HORIZON KINETICS

3rd Quarter Commentary

October 2021

What Clients Have Been Asking About

A recent tally of our relationship managers for feedback from clients revealed these more common questions and comments:

We don't seem to have any new ideas.

Clients are no longer 'pushing back' about the prospect of inflation, but wonder about the possible severity, and about the best way to either hedge against or participate.

Many ask about the longer-term Texas Pacific Land Corp. (TPL) outlook, as in how long-lived the assets are, how much of the resources have been explored, and when production and other activities will develop further.

Related to that, why TPL is better than other Permian Basin companies, including the likes of Chevron, and how the various energy companies in the region are reallocating assets or positioning themselves?

What about the GBTC (Grayscale Bitcoin Trust) discount to NAV vis-à-vis the new Pro-Shares Bitcoin ETF?

In connection with the two cryptocurrency mining partnerships that are going to be publicly listed soon, can we touch on other publicly trade mining companies and how they're valued, and why or how our mining operations are different?

Absence of New Ideas?

This one had me flummoxed for a while. I came to think that there could only be two reasons for thinking that there haven't been many new investments in our portfolios.

One reason might be that some of the holdings in older-vintage accounts have become so dominant, and so much the subject of questions and response in prior quarterly reviews, that it might seem that little else is going on. TPL and Wheaton Precious Metals, as well as Grayscale Bitcoin Trust and Brookfield Asset Management, for instance. Been hearing about them for years and years. But there has actually been significant refinement of portfolio holdings in the past few years as we pre-position for the contingency of a chronic and possibly serious period of inflation – which would mean severe purchasing power erosion for people's savings and capital.

Here is a selection of some of these new holdings, though hardly a complete one. For instance, one stock is not on this list because we're in the process of purchasing it in a number of small-cap strategies. It's a different inflation return vector: raw land, but ready for development. By our standards, we've actually been pretty active.

These businesses predominantly share the characteristic of being 'asset-light' or 'hard asset' – they don't require an asset-heavy balance sheet in order to operate and, so, are less exposed to the ravages of cost inflation upon their operations. Would I rather be a manufacturer, or just a fee collector?

As in, would I want to be a car manufacturer during an extended inflation, burdened with rising replacement costs for my enormous plant and equipment base, and with compensation increases for my large employee base? Or would I rather be a car *dealer*: basically, an upgraded parking lot with short-term inventory and a certain pass-through margin on sales? That margin generates proportionally more dollars of profit as car prices rise, but without much increase in operating costs. Would I want to own a fleet of container ships or oil tankers, subject to constant physical depreciation and replacement spending, with little control over my primary operating cost – fuel? Or would I rather be a shipping *broker*, which sells information, and whose fees are ad valorem, meaning they're based on – and rise with – the lease prices of the charters I broker?

Larger-Cap Strategies	Initial Purchases	Smaller-Cap Strategies	Initial Purchases	Inflation participation vector
Archer Daniels Midland	Aug '20	Seabord Corp.	Apr '20	Earns a processor margin on rising food commodity prices
Autonation	May '20	Penske Auto Group	May '20	Earns a reseller margin on rising new/used auto sales
Cheniere Energy	Dec '18	Altius Minerals Corp.	May '21	Processor margin on LNG exports (cleaner replacement fuel); renewable energy commodities royalties
Clarkson PLC	Feb '19	Braemar Shipping Svcs	Jul '17	Ad valorem brokerage fees on higher global marine shipping prices
Deterra Royalties	Apr '21	Mesabi Trust	Nov '18	Iron ore royalties
Franco Nevada	Mar '19	Maverix Metals	May '21	Gold royalties
Galaxy Digital Holdings	Dec '20	Galaxy Digital Holdings	Dec '20	Diversified crypto/blockchain service fees and spreads (brokerage, advisory/mgmt, investment banking)
Intercontinental Exch	Apr '20	TMX Group (Toronto Stock Exch)	Apr '20	Transaction fee and spread collector of commodity and financial asset (e.g., bonds, currencies) inflation
Rayonier Inc.	Sep '20	Acadian Timber Corp.	Oct '20	Timber harvesting fees

Source: Horizon Kinetics Research. Companies listed are for illustrative purposes only. They may not be actual portfolio holdings.

Each of these 18 new holdings is aligned with different inflation vectors. The oldest three are Cheniere, Clarkson, and Braemar Shipping Services. All the rest were initially purchased in 2020 and earlier this year. Which raises the possible second reason for thinking we might be devoid of new ideas. What does "new" or "recent" mean? It's a subjective term.

Even among the 2020 purchases, some of those were a year and a half ago. For many people, that's old news. Nevertheless, we've been fully disclosed for over 25 years about what our investing time frame is. You can hardly have a conversation with us without hearing about it: that Wall Street cares about this year and next year and doesn't give much thought beyond that; and that Horizon Kinetics cares about 3 to 5 years from now (or longer), and doesn't give much thought to this year or next. That's not just an empty

stylistic difference – we believe it's our advantage, if you believe that investing is about *future* change. That's because – care of the magic formula of supply and demand – if there's insufficient interest in developments or earnings 3 years from now, then it means they're of little value to other investors today, which means the price for those outcomes will be too low. The incentive system and business structure of the investment industry is, with few exceptions, built around these three time horizons: this year's quarter vs. last year's quarter, the balance of this year, and next year.

Cheniere Energy, from this list, shows our time frame approach in action. The share price is up very substantially from when we initially bought it 2 ½ years ago, and it reaches new all-time highs almost monthly[1]. The stock dropped by 50% early last year, and the entire return occurred this year. You might think, 'Ok, 3 years, excellent performance, that's it.' That's not why we bought it. We bought a certain business model, a value development pattern on a massive dormant asset, and a valuation discount.

We bought Cheniere because it was exceedingly cheap as it transitioned from a development stage operating company stage, having just turned profitable a year after completing its basic plant construction and selling its first shipload of liquified natural gas (LNG): 2017 loss of $(390) million vs. 2018 earnings of $470 million.

It was very debt leveraged, but already had a uniquely large, reliable stream of cash flow, with 20-year supply contracts for over 85% of its capacity. It could be foreseen with confidence that, year by year, its interest coverage and credit ratings would improve (they have) even as it continued building out its remaining liquefaction plants. Its capital expenditures would decline, and eventually it would have the free cash flow to establish a dividend and begin to repay its debt. This was, on its face, a multi-year time horizon, as most of our investments are.

Much of What You Need to Know about Cheniere

SINGAPORE, Oct 11 (Reuters) - Chinese natural gas distribution company ENN Natural Gas Co Ltd (600803.SS) said on Monday it signed a 13-year deal to buy liquefied natural gas (LNG) from U.S. LNG company Cheniere Energy Inc beginning in July 2022.

This is the first major binding deal for natural gas between the two nations since a long-standing trade war which brought gas trade between both countries to a temporary standstill.

The deal is for 0.9 million tonnes per annum (MTPA) of LNG… ENN said Monday. *[= 2%+ of current Cheniere total capacity]*

Cheniere said the purchase price will be indexed to gas at the U.S. Henry Hub benchmark in Louisiana, plus a fixed liquefaction fee…

Cheniere is already the biggest buyer of gas in the United States and the biggest U.S. exporter of LNG…

China's natural gas consumption is expected to reach 550 billion to 600 billion cubic metres by 2030, growing at an average annual growth rate of about 11% in 2020 and this year.

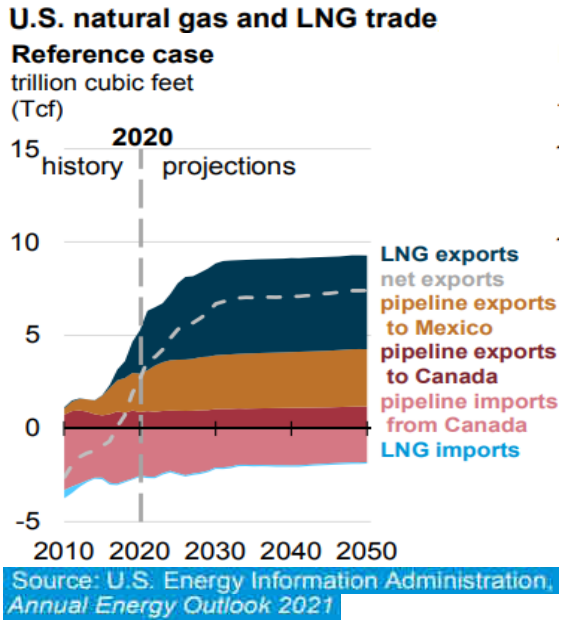
Reporting by Chen Aizhu and Jessica Jaganathan in Singapore, additional reporting by Scott DiSavino in New York, Editing by Louise Heavens and Emelia Sithole-Matarise

The reason for the stock's sudden appreciation after 2 ½ years of nothing is that Cheniere has finally reached this eventuality: after having completed $30 billion of plant & equipment expenditures, it now has less than $500 million remaining. That means that free cash flow is about to rise sharply. Several weeks ago, the company stated that it now intends to repurchase, each year, $1 billion of stock and, until it obtains an investment grade rating, $1 billion of debt. It also initiated its first dividend. The yield is about 1.3%, and it intends to continue raising it. Those figures alone – the $2 billion of debt and stock repurchases,

[1] Source: Bloomberg

plus the dividend yield – amount to about 9% of the market value of the company per year. That's the expected base financial return going forward, even without any growth. Not many companies can say that.

But there will be growth. Two expansion projects, one to be completed by mid-2022, are expected to increase capacity by over 25%. LNG is a preferred replacement for dirtier fuels – not only coal and oil, but wood and refuse – and is a necessary transition fuel for industries and countries pursuing lower carbon-intensity energy. Almost 50% of U.S. LNG exports go to Asia, including India. The U.S. Energy Information Administration (EIA) presumes a large and growing export market for domestic LNG.



Source: U.S. Energy Information Administration, *Annual Energy Outlook 2021*

Also to be expected are valuation increases, which not many other companies can say either: Cheniere estimates its distributable cash flow in 2021 at about $2 billion, while its market cap is $26.3 billion, so it trades at only 13x current free cash flow, despite being up 75% this year.

By investing on the basis of anticipatable developments well beyond the standard one-year time horizon, we could purchase an unusually reliable future cash flow stream at an extreme discount. That discount was available to us only because we were willing to take on time risk (which is to say short-term relative-return shortfalls versus the S&P 500). It also provided a portfolio with a return vector that isn't in the S&P 500. And, even three years in, Cheniere is still a 'new idea'.

