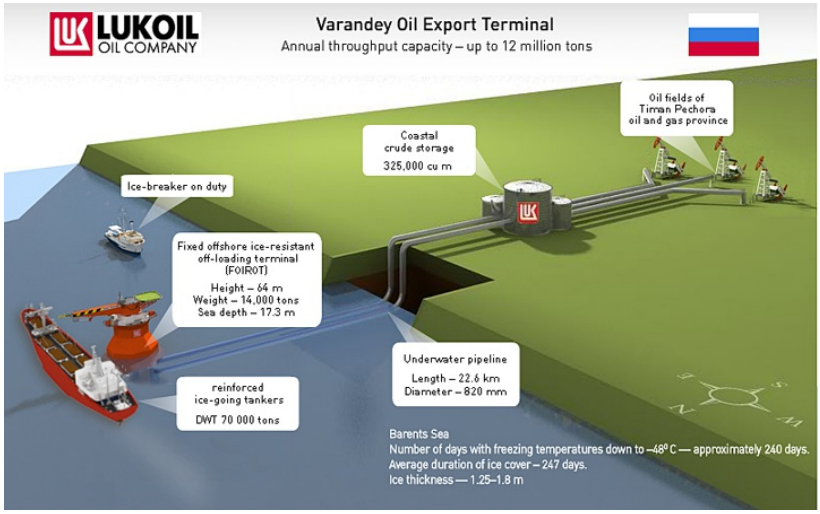


The major Russian oil basins (EIA)

This progressive review of Russian major oil developments has moved from Baku and the Northern Caucasus, through the Urals-Volga region into Western Siberia, and thence via Eastern Siberia to Sakhalin Island. This has been a steady progression East, and one might suspect that Russia might continue this movement as current major fields start to play out. Unfortunately, that would move exploration and development east across the Bering Sea. In 1868, Tsar Alexander II sold Alaska to the United States for $7.2 million in gold, and much of that resource has now been developed. (And as an aside, the Alaskan pipeline averaged a flow of 624,716 bd in

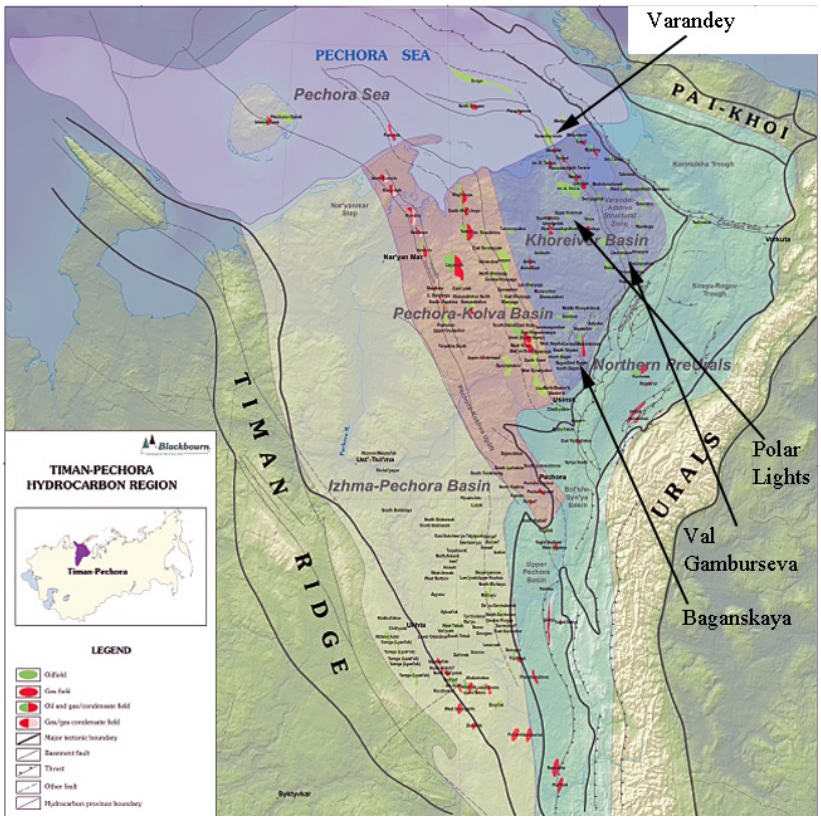
January, enough to keep it out of trouble this winter, we hope).

So if Russia cannot move further east, then the option remaining is to move north. And that brings us initially to the fields of the Timan-Pechora Basin, which the Rosneft subsidiary Severnaya Neft ships out of Arkhangelsk, and the oil that Lukoil and their partners produce, which ships out of the Varandey Oil Export Terminal on the Barents Sea. The total basin is now producing at around 640 kbd, of which some 540 kbd is being exported.



The Varandey Oil Terminal (Lukoil)

It is expected that the terminal will also provide a path for JSC Zarubezhneft, who is just starting production in the Central Khorovey Uplift. The fields are anticipated to produce some 800 million barrels of oil, but over a 57-year period, with maximum production only reaching 128 kbd in 2021. (The Vietnamese have part of this project).



The fields of the Timan-Pechora Basin (after Blackbourn)

Back in 1999, the USGS estimated that the total extractable reserve was around 20 billion barrels of oil equivalent (bboe), of which 66% was oil. Part of the problem in defining how this ranks relative to the table that I posted when writing about Western Siberia, comes from the regions in which the basin lies.

