UNION SECURITIES INTERNATIONAL

UPSTREAM ENERGY PRODUCERS : DEMAND and DEBT CHALLENGES

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a few points about ....

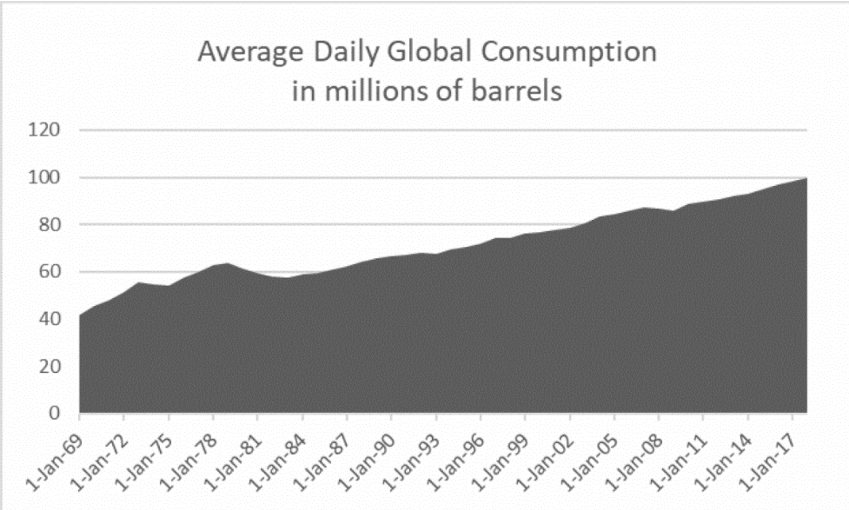
- Demand
- NOC production
- production, debt and valuation
- ScotResearch
- Commercial initiatives
- Urn Green points

What to do in a world that might not need as many planes, train and automobiles ? Answer : buy an oil producer who can demonstrate the new language of upstream : Hywind Tampen is Equinor's 88 megawatt floating wind source using 11 North Sea turbines. A short read around this https://www.equinor.com/en/what-we-do/floating-wind.html and you will ready to rehearse a new upstream speech using words like clean, sustainable, transition, innovate, greening and 'digitalisation'. Repetition will help keep a seat at the table when institutional box tickers reach for the clipboard.

Upstream success once conferred star status to geo-scientists at explorers and developers. The ageing grey matter fosters talk of a knowledge deficit and newer greener politics will pressure the storyline on reserve replacement. Perhaps a world oil supply dominated by giant state controlled production will find it easier to trade resources for votes. Hand back some of these impaired fossil fuel resources to a new generation of energy managers able to string all the right words together. This pass-the-parcel opportunity will allow voters to turn a blind eye to huge renewable deficits and hopelessly optimistic performance criteria. And therein lies the chance of a large scale resource transfer to the private sector on terms that will look pretty good for today's shareholders of upstream. If a new agenda steers some tiny incremental proportion of production into independent hands, we can invent an entirely new m&a cycle. Maybe it will take a proper collapse in confidence to trigger a change in the predictability of demand. But using our own tea leaves, 'peak oil' still looks a long way off.

The oil price chart is a simple thing if you're a trader - or you have a bit of storage capacity. Be bold at \$20 on the way in, then check the slide rule at any point above \$80. And stay solvent during the tricky bits in the middle. Investors similarly will need to spot opportunities amongst the independents who have not succumbed to the lure of large debt financings. Extreme leverage at the likes of Chesapeake become useful experiments on the limits of what a balance sheet can look like but no wonder institutional sector involvement is at a 15 year low. To make the sector attractive to investors we need to combine trading thrills with some actual profitability. That's been tricky. As with all sustained commodity spikes, discipline vanishes when m&a opportunities displace business sanity. Winning upstream strategies might require us to think more like traders than investors but things looked sufficiently beaten up to prompt a few notes on where there's a trade.

Car free roads and flightless skies will have made a small dent in the chart. The 'call on OPEC crude' has been disruptive and costly but keep in mind the extraordinary stable demand picture. Embargos, sanctions and pipeline malfunctions have not yet interrupted a thirty year trend – considering the commodity price volatility, it's reassuringly predictable.