Not 'Pushing Back' about Inflation, Anymore. Now Interested in How Much Inflation and How to Hedge.

This question has some resonance with the previous 'new ideas' question: as to investing time frame, foreseeable results, and investing in advance of generally recognized change. I'll discuss a couple of new holdings in that context, too.

One reason some people no longer resist the idea of inflation is because they're hearing about it in the news. Others have begun to notice it in their daily lives. You, this audience, are well aware that we've been writing for some years about observable conditions that were creating serious inflation risk. The most recent extended discussions were in the *March 2020* and *June 2020 Quarterly Reviews*. But the media made no such mention of inflation at the time; in fact, their concern was *deflation*.

Suddenly, though, inflation news is everywhere. When I was a kid and I'd eagerly bring home some new wisdom a friend gave me, my mother would sometimes ask, with that pointing-out-a-lesson tone, why that friend's advice seemed so compelling, whereas she had told me the very same thing many times before. In part, it was because my friend passed on this wisdom – which wasn't new at all, only to him – in a breathless, excited tone, or maybe in an intriguing conspiratorial whisper. It just seemed more revelatory.

The thing about financial news is that it's not investment research. It's so important a point that it can't be overstated. It's not to knock them; they're simply in a different business – with different goals and skill sets. Just understand, that however it sounds, *there is no analysis*. There is some excellent breadth of content.

It often contains a fact or quote about an issue I hadn't thought about and which instigates me to actually research the topic. But the content is of the moment, it's about what's happening now, how prices changed overnight or during the day, it's about what is being said and by whom.

What did two different Fed governors say about interest rates, what does the head of the European Central Bank say, what does the Chief Economist at Bank of America say? What are some recent statistics about gasoline prices, and how long are the lines at European gas stations? What does Putin say?

The pointed question is, how does that help you implement an investment decision in an informed, forward-positioning way?

Financial news is impressionistic, emotive and suasive, like my knowing childhood friend. So, its perspective also changes, by the day and by the price and by the latest interview, even though fundamental conditions build and change slowly.

So, I'm going to try to make my responses sort of impressionistic, too. With lots of exhibits.

Why can the coming inflation be severe?

One critical reason, among three of them, is energy prices: for oil and gas, and coal as well. (The other two inflation factors are: other critical commodities and, of course, what is now runaway monetary policy.)

To be clear about the importance of energy prices, those are the key commodities in every nation, and they are in e*verything.* Not just

≡ Bloomberg Businessweek

■ May 21, 2020, 5:00 AM EDT

Deflation Would Be a Crippling Side Effect of the Pandemic

● Falling prices could become self-sustaining, prolonging the slump.

MARKET COMMENTARY

1st Quarter 2020

Conditions Before the Pandemic: Already Poised for Monetary Debasement and Inflation

Following the Credit Crisis of 2008/2009, the Federal Reserve never let go of the easy money policy it properly engaged in to support the financial system.

As to **inflation**, it has been heading down for over 3 decades. There were reasons.

First, was the **exporting of Inflation**. In the mid-1990s, U.S. companies began to make use of a global cost arbitrage by shifting production and employment to lower-wage nations around the world, initially and especially to China. Ergo, Apple Computer's renowned global supply chain management network. It reduced domestic price pressure, counteracting the Fed's inflationary monetary policy.

Other inflationary risks besides money creation were building, too. There was the half-decade-plus of reduced exploration expenditures by the world's energy and mining companies. Oil had been $100/barrel for several years through 2014, and gold and silver prices had been falling since about 2012. What such companies do when they don't anticipate receiving an adequate return on new capital investments at prevailing prices, is they reduce or eliminate new development. They continue to produce from existing wells and mines, but they are actually depleting their reserves. As a consequence, eventual supply shortages, with the attendant price pressures, could be anticipated. That's the way it works in the commodities markets.

electric power and home heating. Without them as raw materials, catalysts or heat sources, there is no steel, no plastic, no aluminum, no copper, no cement or lithium. No semi-conductor wafers, whether for solar panels or for microchips for automobiles.

It's important to understand why there will be structural shortages of oil and gas. Two mutually potentiating trends, like tributaries merging to make a river, plus one intervening event, ensure that very shortly oil and gas prices might spike high enough to disrupt discretionary income, impact GDP statistics and economic policies, and even be a little scary.

The first trend, which we've written about for years, now, is the 2014 to 2019 decline in exploration and development expenditures by the major energy companies. This discretionary asset allocation decision began when oil dropped from its then-normal $100+ per barrel to the $50 to $60 range. The companies just didn't like the expected return on investment at those prices. Which means that they stopped fully replacing the reserves that they pumped out every year. In 2014, there was excess production capacity, but by 2019, Chevron and Royal Dutch Shell were replacing only roughly half of their output. By 2019, there was insufficient capacity, but no one knew it yet. They still don't, really, because although the demand and supply curves have been approaching one another, they haven't yet intersected decisively.

T*he intervening, potentiating event* was demand shock from the Covid-19 pandemic. The cessation of a good portion of travel activity led to a 25% drop in oil consumption. Many energy companies failed, and even the financially able ones slashed their capital expenditure plans yet further. Chevron's 2021 capital spending will be 60% lower than in 2014.

Bloomberg.com

Economics

Central Bankers Are Spooked by Signs That Inflation Is Lingering for Longer

By Shelly Hagan

October 9, 2021, 7:00 PM EDT

Many central banks are starting to withdraw the emergency stimulus they introduced to fend off last year's pandemic recession.

With inflation accelerating, the Federal Reserve is set to slow its asset-purchase program, while peers in Norway, Brazil, Mexico, South Korea and New Zealand are among those to have already raised interest rates.

Behind the shift are signs that the recent inflation scare won't fade soon amid supply chain strains, surging commodity prices, post-lockdown demand, ongoing stimulus and labor shortages.

The New York Times

Inflation Warning Signs Flash Red, Posing Challenge for Washington

Inflation, once expected to fade quickly, is proving more stubborn. That ramps up tension among officials as they wait for pressures to fade.

By Jeanna Smialek

Oct. 1, 2021

The Federal Reserve's preferred gauge of inflation climbed in August at the quickest pace in 30 years, data released on Friday showed, keeping policymakers on edge as evidence mounts that rapidly rising prices are poised to last longer than practically any of them had expected earlier this year.

The numbers come at a pivotal moment, as inflationary warning signals abound. Used car prices show signs of picking up again, costs for raw goods like cotton and crude oil are increasing and companies continue to experience pain from persistent supply chain disruptions.

That Chevron figure is a measure of future supply insufficiency. A measure of current insufficiency is the Baker Hughes Worldwide Rig Count. It averaged 3,578 in 2014. This year, through September, the count is 1,302, 64% lower. Concurrently, demand today is 5% higher than in 2014, and the U.S. EIA estimates that it will be above the 2019 level next year. You can see the several-year disconnect, as excess supply reverted toward a deficit while global demand inexorably increased. You can see where this is going.

Trend 2 is the decarbonization trend, which in the investment world is represented by the Go Fossil Free divestment organization[2]. Go Fossil Free has persuaded over 1,300 institutions, ranging from financial companies to investment managers to pension funds, to divest fossil fuel holdings, whether held directly or by selling funds that hold them, or by withdrawing financing services. These commitments, which can be multi-year in nature, well exceed $10 trillion. Energy companies that might wish to, can no longer raise equity or debt capital to fund additional reserve replacement.

	Supply	Demand	Price
	Baker Hughes Avg. Worldwide Rig Count	Global Oil Consumption (mill bbl/day)	Avg. Brent Crude ($/bbl)
2014	3,578	92.7	$99
2015	2,337	94.9	52
2019	2,177	99.7	64
2020	1,352	91.0	42
9/30/21	1,302	97.5	78
Est. 2022	??	101	??

Source: *https://rigcount.bakerhughes.com*

Meanwhile, global energy consumption is largely a function of population growth and rising standards of living in less-developed nations (more of which below). The supply and demand lines will intersect soon, if they haven't already.

Why will the energy price reaction be severe?

Two reasons. ***One, is that supply can't just be increased in the short term on any sustainable basis***; it's not like turning on a water tap. As just mentioned, there are hardly any sources of financing for those energy companies that would require it.

And for those companies that do have sufficient cash flow to expand their operations – assuming, argumentatively, that they would even wish to do so and would even be issued the necessary leases and permits – there isn't even the development infrastructure to support it. The industry requires specialized equipment and services. Those suppliers have also drastically reduced their size, just to survive. A ready reference point is Schlumberger (SLB), the world's largest oil service company. Its tangible balance sheet assets are 45% lower than in 2014.

Nor is it to be assumed that the energy companies *wish* to expand. They are under great political and regulatory pressure to *reduce* the scope of their activities. Frankly, I think they have no intention of spending more, even without that pressure. To be realistic, what do you think the CEO of an oil company really thinks about when considering the profit impact of an impending supply shortage? Anxious? Or delighted? Higher prices bring incremental revenue without any incremental cost, which means pure pre-tax profit.

[2] https://gofossilfree.org/divestment/commitments/

The same rejoinder applies to questions about whether Saudi Arabia might 'step up', which we've heard. They've suffered huge budget deficits in recent years, with attendant severe cuts in municipal services and infrastructure spending. Governments don't like that. The recent oil price rise has been a boon for them.

The second reason the price reaction could be severe: demand-inelasticity. That's what oil and gas are: when you need to fill your gas tank to get to work, you need it not just that day, but that hour. Cooking dinner? You need the power then, not the next morning. Air conditioning and heating are discretionary, to a degree (so to speak). The moment when the price of gasoline or natural gas or heating oil is suddenly up 100%, is when there will be no more ambiguity about how price is what determines is what sets a new supply-demand equilibrium if there isn't any extra supply. That can happen very suddenly.

The Economist

Leaders

Sep 25th 2021 edition ›

Gas puzzlers

Natural-gas shortages threaten governments' green goals

Sep 25th 2021

YET ANOTHER crucial global market has gone from glut to shortage at breakneck speed. Last September in Europe it cost €119 ($139) to buy enough gas to heat the average home for a year and the continent's gas-storage facilities were brimming. Today it costs €738 and stocks are scarce. Even America, which has an abundance of shale gas, has seen prices more than double—albeit from a much lower level—and could see further increases if its winter is a cold one.

The New York Times

OPINION

THOMAS L. FRIEDMAN

A Scary Energy Winter Is Coming. Don't Blame the Greens.

Oct. 5, 2021

Every so often the tectonic geopolitical plates that hold up the world economy suddenly shift in ways that can rattle and destabilize everything on the surface. That's happening right now in the energy sphere...

