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Windfall and the New Energy Abundance

In the last couple of years a number of useful books have been published offering their perspective on the Shale Revolution. <u>The Domino Effect</u> provides helpful background on the technological changes behind America's increased hydrocarbon production which led, through a seemingly inevitable series of steps, to where we are poised to surpass Saudi Arabia this year in oil production. <u>The Age of Oil</u> recounts the history of oil and was updated in 2008. <u>The Green and the Black</u> offers a financier's view of investing in the Shale Revolution, while <u>The Moral Case for Fossil Fuels</u> builds a powerful case for seizing the ethical high ground from environmentalists. We reviewed all of these last year, not just because they're worth reading but also to distract investors from temporarily disappointing investment returns in energy infrastructure.

<u>Windfall: How the New Energy Abundance Upends Global Politics and Strengthens America's Power</u> by Meghan O'Sullivan provides a detailed analysis of the geopolitical consequences of the resurgence in U.S. hydrocarbon production. O'Sullivan's public policy experience, both within the Federal government and at the Brookings Institution, leaves her well-placed to contemplate the results.

The book methodically begins with Section One: The New Oil Order, that shocked the world into recognizing growing U.S. production when it led to the Oil Crash of 2014-16. In Section Two: The American Phenomenon, O'Sullivan reviews why the Shale Revolution is a quintessentially American phenomenon, because no other country possesses all the requisite ingredients (geology is only one – see a more complete description in <u>America Is Great!</u>). A chapter on Energy Abundance, Climate and the Environment is remarkably balanced for someone who is currently in academia, employed as a senior fellow at Harvard University's John F. Kennedy School of Government.

Section Three: The International Environment, builds on the foundation O'Sullivan has constructed in the first two sections. Although the Shale Revolution is American, its consequences are global. O'Sullivan analyzes the impact on major oil producing and consuming nations, arriving at some surprising insights. Notably, the conclusion that a reduced dependence on OPEC will lessen U.S. interest in the Middle East is simplistic. ISIS and al Qaeda will continue to pose a threat to U.S. and American cities. Israel will still count on American support, and the price of oil is set globally, so supply disruptions impact everyone through higher prices.



How the New Energy Abundance Upends Global Politics and Strengthens America's Power

Windfall

Meghan L. O'Sullivan

Time in Iraq and Afghanistan allows O'Sullivan to occasionally add first hand anecdotes of discussions with Middle Eastern leaders. She concludes that pressure on OPEC budgets is likely to continue, since U.S. production is depressing prices. Political instability in the region is therefore more likely.

Russia's use of natural gas to exert political pressure on neighbors is waning, as growing sources of Liquified Natural Gas (LNG) have allowed buyers to diversify their suppliers. Ukraine cut its Russian imports to zero in 2016, having previously experienced Gazprom's tendency to resolve contract disputes during winter, when uninterrupted supply is crucial to warming Ukrainian homes. The U.S. Shale Revolution's impact on LNG is, in some ways, a bigger story than its impact on oil. LNG trade flows are increasing dramatically, with floating storage regasification units sidestepping some onerous onshore regulations as they pose less risk. This in turn is increasing demand. In 2014 Lithuania's first LNG storage vessel, aptly named *Independence*, heralded their

AMERICAN E N E R G Y INDEPENDENCE

greater choice of suppliers.

The growing trade in LNG is creating a global market that's replacing regional ones. Nonetheless, large global price disparities persist – in December, Japanese wholesale natural gas <u>prices</u> were \$7-9 per thousand cubic feet (MCF), compared with \$3 in the U.S. This is because the logistics of moving LNG dominate the economics, with transportation costs often exceeding the value of the commodity itself. Natural gas has to be chilled so as to reach 1/600th of its volume for marine transport, following which it's regasified for commercial use. For the foreseeable future, LNG is unlikely to be moved, and therefore traded, as freely as oil. Nonetheless, the developing global LNG market reduces its use for political purposes.