And where does it all come from ? The trophy long life assets remain firmly in the hands of state NOC's. Quite a few of the them are 'listed' and will remain central levers of domestic budgets.
Numbers below do include a bit of gas and liquids but it's an approximate guide to how the daily market is supplied .

who	status	listed	bpd
Saudi Aramco	state entity	yes	13,600,000
Gazprom	state entity	yes	9,700,000
CNPC Sinopec China	state entity	yes	4,880,000
Rosneft	state entity	yes	4,700,000
INOC Iraq	state entity	no	4,150,000
ADNOC UAE	state entity	no	4,033,000
Kuwait Petroleum/Kufpec	state entity	no	3,132,000
Shell	IOC super major	yes	2,809,000
Total	IOC super major	yes	2,800,000
Petrobras	state entity	yes	2,800,000
BP	IOC super major	yes	2,579,000
Petronas Malaysia	state entity	no	2,464,000
Lukoil	IOC super major	yes	2,345,000
Exxon	IOC super major	yes	2,300,000
NIOC Iran	state entity	no	2,300,000
Equinor Norway	state entity	yes	2,233,000
ENI	state entity	yes	1,870,000
Qatar	state entity	yes	1,800,000
Pemex Mexico	state entity	yes	1,680,000
NNPC Nigeria	state entity	no	1,650,000
Sonatrach Algeria	state entity	no	1,400,000
Conoco Phillips	IOC super major	yes	1,278,000
Chevron	IOC super major	yes	1,060,000
Pertamina Indonesia	state entity	no	923,000
Libya NOC	state entity	no	850,000
SunCor Canada	IOC major	yes	739,000
Repsol	IOC major	yes	710,000
ONGC India	state entity	yes	640,000
PDVSA Venezuela	state entity	no	600,000
KazMunayGas	state entity	no	489,000
Apache Corporation	indy	yes	487,000
Perenco	indy	no	465,000
Hess	indy	yes	349,000
Marathon Oil	indy	yes	340,000
Devon Energy	indy	yes	320,000
Sonangol Angola	state entity	no	27,000
			~84,000,000

Upstream sector opportunities abound among the lengthy list of 90% fallers, plenty of choice. It's a harsh reality that even the leanest, meanest and technically adept management teams have struggled to win market favour. Success with the drill bit isn't rewarded to the extent it once was and too often the outcome is viewed as binary. Given the size of discoveries seen (Cyprus, West Africa, Brazil, Guyana – the Arctic ?) we might have hoped for a better storyline. Discovery to extraction is a timeline that tests investor patience but can falling resource replacement ratios bring the exploration business back into fashion? Meantime a US rig count at 284 (down 691 on a year ago) and a sea of shale debt to restructure just reinforces the idea of abundant supplies. Add in the debate about how the food chain has been broken and 'balance sheet management' by dividend cutting IOC majors, it's no surprise we have underwhelming performance.

The benign forces of economic rent that built the IOC's in the 20th century are now being rewritten with carbon capture, a warming planet and big decommissioning bills. The investment impasse (lower capex, poor returns and fewer discoveries) is a necessary backdrop for some potential kind of re-rating. The past century of engineering and production expertise has made the sector very good at what it does and it's almost taken for granted that this 100mm + barrels is always on tap. Meanwhile the virus has magnified the apparent logic of diverting capital into a new type of tech cartel, one that resonates neatly with glory days of John D Rockefeller and Standard Oil. The trillionaires club is unlikely to include a fossil fuel provider anytime soon - but is there no upper limit to the price tag for Apple, Alphabet, Microsoft and Amazon ? What chance of Amazon's Jeff Bezos voluntarily agreeing to follow the Standard Oil model and break AMZN into 34 different companies ? The great switch out of tech and IT may still be years away but can Amazon's dominance really merit one company exceeding the cumulative size of all S&P 500 Energy constituents !? [Amazon is 4.3% of the $21.5 trillion S&P500 index : All energy names in the S&P are 3% as at the end of Q1]

No unnecessary gloomy rhetoric intended – it's therapeutic just to go through some cyclical elements of the supply side. The ponderous '***risk atlas'*** (attached) allows us to bypass an ESG essay here – while compliance has clearly impacted capital markets confidence, it's helped formalise the debating position between opposing forces in the battle to save the planet. How big oil prioritises its own investment priorities and how it responds to any *greenwashing* fallout is pretty key. Some far corners of the junior gas sector are quite capable of adapting to this new language and boards should rehearse an updated transition fuel story. They may find a way to promote the overlapping interests of stable power generation and grid storage.

