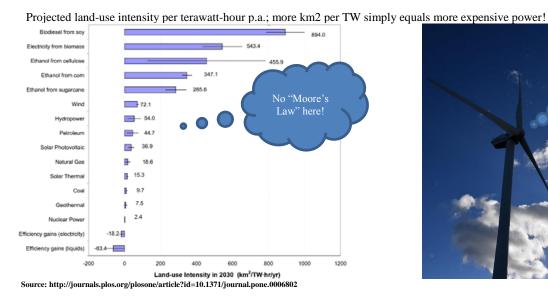




DK Analytics, Post #21: The impact & implications of CO2 demagoguery & green cronyism, revisited 8/31/17 Trade weighted US\$: 87.71; US 10-yr: 2.12%; S&P 500: 2,472; Oil: \$47.07; Gold: \$1,321; Silver: \$17.64



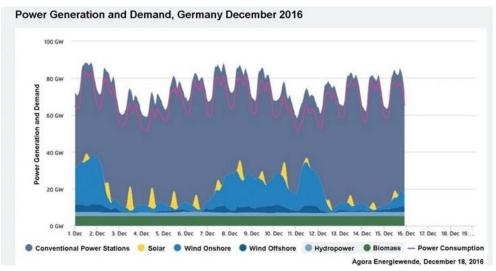


Introduction:

The leftists running most of government, frequently in cahoots green crony parasites, are committed to environmental (CO2) demagoguery, to corporate welfare financed by taxpayers, to increasingly "naked" redistributionism, and to de facto lowering living standards for the vast majority of people even as they richly feather their own "lobbyist nests" -- the "de-growth" movement, in other words, as chartered by property disenfranchising "Reds" masquerading as "Greens." This "toxic public policy stew," if not reversed, will stoke additional misallocations, further reduce pivotal dense energy availability, further batter productivity, further restrict vital new small business formations and thus innovation, further weaken real GDP and income growth, and further expand government deficits. Our bet is that Keynesian oligarchs running fiscal and monetary policy will NOT revert to free market capitalism/economic sanity, but will instead resort to much more fiat currency debasement "for their own sake," which will eventually bring record nominal oil, gas, and coal (dense energy) prices; call it scarcity leveraged by QE! Call it an allocation opportunity.

A closer look at our destructive power generation policy:

Below, a 12/16 snapshot of Germany's high cost "solar and wind power generation roller coaster" thanks to the forced energy transition known as "die Energiewende:"



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Conventional power generation in Germany (and elsewhere) cannot cheaply and readily reduce output to accommodate the sporadic and quirky nature of government-mandated and consumer/taxpayer subsidized solar and wind-based energy, which can suddenly overload, and thus "fry," the power grid, i.e., when supply exceeds demand (German law dictates that "renewable domestic energy" must be consumed first). The result: pricing, economic, and financial perversion, which has pounded conventional utility profits, "flatlined" ROIs, and castrated capital spending:

"Because fossil-fuel power plants cannot easily ramp down generation in response to excess supply on the grid, on sunny, windy days there is sometimes so much power in the system that the price goes negative -- in other words, operators of large plants, most of which run on coal or natural gas, must pay commercial customers to consume electricity. That situation has also arisen recently in Texas and California when the generation of solar power has maxed out."

The above has created multiple negative "shock absorber" effects. First, energy generation cost per kWh has been spiking in Germany thanks to government mandated "renewable" (green) energy inclusion in power production juxtaposed against large shutdowns of low cost, massive electricity-generating nuclear plants. This has decimated the erstwhile sizable profits of domestic, conventional (nuclear and fossil fuel-based) utilities, rendering a body blow to conventional utility investors and workers alike, while threatening the future viability of the very conventional power plants necessary to facilitate the affordable, 24/7, high energy density "solutions."

Second, what with heavily subsidized solar and wind power-based surges that have had to be muffled and further subsidized thanks to grid-endangering spike issues, north-south power grid capacity limitations, and the vagaries of wind and sun-based electricity generation, especially during winter, the German power grid has lost power delivery reliability, at times imposing rolling power outages prior to the last conventional reserve power plant coming back on stream. This has negatively impacted finances and economic activity while igniting the cost of power per hour:

"Green energy approaches failed to meet Germany's stated energy goals, even after spending over \$1.1 trillion. The country's "Evergreened" plan to boost wind and solar production to fight global warming hasn't significantly reduced carbon dioxide (CO2) emissions and may have actually caused them to go up.

