

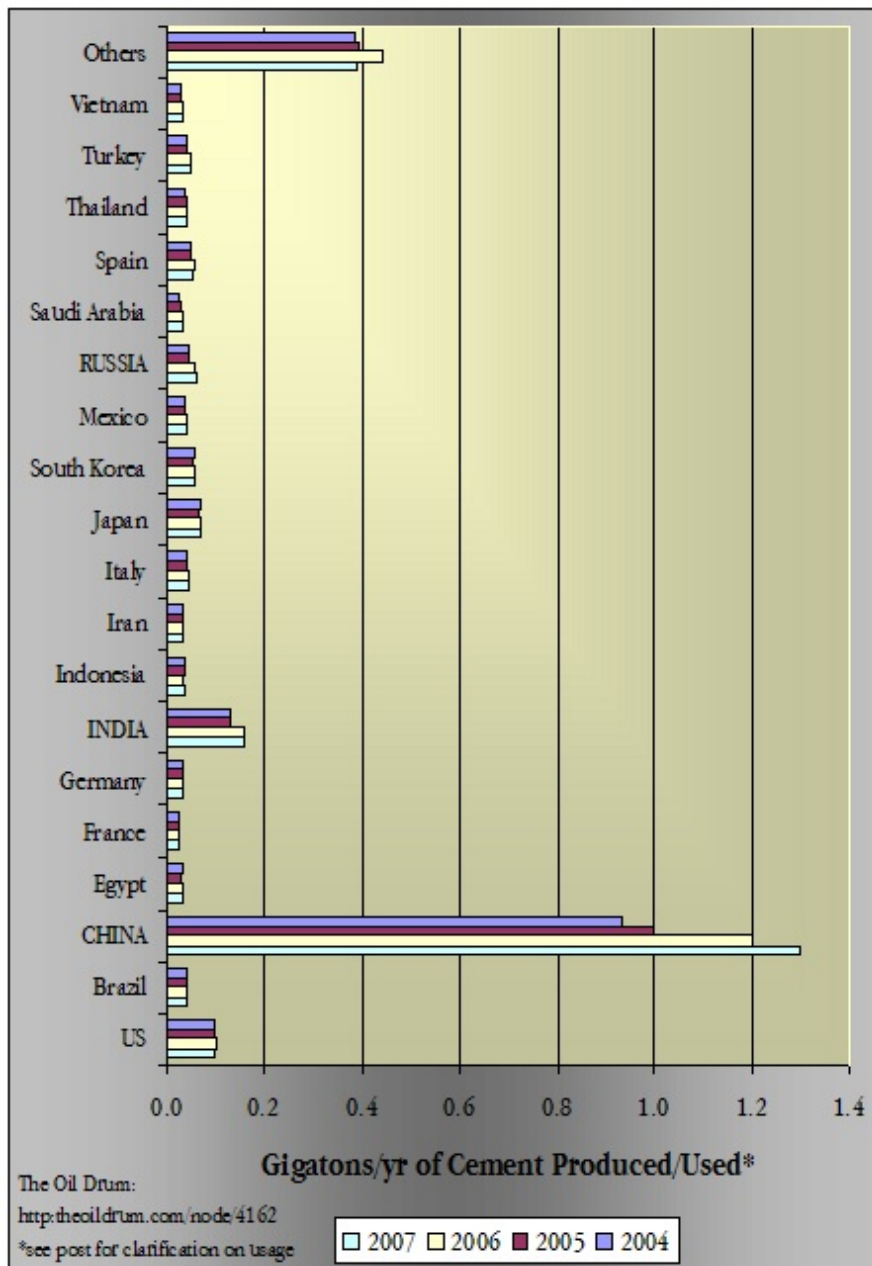


A Pretty Stunning Graph of World Cement Production (and China is Certainly Using It)

Posted by [Prof. Goose](#) on June 20, 2008 - 6:00am

Topic: [Economics/Finance](#)

Tags: [cement](#), [china](#), [coal](#), [concrete](#), [electricity](#), [india](#), [original](#), [peak oil](#), [russia](#) [list all tags]



