Rune Likvern: "My Experiences after Eight Years with The OilDrum.com"

Posted by Rune Likvern on August 6, 2013 - 11:55pm

After my first time seeing The Oil Drum (TOD and Institute for the Study of Energy and Our Future; ISEOF) in 2005 I created an account as nrgyman2000 and later got an invitation to become part of the staff of volunteer writers at what was then TOD Europe. In 2008 I started to post under my real name.

I am a Norwegian male presently living in Norway and holding a masters degree from what is now the Norwegian University of Science and Technology. For more than two decades I was employed in various positions by major international oil companies, primarily Statoil, working with operations, field/area developments (in the Norwegian sector of the North Sea) and implementation (primarily logistics) of Troll Gas Sales Agreement (TGSA) which is about natural gas deliveries to European customers. This was followed by a period as an independent energy (oil/gas fields assessments, cash flow analysis, portfolio analysis etc.) consultant and as VP for an energy hedge fund in New York. In recent years I had a sabbatical to do more in depth research, reading and participating in discussions about energy, biology (what makes human {brains} what they are and why), and not least financial and economic subjects in several global forums as well as some advisory work.

To me the experiences with TOD have been a unique educational, innovative, exciting and interesting process that forced me, after research and interactions with numerous other professional, intelligent, open minded, constructive, cooperative and reflective individuals from a broad international base representing a wide range of disciplines, to rethink and revise (as evidences/arguments were presented) my world views and gradually expand my boundaries for what forces and mechanisms that truly shapes our complex world. I do not think such an expansion of my worldviews could have occurred in any other forum - TOD was a unique place.

As I share a lot of common ground with all the members of the TOD staff and most of the readers/commenter's, for my last post here I will draw a little attention to an issue I believe continues to be widely underreported.

The financial system facilitates the organization of activities needed to extract, refine and distribute oil/energy (resources in general) to end consumers. Higher prices in turn justify the deployment of increasingly sophisticated, expensive and amazing technologies to extract oil/gas from what a few years ago were considered non-commercial sources like oil sands, tight oil/gas and deepwater developments in increasingly more hostile and vulnerable areas.

A detailed look into the financial statements and balance sheets for several public oil/gas companies over the last 6-7 years reveals some unsettling developments. After the oil price started its growth with its apex of $147/Bbl in 2008, the oil companies started taking on more debt in a bid to develop supplies from more expensive sources. To pay for these (more) expensive prospects out of cash flow became increasingly difficult so companies turned to debt financing. Recently some oil/gas companies have been approaching their maximum capacities to take on

more debt. This has likely been fueled by expectations for a continued growth in demand and a tight supply/demand balance that would support structurally higher oil/energy prices.

As companies approach debt saturation this causes erosion of their resilience from modest declines in the oil price. Simulations for oil companies close to debt saturation reveal a disturbing prospect. A decline in the oil price (to say $70-80/Bbl) could require oil/energy companies, and their currently deployed strategies for growing supplies, to drastically reduce their capital expenditures (investments) in pursuit of debt service, cryptic presented in euphemisms like "targeting financial performance". The outcome from this could for some time create a significant slowdown in additions of capacities that combat natural declines and thus make it difficult to create any growth in oil/energy supplies. Several major oil companies now admit that they are struggling with profitability and growth in production as reported here .

Debt saturation *is here meant to describe the phenomenon of declining marginal returns as increasing amounts of debt is needed to create growth, see also figure 1 below.*