As a result of green energy's rampant unreliability, Germany plans to cap the total amount of wind energy at 40 to 45 percent of national capacity, according to a report published by the German newspaper Berliner Zeitung. Germany will get rid of 6,000 megawatts of wind power capacity by 2019.

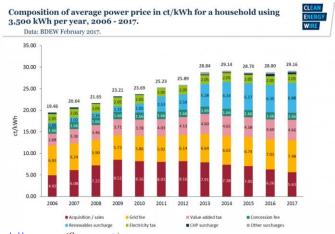
The country's trendy and ineffective energy policy already *forced payments to wind farms in the amount of \$548 million last year to switch off*, which prevented additional damage to the electric grid, according to a survey of power companies by the German newspaper Wirtschaftswoche."

Third, more coal has had to burned as "dirty plants" have had to increase power production to help smooth sudden and sharp fluctuations/reductions in increasingly material solar and wind-based power:

Due to the inherent unreliable performance of wind power and political opposition to nuclear power plants, Germany has been forced to return to coal to generate electricity. Coal now provides 44 percent of Germany's power, This shift caused Germany's carbon dioxide (CO2) emissions to actually rise by 28 million tons each year following the policy shift."

Fourth, German electricity consumers and German taxpayers subsidize all this insanity, effectively transferring unfathomable wealth to green cronies while giving German industry an "energy rebate" so that it can compete on German soil with European nations (most especially France) that have significantly lower electricity costs per kWh.

	Consumption	Price	Bill		
	(kWh)	(Ct/kWh)	(EUR)		
Denmark	4000	30	1200		
US	11800	9	1060		
Germany	3500	30	1050		
Japan	5600	18	1010		
Spain	4400	23	1010		
Canada	10800	8	850		
UK	4200	19	800		
France	5000	16	800		
Italy	2700	25	680		



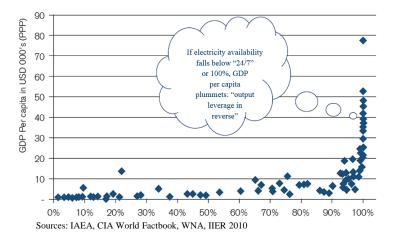
Sources: Agora Energiewende, <u>www.cleanenergywire.org/factsheets/what-german-households-pay-power</u> (Ct = euro cents)



Fifth, reliable, cost-competitive, 24/7 power generation with which to sustain high GDP per capita (as in Germany) will be increasingly jeopardized over time, introducing economic activity implosion risks:

Power (electricity) dependency

Output/electricity dependency linkage: GDP/capita (PPP terms) for 99 countries vs. electricity availability





In a nutshell (caveat: your author disagrees with nuclear withdrawal claims in "global" terms):

"One cannot simultaneously rely on massive amounts of wind and sunshine, dispense with nuclear power plants (for very good reasons), significantly lower the supply of fossil energy, and nevertheless tell people that electricity will definitely be available in the future. Exactly that, however, is what politics largely does almost every day. It is quite irresponsible to persuade citizens that from 2030 onwards only electrically-powered new cars may be allowed, as has recently been propagated in the highest political circles."

And, to add insult to injury, the composite fallout from the crony capitalist windfall keeps on piling up! Why? Because wind and solar power-based electricity generation are the antithesis of dense energy (lot of heat generated per unit volume), and thus *affordable energy*; unlike dense fossil fuels, they are also the antithesis of storable energy; and they are the antithesis of 24/7 energy. Moreover, as wind and solar power capacity utilization runs at only roughly 20% (when the wind blows and the sun shines, in effect) of installed grid capacity, even more massive structures (gross GW capacity) have to be built, which in turn require a) huge amounts of increasingly costly real estate to erect (prior to even more expensive future energy storage efforts), b) call for outsized energy, materials, and parts & labor to construct and maintain (no "Moore's Law" here, just poor EROEI!), and c) create environmental and social disasters. It is no wonder, then, that so-called "renewable" sources of energy are so expensive and environmentally destructive, not to mention unthinkable without massive, yet "tortured" dense energy bulwarks? For graphic flavor, consider the top graph on the first page. Or, from sunny India earlier this year, consider this, as regards solar energy:

"Why Increasing India's Solar Energy Capacity Won't Work

The future of renewable energy in India presumably rests on achieving the ambitious solar power target set by the country. In its Intended Nationally Determined Contributions (INDC) under the Paris Agreement, India committed to increase the amount of electric power from clean energy resources to 40% by 2030. A total of 175 GW of renewable energy installed capacity was promised to be achieved by 2022, of which 100 GW is the target set for solar power alone.