Yes, this is a big one.

Natural gas and coal prices in Europe and Asia just hit their highest levels on record, oil prices in America hit a seven-year high and U.S. gasoline prices are up $1 a gallon from last year. If this winter is as bad as some experts predict — with some in the poor and middle classes unable to heat their homes — I fear we'll see a populist backlash to the whole climate/green movement. You can already smell that coming in Britain.

I am a fan of the financial newsletter Blain's Morning Porridge, written by a smart, irreverent market strategist in London, Bill Blain. Last Thursday he bluntly summed up the energy situation for the U.K. and Europe this way:

> This winter — people are going to die of cold. As the price of energy goes higher, the costs will fall disproportionately upon the poorest in society. Income inequalities will be dramatically exposed as the most vulnerable in society face a stark choice: heat or eat. ... This winter the U.K. is likely to be on its knees, begging energy from wherever it's available. Europe will be in as much trouble. The Middle East will be charging whatever they can get away with, and the capacity to deliver is limited. ... And Vladimir Putin can't wait. ... He will invite each European leader to plead their case individually, menacingly asking each leader why he should open the gas taps to their nation specifically. ... Make no mistake, this winter is going to be shocking. Be aware.

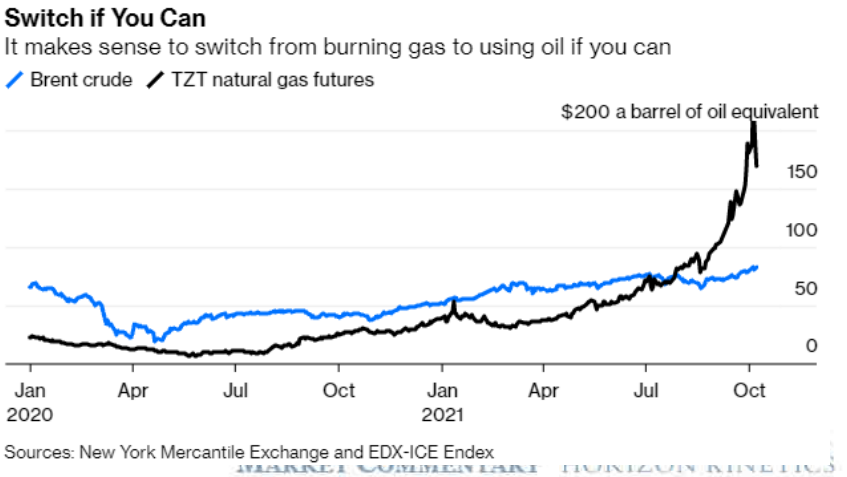
It's already happened with natural gas, which has been front and center in the news lately. In the U.S., the price is up 113% this year. That's the thing with the current-moment aspect of financial news: first a topic is nowhere to be found, right? Then it's everywhere.

In Europe, the price of natural gas is up 270% since March. There are innumerable articles with many different attributed causes, and each of them surely had some impact. But primarily the news commentary is about current and transitory events: supply chain issues; oil truck driver shortages because of the pandemic or because of Brexit; Putin.

The major causal element, though, has been almost a decade in the making. Almost all natural gas is what is termed 'associated' gas, meaning it is a byproduct of oil production. A consequence of the capital allocation decision by energy companies to do less drilling is that less natural gas is available.

That supply shortage is exacerbated by another problem, which is that there is nowhere near as much natural gas storage capacity as oil storage. Gas occupies a lot of space. The standard reference unit, which is 1,000 cubic feet, would occupy a cube that is 10 feet on each side. That 1,000 cubic feet of gas contains about 1 million BTUs. For comparison, a barrel of oil contains more than 5 million BTUs.

To store gas, it must be liquefied. That has an electric power cost. You also have to build storage facilities, but none have been built in the U.S. for many years. We're below the 5-year average for storage going into winter. That can have dangerous repercussions, as Central Europe, where the cold season begins a few weeks earlier than in the U.S., is experiencing now. The price of natural gas futures in Europe is now equivalent, it seems, to $200 per barrel of oil.



MARKET COMMENTARY HORIZON KINETICS
4th Quarter 2020


Menu Search Bloomberg

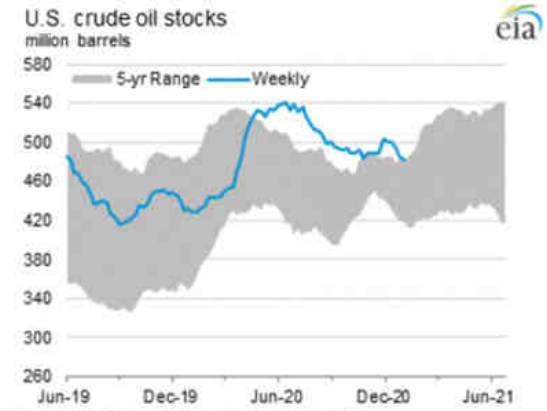
Photographer: Andrey Rudakov

Business

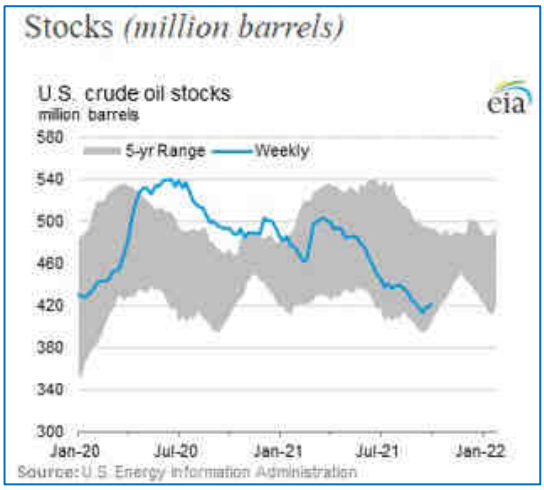
Oil Climbs as Stockpiles Fall at Biggest U.S. Crude Storage Hub

By Julia Fanzeres + Follow
October 13, 2021, 7:41 PM EDT

Be aware that in the U.S., where gas prices are up 47% since August, people have yet to experience the price impact. That's because consumers receive their natural gas through a distribution company. The utility buys the gas, but can't pass through the price change until it receives a rate increase from the local utility commission. Consumers who use gas for cooking or heating will see those rate increases in the coming weeks and months. It will no doubt be shocking, and many won't be able to afford to heat their homes.



Even during the midst of the global pandemic and recession, even before a recovery in normal travel activity, oil and gas demand is recovering and excess supply is being drawn down. The excess oil stocks are now at the border of the historically average range. There is little doubt that once demand and supply do come into balance, whenever that might be, there will be a supply deficit once demand thereafter increases further.



As to oil, the same thing can happen. Updating the crude oil inventory chart from the *4th Quarter Commentary*, which we've reprised here, is an accompanying chart as of October 8th. We've gone from inventories being above the 5-year range in December 2020, to now being at the bottom of the 5-year range, as we suggested at the time would occur. That means no more inventory overhang. It wasn't current enough at that time, though, to be 'news'.

What this means is that increases in demand are shortly going to meet the supply limitations. It could be weeks, months, it could be a year, but for any reasonable purpose other than day trading, it's soon. And then, what's happening now with natural gas is likely to happen with oil. It will be an oil crisis, which was and continues to be readily foreseeable.

There are many who believe that oil and gas usage will decline meaningfully, if not drastically, in the next decade or two. This is probably the belief of most investors. How can one tell?

There are only about 10 substantial U.S. energy producers. Based on the consensus earnings estimates by Wall Street investment firms, 7 of these companies trade at P/E ratios of 12x or less next year's estimated earnings. Four of them are below 10x earnings. There does not seem to be a prevailing belief that energy prices will continue to increase in 2022.

The earnings estimates are essentially an extrapolation of the September 2021 rates of production and energy prices into 2022. For the companies with higher earnings in 2022, that is due to expected increases in production, not oil or gas prices.

Major Energy Companies: Analysts' Consensus Earnings Estimates

		2021	2022	P/E 2022
XOM	Exxon Mobil Corporation	$4.52	$4.93	12.35x
CVX	Chevron Corporation	6.76	7.55	13.82x
COP	ConocoPhillips	4.85	5.65	12.41x
EOG	EOG Resources Inc.	7.40	8.14	10.30x
PXD	Pioneer Natural Resources Co.	12.59	18.89	9.25x
OXY	Occidental Petroleum Corp.	1.10	0.91	28.32x
FANG	Diamondback Energy, Inc.	10.14	13.61	7.26x
APA	APA Corp	3.30	3.02	7.22x
DVN	Devon Energy Corporation	2.77	3.97	9.27x
HES	Hess Corporation	2.14	5.19	15.63x

Source: Bloomberg

Yet we saw, earlier, the announcement of the massive LNG purchase contract between a Chinese natural gas distribution company and Cheniere Energy. And a *Bloomberg News* article dated September 9, 2021, reports that Chinese demand already exceeds the pre-coronavirus level. In August, Europe experienced its highest gasoline consumption in 10 years. They are just momentary observations, of course.

Unfortunately, the more fundamental evidence doesn't support that hope that global energy use will decline meaningfully in the foreseeable future. The global population increases by about 1.1% each year. Each of those 80+ million people uses energy. The standard of living differential between economically less developed countries and the more advanced economies is stark, and standards of living do rise, which entails more energy consumption.

Here are a couple of ways to understand that. One is more categorical, the other is more specific.

From among the 190-odd nations in the world, this table is a sampling of the more populous poorer nations. It is obviously only a small proportion. This sample of only 19 countries contains 35% of the world's population, yet has only 9% of the per-capita GDP of the U.S., and 15% of South Korea's. Add in China, and over 50% of the world, on a population-weighted basis, has only 16% of the U.S. per-capita GDP and only 25% of South Korea's. Those populations, even if they weren't to expand (but they are expanding), spell increasing energy consumption for the globe as their standards of living rise.

