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## Ukraine Eyes Huge Investment Uptick to Grow Output

Ukraine's lingering military and economic crisis alongside a current gas shortage show how urgent it is for Kiev to increase domestic production and reduce its dependence on Russian imports. But whether the country can attract the capital necessary to meaningfully raise output remains an open question.

Ukrainian gas output, which reached a peak of almost 70 billion cubic meters per year in the 1970s, plummeted to below 20 Bcm/yr in the early 1990s and has stabilized since. But with domestic production tallying just 21 Bcm last year, Ukraine relied mostly on Russia to plug the 29 Bcm gap with consumption. State Naftogaz Ukrainy and its subsidiaries were responsible for 89% of last year's production, but Naftogaz's ability to invest meaningfully to boost production has been compromised for some time, with rising prices for Russian imports and low regulated consumer prices weighing heavily on its finances. In fact, the firm's capital expenditures have declined 30% since 2011, according to a Petroleum Economist report. And while the government estimates Ukraine's remaining conventional gas reserves at 5.37 trillion cubic meters, much of this is spread across small fields often requiring expensive horizontal drilling and fracturing. For gas production to double to 40 Bcm/yr by 2020, consultancy IHS says upstream investment must increase tenfold from around \$1 billion per year now.

The effective Russian nationalization of Naftogaz subsidiary Chernomorneftegaz — one of the consequences of Russia's annexation of Crimea earlier this year — has dealt another blow. The company is responsible for production offshore Crimea and produced 1.65 Bcm last year. Before the crisis, the subsidiary was planning to increase annual output to 3 Bcm by 2015. Without Chernomorneftegaz's contribution, Ukraine's overall gas production is likely to decline unless investment increases dramatically, IHS says.

Even before the current crisis, Ukraine's government recognized its domestic production struggles and took a number of steps to encourage foreign investment, including amending legislation governing production sharing agreements (PSAs) in 2012. The country has held a number of PSA tenders since, and signed its first two PSAs for unconventional gas development last year. The country is estimated to contain potential reserves of tight and shale gas of between 7 Tcm and 16 Tcm, according to the Petroleum Economist, although the US Geological Survey estimates the country's unconventional resources at 1.2 Tcm.

In January 2013, Royal Dutch Shell signed a 50-year PSA for the Yuzivska field in eastern Ukraine — a region estimated to contain over 4 Tcm of unconventional gas resources. But that region has also been the epicenter of the conflict with pro-separatist rebels, causing Shell to declare force majeure in July. Chevron has had better luck at its 50-year shale PSA at the Olesska field given its location in western Ukraine. That field is expected to produce up to 8 Bcm-10 Bcm per year at full capacity, and drilling is expected to start next year.

That said, development of Ukraine's unconventional resources may have difficulty competing economically and could face some political opposition (EIF Jul.16'14). What's more, private companies operating in Ukraine still face obstacles despite the positive legislative changes of recent years, not least fiscal instability, a problem aggravated by the current crisis. Following a number of tax increases in recent years, Ukraine more than doubled taxes on gas production for private firms in August to supplement its ailing budget. The combined marginal tax rate on gas output is now close to 70% as a result. The government says the new rate will only last until year end, but there are concerns it could become permanent, which could put a serious dent in investment by private companies. Since the change, independents Serinus Energy and JKX Oil and Gas both indicated they are reviewing their investment plans in the country.

Any slowdown in private investment would hit what has been Ukraine's only light in production in recent years, with independent producers growing output 27% from 2009 to 2013, IHS says, offsetting the 3.5% decline in production from state-owned firms during that time.

Even more significant obstacles are faced offshore Crimea. Last year a PSA was signed with Italy's Eni and France's EDF for exploration of the Prykerchenska block in the shallow water off the Crimean coast. Another PSA was expected to be signed this year for exploration of the Skifska section of the Black Sea shelf with a consortium led by Exxon Mobil. But Russia's annexation of Crimea now means the existing PSA is on hold, and the pending agreement with Exxon is unlikely to be signed, says Irina Paliashvili, managing partner of the Ukrainian Legal Group.

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