In an interesting twist, we also learn that Russia is alleged to have secretly partnered with several European environmental groups opposed to developing domestic sources of natural gas, so as to perpetuate dependence on Russian supplies. It turns out the 2016 U.S. Presidential election wasn't the first instance of Russian political interference. In 2014, NATO's then-Secretary-General claimed such Russian meddling had taken place.

Over the last decade, policymakers' fears that the U.S. would increasingly depend on foreign supplies of natural gas have been upended. Russia was even once regarded as a potential supplier, if not a very attractive one. Today, most regions of the U.S. have benefitted, although New England, with its dysfunctional approach to energy infrastructure (see <u>An Expensive, Greenish Energy Strategy</u>), has been forced at times to import <u>Russian</u> LNG.

In 1973 President Nixon declared, "...Let us set our national goal...that by the end of this decade we will have developed the potential to meet our own energy needs without depending on any foreign sources." Over the next 30 years U.S. oil imports more than <u>tripled</u>, even though every president since Nixon has called for Energy Independence. Not all of them have pursued supportive policies or maintained energy independence as a priority. The current Administration looks beyond independence, intending to achieve "Energy Dominance." Investment returns should surely follow. Coincidentally, this year U.S. crude production will finally eclipse the prior record set in 1973.

Windfall is full of many useful facts. The Pentagon is the world's largest single consumer of oil, in 2013 using 103 million barrels of petroleum products (the same as Nigeria; population: 160 million). The oil collapse saved the U.S. Defense Department \$6BN annually. There are sixty-two underground salt caverns along the Gulf coastlines of Texas and Louisiana, the largest of which could house Chicago's Willis Tower (2nd tallest building in North America). Although environmentalists often oppose all fossil fuels including natural gas, we learn that the shift away from coal to gas for electricity generation has reduced U.S. carbon emissions by twice the Kyoto Protocol's goal for the rest of the world! The Shale Revolution might be the most environmentally positive development in history.

Although the book is well researched, O'Sullivan is confused about the impact of U.S. tight (shale) oil on price volatility. In one section she argues that, "...tight oil will **increase** (*emphasis added*) volatility in price by shortening the response time between price change and production adjustment of conventional oil." Only one page later, she continues"...it is likely to help keep prices within a band at a moderate price level for some time." In fact, her second assertion was the correct one, as we've noted ourselves (see <u>The U.S. Lowers Oil Volatility</u>).

One of the huge benefits of the Shale Revolution is the arrival of "short-cycle" projects. Wells are drilled frequently for low cost and high initial output leads to faster investment payback. Drilling takes place when output can be hedged profitably; when that's not possible, new activity slows. By contrast, conventional projects typically require a substantial up-front investment that's recouped over many years, with most output too distant to be easily hedged. Short-cycle projects reduce price volatility by allowing output to more rapidly adjust to demand changes. Sure enough, crude oil trading has been thankfully unexciting since early 2016, as the world has adapted to resurgent U.S. production.

Putting aside this minor quibble on volatility, O'Sullivan closes a thoughtful tome strongly: "...there is no question that the balance sheet of American strengths and vulnerabilities has been profoundly altered by the energy boom – and overwhelmingly, if not uniformly, in the interests of the United States."

We heartily agree.

