The Oil Drum
DISCUSSIONS ABOUT ENERGY AND OUR FUTURE

Can We Be Happy Using Less Energy? Uhhh.... YES!

Posted by Nate Hagens on June 21, 2007 - 7:10pm
Topic: Demand/Consumption
Tags: happiness index, world values survey [list all tags]

Peak Oil is one of many symptoms of an ecologically full planet. Our genetically embedded drive for `more' coupled with an expanding world population of 6.5 billion mathematically suggests a finite limit for growth will eventually be reached, if it hasn't been already.

In discussions about the impacts of Peak Oil, it is sometimes implicitly assumed that we NEED to replace the energy lost from the coming liquid fuels decline with other energy sources in order to maintain our way of life and our happiness. Indeed, it seems that much of the current effort is focused on comparing/discovering the best energy alternatives with respect to EROI, environmental impact and scalability/timing. In addition, demand experts also look at efficiency, carpooling, 4 day workweek, living locally type solutions, etc. In this post, I look at Peak Oil from a broader context: the necessity and purpose of continued increases in demand for energy. What is it all for, if not to make us happy?

Ansel Adams photo *"Richard Kobayahsi - Farmer and Cabbages"*

Some ecologists are of the opinion that the world can sustainably house 1-2 billion humans-others believe we can hold upwards of 10 billion. Any figure used here presupposes a certain energy consumption and planetary impact per human. But the world currently has a broad variety of cultures, habits, and energy footprints. Based on the sometimes fearful rhetoric of the Peak Oil community, it is presumed that less energy per capita is necessarily a bad thing. In an initial exercise towards some longer term research, I looked at data of subjective well-being from a large multinational study done by www.worldvaluessurvey.org. This study, done in 4 waves over the last 15 years, measured dozens of demographic indicator variables, one of which was subjective well-being.

Below is one of their better known graphs showing the relationship between GNP per capita and % of population in each country that is `satisfied' or `happy' with their lives.

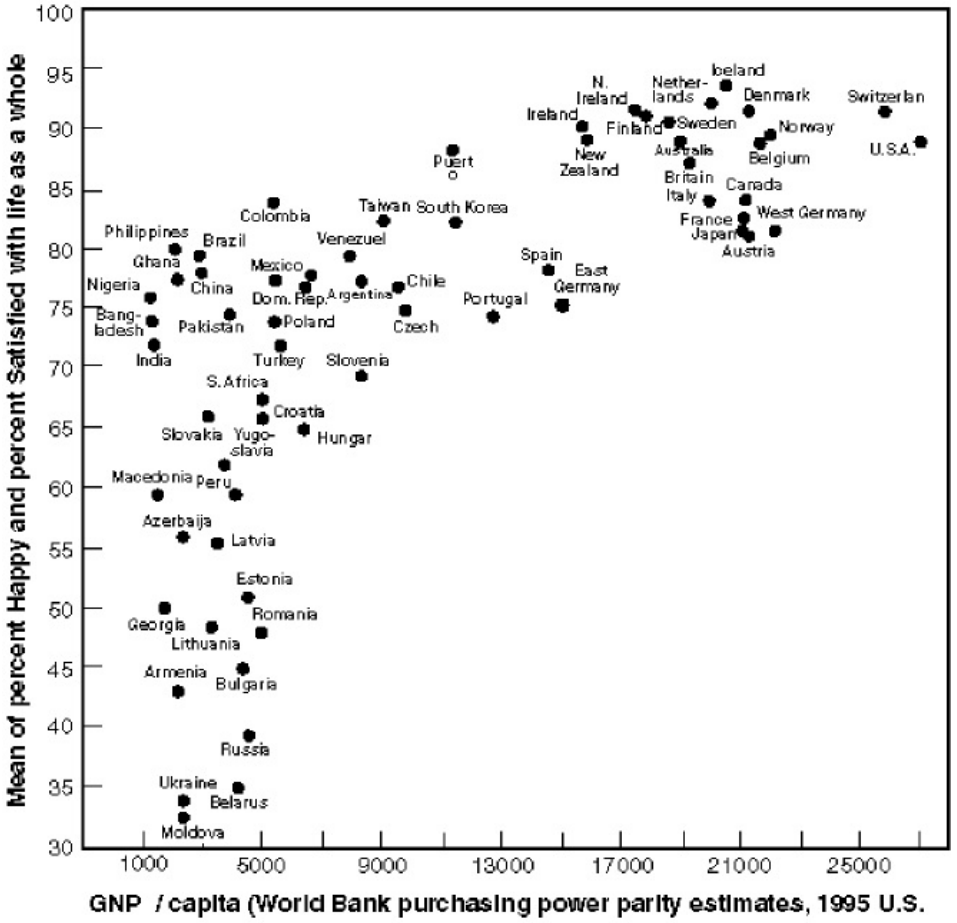
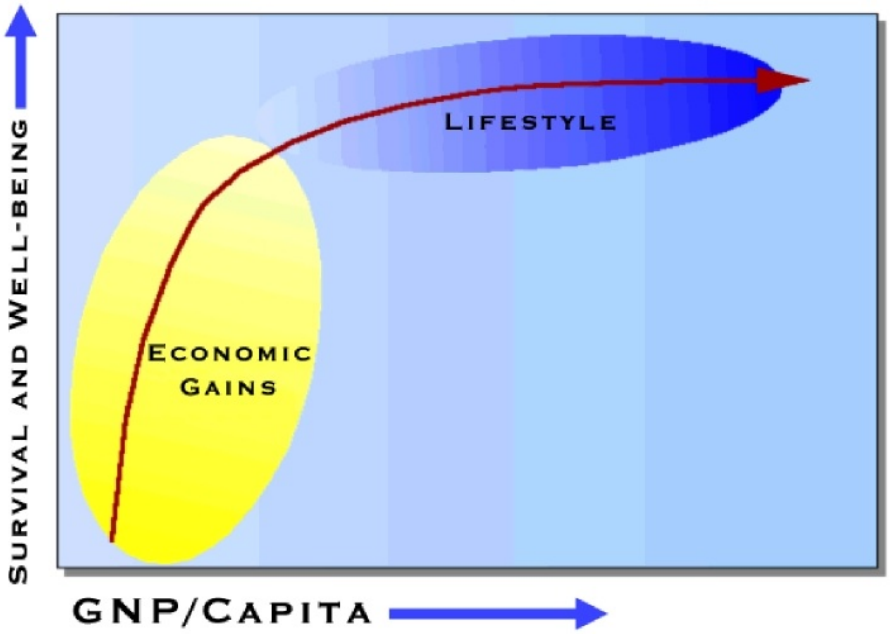