We have a swathe of apparently cheap equity options in what may be a very temporary lull in demand. Whether it's Chinese LNG or Asian jet fuel, a whole series of product numbers point to a speedier than expected rebound. No need to be smug about the grid stability challenges for wind and solar but until we have a true breakthrough in electricity storage, our oil and gas infrastructure is here to stay.

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What conventional names to ponder ? Using what criteria ?

Here's a randomised group of names pulled from the USIL database and ranked around debt levels and daily oil production. Cheap money remains a lifeline for many names but ample liquidity will not guarantee solvency.

The red stripes are a simplistic measure of the names with dangerous levels of borrowing. Yellow column is the market value per flowing barrel.

	mkt cap $ at 1.20	debt $	EV $mm	debt as % ev	ev to mkt cap	boepd	$pfb (Mkt cap basis)	$pfb (EV basis)
cairn	944.4	127.2	1071.6	11.87%	113.47%	23,000	41,061	46,591
parex	1728	-382.8	1345.2	-28.46%	77.85%	54,295	31,826	24,776
Hurricane Energy	211.2	120	331.2	36.23%	156.82%	10,000	21,120	33,120
Jadestone	273.6	34.8	308.4	11.28%	112.72%	14,500	18,869	21,269
Kosmos	1165.2	1803.6	2968.8	60.75%	254.79%	66,000	17,655	44,982
Petrobras	48000	60000	108000	55.56%	225.00%	2,909,000	16,501	37,126
Canacol	502.8	309.6	812.4	38.11%	161.58%	33,500	15,009	24,251
Noble Energy	5748	7812	13560	57.61%	235.91%	385,000	14,930	35,221
Apache	6000	9768	15768	61.95%	262.80%	468,000	12,821	33,692
Whitecap	774	1155.6	1929.6	59.89%	249.30%	73,000	10,603	26,433
Arc Resources	1512	720	2232	32.26%	147.62%	151,783	9,962	14,705
Gulf Keystone	256.8	-85.2	171.6	-49.65%	66.82%	38,000	6,758	4,516
Premier	456	2593.2	3049.2	85.05%	668.68%	70,000	6,514	43,560
Frontera	350.4	174	524.4	33.18%	149.66%	63,572	5,512	8,249
Gran Tiera	160.8	694.8	855.6	81.21%	532.09%	30,000	5,360	28,520
Tullow	400.8	4039.2	4440	90.97%	1107.78%	80,000	5,010	55,500
DNO	498	601.2	1099.2	54.69%	220.72%	106,000	4,698	10,370
Ovintiv	2592	6792	9384	72.38%	362.04%	571,000	4,539	16,434
Peyto	295.2	801.6	1096.8	73.09%	371.54%	78,514	3,760	13,969
Chesapeake Energy	196.8	8458.8	8655.6	97.73%	4398.17%	126,000	1,562	68,695

Now the same companies re-ordered in this second table but here, the pfb (''per flowing barrel '') metrics are adjusted for those debt levels. **EV** (enterprise value) rather than the more widely reported *market cap* as the numerator.