						<u>P</u>	erform	ance Ta	ables					
					M	lidstre	am Ene	rgy Inf	frastru	<u>cture</u>				
						<u>(Gen</u>	eral Pa	rtner F	ocused	<u>d)</u>				
			MLP St	rategy (I	(-1s)			Since 1	Inceptio	n 159%		Inc	lex	90%
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	YTD
	2008	-0.6	3.1	-0.7	2.0	4.2	-10.6	-1.9	0.7	-14.9	-1.0	-22.0	2.9	-35.5
	Index	-0.6	-0.5	-6.3	7.3	1.0	-4.9	-1.7	1.7	-17.2	-0.1	-17.1	-3.7	-36.9
	2009	15.5	-2.0	5.1	5.9	10.0	-1.0	10.2	0.2	1.1	2.3	6.3	5.1	75.0
	Index	15.3	-4.2	0.7	11.0	9.3	-1.7	12.4	-3.2	4.8	2.9	6.4	6.6	76.4
	2010	0.8	5.5	2.1	2.5	-4.4	5.2	5.9	-1.5	5.1	2.1	3.3	2.8	33.0
	Index	0.6	4.6	2.9	3.4	-5.4	5.6	7.5	-2.5	6.1	5.4	1.9	1.7	35.9
	2011	1.3	5.2	0.1	2.7	-4.2	1.9	-2.4	-0.2	-3.3	9.2	0.2	6.9	17.6
	Index	3.0	3.5	-0.6	3.3	-5.0	1.1	-1.9	-1.1	-4.1	10.3	-0.2	5.8	13.9
	2012	1.7	5.3	-3.6	0.9	-7.0	3.3	5.8	3.2	2.3	-0.8	0.3	-3.0	7.8
	Index	1.9	4.2	-4.0	2.2	-7.5	3.3	5.1	1.6	2.0	0.5	-0.8	-3.1	4.8
	2013	12.9	1.8	5.8	-0.5	-1.1	2.7	0.3	-0.3	1.4	2.4	4.1	3.5	37.3
	Index	12.6	0.9	5.4	0.9	-2.0	3.1	-0.5	-2.5	2.3	2.7	0.9	1.6	27.6
BONDS	2014	1.5	2.6	3.9	2.4	5.6	9.6	-4.0	7.5	-1.5	-4.0	0.4	-3.0	21.9
ARE NOT	Index	0.6	-0.2	1.5	4.3	3.4	5.9	-3.5	8.2	-1.6	-4.6	-2.6	-5.6	4.8
FOREVER	2015	-3.0	5.8	-0.9	4.9	-2.5	-4.8	-4.9	-6.1	-17.4	6.1	-8.2	-14.3	-39.0
THE CRISIS FACING FIXED	Index	-3.1	2.1	-4.2	6.2	-3.6	-8.3	-3.2	-5.0	-15.3	9.7	-8.1	-3.6	-32.6
SIMON LACK	2016	-11.9	1.0	8.5	14.8	4.5	4.8	1.0	3.5	5.6	-6.8	7.4	5.1	40.8
WILEY	Index	-11.1	-0.5	8.3	11.0	2.5	5.1	0.6	-1.3	1.9	-4.5	2.3	4.4	18.3
	2017	0.7	0.2	0.9	-2.9	-5.7	1.2	0.8	-3.4	2.1	-5.8	-2.2	6.8	-7.9
	Index	4.9	0.4	-1.3	-1.3	-4.5	-0.6	1.3	-4.9	0.7	-4.1	-1.4	4.8	-6.5
	2018	3.2												3.2
	Index	5.8												5.8

Returns do not include cash balances prior to May 2010. The Index is the Alerian MLP Index, AMZX. Past performance is not indicative of future returns.