A 2014 performance analysis study by the Malpani group, a pioneer in the industry of power generation, calculated that for every megawatt of solar power capacity installed, an average output of a mere 19% is extracted.

One of India's largest solar power producers, which recently set up 'the world's largest solar power plant' in Tamil Nadu, owns a solar power plant in Bitta village, Gujarat. With a total capacity of 40 MW, the electricity generation of this plant is about 63.8 million units, merely at 18.2% of its total capacity. This enormous difference in the power generation is not due to any particular inefficiency of the plant but due to the drawbacks in the nature of solar power itself.

For obvious reasons - night, monsoons, dust, storms - solar power is neither produced all day nor throughout the year. Thus, the total maximum capacity of a solar power plant is never met to its fullest.

To understand the scope of solar power in the country, one must distinguish between the installed grid capacity and the capacity utilisation factor (CUF). The installed capacity is the maximum output that can be extracted from a plant. The CUF, as it is commonly called, is the real output of the plant as compared to the plant's theoretical maximum output. CUF is the measure of how well a plant can be utilised. It is presented as a percentage of the installed capacity of a plant."



Clearly, intermittent "renewable" energy sources have to be backstopped with reliable, 24/7 fossil fuel-based power plants for our highly energy-leveraged economies to sustain tremendous output per labor hour. This is all the more true given that mega energy dense nuclear power generation is being phased out rapidly in Germany (nuclear's share of electricity generation is down from 25% in 2011 to 14% currently!) and set to be phased out in Switzerland, where 33% of generated power is nuclear-based. The aforesaid either sets the stage for future power availability shortfalls (Switzerland) or has already created both dangerous power availability gaps and "renewable" power spikes (Germany) while pushing the kWh price of electricity up sharply. This, once again, threatens the output and the efficiency of high value added, OECD economies, such as Germany, and, to a lesser extent, Switzerland. (Switzerland is blessed with a world-leading hydro-based power supply contribution -- an astounding 56% of all electricity generated nationally! -- thanks to its "Alpine heartland" location, to its copious rainfall, and to its huge hydro power generation infrastructure, the result of decades of massive investment, including in world-leading pumped storage infrastructure).

All said, as a result of "Energiewende" policies, the average German household's spending on electricity is up roughly 50% compared with 2006. Meanwhile, until recently German taxpayers have had to increasingly subsidize leftist and green crony capitalist power generation reconfiguration insanity, also known as redistribution of property from Main Street makers to bureaucrats and takers, to "K-Street," and to Wall Street/Frankfurt. And it is exactly this Teutonic green trajectory that the national sovereignty/representative government-eviscerating, productivity-trashing, redistributionist Paris Climate Racket seeks to globalize. Fortunately, President Trump sagely pulled out of the swindle, which the entrenched European and American "Davos crowd" statists are as keen on extending as re-emerging Asian titans are keen on avoiding. Surely the globalist elites have a few new political feathers in their caps on the heels of statist/multicultural victories in Dutch and French elections, not to mention the increasingly watered down state of Brexit ("No Exit?"), with which to pursue their oligarchical agenda.

The leftist/green crony capitalist CO2 lie underpinning power reconfiguration insanity:

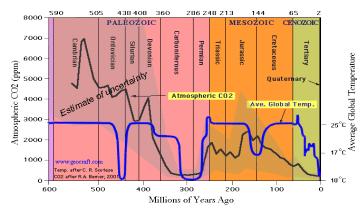
Based on geological evidence/carbon dating information, CO2, at around 400 ppm currently, or a tiny 0.04% of the atmosphere, has been at much higher levels, and life thrived. Call it "an inconvenient truth:"

"We conclude that atmospheric CO2 levels should be above 150 ppm to avoid harming green plants and below about 5000 ppm to avoid harming people. That is a very wide range, and our atmosphere is much closer to the lower end than to the upper end. The current rate of burning fossil fuels adds about 2 ppm per year to the atmosphere, so that getting from the current level to 1000 ppm would take about 300 years—and 1000 ppm is still less than what most plants would prefer, and much less than either the NASA or the Navy limit for humans.

The earth's climate has always been changing. Our present global warming is not at all unusual by the standards of geological history, and it is probably benefiting the biosphere. Indeed, there is very little correlation between the estimates of CO2 and of the earth's temperature over the past 550 million years.

