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Peak Philosophy: The economic contraction narrative needs facts, not theory

by [Pete Dronkers](#), originally published by Resilience.org | [TODAY](#)

These days, people are maxed out on every level trying to get through life as everything gets more tedious, expensive, and uncertain. The onslaught of “glittering generalities” and opinionated political rhetoric coming from popular media and paid advertising on “both” sides is enough to make many shut off and tune out – their philosophical bandwidth running at full capacity until it is choked off entirely. What remains, perhaps by design, are emotional remnants of anxiety, fear, and resentment towards some law, group, or politician they claim has caused the bulk of our problems. But this blame game would slow down dramatically and make room for meaningful mitigation measures if people better understood the fundamental root of America’s problems, and I think we’ve got a long ways to go until most of us are on the same page.

To get everyone on that page can seem quite complex and difficult. How do we distill the faults of neoclassical economic theory in 10 minutes? How do we weigh the merits of, or even adequately understand for that matter, ultra-complex financial regulatory or monetary policy decisions, or the role of government relating to taxes, health care or entitlement programs? I’d argue that while very important, for many Americans these discussions should take a back seat to the more basic realities and trends of energy and natural resources. These are the factors that have determined the success of humanity since the dawn of civilization, and will continue to shape our future far more substantially and fundamentally than central banks, tax policy, medicare, or social security. I’m not devaluing those issues at all, but I am firmly stating that these days, studying and understanding the basics of the physical world is the best way to make rational decisions regarding our economic and political future. In the industrial age, energy and raw materials determine how the economy performs more than anything else.

This piece is not intended for those already deeply engaged in the “peak everything” movement in one way or another. I suppose it’s more for people (especially young people) who have a sense that something is different these days

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but don't have the time to read a 300 page book to learn why. I also suppose it's for environmentalists who believe that modern environmentalism is or should be rooted in ethics and morality rather than the idea that protecting air, land, and water is the best way to avoid repercussions to *humans themselves* as opposed to the sanctity of the earth – although the latter is certainly an added benefit.

In addition to a relatively altruistic desire for these realities to have the largest influence on as many people as possible, there are also two other reasons for writing this. The first is because I've grown tired of being labeled as a "doomer" because of [my own personal contingency plan and narrative](#), and I'm sure many people approaching contraction similarly feel the same way. The very word implies that everything around which we've engineered our futures is rooted in an emotional response to something we don't like in society, or that we're just plain and simple pessimists. I believe the facts speak for themselves, and in assembling them I hope the accusations will be dismissed so that a productive dialog can begin.

The other reason is because I've witnessed countless hours of passionate debate between folks, during which they regurgitate the emotional sound bites they've ingested instead of talking about what they learned through curious, deliberate, objective inquiry. I'm not suggesting that vigorous philosophical debate is not healthy or enjoyable – in fact I quite enjoy it – but too often people present opinion over fact when dealing with resource issues, but without knowing the difference. They try to make convincing arguments about what they know, but they're actually expressing how they feel, opening the stage for wildly differing perspectives and even conflict.

This is understandable. Not everyone is a walking encyclopedia of statistics, but nor do they need to be: it is the general trends in the most important areas that matter most, and I believe the majority of Americans – both on the right and left and including virtually all political leaders – still have all their eggs in the conventional economic growth basket, convinced that technological innovation, efficiency, and political reform will save the day if only people starting thinking more like they do. This attitude is the main impediment to resilience, rather than economic growth, becoming the predominant American value moving ahead.

So with all this in mind, I went to work on a master list of the 10 most important trends that paint the picture of impending economic contraction so I don't have to do so through theory, philosophy, or statements that aren't backed up by the facts. Entire books could be written about each point here, so it wasn't easy to limit each one to a few sentences with a few graphs, but that is what is required to provide folks with a snapshot view of things rather than being faced with a tsunami of technical information and the rationale behind its presentation.