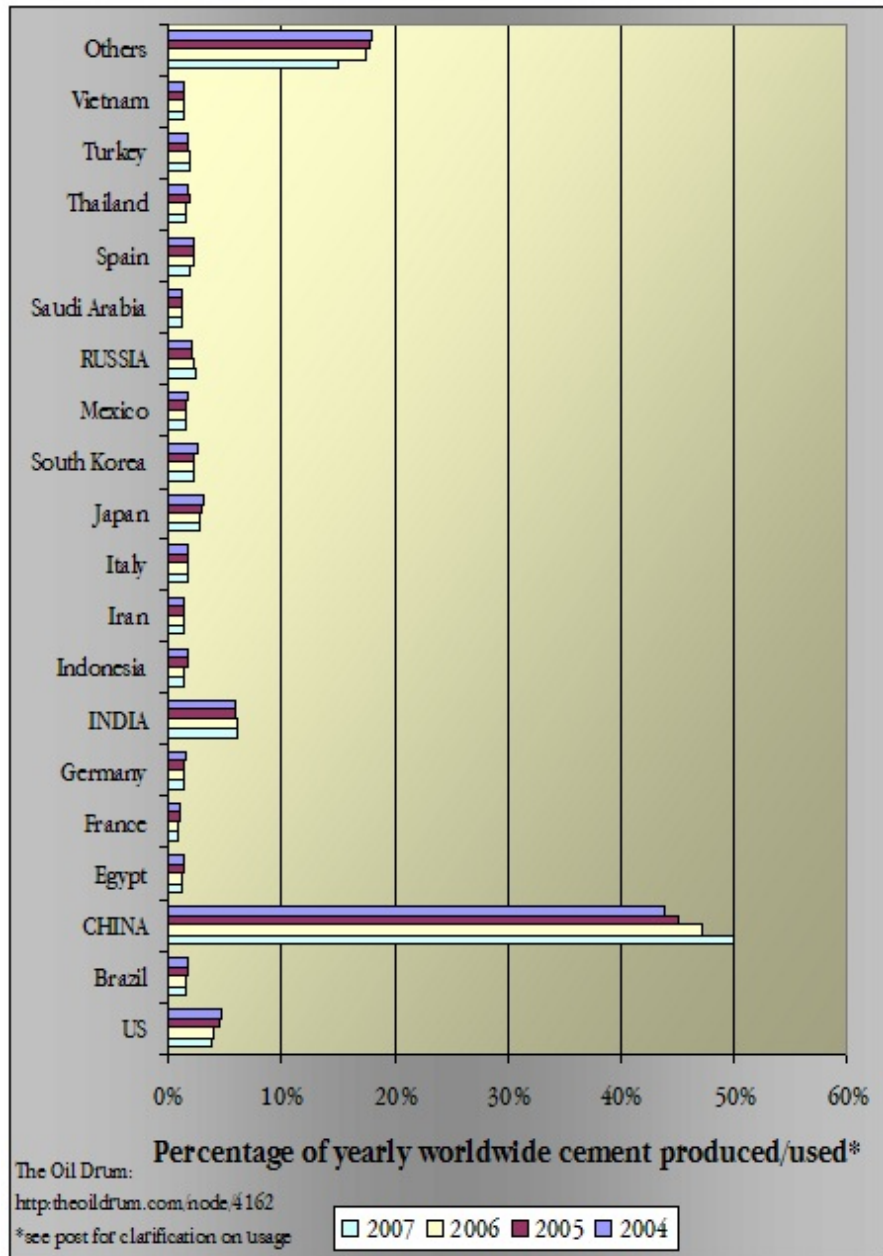
Annual production of cement by country in billions of metric tons. Click to expand. Source: [USGS 2006 report \(PDF\)](#) and the [USGS 2008 report \(PDF\)](#).

Cement is mainly used to make concrete, and is sort of the "active ingredient" in concrete - it is combined with sand and gravel in roughly fixed proportions. So cement production can be considered a rough proxy for the total amount of construction going on in a country.

This post updates [Stuart's post about this two years ago](#) (and yes, it's still a graph that will blow you away!) with two more years of USGS cement data, 2006 and 2007. The growth in China, from 1 GT to 1.3 GT in two years is mindboggling, even India and Russia are interesting...and there's more to think about under the fold.

edited to add: As a couple of folks pointed out--I have interchanged "production" and "usage" in this post incorrectly--however, [China's 2007 cement exports were only 33 million tons](#) out of 1.3 billion tons produced. So, at least for China, production is a good proxy for demand/consumption. My apologies for the mistake.

Also interesting is the percentage of the world's production of cement that China took up in 2007 (50%) compared to 2004 (42.5%); some of this can no doubt be due to preparation for the Olympics, but that surely cannot be all of that growth can it? Also note that other countries (perhaps the "developing world?") seems to be using less of the total proportion of cement used.



Percentage of yearly worldwide cement usage. Click to expand. Source: [USGS 2006 report](#) and the [USGS 2008 report](#).