The existence of the little ice age and the medieval warm period were an embarrassment to the global-warming establishment, because they showed that the current warming is almost indistinguishable from previous warmings and coolings that had nothing to do with burning fossil fuel. The organization charged with producing scientific support for the climate change crusade, the Intergovernmental Panel on Climate Change (IPCC), finally found a solution. They rewrote the climate history of the past 1000 years with the celebrated 'hockey stick' temperature record."

In addition, CO2 isn't pollution, for Heaven's sake, it's plant food! Plus, global temperatures over time have not only been bouncy, but, on average, easily eclipsed today's rather frosty comparative reading:



In the last 600 million years of Earth's history only the Carboniferous Period and our present age, the Quaternary Period, have witnessed CO2 levels less than 400 ppm.

The Carboniferous Period and the Ordovician Period were the only geological periods during the Paleozoic Era when global temperatures were as low as they are today. To the consternation of global warming proponents, the Late Ordovician Period was also an Ice Age while at the same time CO2 concentrations, then at 4,400 ppm, were more than 11 times higher than today.

Sources: www.geocraft.com/WVFossils/Carboniferous_climate.html, http://www.geocraft.com/WVFossils/stomata.htmu

But for the green cronies and for the despotic, one world government, property rights-disemboweling, redistributionist IMF, life-enabling CO2 emissions are a perfect and highly measurable way to enact and collect carbon taxes.

Never mind that the Vikings, when they discovered Greenland about 1,000 years ago, called it Greenland because it was green (warmer) back then. And never mind that the Roman Empire's vineyards extended all the way up to the British Isles, because it was considerably warmer some 1,600 years ago. Moreover, never mind that life blossomed 50m years ago during the famous, dinosaur-drenched Jurassic epoch, which featured 3x - 6x as much atmospheric CO2 as well as warmer temperatures and substantial higher atmospheric oxygen levels. Our point: all these leafy, warm periods featured CO2 ppm levels that exceeded today's 400 ppm, yet all this happened before humans burned one ounce of coal or one gallon of oil or one cubic feet of natural gas!

Yet neither facts nor preservation of societal fairness, broad-based wealth, inalienable rights, and individual freedom have ever stopped power-hungry, elitist/globalist demagogues, i.e., today's "Davos crowd" oligarchs, from further consolidating power and wealth at expense of "99% of the population." Nonetheless, today's situation is unique in that technology (electronic fiat currency) has enabled a truly coordinated global power grab as "greased" by a baby boom "leadership" generation that generally holds Biblical teachings and the Bill of Rights in utter contempt; a statist "leadership" generation that sees itself in divine terms and pursues the corresponding power, societal cost and future generations be damned. As combustion releases easily measurable, material amounts of CO2 into the atmosphere, rank extortion with a sharp upward tilt (progressively higher CO2 tax rates will be targeted) that would embarrass mafia bosses presents an irresistible means to dictatorial revenue ends, all dressed up as "saving the ecosystem."

How to consider investing in the most pivotal asset – dense energy -- after water and ag:

So, what can investors do? Join the green crony bandwagon prior to economics reasserting control over politics? Or, invest in the dense energy assets, specifically in fossil fuel assets (oil, gas, and coal), that have a) enabled our leveraged economic output, that b) will remain key to industrializing, mechanizing, urbanizing emerging markets, and c) that account for a dominating 85% of global energy consumption:

sumption Mtoe)		Shares (%)		Change (Mtoe)		Change (%)		Annual grov (%)		
5	2035	2015	2035	1995- 2015	2015- 2035	1995- 2015	2015- 2035	1995- 2015	20 20	
7	17157	100%	100%	4559	4010	53%	31%	2.2%	1.3	
7	4892	32%	29%	971	635	30%	15%	1.3%	0.7	
5	4319	24%	25%	1211	1183	63%	38%	2.5%	1.6	
)	4032	29%	24%	1595	193	71%	5%	2.7%	0.2	
	927	4%	5%	57	344	11%	59%	0.5%	2.3	
	1272	7%	7%	330	379	59%	42%	2.3%	1.8	
	1715	3%	10%	394	1276	870%	291%	12.0%	7.1	