Nation	GDP per Capita	Population (mill.)	% of World Pop	% of per-capita GDP of U.S.	Canada	S. Korea
South Africa	$ 12,032	60				
Iraq	10,003	41				
Uzbekistan	7,449	34				
Angola	6,932	34				
India	6,461	1,393				
Ghana	5,693	32				
Bangladesh	5,307	166				
Myanmar	5,242	55				
Nigeria	5,187	211				
Pakistan	5,150	225				
Kenya	4,926	55				
Sudan	4,098	45				
Nepal	4,061	30				
Ethiopia	2,908	118				
Tanzania	2,821	61				
Afghanistan	2,390	40				
Yemen	1,927	30				
Mozambique	1,277	32				
DR Congo	1,106	92				
Weighted avg.	***5,670***	***2,754***	***35%***	***9%***	***12%***	***15%***
China	17,192	1,444	18%	29%	37%	44%
Weighted avg.	***$ 9,633***	***4,198***	***53%***	***16%***	***21%***	***25%***

Source: worldpopulationreview.com; fingers on calculator

These next few figures are a way of translating those generalized standard of living numbers into the implications for energy consumption specifically. According to the EIA[3]:

- The U.S. used about 848,000 BTUs of energy per person per day in 2018. That's equivalent to the energy in about 7 gallons of gasoline.
- In India, the figure is 63,000 BTUs per day, and there are poorer countries, still.

Similarly illuminating figures can be found for the proportion of the global population without access to electricity, or that just 8% of the 2.8 billion people living in the hottest parts of the world have air conditioning.[4]

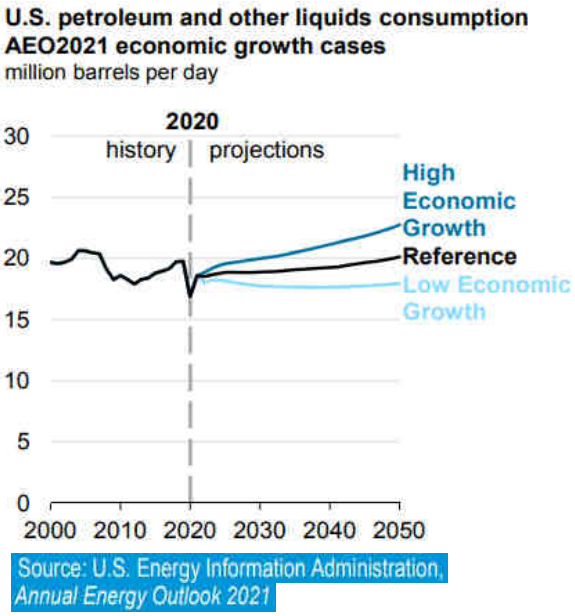
Those two demographic factors – population growth and standard of living improvements – are the primary reason why global energy consumption projections by any institution qualified to make such assessments are much higher in the decades to come. The question of the day, of course, is what sources will comprise that energy, and with what net greenhouse gas emissions?

[3] https://www.eia.gov/international/data/world/other-statistics/energy-intensity-by-gdp-and-population
[4] Air conditioning use emerges as one of the key drivers of global electricity-demand growth - News - IEA

Something to Come to Terms With

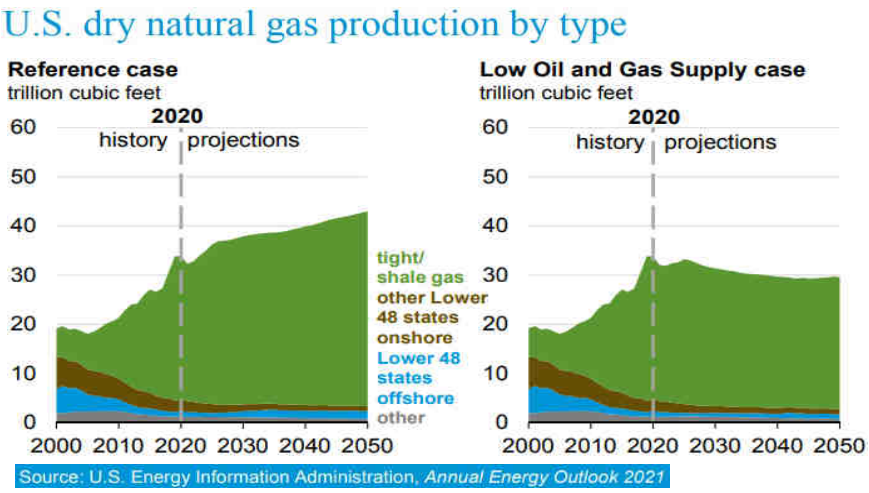
This projection by the U.S. Energy Information Administration is only for the U.S., which has been making progress in reducing per-capita energy consumption.

The EIA is not thought to be antagonistic to the policy goals of shifting away from fossil fuels and toward renewable energy sources. Their various scenarios for energy use going forward include factor models whose comprehensiveness can only be appreciated by reading them. Among the many factors, they include estimates for the pace of green energy technology improvements and cost declines, the change in the energy efficiency of commercial buildings due to improved technology and regulations, and plant-by-plant retirements of coal and nuclear facilities, and their replacement by more efficient gas turbines.



Nevertheless, over the next 30 years, the only prediction for oil use is that it will range from flat to rising, depending on the scenario.

Natural gas production is projected to expand meaningfully over the next 30 years, in the EIA's base, or reference, case, and trend only modestly lower in their low case. As a separate note for those with an interest in TPL, even in the low-production case, the EIA projection suggests little reduction of volume from "tight/shale gas" (the green infill in these two charts), which would include the Permian Basin, even as other sources of U.S. gas decline.



Of course, energy is not the only source of commodities inflation. There are others, as well, and the results have finally invaded the Consumer Price Index, which has been making the news lately. This, too, was readily anticipated last year, but it was not news because it hadn't yet, well, impacted the CPI.

The purpose of being able to observe such information in advance of its being widely disseminated is so that one needn't pay the premium that develops when more people become aware of and want the same thing at the same time – like inflation protection. Because, at some point, they *will* pay a premium for it. We want to own those instruments first.

And Other Commodities

For example, accounts in some strategies hold an iron ore royalty company called **Mesabi Trust**. Iron ore prices are up quite a bit in the past 2 and 3 years. Since Mesabi has no employees or operations in the formal sense, its distributions are close to a direct pass-through of royalties received.

Therefore, whatever its dividend yield looked like when we bought it might have no resemblance to what it could be when ore prices or volumes rise. That is very different than for a typical operating company, since operating costs can rise, and management might have other uses for the cash flow than just paying it out. For instance, if you looked at any financial website on October 11th, Mesabi's dividend yield was shown as 4.0%. However, that week, it raised its distribution for most recent quarter by 500%. The dividend payments are quite uneven from quarter to quarter, but the trailing four quarters yield is now 8%, not 4%.

The New York Times

Consumer Prices Jump Again, Presenting a Dilemma for Washington

By Jeanna Smialek

Published Oct. 13, 2021 Updated Oct. 15, 2021, 9:30 a.m. ET

Consumer prices jumped more than expected last month, with rent, food and furniture costs surging as a limited supply of housing and a shortage of goods stemming from supply chain troubles combined to fuel rapid inflation.

The Consumer Price Index climbed 5.4 percent in September from a year earlier, faster than its 5.3 percent increase through August and above economists' forecasts. Monthly price gains also exceeded predictions, with the index rising 0.4 percent from August to September.

MARKET COMMENTARY

2nd Quarter 2020

Moderator: The next question is still on inflation vs. deflation. The average American, or politician, or investor currently looks to the reported CPI number, that 2% figure, and those still do not reflect meaningful inflation. At what point, when and what catalyst do you think will lead to a consensus arising to our point of view?

Murray Stahl: Well, it's impossible to know what the rate of inflation is going to be. But I can tell you this, that the commodities we rely on for our standard of living, they're just not being produced in sufficient quantities. There's another way to understand the low CPI phenomenon and inflation risk, which is to look at the last 10 years.

Even with the global manufacturing outsourcing trend, the global labor cost arbitrage, the enormous decline in interest rates, and the massive declines in commodity prices, even with all of those really significant factors that served to lower production costs, and even with the way the government under-calculates it, we've had 2% inflation. So, what's going to happen if you get a surge, or just a recovery in commodity prices? What do you think the CPI numbers are going to be?

One can readily see the participation mechanism that a royalty company provides in an inflationary environment. Mesabi has only a $470 million market value, so is more suitable for smaller-cap strategies. But an Australian iron ore royalty company, **Deterra Royalties Ltd**, is intended to serve the same purpose for larger-cap strategies.

Price Changes in Some Other Hard Commodities
As of October 15, 2021

	1 Year	2 Years
Silver	-5%	32%
Copper	54%	81%
Iron Ore	-2%	26%
Lithium Carbonate	324%	180%
Platinum	23%	19%
Aluminum	71%	83%
Zinc	56%	57%
Nickel	26%	16%
Cobalt	69%	56%
Molybdenum	116%	65%
Neodymium	84%	101%

Source: TradingEconomics.com


MARKET COMMENTARY
4th Quarter 2020

Commodity	12-Month Change to Dec 2020
Agricultural Raw Materials	9.3%
Commodity Food Price Index	13.8%
Commodity Metals Price Index	18.5%
Soybeans	33.2%
Palm Oil	33.9%
Sunflower oil	14.7%
DAP fertilizer	45.0%
Rock phosphate fertilizer	11.5%

And it's not just the hard commodities. Large-scale price increases have been showing up in consumer goods and foods. Here's a selection of this year's price changes in a variety of fruits and a few vegetables. I suppose if you just buy lemons, you haven't noticed much. If you like grapefruit, you have.

When thinking about making actual investments in what are generally termed inflation beneficiary securities, one should bear in mind that even as financial news fills with talk of how to hedge against inflation, and use the same terminology, they will not be speaking about the same investments we are. Business models like Clarkson PLC or Mesabi Trust or TPL don't even exist in the indexation world (though TPL is beginning to). They are referencing the business models and securities they know, and via the tools and mechanisms they know, which are for the most part the standard capital- and employee-intensive business models in the standard indexes.

