



By now you may all be wondering: Have we here at Sprott Asset Management gone completely mad? Perhaps... but although our forecast of a second-coming of the Stone Age can be construed as alarmist (in fact, it is difficult to imagine anything more alarmist), the idea is not as extreme as it may appear at first glance. The points this figure tries to make are twofold: (1) The oil age is (was) a **very** short period in human history; and (2) Much of the “progress” we have made as a civilization occurred during (and because of) the oil age, after which it will be tough sledding.

Indeed, in the grand scheme of things, the age of oil has been a very fleeting one, having lasted not even 200 years. The planet Earth has existed for five billion years. It is said that life itself has been around for a billion years. Human beings in their present form have been kicking around for two million years. Even on that (relatively) short time scale, the time that human civilization has been able to exploit and extract oil on a grand scale wasn't even for 1/10,000<sup>th</sup> of one percent of our existence as a species! Even compared to other human “ages” (the Bronze Age, for example, lasted 2500 years), the oil age has been a very short one indeed. Hydrocarbons took millions of years to create, but only a couple centuries to consume.

And yet, witness all the progress we were able to make in that blink of a timeframe! It is a wonderment to think how it was possible to make so much progress this past century, whereas in the millennia before so little progress was ever made in such a short span as a human lifetime. The reason has been cheap energy in the form of oil. From a scientific perspective, energy and work are one and the same. With cheap and abundant energy, we have been able to do so much work, with so little physical effort on our part! This is progress. It is no coincidence that industrialization itself started at the same time as the dawn of the oil age. Make no mistake, cheap and abundant energy has played the leading role in our rapid progress as a civilization this past century. Unfortunately it was a one-time event, a windfall, in human history. Without it we may revert to the mean – back to the Dark Ages.

We have come a long way as human beings, from a time when all we did was hunt and forage for food, to now being able to support over 6 billion people with only a very small percentage of the population (less than 4% in most industrialized countries, 2% in the US) required to make the food we all need. Although some of this has come from technological advancement, most of it has come from our ability to harness energy, i.e. oil. Huge quantities of energy are required to run tractors over vast tracts of land, operate irrigation systems, and deliver the food to market. But not only have oil and petrochemicals been important as a source of energy, they also comprise the vast majority of the pesticides and fertilizers needed to make food productively. It is estimated that 10 calories of energy are needed to make every calorie of food, and that's before transportation and cooking. Another statistic we've heard is that the average American consumes 400 gallons of oil-based fuel per year in the form of food on the table. Food and energy are practically synonymous, and it's something we all take for granted until we are left without. An oil crisis is likely to imply a food crisis.

So the prospects for food production in a post-oil world aren't particularly encouraging. We will be unable to make food anywhere near as productively, and much more of the population will need to be engaged in the endeavour of food production. This is the opposite of progress. Furthermore, it becomes questionable whether the world will even be able to support its current population in such a scenario. In the past century alone the population of the planet has quadrupled – thanks in no small part to oil. Will population growth also head in reverse in the coming post-oil era, as the population dwindles to adjust to increasingly scarce resources? This is all food for thought (pardon the pun) as we ponder the unpalatable (oops... another pun).

Then there is the whole question of how we have structured society, with vast stretches of highways and gasoline stations (and great investment therein); one car for every man, woman and child in the US; people living in the suburbs and driving to work in SUV's; driving to cottages on weekends and

recreating in motorboats and trailer homes; or traveling by airplane to vacationlands overseas. Will all this make sense in a post-oil world? What about space travel and exploration? The ways we consume oil are frivolous indeed. We have been fooled into believing that (a) abundant oil will be around for decades to come; and (b) when it eventually runs out it will be replaced by a “hydrogen economy”. Unfortunately, ‘a’ may happen sooner than we think, and ‘b’ is nowhere on the horizon. In fact, the promise of ‘b’ only makes us more complacent, and will likely only accelerate our demise as we wait until the last minute to do anything about our energy problem.

Indeed, even the concept of economic growth will be a thing of the past without cheap oil, and economic decline may be the norm going forward. Much of our improvements in productivity and standards of living in the past two decades were a result of globalization – the use of comparative advantage to increase the size of the global “pie”, if you will. But will globalization make sense in a post-oil world? We think not. Transporting products from far flung regions of the world just doesn’t compute without cheap energy. We are therefore likely to experience the reverse of globalization: localization – with the resultant hit to productivity and standards of living that would imply. With such a prospect for secular economic contraction, should we be willing investors in the stock markets today? Will financial markets and monetary wealth even mean anything in such a world?

Then there is the prospect for increased warfare as it becomes evident that the strategic resource called oil is no longer abundant enough to be freely available to everybody in the world. There will be increased conflict between the oil-haves and the oil-havenots, and a great number of lives (not to mention energy) will be expended in securing this vital resource. Again, this process may already have started with Iraq, with more to come in the future as China and India (and perhaps others) also try to secure strategic resources through military means. This prospect alone may be what obliterates us back to the Stone Age – and it all started because of oil.

Regardless of how one looks at it, in a world of peak oil there are so many branches that lead to a Mad Max endgame. With such a stark outlook, shouldn’t we be doing our level best to conserve as much as we can now? Indeed we should, but the world for the most part is clueless, and those in the know face a Prisoner’s Dilemma – why should we conserve and let the rest of the world consume most of the precious remainder? The ideal outcome in a Prisoner’s Dilemma is for all parties to cooperate, but alas this might just be wishful thinking.

These are some of our musings on what it means for the world when global oil production peaks and we enter the second phase of the oil era – the phase of decline. Needless to say, this second phase won’t be as fun as the first. The next “oil shock” will be unlike any experienced previously, and may even lead to the collapse of industrial civilization as we know it.

In these few pages we have only been able to scratch the surface of what a post-oil era really means for mankind. For those interested in a more in-depth discussion, we urge our readers to read “Powerdown: Option and Actions for a Post-Carbon World” by Richard Heinberg, and “The Long Emergency: Surviving the Converging Catastrophes of the Twenty-first Century” by James Kunstler. We also recommend the DVD documentary “The End or Suburbia: Oil Depletion and the Collapse of the American Dream”.

As a final note, we would like to refer our readers to our website, where we will be providing daily updates on oil and energy-related news items and analyses as they happen. One of our missions here at SAM is to educate investors on the problem of Peak Oil. In that regard, we will be putting a great effort into maintaining an energy-themed webpage... to be up shortly.

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