Annex Key figures: Ene

2017 Energy Outlook

Cons

	(Mtoe)		(%)	%)	(Mtoe)		(%)		(%)	
	2015	2035	2015	2035	1995- 2015	2015- 2035	1995- 2015	2015- 2035	1995- 2015	2015- 2035
Primary energy	13147	17157	100%	100%	4559	4010	53%	31%	2.2%	1.3%
By fuel:										
Oil	4257	4892	32%	29%	971	635	30%	15%	1.3%	0.7%
Gas	3135	4319	24%	25%	1211	1183	63%	38%	2.5%	1.6%
Coal	3840	4032	29%	24%	1595	193	71%	5%	2.7%	0.2%
Nuclear	583	927	4%	5%	57	344	11%	59%	0.5%	2.3%
Hydro	893	1272	7%	7%	330	379	59%	42%	2.3%	1.8%
Renewables*	439	1715	3%	10%	394	1276	870%	291%	12.0%	7.1%
By sector:										
Transport	2471	3027	19%	18%	898	556	57%	23%	2.3%	1.0%
Industry	3117	3610	24%	21%	1060	493	52%	16%	2.1%	0.7%
Non-combusted	817	1227	6%	7%	300	410	58%	50%	2.3%	2.1%
Buildings	1222	1296	9%	8%	61	74	5%	6%	0.3%	0.3%
Power	5519	7997	42%	47%	2241	2478	68%	45%	2.6%	1.9%

*Renewables includes wind, solar, geothermal, biomass, and biofuels

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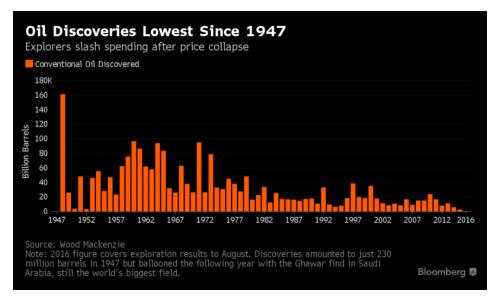
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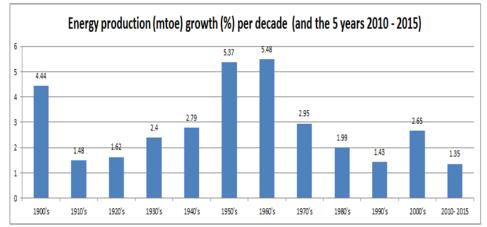
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Let's focus on king oil, which, below \$50 per barrel, is trading well below profitable oil industry exploration & production operations amidst declining major oil field finds, declining legacy "elephant field" output, and dramatically lower exploration & production budgets. This is best reflected by the accelerating secular decline in global oil discoveries and in oil production (please see charts below), which has hugely negative implications for already maligned productivity, also below, and thus for sustainable real GDP growth. (Note how productivity since 1971 has slid in sync with a secular decline in oil discoveries.) Meanwhile, rampant growth in global debt -- up \$75trn (global

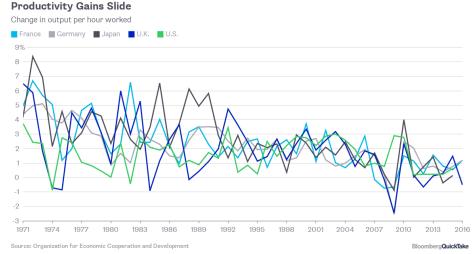


GDP!) since Q4:2007 to \$217trn currently -- is the poster child of our productivity-denuding, toxic public policy stew as enabled by unparalleled global QE, which has stripped OECD economies of sound money, the need for balanced budgets, price discovery/free market-based allocations, Main Street access to capital, and regulatory and tax sanity.





Source: macrostrategy.co.uk (The quality of MTOE growth has been declining thanks to a mix shift to less dense than oil fuels!)





Conclusion:

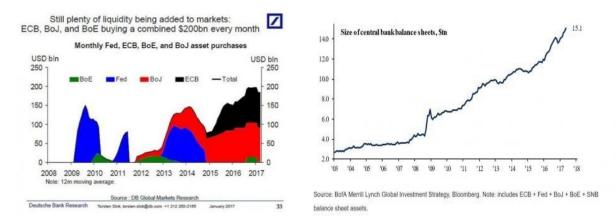
History shows us that whenever fiat currency debasement gets out of control, such as what we have seen globally in an unprecedented manner since the 2008 financial crisis, we end up with rapidly rising debt (as facilitated by fractional reserve banking systems), rising redistributionism (politicians love to buy votes with "no tax increase" QE largesse), rising crony capitalism (a "revolving door" between politicians and their corporate pals), and eventually a debt-induced collapse/a debt-induced deflation. And the answer to fiat government and fiat money-based systems on "debt mountain-induced/QE enabled" deflation has always been "more of the same."