I may be naïve in thinking that a 2000 word essay with some graphs will have much of an impact to someone on the fence with things; after all, it's taken years of inquiry for me to fully accept impending contraction. But if it does, folks may have a tough moment, as I initially did when I learned just how much things are going to change in my lifetime. I believe this is necessary, as I've found that very few people are willing to plan for a different future unless they feel directly threatened by not acting now, or less directly for those with children who will inherit the earth as we leave it to them.

At the end of the day, it is not the philosophical and theoretical angle that will prompt people to take the bold action required of us to manage contraction for the better. Instead, it is the cold, hard facts about what is going on in the world around

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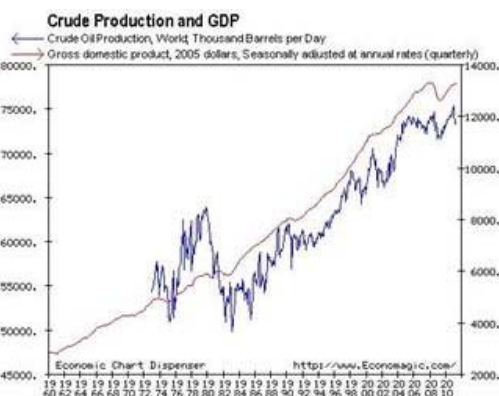
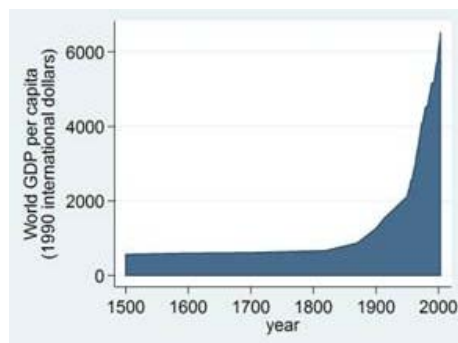
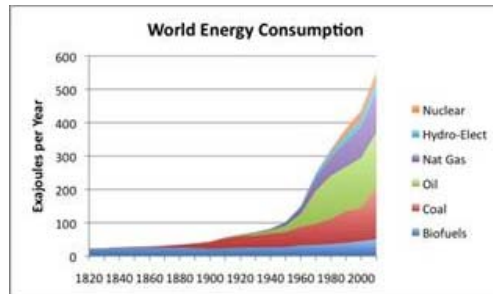
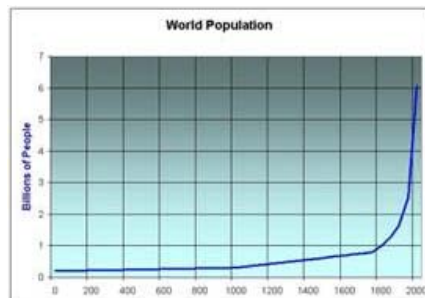
The Transition Network represents a movement of over 1000 initiatives around the world building community resilience in the face of such challenges as peak oil, climate change and the economic crisis.

us and why it's likely to continue. In the environmental movement, this approach is often referred to as "scare tactics", but if telling the truth can be classified as such, I suppose there is no way around that label, and I'm perfectly happy with it.

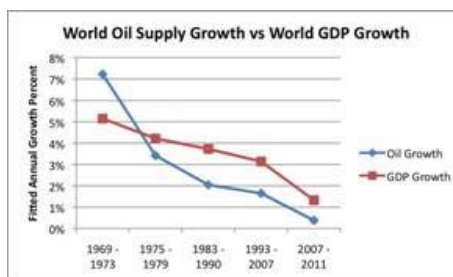
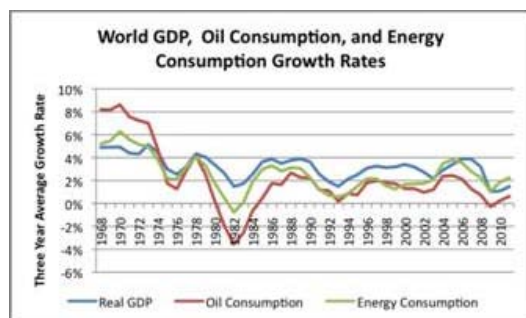
Although much of this is common knowledge for many readers, it is those with less exposure to resource issues who may benefit the most from reviewing the list. Anyway, here's what I came up with:

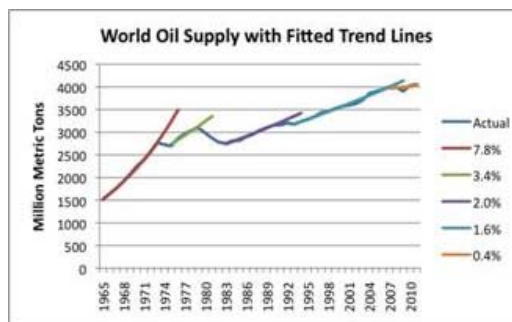
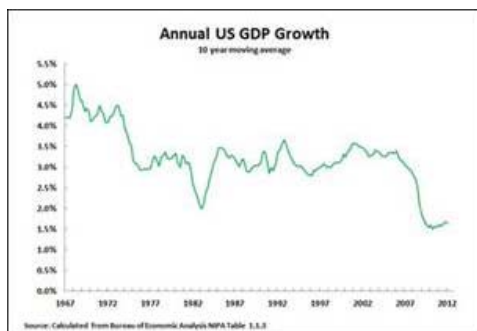
Economic Contraction 101: Ten Trends Everyone Should Know

1.) The world has grown exponentially because of endowed, non-renewable fossil energy – particularly oil – that has enabled the rapid expansion of the industrial economy and the global food supply.

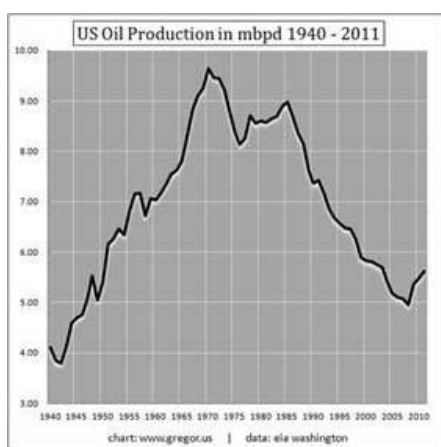


2.) Despite some growth today, the peak of the growth rate of oil consumption and GDP occurred decades ago. As long as the economy is still growing, times are good, but growth actually began slowing decades ago. And because oil production is closely tied to both GDP and overall energy consumption, it is a limiting or allowing factor for virtually all economic activity. When growth reaches zero, contraction begins.

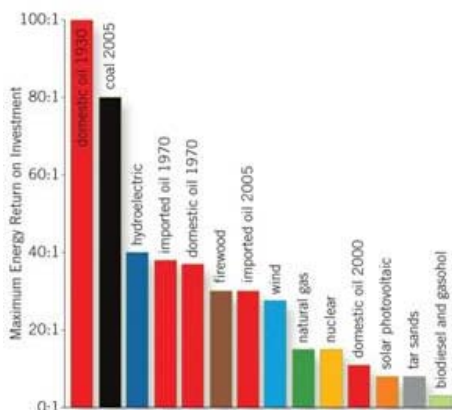
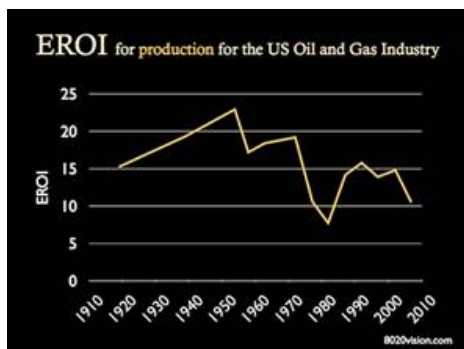




3.) The US reached its peak of oil production in 1971, and the world reached its peak of conventional crude oil in about 2005. Conventional crude is defined as “petroleum found in liquid form, flowing naturally or capable of being pumped without further processing or dilution”. The easy oil is past its global peak of production, which represents the primary limit to continued economic growth.

