post carbon institute

ENERGYPOLICYFORUM

A REALITY CHECK ON THE "SHALE REVOLUTION"

U.S. energy independence, we're told, is at our fingertips thanks to the so-called "shale revolution". Offsetting declines in conventional oil and gas production, shale gas and tight oil (shale oil) are being heralded as the means by which the U.S. will become energy independent – a net exporter of natural gas and once again the world's largest oil producing nation. But two new reports by Post Carbon Institute and Energy Policy Forum show that the hype simply doesn't stand up to scrutiny.

KEY FINDINGS, SHALE GAS

- High productivity shale gas plays are not ubiquitous: Just six plays account for 88% of total production.
- Individual well decline rates range from 80-95% after 36 months in the top six U.S. plays.
- Overall field declines require from 30-50% of production to be replaced annually with more drilling – roughly 7,200 new wells a year simply to maintain production.
- Dry shale gas plays require $42 billion/year in capital investment to offset declines. This investment is not covered by sales: in 2012, U.S. shale gas generated just $33 billion, although some of the wells also produced liquids, which improved economics.

KEY FINDINGS, TIGHT OIL (SHALE OIL)

- More than 80% of tight oil production is from two unique plays: the Bakken and the Eagle Ford.
- Well decline rates are steep – between 81-89% percent in the first 24 months.
- Overall field decline rates are such that 40 percent of production must be replaced annually to maintain production.
- Together the Bakken and Eagle Ford plays may yield a little over 5 billion barrels – less than 10 months of U.S. consumption.

KEY FINDINGS, THE FINANCIAL PICTURE

- Wall Street promoted the shale gas drilling frenzy, which resulted in prices lower than the cost of production and thereby profited [enormously] from mergers & acquisitions and other transactional fees.
- Industry is demonstrating reticence to engage in further shale investment, abandoning pipeline projects, IPOs and joint venture projects.
- Shale gas has become one of the largest profit centers in some investment banks, in direct parallel with the decline of natural gas prices.
- Due to extreme levels of debt, stated proved undeveloped reserves (PUDs) may have been out of compliance with SEC rules at some shale companies because of the threat of collateral default for those operators.
- With natural gas prices far higher outside the U.S., exports are being pursued in an effort to shore up ailing balance sheets invested in shale assets.

THE REPORTS

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