Prices, Weeks ending Sept. 10, 2021 vs. Sept. 11, 2020

	2021	2020	Change
3-lb. bag of Fuji apples	$3.74	$2.52	48%
3-lb bag of Ginger Gold apples	3.23	3.09	5%
3-lb bag of Granny Smith apples	3.99	2.54	57%
96-oz container of apple juice	6.99	2.40	191%
1 Hass avocado	1.06	0.98	8%
6-oz package of blueberries	3.07	2.49	23%
1 Grapefruit	2.00	1.04	92%
1 lb. white seedless grapes	1.83	1.56	17%
1 Honeydew melon	3.82	2.99	28%
1 lemon	0.57	0.53	8%
1 mango	1.00	0.97	3%
1 lb. Bartlett pears	1.34	1.33	1%
1 lb. D'Anjou pears	1.63	1.14	43%
6-oz package of raspberries	3.00	2.83	6%
1-lb package of strawberries	3.00	2.54	18%
1 Cantaloupe	3.00	2.76	9%
4-lb. bag Valencia oranges	6.99	4.99	40%
1 lb. red dry onions	1.07	0.98	9%
1 lb. beets	2.14	1.50	43%
1lb. Brussels sprouts	2.65	2.33	14%

Source: U.S. Dept. of Agriculture, National Retail Report

I typed "inflation investing" into my web browser, and this is much of what came up in a half-dozen investing magazines, financial news websites, and interviews with investment managers. I wrote down pretty much the entirety of the substantive comments that were made about why each of these were chosen as inflation hedges. You might make a tally of any mentions about valuation, balance sheet structure, cost structure,

free cash flow, reinvestment requirements or substantive competitive risk for any of these businesses. It has a bit of a stream-of-consciousness flow:

> Semiconductor companies, because there's a chip shortage and there will be a lot of domestic construction of fabrication plants; PayPal, because business is booming and their fees are based on the payment volume on their network; Apple and Amazon, because people are still lining up to buy new iPhones and order items on Amazon Prime; the Basic Materials sector because they provide the world with what it needs, via manufacturing, mining, paper, chemicals or metals; the Consumer Staples sector, because these are items that consumers will continue buying during a recession, like food, beverages and household products; Costco, because with low customer costs, it maintains 90% loyalty among its 100 million membership customers, and is growing its online presence; Netflix and Chipotle, because sales are growing rapidly and they've been successful in raising prices to consumers; an apartment REIT, because rents can be raised; J&J Snack Foods which makes and distributes food to food service and supermarket companies, because its earnings forecast is up 6.8% over the past 60 days and this year's earnings growth rate is 182%; GoldMining Inc, because its earnings are up 650% in the past 60 days and this year's earnings will be up 466.7%; Citigroup, because it would earn more on its deposits if interest rates rise, and it sells below book value; ConocoPhillips, because it's a beneficiary of higher oil prices, and the stock yields 2.7%; Coca-Cola, as an economy reopening play as travel, restaurants and sports venues reopen, plus it yields 3.2%; TIPS inflation-linked bond funds; the SPDR Gold Trust ETF; the iShares BBB Rated Corporate Bond ETF (LQDB), which just holds the BBB component of the bond market, so you're getting exposure to investment grade corporate bonds and at least getting a yield in the 2% range; and, yes, Bitcoin and Ethereum, too. You will note, as I hoped you might, no mention of Coca-Cola's sugar or aluminum or fuel costs. Or what happens to Citigroup's long-term loan values, like for mortgages, if interest rates rise.

Let me not overstep the bounds of professional propriety and mutual courtesy. There are a great many ways to invest successfully, and there are very talented professionals doing it very well. The point here is that the above notions about investing in an inflationary environment were not drawn from such sources; they were effortlessly skimmed from 'the financial news', which is the motif running through this presentation. It cost very little to obtain, and took very little time, and likewise the information content cost very little to produce and took very little time.

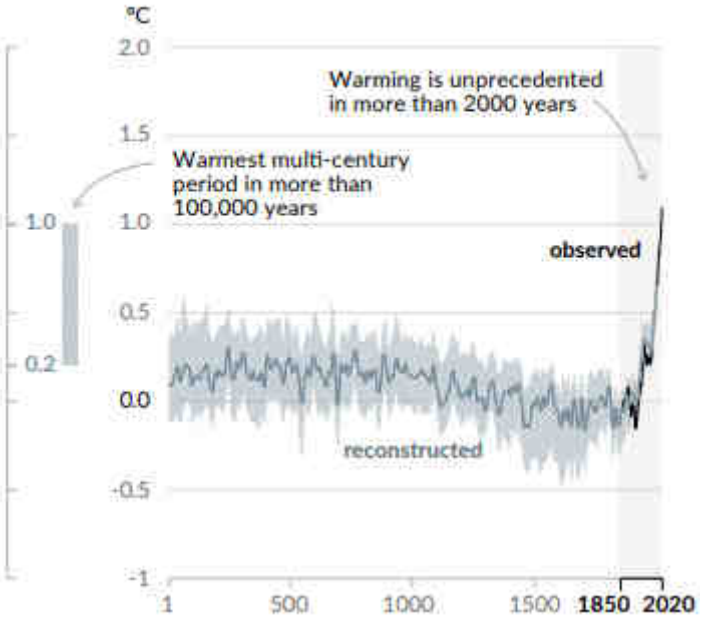
Before we move on to TPL, I feel compelled to address any misconception that this discussion is in any way antagonistic to or dismissive of the aims and exigent necessity of addressing climate change and all that it entails. Reasonable minds may, and do, differ on strategies and approaches and policies, but that is something else. I recently downloaded the 3,949-page IPCC Climate Change

2021 Assessment Report. [5] This is the 6th such report by the IPCC (Intergovernmental Panel on Climate Change), which is a joint program of the U.N. and the World Meteorological Organization, created in 1988, to assess the science related to climate change. IPCC volunteer scientists review the thousands of scientific papers published yearly in an attempt to create a comprehensive understanding of what is known about the state of climate change, its detailed causes and impacts, and how adaptation and mitigation can reduce those risks. Adequate and valid data is a pre-condition for making effective policy. The report has 15 Coordinating Authors, 76 Drafting Authors from roughly 22 countries, and 39 Contributing Authors.

I have only read the introductory 42-page Summary for Policymakers, and I commend that to anyone who might wonder if there is sufficient evidentiary backing for understanding what is occurring globally. I daresay there are uncountable environmental crises unfolding, including rapid loss of biodiversity, but which haven't yet reached a critical mass or disambiguated into chaotic disruptions that become experienced crises of and threats to daily life.

These developments must ultimately affect national wealth and its distribution profile, corporate earnings, and price levels. When we discuss investments in these reviews, it isn't about believing or not believing. Our goal is to

a) Change in global surface temperature (decadal average) as reconstructed (1-2000) and **observed** (1850-2020)



Panel a): Changes in global surface temperature reconstructed from paleoclimate archives (solid grey line, 1–2000) **and from direct observations** (solid black line, 1850–2020), both relative to 1850–1900 and decadally averaged. The vertical bar on the left shows the estimated temperature (very likely range) during the warmest multi-century period in at least the last 100,000 years, which occurred around 6500 years ago during the current interglacial period (Holocene). The Last Interglacial, around 125,000 years ago, is the next most recent candidate for a period of higher temperature. These past warm periods were caused by slow (multi-millennial) orbital variations. The grey shading with white diagonal lines shows the very likely ranges for the temperature reconstructions.

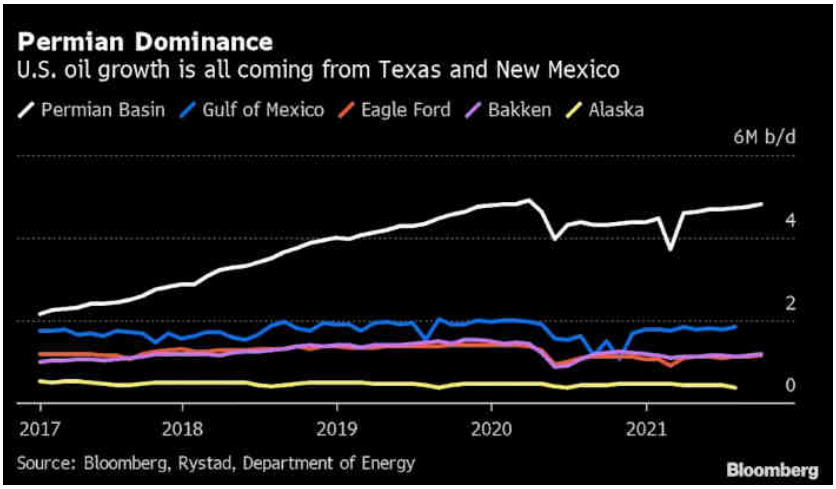
D.1.6 If global net negative CO2 emissions were to be achieved and be sustained, the global CO2-induced surface temperature increase would be gradually reversed but other climate changes would continue in their current direction for decades to millennia *(high confidence)*. For instance, it would take several centuries to millennia for global mean sea level to reverse course even under large net negative CO2 emissions *(high confidence)*.

[5] https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_Full_Report.pdf
IPCC, 2021: Summary for Policymakers. In: Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Masson-Delmotte, V., P. Zhai, A. Pirani, S. L. Connors, C. Péan, S. Berger, N. Caud, Y. Chen, L. Goldfarb, M. I. Gomis, M. Huang, K. Leitzell, E. Lonnoy, J.B.R. Matthews, T. K. Maycock, T. Waterfield, O. Yelekçi, R. Yu and B. Zhou (eds.)]. Cambridge University Press. In Press.

protect our and our clients' capital – which ultimately is retirement capital and transgenerational savings – from being harmed by such changes, which also means *in purchasing power terms*. That greatest historical risk to portfolios – the loss of purchasing power from debasement due to inflation and currency devaluation – is NOT discussed in the investment news media, because it is a problem of years and decades, not of today. The true risk has never really been the daily or year-to-year price volatility of securities.

In that effort, we want to cover important contingencies – the essential purpose of proper diversification – and we believe the types of business models increasingly populating our portfolios will serve that function.

The TPL Questions: *How long-lived are the assets; how much of the resources have been explored; and when will production and other activities develop further?*



A picture might be a good place to start. This is a different representation, same results, of our own set of tables used in the *2nd Quarter 2021 Commentary.* It shows that in the past 4 ½ years, pretty much all of the increased oil production in the U.S. has come from the Permian Basin, which is where the TPL royalty and surface acreage are located.

You can get the same data yourself if you were to go to the Texas Railroad Commission website[6] and compare the production figures for December 2019 to now, for District 8, where the TPL assets are located. You would compare the District 8 volumes with the balance of Texas and the U.S. You could then update those tables, which ended at April 2021:

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The table at the right shows that oil production in the U.S. is 13% lower, as of April, than it was at year-end 2019. As of April, production is 0.7% higher than at year-end 2020.

However, it will be observed, that oil production in Texas was 11% *higher* since 2019. And 4.5% higher since year-end 2020.

More interesting to holders of Texas Pacific Land Corp., oil production in District 8 of Texas is 20% higher than in 2019, and 4.7% higher than year-end 2020.