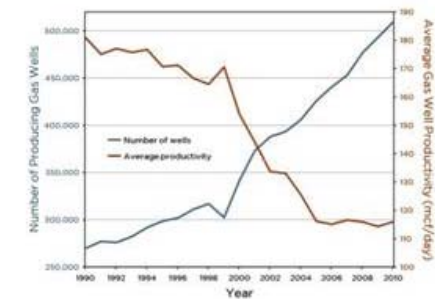


4.) Because conventional crude has peaked, the difference is being made up by non-conventional sources like tar sands, fracking, ultra deep water, and arctic oil, which have far lower energy returns on investment (EROI, or “net energy”), making it more expensive to produce. The left graph is the average EROI for domestic oil and gas, and the right graph indicates that even imported sources of oil have also seen a steady decrease of EROI. In the last ten years average global EROI has fallen fast while demand continues to rise, which explains the 3-fold increase in the price of motor fuels during that time.

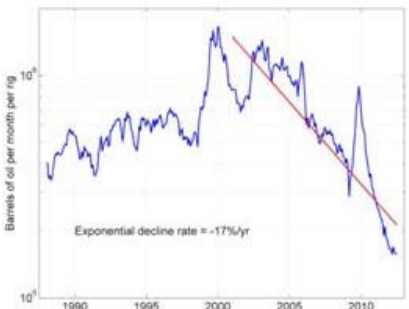


5.) Oil and gas fracking is a massive speculative bubble and US energy independence is a myth.

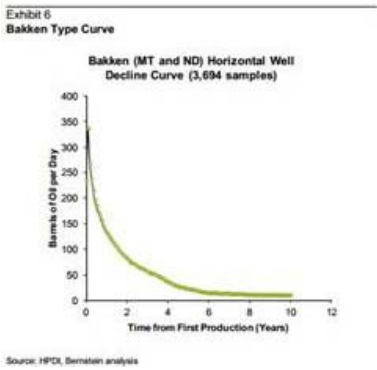
A fracked well generally produces large volumes of hydrocarbons within the first year or two of production, and then tapers off exponentially. The gas glut we’re now experiencing was fueled by unprecedented capital investment based on initial production rates, which increased well counts to historic levels and flooded the market. But the fact is that gas production per well nationally has been falling for decades and the new production hasn’t reversed that trend. It’s the same for oil fracking: despite what is happening in North Dakota, Texas, Montana, and Pennsylvania, total US oil production per well has been declining for decades, and since 2000 has averaged a 17% annual decline rate. There is no possible way to sustain the “drilling treadmill” for much longer. And since oil is traded on a global market, a slight temporary increase in domestic oil production will not affect prices for American consumers.



Above: US gas production per well versus active well count.

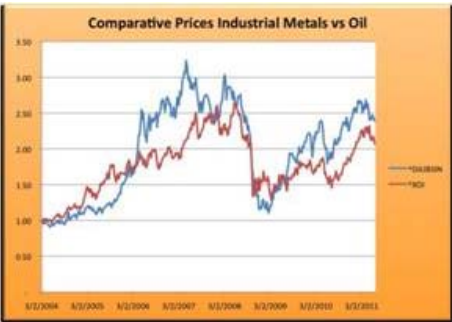
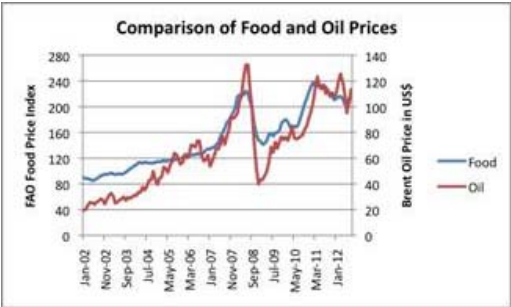


Above: US oil productivity per well

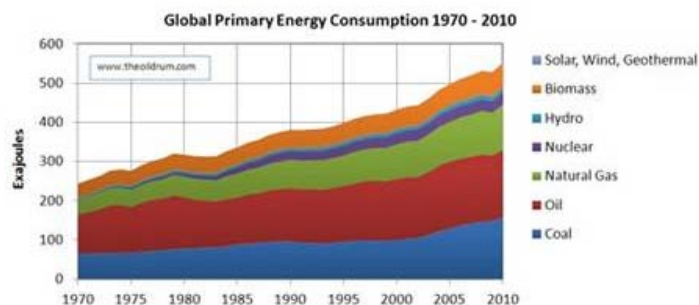


6.) Food and commodity price is a function of oil price.

