

# Palindromes & Copenhagen

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A palindrome, states Webster's dictionary, is a word, or even a phrase, that can be read the same way backward or forward. Like radar, or civic, or racecar. Too bad the word already exists, if not it should be invented and dedicated to Sarah Palin, whose neo-conservative, sometimes jaw-dropping messages read the same, whichever way you turn them. She recently wrote an article about the Copenhagen Conference in the Washington Post (no less!), expressing an unsurprising opinion which earned her a quote in the 'Verbatim' column of the December 21, 2009 issue of TIME Magazine: Without trustworthy science, she wrote, and with so much at stake, Americans should be wary about what comes out of this politicized conference. The President should boycott Copenhagen.

## A new industrial revolution

Compare that statement to this. In The Economics of Climate Change, mostly referred to as 'the Stern Review' after its author, Sir Nicolas Stern, revenues from climate-related business were forecasted to climb to \$500 billion by the year 2050. That report was published just over three years ago, in October 2006. But on September 18, 2009 HSBC Global Research reported that world-wide revenues from climate-related business, such as energy efficiency, rose to a staggering \$530 billion in 2008 alone, a growth of 75% in just one year. This number could exceed \$2 trillion as early as 2020, stated HSBC, further announcing that the climate sector has already surpassed the size of the global aerospace or defense industry! The United States, Japan, France, Germany and Spain account for 76% of global climate revenues. That should be glorious news to a business-friendly US Republican like Palin and it might convince her of the importance of the Copenhagen summit. If not for moral reasons -- the future of Planet Earth and of her own children and grandchildren -- then for the greedy reasons of new business opportunities. Because the HSBC Global Research analysis offers more interesting information. The four core investment pillars, say the bank's experts, will be low-carbon energy production, energy efficiency, control of water, waste and pollution, and climate finance. Energy efficiency recorded the highest investment returns at 30%, followed by carbon finance at 24%. Amazing numbers.

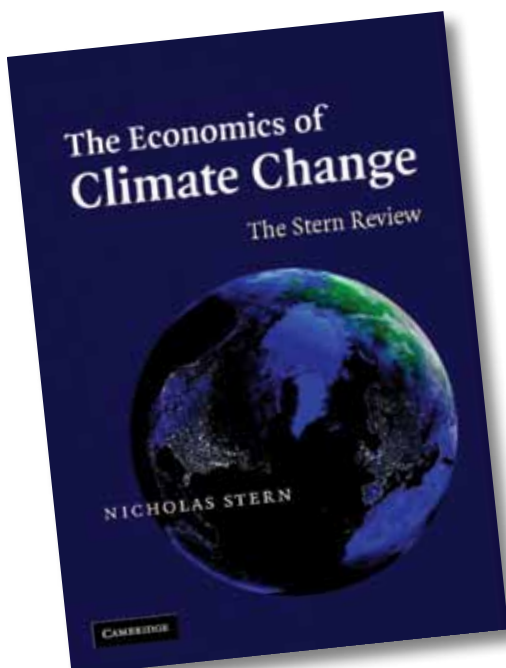
One area of particular importance is boosting the energy efficiency of older buildings. This market is moving into high gear and receives



lots of attention. One example: the iconic 102-story Empire State Building in New York, built during the Great Depression in the thirties, is undergoing a major refurbishment. As part of that project, a \$20 million 'green renovation' is expected to reduce energy consumption by 38%, or some \$4.4 million per year. Nice return! Such high-profile projects are helping to make energy efficiency fashionable -- and smart business.

## The market for refurbishment

The revision of the European Directive on the Energy Performance of Buildings, usually referred to as 'Recast EPBD', is now voted and agreed upon. It requires not only every new building but also every major renovation above 50 sq m to comply with the rules of the EPBD: to show a minimum level of energy performance, to obtain -- and often display -- an energy certificate and to have regular inspections of heating and cooling equipment. Ambitiously, it also demands that all new buildings from the end of 2020 should be 'nearly zero energy' and that the energy will be 'to a very large extent' from renewable sources. Refurbishment should result in the installation of best rated component replacements, matching best cost-optimal contemporary standards. Quite a challenge for the industry and some room for interpretation, of course,



but a bold move to strengthen the scope and time frame of the EPBD.

There are, says EuroACE -- an alliance of companies active in energy-efficient equipment and material --, 190 million buildings in Europe. Many of these will burn away three times as much energy as would be needed for a recently designed construction. That is a colossal savings potential! If new buildings represent only 1 or 2% of the total built environment, we would need at least fifty years to replace old, inefficient buildings with new, energy-conscious constructions. Some historic buildings, of course, will never be replaced. But there are millions of ordinary houses and structures that have been built without any concern for our environment and without any thought that fossil fuels might one day be exhausted. Or, like in France in the seventies, when nuclear power seemed abundantly available, with massive use of cheap electric convectors. Imagine the potential: it is not unusual for older buildings to record an annual energy use of 250 kWh per square meter, often much more, whereas today's state-of-the-art construction methods will show numbers at or below 100, with passive house technology at 15 kWh per square meter and per year. Think about the huge number of square meters in the millions of existing buildings, then imagine a saving of, say, 150 kWh per square meter and per year for each of these and figure out the massive amount of power saved. It will be the equivalent of many, many power plants -- fossil fuel or nuclear powered.

### Solar shading

In the Recast EPBD text of the 'trialogue agreement' between the European Council, the Parliament and the Commission, the word 'shading' appears for the first time. As we reported in the previous issue of this magazine, recital 9 lists 'shading' among the thermal characteristics of a building, along with heating, air conditioning etc. The recognition that solar shading does have an influence on the energy behavior of a building is a great step forward. It opens a market for solutions -- as opposed to products -- provided that the industry can live up to the expectations of supplying scientific and technical data to support its message. Contributing to eliminating energy waste in buildings is helping Copenhagen succeed, regardless of the disappointing political result of the Copenhagen Climate Conference. Even Sarah would agree to that ...