Crude Oil Production
(thousand barrels/day)

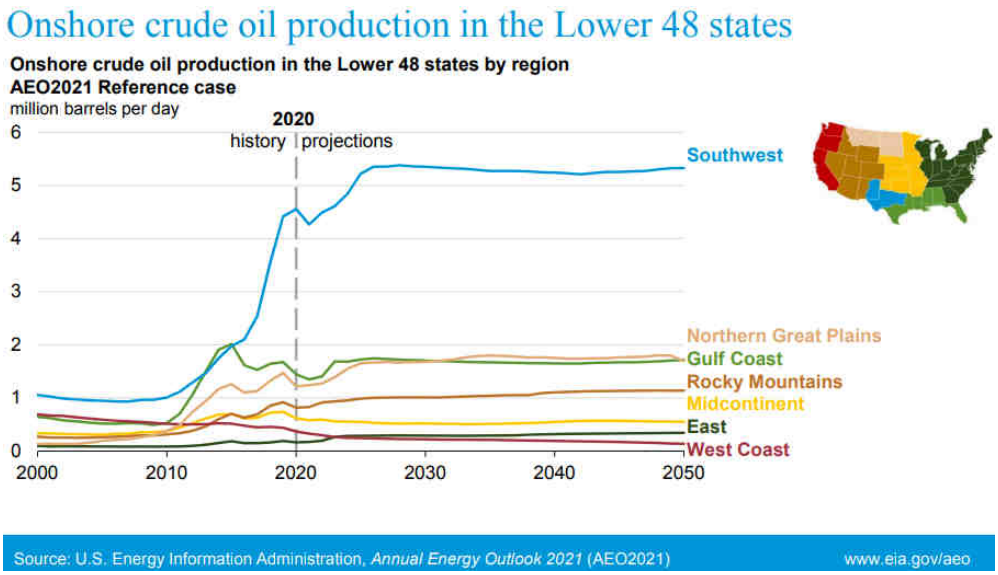
		Texas**	
	U.S.*	Statewide	District 8
April 2021	11,169	3,598	2,047
Dec. 2020	11,088	3,442	1,956
Dec. 2019	12,802	3,245	1,703
Apr '21 / Dec '20	0.7%	4.5%	4.7%
Dec '20 / Dec '19	-13.4%	6.1%	14.9%
Apr '21 / Dec '19	**-12.8%**	**10.9%**	**20.2%**

* https://www.eia.gov/petroleum/production/
** rrc.texas.gov

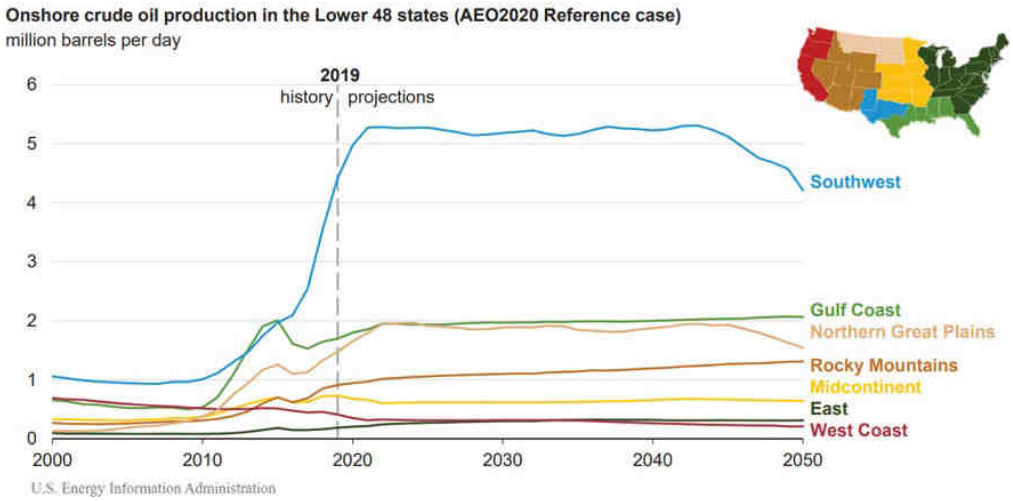
[6] https://www.rrc.texas.gov/media/damhcirs/own423_20210916_rrc180_jul2021.pdf

A related projection by the EIA through the year 2050, shows the sources of oil production in the U.S. The blue production volume line represents the blue Southwest region on the accompanying map. The Southwest region encompasses the Permian Basin, and is projected as the only source of additional oil supplies in the next 30 years. The volume rises for some period of time and then remains steady.

The most interesting aspect of this chart is not on the chart itself, but is in its comparison to the very same chart that we used 12 months ago in last year's *3rd Quarter Commentary*. In the 2019 version, oil production from the Permian Basin region was projected to begin to decline between 2040 and 2050. This year's projection, despite the advances in renewable energy projects and technologies and expectations for their continued deployment, revises the tail end of last year's long-term oil demand curve *upward*.



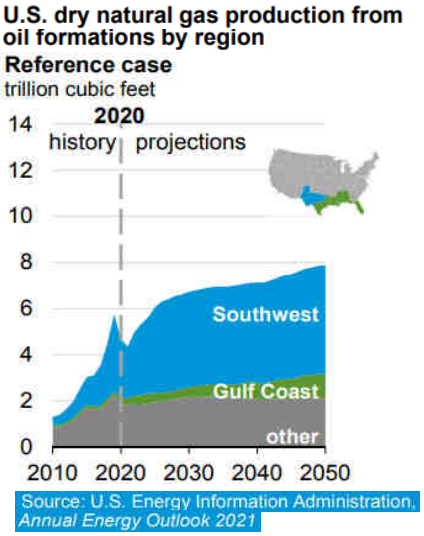
And one more chart, on the next page, which is the same 30-year projection, except for natural gas rather than oil. In this case, the Southwest region accounts for substantially most, instead of all, of the increase in projection. On the other hand, total production almost doubles from the current level.



These charts are one way to infer how long-lived TPL's resources are and what the direction of production will be. More specifically, TPL's 2021 earnings will be generated based upon production from approximately 10% of its royalty portfolio. Approximately 90% of the company's reserves are undeveloped, and the remaining reserve life is estimated at 40 to 60 years (at current production levels), which is 2 – 3x the reserve

lives of most of the production companies and other royalty companies in the region. It should be borne in mind that is based upon the current knowledge of the entire region, only a portion of which has been actively explored, and on current drilling technology, which constantly improves. It could be fairly suggested that the current earnings of the company employ materially less than 10% of the potential for surface land and water resource, given the nascent stages of infrastructure development in the region.

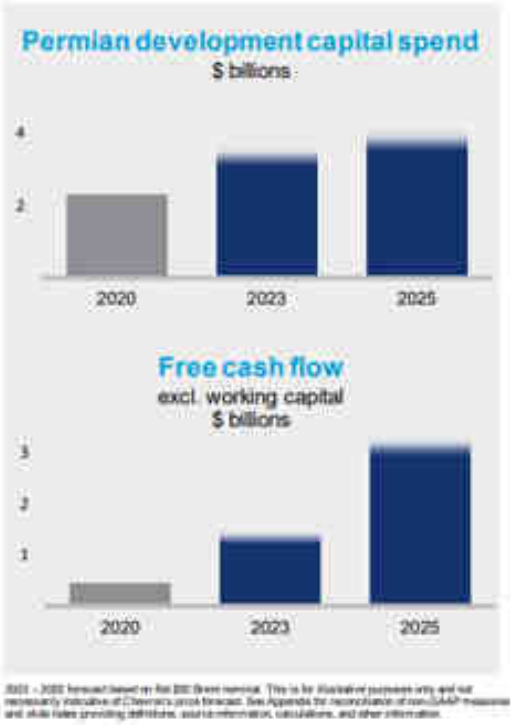
Another way to get a sense of what TPL's development activity might look like going forward is from the expectations of a highly informed party in that region – an insider that also has substantial capital at risk. In March, Chevron, one of the several major operators in the Permian Basin, provided a revised view of its capital spending plans there for the next 5 years, along with its expected free cash flow generation and its expected production volumes.

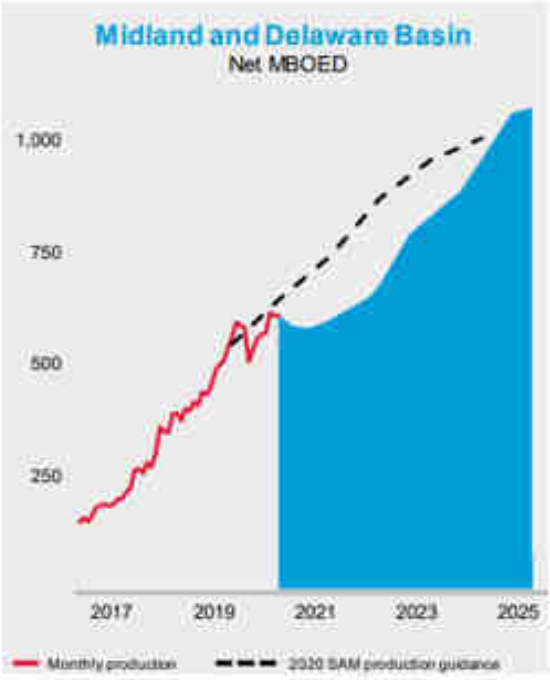


Source: U.S. Energy Information Administration, *Annual Energy Outlook 2021*

Chevron unambiguously anticipates very large cash earnings, recouping its capital investment costs within about a year, and almost doubling production over the 5 years. These projections were based on $50/barrel Brent oil. The equivalent West Texas Intermediate Crude oil price at the time would have been about $47. This past Friday, WTI was $82.

From Chevron's March 2021 Presentation, based on $50/barrel Brent oil





The Other TPL Questions:

Why is TPL is better than other Permian Basin companies, including the likes of Chevron? How are the various energy companies in the region reallocating assets or positioning themselves?

Different energy companies are making different decisions in a rapidly changing political, regulatory and energy environment. All now have to demonstrate some meaningful actions with respect to their carbon footprint. Depending on each company's orientation, they are engaging to greater or lesser degrees in green energy projects, from solar and wind power to carbon capture and battery technology. They are engaged in projects to detect and limit methane emissions and to reduce the flaring of natural gas; they're electrifying their vehicles and equipment. The same kinds of changes will be found among mining companies. It may well be that some or much of this is 'window dressing' to satisfy criticism; it is quite easy for a company that generates $10 billion of annual earnings to make much ado about $200 million of such investment. But many of these investments are substantive.