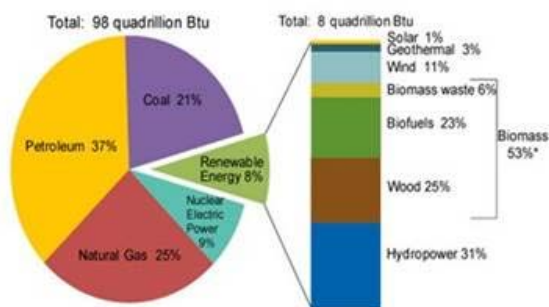
As EROI of oil declines and prices rise, virtually all commodity prices rise as well, making everything more expensive. While some industries may temporarily benefit from higher prices, society as a whole is harmed.



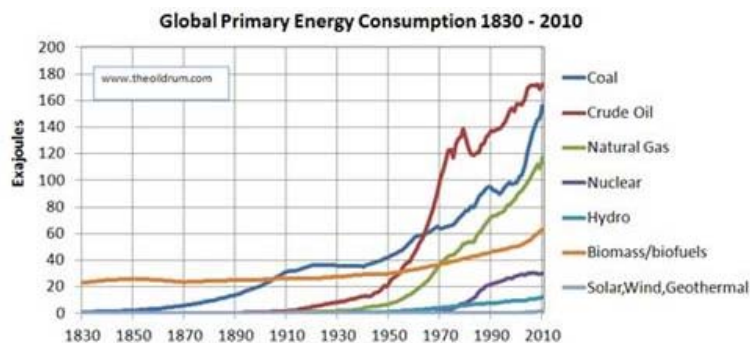
7.) **Despite the growth of the wind, solar, and geothermal industries, in 2012 they still account for only about 1% of total energy capacity.** While the continued growth of these industries is likely and should be supported, the industry would have to grow over 75-fold to replace fossil fuels, which would require immense amounts of new materials such as copper, rare earth elements, aluminum, lithium, and energy for manufacturing it all. And while we attempt to build the infrastructure, our resources to do so will be constantly shrinking. While we absolutely must scale up renewable energy as fast as possible, it will not allow for economic growth.



U.S. Primary Energy Consumption by Energy Source, 2010



Note: Sum of biomass components does not equal 53% due to independent rounding.
Source: U.S. Energy Information Administration, *Annual Energy Review 2010*.

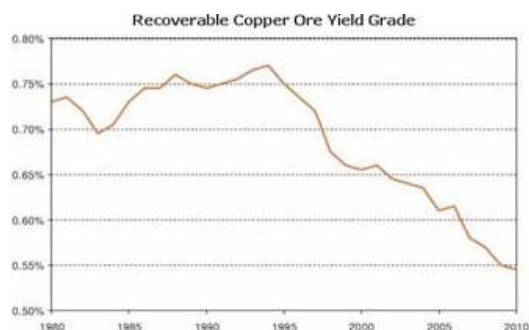


8.) **Base and precious metals and other key minerals are becoming rarer and more expensive to produce.** Although this is difficult to quantify globally for each industrial mineral, ore grades are generally in decline worldwide, and exploration and development costs for mines continue to grow as energy prices rise. Large mines often require as much electricity as medium sized cities, and

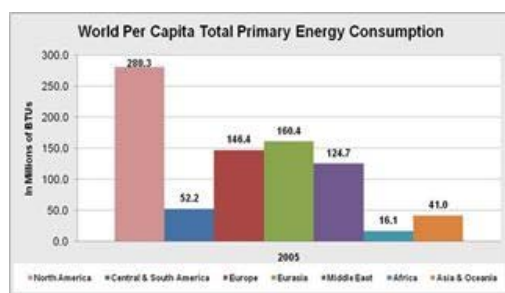
consume tens of millions of gallons of diesel fuel per year. Below: Australian ore grades and world copper grades.