Some things we learned from the comment thread from Stuart's post a couple of years ago:

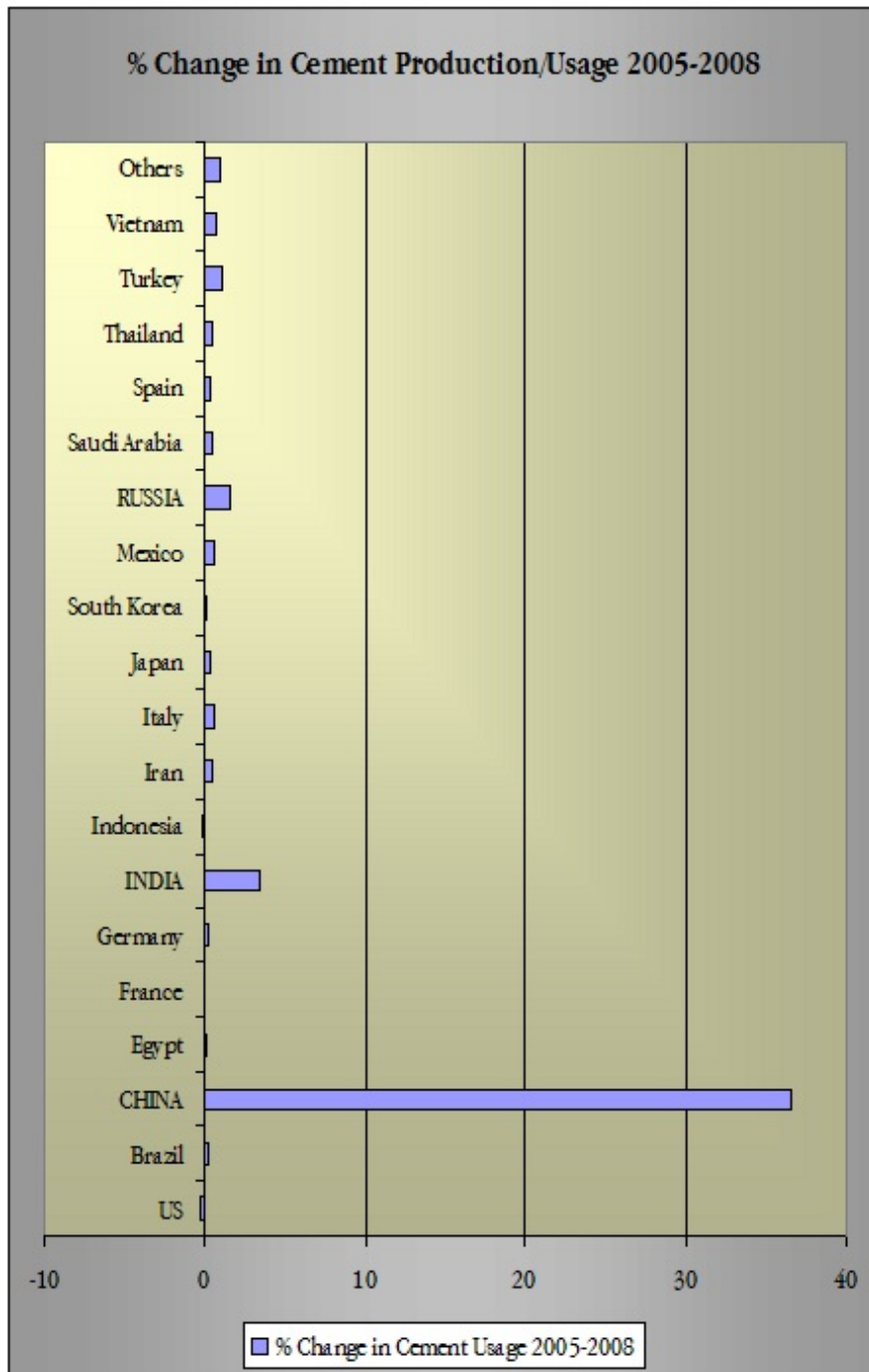
Remember, in China, oil isn't used in cement production. In the "clinker" stage, it's all coal. In the blending stage it's electricity (which is generated 80% from coal in China).

And cement production in China is inefficient. There are hundreds of small plants, both wet and dry processes, and the local environmental impact is severe.

Making a pound of cement releases a pound of CO₂. And a Gigaton or two?

This also isn't a new phenomenon. [This link](#) shows data back to 1999 that illustrated that China has been at this for quite a while, but perhaps not to this extent.

To conclude, here is the percent change of production bar graph from 2005 to 2008. Think about



Percentage growth in cement consumption 2005-2008. Click to expand. Source: [USGS 2006 report](#) and the [USGS 2008 report](#).

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