

Column of Oct 18, 2013. Editor's Headline: "A future we are not prepared for"

In his examination of the U.S. economy, Chris Martenson casts a weather eye on our government's out-of-control debt, which, he says, portends a coming storm, or repeated storms. His "Crash Course" includes a graph from the Cleveland Federal Reserve showing that, between 2008 and 2010, the Fed's balance sheet expanded from \$800 million to just over \$2,250 million, all of which, the author explains, "represents money created out of thin air for the purpose of monetizing existing debt." He even cites from an actual Federal Reserve publication that is titled "Putting it Simply":

"When you or I write a check, there must be sufficient funds in our accounts to cover the check, but when the Federal Reserve writes a check, there is no bank deposit on which that check is drawn. When the Federal Reserve writes a check, it is creating money."

Needless to say, such distortions don't work in the long run, for their inevitable consequence is ruinous inflation.

The economy is one of "Three Es" that worry Martenson. All three—Economy, Energy, Environment—function as one; the economy does not exist discreetly by itself. Without energy, he reminds us, no work would ever get done, human or machine. These past 150 years, we've ridden the crest on easily-accessible petroleum and other energy-producing resources, but this is about to change. The amount of fossil energy at our disposal is fixed and limited. Even "unconventional" fossil fuels will become increasingly expensive, both for the effort and expense involved in extracting them ("it requires energy to produce energy") and for their damage to the environment.

The author is deeply concerned with "peak oil" which, he believes, will happen soon after 2020. When oil first was used for industrial purposes at the turn of the last century, world population stood at 1.1 billion; today we're at more than 7 billion. This fact alone ensures that less and less energy will be available each year—yet our economy operates as if no physical limits existed. We don't begin to plan for a future where the petroleum that fuels our economy and the gasoline that powers our cars will have become prohibitively expensive.

Martenson dismisses coal-to-liquid conversion schemes as pie-in-the sky fantasies. Not only is the technology decades away—no such plants exist in the U.S.—it's

way too expensive to substitute for petroleum; besides, it's a "horribly inefficient" means to use coal. Even if that weren't the case, energy transition takes time. For example: When, by 2030, oil production will have slipped from 105 to 65 million barrels a day, we'd need to build 800 CTL plants at a cost of \$5 billion each to make up the difference. Coal, too, is a finite resource, he reminds us; forget the rosy rhetoric of its lasting "another 250 years." Considering the rate at which Asian countries consume coal—in 210, China consumed fully 50 percent of all coal produced that year world-wide, the available supply for the future is shrinking at a rapid clip.

As for increased use of renewable resources, the author views the percentage as too small to take up the slack.

In the environmental realm, Martenson is concerned with our disappearing minerals, which seemed in inexhaustible supply even a few decades ago. Phosphorus, for example, a vital ingredient in fertilizer, is becoming increasingly hard to mine—these days we must go very deep to find the phosphate rock that provides it. Similarly, copper, a vital necessity in automobile construction, is rapidly depleting. The author includes a sobering appendix listing all the minerals the U.S. now imports fully or partially.

In agricultural practices he distinguishes between "soil" and "dirt." Soil is what farmers used in times past to raise their products. Today, soil is sorely depleted; hence, American monocultures are raised on dirt, meaning more and more fertilizer (along with pesticides, insecticides, etc) is thrown at the crops to make them viable. Not only has the practice resulted in depleting the soil of vital microorganisms, it has resulted in diminished productivity. Additionally, top soil is being carried away by harsh winds, and nutrients are washed into the oceans where they create vast dead zones.

Martenson's advice to his readers? Develop resiliency. Pay down your debt (nothing we can do about the government's). Don't trust "cheap" (paper) money or investments, including stocks, bonds, etc. His book recommends investing in gold, silver or land—but the price for these commodities has since gone through the roof. Debt-ridden as U.S. consumers have become, only the super-rich can avail themselves of such recommendations.

On the other hand, resiliency means becoming more self-sufficient (which you'll need to be, in the hard times ahead). If you grow a vegetable garden, and if you raise three percent of the food you eat, this may not seem like much, but, he says, it

actually represents enormous savings. That's because the food consumed by a single North American individual in the course of one year takes 400 gallons of petroleum to grow, harvest, and ship. And one gallon of that fuel represents the equivalent of 350 to 500 hours of hard physical labor. (This example shows that petroleum is unrealistically cheap—especially given the fact that someday—Martenson thinks it's soon—oil will not be readily available, thus becoming much more costly. More to the point, petroleum production cannot ever keep pace with increasing global demand: an ever-growing population ensures it.

"The Crash Course" is available to viewers for free on the internet, at www.chrismartenson.com which takes you to his PeakProsperity website where you can click on "The Crash Course." At the very least, you ought to view/listen to his introduction. Martenson also writes a contributing column at FinancialSense.com, which is well worth the reading.