Figure 2. Subjective well-being by level of economic development.
Source: World Values Surveys; GNP/capita purchasing power estimates from World Bank, World Development Report, 1997.
R = .70 N = 65 p < .0000

It can be seen, that at low levels of GNP, happiness is lacking, but once a certain level of GNP is reached, incremental income per capita adds very little to subjective well being.

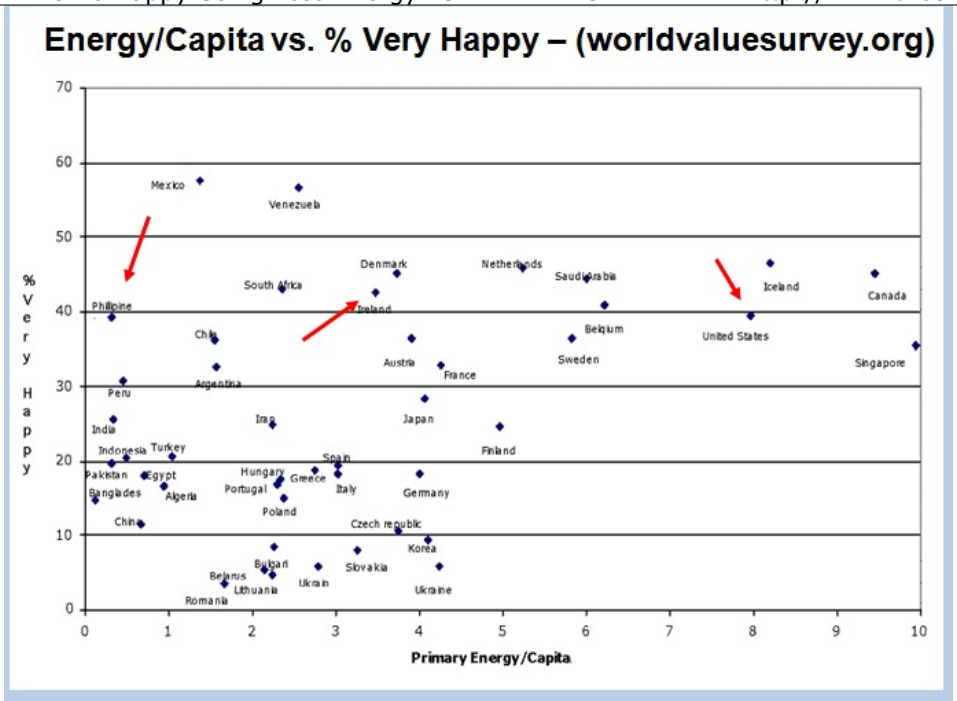
Ronald Inglehart of World Values Survey verbalized the above graph by stating that after meeting basic needs, lifestyle choices make up the majority of the difference in the GNP spectrum, and lower energy lifestyles do just about as well as high energy lifestyles (indeed, there are at least 10 countries on that graph that score higher on life satisfaction than the USA, and they each produce less GNP).