	2009 Production Volumes (Thousand bbl/d)
Production by Region	
Western Siberia	6570
Urals-Volga	2030
Northern Caucasus	800
Arkhangelsk	370
Sakhalin	310
Komi Republic	270
Krasnoyarsk	70
Yakutiya	60
Irkutsk	30
Kaliningrad	30

Russian production in 2009, broken down by region (the total is 10.48 mbd) (EIA)

Timan-Pechora lies in the Komi Republic, the Nenetsk Autonomous Okrug, and in the Arkhangelsk region, so that presumably one adds numbers in the table above to get the total production from the basin. Most of the production to date has been onshore, though some 3.38 bboe of the total reserves are anticipated to lie above the Arctic Circle.

RN-Severnaya Neft drilling rig in the Timan-Pechora Basin (RN-Severnaya Neft)

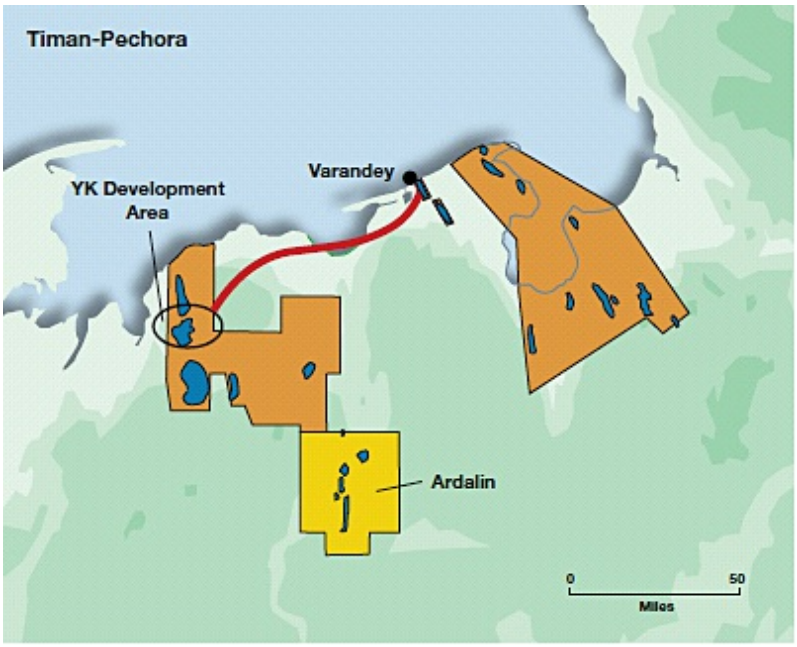
RN-Severnaya Neft is producing from 17 fields, with most production centered around the Baganskaya and Val Gumburtseva regions, for a total of 82 kbd in 2010 from 277 wells, with 10 added in 2010. They also have a joint venture with ConocoPhilips known as Polar Lights, which had an average daily output of 14 kbd in 2010, though rising from initial development in 2008. However, this is from 28 wells, but they only appear to be adding one well a year.

The major producer in the region is Lukoil who produces the recently discovered Bayandyskoye field with a planned production of 150 kbd, with reserves of 200 million boe. They found a second

new discovery of comparable magnitude last November in the Vostochno-Lanbeshorsky field.

It is through discoveries like these that anticipated production will rise, overall. However, some of the increase will come as production moves offshore into the Trebs and Titov fields.

The development of the two offshore fields was originally licensed to Bashneft-Polus, but Lukoil has just bought 25.1% of that company for $150 million. (On a rough measure, each field is considered to hold about half-a-billion barrels of reserves.) It has been estimated that it will require between $5 and $6 billion to develop the fields and Lukoil may need the boost in production, since it saw oil production fall 5.5% last year. This was partly due to a lower than anticipated yield from the Yuzhno-Khilchuyu field being developed with ConocoPhilips. The anticipated production from that field was expected to be 150 kbd, with reserves of around 500 million barrels. The total acreage that the partnership controls is, however, greater than the current development, and contains other fields within the Naryanmarneftfaz collaboration.



Areas where ConocoPhilips are invested in Timan-Pechora (ConocoPhilips)

Total production levels from Timan-Pechora are projected to reach levels of around 750 kbd by 2020. Yet, as with Eastern Siberia and Sakhalin Island, production in these fields is not going to be that easy. Back in 2005 John Grace (Russian Oil Supply) described it thus:

> Geography also dealt the basin a very severe climate. It is substantially north of the oil-producing area of West Siberia, and its proximity to the Arctic Ocean makes it snowier and windier. With the exception of the Yamburg gas field in northern West Siberia, nowhere in Russia is a substantial volume of oil or gas produced from a worse place to work.

Production increases that are being discussed are only on the order of 100 – 200 kbd, and will require production from a number of fields to provide that volume. While the quality of the oil coming from Timan-Pechora is high, thus helping Russian income, the incremental volumes will not do a lot to provide that sustained production from Russia that the world seems to anticipate will happen.

UPDATE: I should have mentioned that the Prirazlomnoye oil field operated by Gazprom is also

scheduled to come on line this year. With an anticipated production of 132 kbd it has a reserve of around 500 million barrels, and will be producing from 40 wells. It is 60 km offshore, in about 60 ft of water, and will supply oil to Varandey. In addition the Kolvinskoye oil field has just come on stream, with 24 wells projected to produce an average of 90 kbd by the end of the year. Again reserves are estimated at around 500 mb. These two oilfields are the reason that the February 2012 OPEC MOMR sees a slight gain of 70 kbd in overall production from Russia this year.