	Energy	Infrastr	ucture S	trategy (1099s)		Sin	ce Incep	tion	-3%	Index		-11%
	Jan	Feb	Mar	April	Мау	June	July	Aug	Sept	Oct	Nov	Dec	YTD
2013								1.2	0.8	4.2	-0.3	6.2	12.5
Index								-0.5	2.3	2.7	0.9	1.6	5.3
2014	0.9	1.6	0.1	4.3	5.0	10.1	-2.6	6.7	-4.1	-2.2	-2.8	-1.1	16.1
Index	0.6	-0.2	1.5	4.3	3.4	5.9	-3.5	8.2	-1.6	-4.6	-2.6	-5.6	4.8
2015	-6.7	5.7	1.8	4.2	-5.3	-2.0	-6.8	-10.2	-15.5	5.4	-12.8	-18.3	-48.3
Index	-3.1	2.1	-4.2	6.2	-3.6	-8.3	-3.2	-5.0	-15.3	9.7	-8.1	-3.6	-32.6
2016	-4.5	-0.7	10.8	12.2	5.7	6.9	0.1	6.1	10.6	-5.4	6.2	2.1	60.5
Index	-11.1	-0.5	8.3	11.0	2.5	5.1	0.6	-1.3	1.9	-4.5	2.3	4.4	18.3
2017	-1.6	-1.0	0.8	-3.2	-6.7	1.9	3.7	-4.3	2.8	-6.1	-0.6	5.8	-9.1
Index	4.9	0.4	-1.3	-1.3	-4.5	-0.6	1.3	-4.9	0.7	-4.1	-1.4	4.8	-6.5
2018	-0.1												-0.1
Index	5.8												5.8

The Index is the Alerian MLP Index, AMZX. August 2013 was a partial month. Past performance is not indicative of future returns Low Volatility Strategies

		Low	Vol Long	Only			Sin	ce Incep	tion	96 %	Index		101%
	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec	YTD
2012								0.2	1.9	0.0	1.0	-0.2	2.9
Index								-0.9	1.7	-0.1	-0.2	-0.5	0.0
2013	5.8	4.0	5.7	1.9	-2.0	0.2	4.1	-4.3	1.0	5.4	0.8	1.1	25.9
Index	5.0	2.7	4.9	3.8	-3.4	0.6	4.2	-4.8	2.0	4.6	1.2	1.1	23.6
2014	-3.5	2.7	2.0	2.8	1.4	0.9	-2.5	5.1	-0.8	2.2	2.5	-0.1	13.3
Index	-2.5	3.7	2.1	1.9	1.0	2.2	-3.8	3.8	-0.9	4.9	3.2	0.9	17.5
2015	-1.4	2.9	1.8	-1.2	-0.6	-2.2	2.7	-4.4	-1.0	6.0	-2.1	-0.4	-0.2
Index	-0.4	1.5	-0.3	-2.0	0.9	-1.8	4.3	-4.9	-0.4	6.8	1.1	-0.1	4.3
2016	1.5	1.6	5.4	0.1	2.4	7.5	-0.7	-2.0	0.5	-2.4	1.4	2.7	19.1
Index	-1.7	1.0	6.0	-0.7	1.7	5.7	0.3	-1.9	-1.0	-2.2	0.5	2.6	10.4
2017	0.8	3.7	0.5	-0.5	0.9	-0.5	2.2	-1.6	0.5	-0.9	2.3	2.6	10.1
Index	0.7	4.5	-0.1	1.1	2.7	-0.3	1.4	0.9	0.8	1.9	3.9	-1.1	17.4
2018	2.4												2.4
Index	2.7												2.7

The Index is the S&P 500 Low Volatility Index including dividends. Past performance is not indicative of future returns