Source: R Ingelhart, 1997

> In reading on this site, and in observations of life, it seems the concept in the above graph of diminishing returns once a set minimum has been reached, is ubiquitous in our culture. When you buy your 5th car, does that make you anything close to as happy than when you bought your first? (does it really make you happy at all, or is it like opening the fridge at midnight?). Is the 10 million dollar in the bank 10 times better than the first? Do we buy the 50th pair of shoes because we need them, or we need the feeling we get from buying them?

Since GNP and energy use are correlated, I was curious what the link would be between happiness and per capita energy use. Using the `very happy' percentage from the 1999/2000 wave of international tests from World Values Survey, I compared them to all countries that www.bp.com had primary energy data for (primary energy is a broader measure than just oil) and then divided by 2000 population census. The results are in this graph:



As can be seen, there is little correlation at all between subjective well being and energy use. (The actual r^2 is 14%). Of note is the United States uses 39 times the primary energy as the Phillipines yet the percentage of the population that is `very happy' is about equal. While there is a low r^2, this does not mean there is not a relationship. The graph shows that all high energy users are happy. But it also shows you don't need high energy to be happy. It could therefore be read as saying that the high users are wasting considerable amounts of energy - ie not needed to be happy.

Vaclav Smil, in his book "Energy at the Crossroads" did similar work on objective measures of wellbeing vs energy consumption. A pattern similar to the above `boomerang' curve is found on comparisons of female longevity, sufficient nutritional food, educational opportunities, freedom etc. The shape is also the same, but inverted, for infant mortality. In general, Smil concludes that a reasonable level of well being on objective measures is achievable between 50 and 70 GJ/per capita, with marginal increases up to 100 GJ per capita. As a comparison, North America is currently at 340 GJ per capita. Again, the large excess consumption is not improving objective wellness.

As evolved animals at the top of the food chain, humans have become adept at acquiring resources, including energy. At some point though, "more energy" apparently does not make us "more happy". Anecdotally, as a former stockbroker, I witnessed first hand that clients worth hundreds of millions were no happier than the entry level clerks, even though being fabulously wealthy represented the `carrot' that people strived for. Similarly, in travels abroad to Ecuador, Zambia, Thailand, etc, I consistently noticed extremely happy people with very low energy usages.

Everyone has wants and needs. The wants can never really be satisfied, irrespective of energy use (look at Donald Trump or Tom Cruise). The needs are what are most important. This is an encouraging point to be aware of in the years leading up to and following Peak Oil. More is not necessarily better. Less is not necessarily worse. Perhaps, through education, marketing and living by example, society can slowly modify the definition of the `carrot', to one requiring less energy but providing equal or greater happiness.

In Part II I will look at: how subjective "subjective well being" is, how our happiness is based on meeting/acquiring certain neurotransmitter cocktails that met with evolutionary success, how happiness itself is probably a combination of *contentment+novelty* and the large energy consumption is on the novelty side of the equation.

In closing, a Thought Experiment:

> Think of or write down the 10 things in life that you most enjoy or like to do. Then, imagine you could only choose 3 from that list. What type of things would those be? Compare the wide boundary energy/ecological expenditures of your favorite 3 versus the other 7. More or less?

Note: This is an update on the first post I wrote for theoildrum, archived here. I'll soon be building on these concepts with a Part II.