Energy companies are also reassessing their resource portfolios. Some have been net sellers of reserves, presumably the least productive or dirtiest, or those that are otherwise productive but are of less strategic advantage, in order to reinvest in green energy initiatives to try to transform their overall profile. Others have made significant asset sales from their portfolios simply in order to reinvest them in other energy resources that they find more strategically valuable. Both Chevron and ConocoPhillips have taken this road, making the Permian Basin a major strategic concentration. A few prominent examples:

- In October 2020, at which time ConocoPhillips had about 150,000 net acres in the Permian Basin, it paid $13 billion for Concho Resources. Concho had 550,000 net acres there, and particularly in the Delaware Trend portion of the Permian. Concho itself had been an aggressive acquirer of other Permian based companies and properties in order to build that resource portfolio.
- A year later, this past September, ConocoPhillips paid $9.5 billion for 225,000 net acres in the Permian from Royal Dutch Shell. That acreage had the very valuable additional character of being largely adjacent to or contiguous with ConocoPhillips acreage. From a return-on-investment perspective, this can provide extremely significant operating synergies and savings. Among the many is erasing the border between contiguous properties. Think of a horizontal well that is 5,000 feet in length, but must stop short at the property line of another operator; combine the two properties, and that well can be extended another 5,000 feet.
- Similarly, in April, Pioneer Natural Resources paid $6.4 billion to buy DoublePoint Energy. DoublePoint owned over 1 million net acres in the Midland Basin portion of the Permian, also largely contiguous and geographically complementary to Pioneer's properties.
- Six months earlier, in October 2020, Pioneer paid $4.5 billion to acquire Parsley Energy. Parsley owned 930,000 net acres in the Permian with, as the Pioneer announcement included: "no federal acreage".

That speaks to how energy companies in the region are positioning themselves. As to why TPL is better, which is a way of asking why we selected TPL over Chevron or ExxonMobil, let's just summarize the essential differences between a royalty company and an operating company. These are hardly the only ones – we've

already covered, for instance, the vulnerability of a large asset base and workforce to inflation. But these are some of the very first differentiating business considerations:

- A royalty company receives a percentage of the revenue an operating company generates from a given property. There is no associated capital expense or operating expense. It is simply a pass-through.
- Before a single barrel of oil can be produced, the operating company must raise and then expend a large amount of capital in order to buy a property. Before doing that, it must secure a lease and the relevant permits, which might require substantial time and expertise, which entails expense. And even before doing that, it must spend sufficient money on exploration, or purchase that information from a third party that did such exploration, to even determine that this is a property it wishes to acquire. The energy company must then buy the equipment, establish the workforce and then drill and operate the well.
- A glance at the Chevron slide seen earlier shows just how many billions of dollars of operating income the company expects to make from its Delaware Trend investments, despite the enormous costs. But those costs measure in the billions of dollars as well. The royalty company doesn't have those costs. The difference equals profits, and that differential is, well, enormous.

The question might also have been intended to include other energy royalty companies. Here, too, TPL has an incomparable advantage.

TPL was granted its land position and mineral rights well over a century ago. Those will serve it for many decades, even generations. Other royalty companies, which typically have reserve lives in the 10– to 15-year range, must continue to make periodic mineral rights purchases in order to maintain their reserve life as wells deplete. Indeed, if they do not, those companies will self-liquidate. Therefore, they can't be compared, in a simplistic fashion, on standard Wall Street metrics like current yield or price/cash flow without accounting for that difference.

They also lack the surface acreage position that TPL has – mineral rights are purchased separate from surface rights – and which is a substantial source of earnings for TPL. TPL's surface acreage and associated water rights throughout much of the region ensure that it will participate in future infrastructure development of the Delaware Basin (roads, pipelines, wind and solar projects, real estate), separate from its oil royalties. A modest example is an excerpt from a recent Chevron presentation speaking to one of its efforts to reduce its CO_2 emissions – buying and building both wind and solar generated power – the kinds of projects that might require leasing acreage from TPL.

From a 2021 Chevron presentation:

In 2019, we began procuring renewable power for our operations in the Permian Basin. Initially, we started by buying 65 megawatts of wind-generated power. More recently, we're partnering with Algonquin to build an additional 120 megawatts of solar sourced energy. These efforts are expected to reduce emissions by 300,000 tonnes per year. As this effort continues, we believe that 70% of our Permian demand can be met with renewable power.

TPL really is a unique asset. That understanding can easily be lost when the analysis is reduced to the snapshot numerical comparisons that are typically used to evaluate companies.

Grayscale Bitcoin Trust: *What about the GBTC discount? (Earlier this year, the Grayscale Bitcoin Trust began to trade near its NAV, and then at a discount, first as competing bitcoin funds appeared, and then as regulatory approval of a bitcoin ETF appeared to near.)*

This question is much like the opposite one we would receive in prior years, when the question was about the GBTC *premium*. When we began purchasing GBTC in 2017, the shares traded at premiums of 50% or higher. We were asked, 'Why buy a fund at such a high premium to NAV?', when that was known to be a common investment error?

The answer lay in the recognition that bitcoin was not a common investment that could be understood in the framework of historical stock market experience:

- GBTC was the only publicly-traded, convenient way to hold bitcoin in managed investment accounts. It was publicly traded, and custodied with the most rigorous protocols available. The premium was the price for that ready access, security and transaction liquidity.
- Believe it or not, that premium was not large at all; it was actually de minimis. How can a 50% premium be de minimis? Because the amount of GBTC purchased in a portfolio was itself de minimis – say, 0.5%, or $500 in a $100,000 portfolio.
- Therefore, the risk/reward tradeoff was, for any practical purpose: near-zero risk vs. unlimited gain. In the failure scenario, one would lose 50% of an almost meaningless amount of investment capital. In the success scenario, which would be the rise of an entirely new asset class, the return could be 1,000:1. It could radically change one's financial life.
- It was perhaps the ultimate inflation hedge, since the chances of its success would be positively influenced by precisely the economic environment it was devised for: runaway monetary policy and currency debasement.

Let's see this in visual form. Oddly, this GBTC discount/premium question fits into the through-line of this Review: differentiating between events of the moment, and the longer-term causal changes that ultimately manifest as current events or news.

As of Month-End	Premium/ Discount
Jun-17	69%
Jun-18	45%
Jun-19	36%
Jun-20	9%
10/19/2021	-17%

Here is the premium/discount history, which is what we tend to pay close attention to in ordinary investments like a closed-end bond fund. It starts in mid-2017, not long after we began our first purchases. The premium contracts inexorably, year by year. All else equal, one lost 86%: going from a 69% premium to a 17% discount.

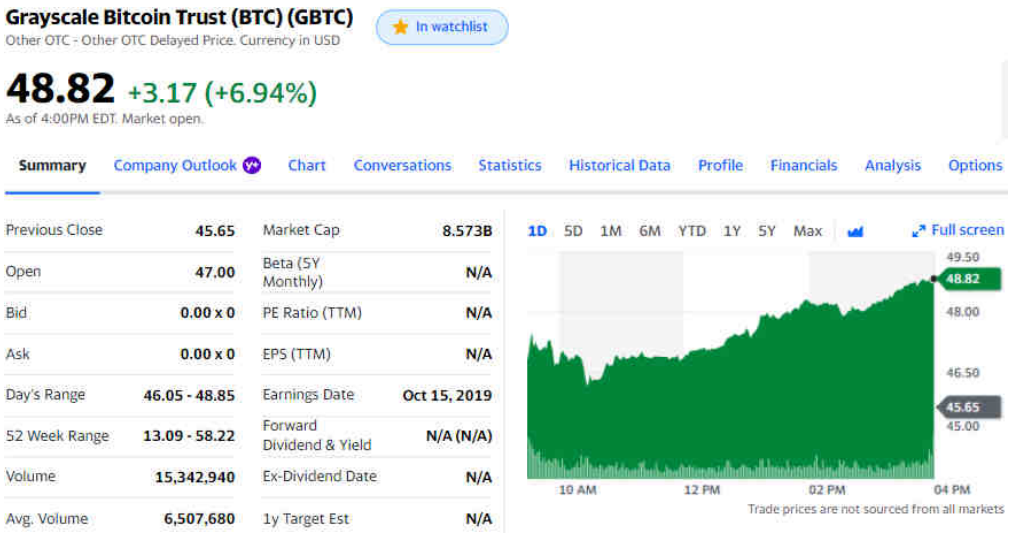
As of Month-End	GBTC Share Px
Jun-17	$ 4.40
Jun-18	8.53
Jun-19	15.13
Jun-20	9.61
10/19/2021	48.81

Now let's look at GBTC's price history for the same dates. The return was 11x whatever amount was invested in June 2017, despite losing 69% worth of premium. The tradeoff: trying to get a better price as opposed to getting the better value (like being penny-wise, pound foolish). But, to understand the value, you had to understand the investment. And the financial news certainly wasn't providing you that. It still isn't.

As to what to do about the discount, I'd first ask a preparatory question. Is bitcoin a long-term strategic asset in your portfolio, or a trading security? We treat it as the former, no different than four years ago. As a strategic holding, in a success scenario, bitcoin's future returns vs. the dollar would be even greater going forward (by our estimation, of course) than it has been since 2017. In that context, the 17% discount is an irrelevance.

In any case, that discount would be expected to close if, for instance GBTC receives SEC approval to convert to an ETF. As of yesterday, October 19th, the first SEC approved bitcoin ETF began trading, based on bitcoin futures. With that as a trigger, Grayscale filed to convert GBTC to an ETF based on spot bitcoin prices. So, the process continues.

You might note, as far as whether the new ProShares Bitcoin ETF (BITO) is good for GBTC or bad, that GBTC rose by 7% on BITO's first day of trading, and at over 2x its average volume. BITO itself finished the day with over $500 million in futures exposure value. That is no small amount in one day. This is now an institutional-class financial instrument, in which case the demand could readily pass the billions scale.



As to the likelihood and timing of the success scenario for bitcoin, it is ultimately merely a function of public acceptance as an alternative medium of exchange. Throughout history, all sorts of items have been used as money, from shells to tobacco leaves to packs of cigarettes, copper coins, silver coins, paper and even private company-issued tokens for workers. So long as they served their function adequately, then by mutual consensus or agreement they were money – at least for a while. Some lasted years, some centuries, but none lasted. What none of them had, which bitcoin does, was protection against dilution or debasement by whomever was in charge of the supply – you could never rely on the value of the money you held not changing for the worse.