Metal	1880-1900 avg.	1950-1960	Present
Gold	22-23 g/t	5 g/t	1.94 g/t
Silver	1,175 g/t	154 g/t	98.4 g/t
Copper	7.60 %	1.35 %	0.95 %
Lead	14.42 %	10.41 %	3.50 %
Zinc	15.68 %*	10.42 %	7.77 %

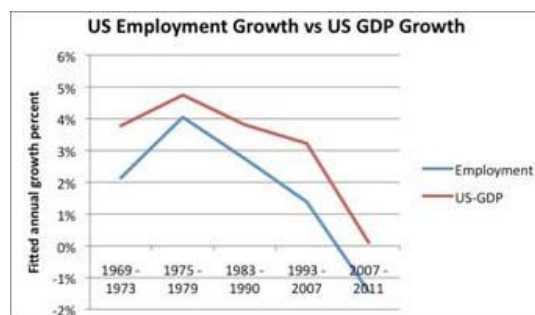
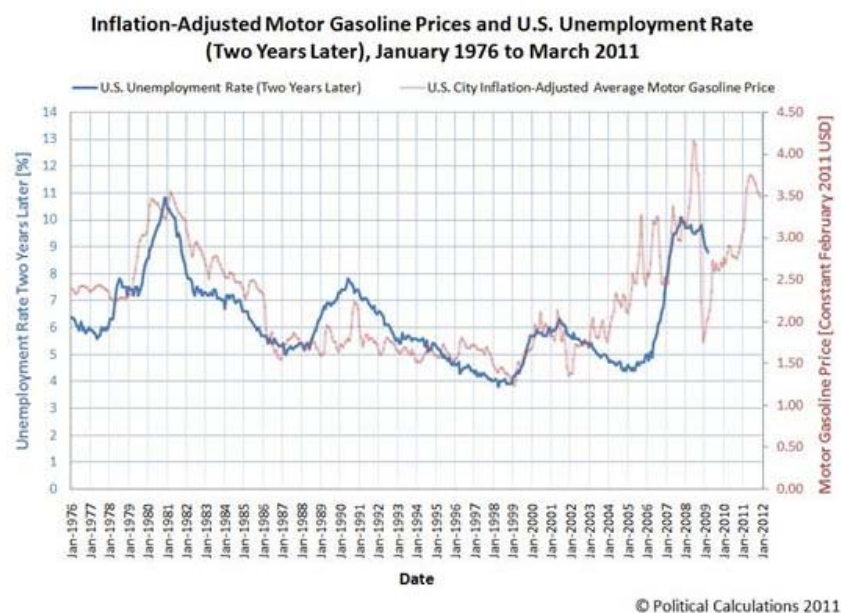
- (average for zinc was figured from 1900-1905 due to a lack of beginning numbers)



9.) The US is particularly vulnerable. The average American consumes more resources and energy than any other nation, so our economy is particularly vulnerable to price shocks. We also have a chronic trade deficit, budget deficit, and a very high debt to GDP ratio that will make it harder to absorb increasing energy and raw material prices. And unlike the post Great Depression debt, we no longer have cheap energy to secure future growth. With each dollar of new US debt, we are creating less and less GDP, meaning that declining returns on investments not only apply to oil and minerals, but also to the US economy as a whole.



10.) Unemployment is a function of most of the above.



Economic growth is over, and the individuals, families, and governments that plan accordingly will be far better off than those who don't. The delusions, hopes, and desperation for growth need to end now, and I hope the right facts will allow for this to happen.

Editorial Notes: Pete Dronkers is an environmental advocate, aspiring homesteader, and mountaineer living in Fairbanks, Alaska. His homestead site is underneath Montana's Beartooth Mountains. More at www.petedronkers.com

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ConsumerTrap

Awesome piece, Pete. I strongly agree that, in the real world, people respond to hard, practical information more so than airy talk about values and ideas and worldviews.

FWIW, I would add an 11th item: Much of the special vulnerability of "North America" stems from our special reliance on human history's second worst invention -- the automobile.

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