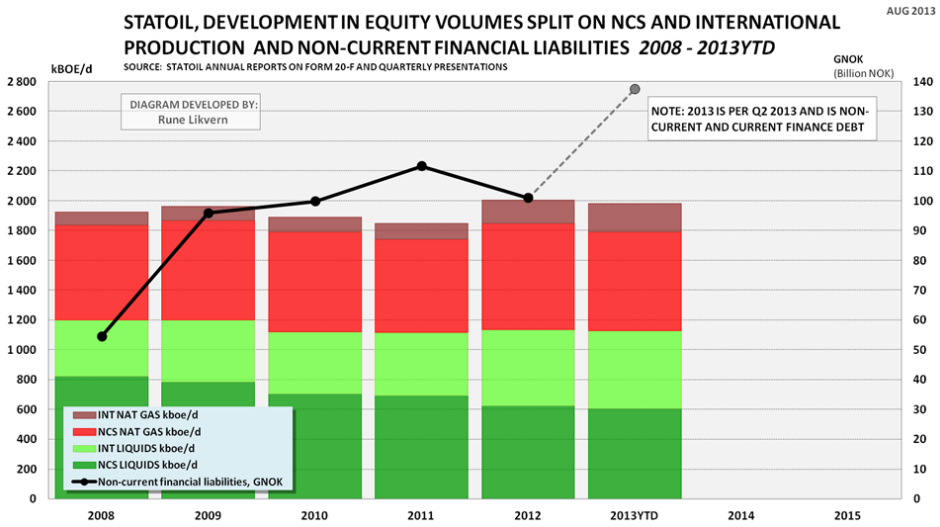

Figure 1: *The chart above show the development in the Norwegian company Statoil's equity volumes of oil and natural gas from operations in Norway (NCS; Norwegian Continental Shelf) and internationally (INT) from 2008 and as of Q2 2013 expressed in BOE (Barrels of Oil Equivalents), stacked columns plotted against the left y-axis.*
Natural gas deliveries (production) from Norway are subject to the gas buyers' need which may show some swing from one year to another. Norway's ability to maintain present levels of natural gas deliveries are expected to decline in the near future.
Statoil has also divested (sold) for 40 - 50 GNOK of assets, primarily in Norway, since 2011 in a bid to grow international production and improve returns.
In the chart is also shown the development in non-current financial liabilities in GNOK (GNOK = Billion NOK, 1 $US approximates now 6 NOK), black dots connected with black line and plotted against the right hand y-axis.
Entitlement volumes of oil and natural gas may generally be smaller (than equity volumes) under Production-Sharing Agreements (PSAs) and similar contracts.

The recent years massive capital expenditures (cash flow available from operations {post dividends} and debts) resulted in only modest gains (if any) in overall production. If there were any growth in total production (as expressed by Barrels of Oil Equivalents; BOE) it came from natural gas while liquids production posted modest declines and NGL's (Natural Gas Liquids) generally posted gains.

Figure 1 show ONLY one big company, one example and an ongoing theme is to look at oil

companies' aggregate debt and production developments. In many ways it appears oil/gas companies have turned to the same model as sovereign governments - going to debt/credit model while keeping gross energy growing mildly.

The present general deceleration of growth in debt, start of deleveraging and prospects from future expanded austerity measures, will continue to affect consumers' affordability for expensive energy. As the oil companies are in the business to make profits (which are legitimate) and grow their wealth, they are simultaneously very dependent on the well being of consumers' purchasing power to pay for expensive energy. If the consumers "fail" (due to affordability issues) the oil companies will hesitate to go after the remaining and more expensive oil/gas.

The above may serve as a simplistic illustration of how complex and intertwined our (social) systems have become. The more insights and understandings I obtained through the years about these relations, the more I have come to realize how difficult it is to make predictions as non linear events are widely and poorly understood and humans are what they are.

Presently and for the near term I do believe we are not primarily facing an energy crisis, but a continued growth in costs to extract resources and **Energy is the master resource**. This extraction is from increasingly marginal prospects that will make it demanding to replicate the recent decades unprecedented economic growth which also was facilitated by accelerating amounts of debt (borrowing from the future). This happens while society's ability to pay for costlier resources rapidly diminishes. In this context I also believe that our institutions, governments and individual expectations (e.g. pensions, retirement plans, and ideas of future consumption, etc.) are not likely to come to fruition. These expectations and promises are therefore likely to become subject for revisions to the downside, as the reality of poorer and costlier resources slowly (or possibly suddenly) becomes more apparent and understood.

In closing, my motivation for being part of The Oil Drum (TOD) staff is that I have believed it is possible through quality presentations of scientific facts, transparent analysis and informed discussions to get more people interested and educated (even if it is a tiny portion) about the issues faced by our societies and in turn, these people will hopefully through their own research obtain confirmation (which makes knowledge stick!) and eventually the entire discussion will move forward and achievements are made.

These days and despite all technological developments with rapid changes in information generation and distribution, it simultaneously appears increasingly harder to discern the important signals from a faster growing pollution of noise. For me, while it existed, TOD was a place where the signal to noise ratio remained high.

Fossil fuels will far into the future maintain their position as the dominant human external energy source (until they don't!) despite the recent strong growth in renewables. This is why, in my honest opinion, understanding the true mechanisms that drive **the real prospects for future flows of fossil fuels** and the effects from the byproducts of burning them, increasingly important issues.

So while we continue our journey into the future I found the quote below to be appropriate.

> *"It is not good enough for things to be planned - they still have to be done; for the intention to become a reality, **energy** has to be launched into operation."*
> - Walt Kelly (Pogo) (my bolding)

I also post on my Norwegian blog Fractional Flow.

It has been a great, unique and interesting ride!
Thanks to all of you!

Rune Likvern

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