The Oil Drum
DISCUSSIONS ABOUT ENERGY AND OUR FUTURE

Oil Watch: North America Liquid Fuel Production

Posted by Euan Mearns on December 14, 2012 - 2:21pm

Figure 1 North American (USA, Canada and Mexico) total liquid fuel production stood at 16.3 million bpd in august 2012. 9.0 million bpd was conventional crude + condensate comprising 55% of the total.... 5 more charts below the fold.

> Oil Watch posts are joint with Rembrandt Koppelaar.

Figure 1 continued Despite much hype about energy independence, conventional crude oil production is continuing its long term and gradual decline. Total liquid fuel production was on a stable plateau of around 14 million bpd from 1994 until 2009. In that period slow decline in conventional crude was compensated by growing tar sands production. Strong growth in total liquid fuel since 2009 (over 2 million bpd increase) is attributable to the shale revolution with additions from shale oil and NGL from shale gas. Future growth from tar sands seems assured for so long as their is economic and political will to continue exploiting this vast resource and there is a supply of cheap natural gas that is central to the success of this energy intensive source of liquid fuel. Future growth from shale is less assured since production comes from sweet spots that are more analogous to conventional oil accumulations and once they are all drilled declines can be expected to overtake new supply. Data sources: Energy Information Agency, National Energy Board Canada, Statistics Canada, North Dakota Drilling and Production Statistics, Railroad Commission of Texas. The chart includes a 150,000 bpd assumption for Canadian shale oil 2011/12.

Figure 2 The long term decline in US conventional crude production was arrested around 2006 and since then production has been on a stable plateau just over 5 million bpd. In 2006, total liquid fuel production was just over 7 million bpd and since then it has grown strongly to 9.5 million bpd in August 2012. According to BP, the last time the USA produced >9.5 million bpd of C+C+NGL was 24 years ago in 1988. Growth in shale oil, NGL and biofuels have all contributed to the growth in total liquid fuel combined with stable underlying conventional crude production.

Figure 3 The "miracle" of US shale production is often discussed in the context of the application of new technology. In fact horizontal drilling and fracking have been around for decades and while more recent technology refinements have helped commercial drilling and exploitation, US shale oil production has been brought about more by the application of raw force, drilling thousands of wells that has been enabled by sustained high oil prices.

Figure 4 Canada's conventional crude production was on a stable plateau of around 1.4 million bpd until 2007 when a new phase of decline set in. The main feature of Canadian production is of

course tar sands that have grown from 0.36 million bpd in January 1994 to 1.87 million bpd in August 2012. The Canadian Association of Petroleum Producers have forecast that tar sands production may grow to 5 million bpd in 2030. The main obstacle to this may be availability of cheap natural gas that is currently central to this energy intensive form of liquid fuel recovery. The Bakken province of N Dakota crosses the Canadian border and Shale oil production in Canada was estimated to be 159,000 bpd in June 2011. Current data are not readily available and production since then is assumed to be running at 150,000 bpd.

Figure 5 Figure 4 was generated by deducting the Statistics Canada data on tar sands production from the EIA data on Canadian crude + condensate production. Statistics Canada provide more detailed information on the composition of Canadian fossil liquid fuel production which are displayed above. Light and medium crude production is stable. Heavy crude production is in decline. Upgraded synthetic crude and non-upgraded crude bitumen are split roughly 50:50. Pentanes plus we guess is condensate.

Figure 6 The EIA data confirm the picture of the IEA data which is that Mexican production has stabilized at just below 3 million bpd (C+C+NGL) following the transfer of nitrogen gas injection from Cantarell to Ku Maloob Zaap.

Earlier reports

Oil Watch Monthly
Oil Watch - World Total Liquids Production
Oil Watch - OPEC Crude Oil Production (IEA)
Oil Watch - OECD Oil Production (IEA)
Oil Watch - Rest of World Oil Production (IEA)
Oil Watch - Global Liquid Fuel Production Trends (EIA data)

SOME RIGHTS RESERVED This work is licensed under a Creative Commons Attribution-Share Alike 3.0 United States License.