Low Vol Hedged							Since In	ception		39 %	Index 4%		
	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec	YTD
2011										0.3	0.3	3.6	4.3
Index										0.6	-0.2	0.2	0.6
2012	-3.5	-2.0	1.2	1.7	1.2	2.2	1.1	-1.3	0.5	0.8	0.6	-0.6	1.8
Index	0.4	-0.8	-1.2	-1.5	-0.4	-1.5	-0.1	-0.1	-0.3	0.2	0.5	0.1	-4.7
2013	2.9	3.5	4.1	0.9	-2.8	1.1	1.4	-3.0	-0.4	3.2	-0.7	-0.4	10.0
Index	0.4	0.2	0.0	0.5	0.2	-0.6	0.6	-1.6	-0.1	1.4	0.6	0.2	1.7
2014	-1.6	0.0	1.9	2.4	0.3	0.0	-2.2	3.1	0.2	0.9	1.2	0.3	6.7
Index	0.7	0.7	0.6	0.6	-1.8	0.4	0.2	0.9	0.3	1.0	-0.1	0.0	3.6
2015	-0.1	-0.1	2.8	-2.0	-1.1	-1.0	2.0	-1.2	1.0	1.6	-1.9	1.5	1.3
Index	0.1	0.5	1.0	-1.5	-0.4	1.1	1.4	0.2	2.0	1.1	-0.5	0.3	5.5
2016	3.6	1.4	2.2	-0.6	1.2	7.5	-2.7	-2.5	-0.1	-1.4	-0.9	2.3	9.9
Index	-0.2	-1.5	-0.8	-1.9	0.4	-1.0	1.2	-0.4	0.4	-0.1	0.0	-1.1	-5.1
2017	-0.4	2.3	0.5	-1.0	0.1	-1.0	0.7	-1.9	-0.6	-1.9	1.3	2.4	0.0
Index	0.7	0.0	0.7	0.1	-1.5	0.6	0.5	0.9	0.6	-0.3	0.0	-0.8	1.7
2018	-0.4												-0.4
Index	1.2						1		1				1.2

SL Advisors offers separately managed accounts for individuals, family offices and institutions across various investment strategies. Client assets are held with Charles Schwab, the largest provider of custody services for independent registered investment advisors in the U.S. with client assets of \$1.1 trillion (as of December 31, 2014). Client portfolios are completely transparent via Schwab's extensive website which provides real-time access to accounts and all supporting information. Detailed monthly statements are mailed directly to clients from Schwab.

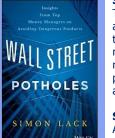
SL Advisors MLP Strategy

This portfolio consists of approximately 15 investments in Master Limited Partnerships (MLPs) and publicly traded companies in energy infrastructure and related assets to receive a healthy and growing tax deferred income stream. MLPs are publicly traded interests primarily invested in energy infrastructure and related assets. They represent direct proportional ownership stakes in the underlying assets rather than securities in a corporation. Historically they have paid regular distributions which have steadily grown, and as such they can be suitable for investors seeking income generating investments with a tolerance for equity market exposure.

SL Energy Infrastructure Strategy

This strategy seeks to achieve its investment objective by primarily investing in the equity securities of the general partners of master limited partnerships ("MLPs") and the parent companies of general partners of MLPs (collectively, "GPs"). It holds some of the same names that are in the MLP Strategy but only invests in securities that generate 1099s for tax-reporting. As such, it may be appropriate for tax-deferred, tax-exempt and non-U.S. investors.

SL Advisors Low Vol Long Only Strategy



This strategy utilizes stocks of stable companies with high dividend yields to generate income with capital appreciation by investing in a diverse, unleveraged, hedged portfolio of U.S. equities. Companies are selected that possess a history of steady earnings growth, attractive dividend yields and are less volatile than the overall market. Academic research has shown the Capital Asset Pricing Model (CAPM) fails to explain risk-adjusted returns. Over long periods of time, high beta stocks tend to under-perform and low beta stocks tend to outperform, on a risk-adjusted basis, which is inconsistent with predicted performance by the CAPM. This strategy attempts to take advantage of this persistent anomaly.

SL Advisors Low Vol Hedged Strategy

An alternative to bonds, this strategy combines the Low Vol Long Only Strategy with a short S&P500 position with the objective of making the portfolio beta neutral while still maintaining a net long equity exposure. Historically this strategy has exhibited monthly swings comparable to corporate bonds, and given the relative attractiveness of equities compared with investment grade bonds we believe it has a more attractive return outlook. This strategy may be considered as a substitute for a portion of an investor's fixed income allocation.

The Hedge Fund Mirage; The Illusion of Big Money and Why It's Too Good To Be True

Bonds Are Not Forever; The Crisis Facing Fixed Income Investors

and

Wall Street Potholes: Insights from Top Money Managers on Avoiding Dangerous Products

are all available at <u>Amazon.com</u>.