If acceptance is indeed the yardstick of failure or success for bitcoin, then the accompanying various news announcements, collected in a matter of minutes without much selection effort, should tell you what you need to know about its progress.

https://markets.businessinsider.com/news/currencies/imf-crypto-cbdc-countries-110-stage-kristalina-georgieva-says-2021-10

Roughly half the world's central banks are 'at some stage' of exploring their own digital currencies, IMF says

Camomile Shumba Oct. 6, 2021, 11:33 AM

- 110 countries are at "some stage" of looking into CBDC's, Kristalina Georgieva, IMF managing director, said Tuesday.
- Crypto is too volatile to be money, but CBDCs would be more reliable, she said.
- China is already trialling a digital yuan and is well ahead of other major economies.

https://www.worldcoinindex.com/news/fed-chairman-confirms-they-won-t-ban-crypto-calls-the-need-for-regulations

Fed Chairman Confirms They Won't Ban Crypto, Calls the Need for Regulations

01. Oct 2021 Posted by Akolkar B on News

In a House Financial Services Committee meeting on 30 Sep Thursday, U.S. Federal Reserve Chairman Jerome Powell told Congress that the central bank has zero plans to forbid cryptocurrencies. Also stated that stablecoins need to be regulated, as they are similar to money market funds. The comment was in reply to an inquiry from House Representative Ted Budd of North Carolina.

https://www.worldcoinindex.com/news

Twitter Introduces Bitcoin Tipping Feature, Puts NFT Authentication Plans In Place

24. Sep 2021 Posted by Akolkar B

On Thursday, September 23, microblogging website Twitter announced that bitcoin could also be used to tip their beloved content creators. Starting this week, Apple iOS users can use this feature globally, and in the following week, the feature will be rolled out for Android users as well in a strategy of **"turning fans into funds."**

The company tweeted: **"Tested the Tips feature, turns out people love money. Rolling out on iOS with Android coming soon."**

https://www.worldcoinindex.com/news

Financial Giant Fidelity Pushes the SEC for Bitcoin ETF Approval

16. Sep 2021 Posted by Akolkar B

On Sept. 8, Fidelity Digital Assets president Tom Jessop and six of the firm's executives attended a private video meeting with several SEC officials. As per the recent filing, the asset management giant urged the U.S. Securities and Exchange Commission (SEC) to approve its Bitcoin exchange-traded fund (ETF).

According to a presentation from the meeting, they explained why the U.S. regulator should approve the proposed product. The reason mainly included:

- **"Increased investor appetite"** for virtual currencies, especially for Bitcoin.

https://www.washingtonpost.com/technology

Bitcoin FAQ: A detailed guide to cryptocurrency and why senators are fighting about how to tax it in the infrastructure bill

Bitcoin, dogecoin and ethereum are among thousands of cryptocurrencies confusing Americans

By Dalvin Brown August 6, 2021 at 2:34 p.m. EDT

We all know what a dollar bill looks like. We know what a penny looks like. But what about a bitcoin?

Cryptocurrencies such as bitcoin, dogecoin and ethereum have risen in popularity in recent years, introducing a host of new terminology and concepts to the public that can be tough to visualize and trou-bling to understand. A 2017 CNBC poll found that 33 percent of Americans hadn't seen, read or heard anything about bitcoin. And 44 percent had said they had seen, read or heard "just some" ...

On Wednesday, Aug. 4, a trio of U.S. senators proposed new tax reporting requirements for cryptocurrency transactions. In June, El Salvador became the first country to formally adopt bitcoin as a legal tender in a move that would allow citizens to pay taxes via cryptocurrency. In the United States, the NBA's Dallas Mavericks and Tesla made announcements this year to accept cryptocurrency for merchandise, although Tesla chief executive Elon Musk later rescinded his comments.

So, what's actually going on? We'll answer some basic questions to help increase your familiarity.

What is cryptocurrency?...

https://www.worldcoinindex.com/news

U.K. Post Office Introduces Bitcoin Purchases for Its Customers Via Its App

13. Sep 2021 Posted by Akolkar B

On 10th Sep, reports floated that say the U.K. Post Office will allow the acquisition of cryptocurrencies through a new partnership with Swarm Markets. It is a Germany based regulated crypto exchange, which claims to be the world's first regulated decentralized finance (DeFi) protocol.

From the subsequent week, consumers using The Post Office's '**EasyID**' app will be able to buy vouchers that can be redeemed for cryptocurrencies such as Bitcoin or Ethereum. This mobile application helps users securely verify their age and identity to gain access to online services.

Cryptocurrency Mining: *Any comments on other publicly traded mining companies, re. the pending public listing of the HK mining partnerships, how they're valued, and why or how our mining operations are different?*

There are at least six publicly traded U.S. and Canadian crypto mining companies. As of last Friday, three had stock market values between $2 and $5 billion, and the other three are between $500 million and $1.2 billion. There's another exceedingly small publicly traded miner that has a relationship to Horizon Kinetics, so it will be left out of this brief discussion.

On a valuation basis, someone sent me the table below, from an investment research firm. It uses the standard investment industry metric Enterprise Value/EBITDA, as well as EV/Sales.

Exhibit 14: Comp Group

Company	Ticker	Rating	Stock Price (USD)	Market Cap ($M USD)	2021 EV/EBITDA	2022 EV/EBITDA	2023 EV/EBITDA	Net Debt to Capital	2021 EV/Sales	2022 EV/Sales
Bitcoin Mining										
Riot Blockchain Inc	RIOT	Buy	$ 31.64	3,036	12.9x	6.7x	5.1x	-85%	8.8x	4.3x
Cleanspark, Inc.	CLSK	Buy	$ 13.44	466	3.0x	0.9x	0.7x	-21%	1.5x	0.6x
Marathon Digital Holdings Inc	MARA	Not Rated	$ 27.02	2,692	3.9x	2.8x	2.5x	-46%	3.6x	1.6x
Hut 8 Mining Corp.	HUTMF	Not Rated	$ 4.91	577	12.1x	8.7x	NA	-34%	4.5x	1.7x
Bitfarms Ltd.	BITF	Not Rated	$ 3.75	597	38.0x	33.6x	NA	51%	12.7x	9.5x
Average				1,474	14.0x	10.5x	2.8x	-27%	6.2x	3.6x

Source: Company Data, xxxx Research, FactSet

There's a conceptual problem using EBITDA (which is earnings before deducting, among other measures, depreciation expense), because the non-cash accounting expense for depreciation is a very real near-term consideration for miners, since the average estimated useful life of a rig might only be a few years. So, one cannot evaluate these companies without specific reference to that portion of their cash flow that they retain specifically to eventually replace their economically depreciating operating assets.

In any case, the EBITDA approach applied to these companies gives unhelpfully wide valuation results. That's because they're at different early and rapid stages of development, so they can have wildly different profitability. A company that might shortly produce meaningful income but presently almost none, would exhibit a very high earnings multiple.

A price-to-book value multiple would be a more meaningful comparator. Indeed, book value seems to be how investors are pricing these companies. Price relative to property and equipment (P&E), perhaps adjusted to exclude cash and cryptocurrency holdings, might be an even better way, because for some of the miners, book value includes very large intangible assets. The P&E represents the book value of the servers, and it is the servers that are the operating assets that generate the sales and earnings.

The valuation multiples produced by the broader price-to-sales metric are also unhelpfully wide, and that is partly because investors apparently place a multiple not just on the servers that the companies actually own – which are the ones generating the revenue – but also on servers that have been ordered but not yet received. Such is the level of eagerness in this sector. It is now the practice of mining companies to place very large orders for servers that won't be fully delivered for years. This is not an efficiency move (the

opposite, actually), so much as a signal to public investors of their growth trajectory. For some of these companies, the deposit paid on orders exceeds the value of the servers they're actually operating.

On a price/book value basis, the six companies I took a quick look at, including Hive Blockchain Technologies (HIVE), which has a $1.2 billion market cap, trade between 2.0x and 8.4x their June 30th book value. Leaving out the lowest-valued one, Cleanspark, the range is 3.7x to 8.4x. Of course, this is an industry in rapid development and flux, which can distort some of these valuations. The share prices are as of October 15th, but balance sheet figures for these valuations are from June 30th. Since June, though, a couple of these companies have had a stock offering, and cryptocurrency prices have risen a lot, and each of the companies holds crypto also, which might have modestly distorted these valuation figures.

The reason that these impressively large orders for equipment are not necessarily a wise choice is that there are rapid and substantial technological improvements in the mining servers. The latest model bitcoin rig is 70% more efficient in its energy consumption per terahash of computational power than the model of less than 3 years ago. A current model rig delivered in a year or two might end up earning far fewer block rewards than whatever newer model might then exist. That means that the expected return on the capital invested in those rigs will be lower than planned for. That, in turn, means that there will be less accumulated earnings available to purchase replacement rigs, so that external capital might have to be raised, as via a stock offering. That, in turn, is dilutive to existing shareholders.

Moreover, the efficiency gains of the servers must continue to occur, because the bitcoin reward per new block solved is going to be halved in about 2 ½ years. A current model rig ordered for delivery in a year or two will have much less time to earn back its cost at the current block reward size of 6 ½ bitcoin. After the next halving, when the block reward will be 3 ¼ bitcoin, those then-recently delivered rigs could be minimally profitable or perhaps even obsolete.

By contrast, the HK mining partnerships have been very reluctant to make large equipment order commitments at any given point in time. That is in is recognition of the rapidly-changing technological environment. Although it meant a slower, measured pace of investment, the benefit was that the partnerships retained the financial flexibility to react opportunely to changes in equipment performance and pricing without the problem posed by a sunk-cost fixed asset base.

Nevertheless, one shouldn't expect the publicly traded mining companies to alter their equipment purchasing pattern. The reason is that if they observe that one miner's large equipment orders are successful in generating the same level of returns as the existing fleet of rigs, which is entirely plausible, and if investors see the same result and therefore place a premium-to-purchase-cost of those orders on the stock price, then it would be entirely natural for other miners to also order massive amounts of equipment. The going stock market multiple, judging by these six companies, seems to be at least 6x the sum of the P&E and deposits on equipment on the balance sheet. Order more equipment and possibly get several times that value added to your stock price. It would be equally logical for the publicly traded miners to sell stock to raise funds to accelerate the purchase of yet more equipment.

It is a risky approach, though, a sort of race between maximizing near-term growth and being caught short. Of the many variables that can markedly alter the profitability of mining, such as the efficiency and cost of new-generation servers, even of old servers, the price of the mined coins, total hashing power of the network, and difficulty rating, they are all, well, variable. Making very large capital decisions that are of a lot longer duration than the frequency of change of the variables that determine what the return on that capital will be is like committing to driving at highway speed on a straightway that will inevitably have local-road curves. Or even musical chairs as a metaphor for what some miners have experienced after receiving delivery of very large orders: they've now found there is no vacancy to have those rigs hosted, hosting facilities being at fully capacity.

That might be more than many of you wanted to hear about crypto mining companies.

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