Translation: instead of revisiting sound money, stout property right protections, price discovery, tax and regulatory sanity, and other proven, "boring," wealth of nations optimization concepts, the richer than God "Davos crowd" Keynesian oligarchs running the globe will double down on what (the toxic public policy stew) makes them richer still, and is politically viable, at least initially. This is because voters don't immediately sense the massive "inflation-based default" that will ultimately be unleashed. It is also because higher interest rates would rapidly tilt over-indebted economies into recession, which would seriously dent politicians' reelection chances. We are, of course, referring to resorting to unprecedented currency debasement as defined by even greater global money printing, more aggressive "beggar thy neighbor" currency devaluation contests, continued negative real short-term interest rates (which are poison for both defined benefit pension plan beneficiaries and for insurance company shareholders), and, if things get really out of control domestically, possibly even war ("because it's the bad foreigners' fault").

Once enough market participants, from consumers to CFOs to investors "discount" (realize) that fiat currencies will continue to be debased in an accelerating fashion, they will shift out of fiat currency into goods, inventory, and real assets, which can't be printed. This "crack-up boom," as Austrian economists call it, increases the propensity of market participants to spend cash, levitates the money multiplier, and then turbocharges the money supply (relative to real GDP growth), especially when "married" to increasingly and unprecedentedly bloated central bank balance sheets.

The result: rising inflation, which is always a monetary (father of misallocations) phenomenon. Real growth then suffers, or may well turn negative. Welcome to "stagflation." Welcome to the former Weimar Republic, the former USSR, today's Venezuela, today's Angola, today's Argentina, today's Egypt, today's Ukraine, etc. And recall that all nations that serially abused their "printing presses" ended up with imploding real GDP growth juxtaposed against galloping inflation and shortages, especially in the energy (even in Venezuela!) and the food (even in Argentina!) realms. And yes, Virginia, stout inflation's or hyperinflation's kissing cousins are GDP weakness or contraction.

In the interim, dwell on where we are globally, as regards the printing press: we're in totally unchartered waters in terms of "seeding" debt and money supply growth on the one hand and as regards price discovery suppression on the other hand. Until confidence in the untenable status quo snaps, bond, stock, and real estate valuation bubbles will persist thanks to sustained robust central bank bond and stock purchases and thanks to implicit central bank "puts."



Upshot: look for 1970s stagflation "on steroids" this time around, i.e., once we round the debt deflation bend. Collectively/globally speaking, we have done virtually everything wrong, public policy wise, since 2008. Moreover, we are 46 years into a global fiat monetary system (Nixon axed the dollar gold standard known as Bretton Woods in August 1971). History shows that on average fiat currencies become near worthless or worthless after 27 years.



We rest our strategic portfolio allocation case: reduce exposure to global junk bonds, otherwise known as "investment grade" government/agency bonds, for they offer no real yields (when taking a real world look at inflation), no real world inflation protection, huge insolvency/loss of purchasing power risks, and tremendous downside exposure to rising risk premiums.

Investors will ultimately demand higher risk premiums expressed as higher bond yields and lower P/Es or higher earnings yields, especially as markets always go from boom to bust -- from overvaluation to undervaluation (caveat: we readily admit that the upcoming, albeit likely short-lived, debt deflation-based tsunami may drive bond prices higher still, but as these assets are already priced for perfection and because they won't always be considered safe harbors especially as the global printing presses will likely soon run "wilder still," we believe any trade in them will provide shallow and short-lived profits, at best). Higher bond yields combined with an overdue recession playing out -- recessions typically reduce S&P 500 EPS between 33% and 50% -- will pull down stock prices significantly. Consider it a stock price double-whammy scenario in the pipeline: higher 10-year government bond yields, which serve as discount rate floors, combined with corporate EPS residuals that could be cut in half, will determine stocks' NPV (prices), which could easily drop well in excess of 50%.

Therefore, also reduce exposure to overvalued stocks. Meanwhile, avoid savings account bail-in risks (hold short duration Treasury Bills) and start to nibble on dense energy assets, especially as these "can't be printed" and because pivotal leveraged GDP output energy assets continue to get maligned by the "Davos crowd." Last but not least, seek safety in physical precious metals held outside of the banking system. In short, buy what the despotic global statists and oligarchs have been pushing down, and sell what they've been pushing up into bubble valuations (bonds and stocks).

Sincerely, Dan Kurz, CFA www.dkanalytics.com