Our blog, In Pursuit of Value, is at: http://www.sl-advisors.com/blog/

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DISCLOSURES

MLP Strategy

Returns for the MLP Strategy reflect the performance of the composite of all discretionary accounts invested in this strategy. The returns shown reflect the deduction of an annual advisory fee, as well as other charges incurred by the accounts, including brokerage and custodian fees. The returns shown also include reinvestment of dividends and other earnings. The performance of the Alerian MLP index is shown for comparison purposes only. The Alerian MLP is a float-adjusted, capitalization-weighted index, which tracks 50 large- and mid-cap energy Master Limited Partnerships (MLPs), capturing 75% of available market capitalization. This index tracks securities which most closely correlate to the securities in which the MLP strategy invests. You cannot invest directly in an index. Past performance is no guarantee of future results.

Energy Infrastructure Strategy

The Energy Infrastructure Strategy seeks to invest in the General Partners (GPs) of Master Limited Partnerships (MLPs) and other energy infrastructure businesses solely through C-corps rather than partnerships. Consequently, the tax reporting consists of 1099s rather than the K-1s common with MLPs. Returns for the Energy Infrastructure Strategy reflect the performance of a composite comprised of all fee-paying discretionary accounts invested in this strategy. The returns shown reflect the deduction of an annual advisory fee, as well as other charges incurred by the accounts, including brokerage and custodian fees. The returns shown also include reinvestment of dividends and other earnings. The performance of the Alerian MLP Index is shown for comparison purposes only. The Alerian MLP Index is a float-adjusted, market-capitalization weighted index of publicly traded MLPs. This index best reflects the universe of stocks from which the Energy Infrastructure Strategy seeks to invest. You cannot invest directly in an index. Past performance is no guarantee of future results.

Low Vol Long Only Strategy

The objective of this strategy is to: (1) generate equity market returns over full market cycle with lower volatility (2) outperform S&P500 during periods of significant stock market underperformance (3) generate higher dividend income than the S&P500. Returns for the Low Vol Long Only Strategy reflect the performance of a composite comprised of all fee-paying discretionary accounts invested in this strategy. The returns shown reflect the deduction of a 1% annual advisory fee, as well as other charges incurred by the accounts, including brokerage and custodian fees. The returns shown also include reinvestment of dividends and other earnings. The performance of the S&P 500 Low Volatility index is shown for comparison purposes only. The S&P 500 Low Volatility index measures performance of the 100 least volatile stocks in the S&P500. The index benchmarks low volatility or low variance strategies for the U.S Stocks market. This index tracks securities which most closely correlate to the securities in which the Low Vol Long Only strategy invests. Past performance is no guarantee of future results. You cannot invest directly in an index.

Low Vol Hedged Strategy

Returns for the Low Vol Hedged Strategy reflects the performance of the composite of all discretionary accounts invested in this strategy. The returns shown reflect the deduction of an annual advisory fee, as well as other charges incurred by the accounts, including brokerage and custodian fees. The returns shown also include reinvestment of dividends and other earnings. As stated above, part of the objective of the Low Vol Hedged Strategy is to outperform the HFRX EM Neutral Index. The performance of the HFRX EM Neutral Index and the DJ Corporate Bond Index are shown for comparison purposes only. The HFRX EM Neutral Index consists of hedge funds that employ quantitative techniques to construct portfolios which are intended to be uncorrelated with equity markets. The DJ Corporate Bond Index is an equally weighted index of investment-grade corporate bonds. HFRX EM Neutral Index is presented as it is a reasonable comparison for Low Vol Hedged which seeks to generate returns while remaining uncorrelated with equities. The DJ Corporate Bond Index is presented as the manager believes Low Vol Hedged can be an acceptable substitute for corporate of bonds given its income generating objective. index You cannot invest directly in an index. Past performance is no quarantee of future results.

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