	mkt cap $ at 1.20	debt $	EV $mm	debt as % ev	ev to mkt cap	boepd	$pfb (Mkt cap basis)	$pfb (EV basis)
Chesapeake Energy	196.8	8,459	8655.6	97.73%	4398.17%	126,000	1,562	68,695
Tullow	400.8	4,039	4440	90.97%	1107.78%	80,000	5,010	55,500
cairn	944.4	127	1071.6	11.87%	113.47%	23,000	41,061	46,591
Kosmos	1165.2	1,804	2968.8	60.75%	254.79%	66,000	17,655	44,982
Premier	456	2,593	3049.2	85.05%	668.68%	70,000	6,514	43,560
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parex	1728	-383	1345.2	-28.46%	77.85%	54,295	31,826	24,776
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CONCLUSION : far too simplistic to make a call without the usual qualitative things we need. We have come to the view that these *per flowing barrel ratios* are useful measures of **confidence.**
High 'pfb' ratios suggest the market is prepared to pay more for rapid conversion of P2 resources to future production. Compared to a decade ago these production measures ratios are only **half** of what they were in 2010. Similarly, analysis of EV to reserves (and resources) reveals ratios at very depressed comparisons with 2010.

For fans of highly geared operators , the caveat is those with red stripes which will *look* great if prices keep moving and settle nearer $60.00. The correct guess on credit conditions a year from now would help but that's like guessing where oil will be.
We are going with the forecast that theses red stripes will perform shockingly badly in the next 6 months. Chesapeake will likely disappear and shareholders face huge dilution risks in several others.
Determined contrarians will find better value in various debt structures Premier Oil's 6.5% 2021 retail bonds might be one example but having doubled recently, only on a pull back. (Currently £83.50).
With one exception, we'll arbitrarily exclude any equity involvement with the indebted group – we'll see if the main premise was correct when we look back at year end. The one exception is Norwegian operator DNO, whose asset base in Kurdistan is significant.
On the same logic, it's likely that **Gulf Keystone** looks mispriced here. Very lowly rated and just too cheap – that's also because of the uncertainty around the timing of Kurdistan sales and getting paid for them.

SCOTRESEARCH database:

We are assembling the entire upstream group into a database to allow an instant read across using similar metrics We'd like to talk through the business development plans with anyone interested in helping us commercialise the product. The focus is very much on capital markets customers and we believe we can go some way toward matching ideas to suitable capital sources.
A mix of small cap institutional investors, family offices and corporates who've noticed the impact of very little independent sector coverage. Our plan is to provide a capital markets snapshot of every upstream name globally and
to allow them to be arranged in customised groups. It will be a valuation ready reckoner with a reference to every name, listed and private. A petroleum engineering degree will not be needed to get the best out of it.

Commercial Initiatives.

Our four year partnership with Oilfield International and Tim Lines' group has brought a much stronger modelling capability to our capital markets focus. For private and public capital markets, we have been able to speed up the whole technical due diligence process that precedes the type of deal flow we aim to match to a range of capable operators. We are currently interested in funding two UK onshore gas developments and are free to discuss the positive UK planning agenda as well as the near term cash flow and sound economics.
We are tuned to a number of asset opportunities that we'd like to see placed in new hands. Amongst the smaller privately held operators we view as well placed to compete here we like the prospects for Pat Plunkett's **T5 Oil and Gas group** – the Gabonese assets have been secured on excellent terms and we are courting a new set of family office investors who share our confidence in their commercial and technical savvy. It's a discussion we'd like to continue in the near term. Ideas welcome.

And finally, urn some green points.

For investors who want to act **green** but hesitate to chase shares in Tesla, Nikola or Lilium ***, we wanted to close by sharing the pic of the recently arrived slate urn.

Joe, a Yorkshireman living in South West Scotland, is an accomplished stone and slate sculptor and his made-to-order work is exceptional.

For anyone with even a modest outdoor space, his work is reassuringly elemental.

If anyone does have a major birthday coming up and wants a more durable alternative to this month's upstream punt, be in touch with me for more details.

Stay fit and well and, as always, if you'd rather not receive these occasional updates from us, please shout and we'll remove your data.
If its content wasn't for you and it didn't gel, feel free to forward it to twenty people who deserve to be spammed.

[David Sadler- Union Securities International - London June 11 2020]

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Tesla : the $230bn market cap iPhone on wheels : or $544,200 per device sold.
Nikola : a $23bn battery/hydrogen truck maker. Uncluttered by any revenues.
Lilium : the $1.1bn battery powered air taxi service

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