

# President Obama declares war on carbon

Information from EEnergy Informer

As CO<sub>2</sub> emissions pass the 400 ppm threshold, President Obama outlines an ambitious climate agenda. Speaking in Berlin in June following the G8 summit, the president reiterated his view that climate change represents “the global threat of our time,” promising that the US will do more to address this problem.

It has been reported that the global concentration of CO<sub>2</sub> in the atmosphere has exceeded 400 ppm, a symbolic threshold that the majority of scientists believe is a milestone into potentially irreversible climatic consequences. Obama has come to the conclusion that the time to act is now and the US, the second largest global greenhouse gas emitter, must lead by example, especially now that America is enjoying the bounty of the shale gas revolution.

In a seminal speech delivered to an enthusiastic crowd at Georgetown University on 25 June 2013, Obama declared a sweeping war on carbon, the tone and ferocity of which stunned both his supporters and foes.

During his first term, the president tried, and failed, to get legislation through Congress on a comprehensive energy and climate bill. This time, the president bypassed the Congress by resorting to executive orders and/or direct intervention by government agencies to address climate change. It won't be as elegant, widespread, effective or efficient as a comprehensive legislation with the backing of the Congress, but Obama must have come to the conclusion that, with the clock ticking, this may be his only option.

**No time for flat earth society**

Excerpts from Obama's 25 June 2013

speech at Georgetown University reveal how strongly he feels on this matter: “I don't have much patience for anyone who denies that this (climate change) challenge is real. We don't have time for a meeting of the flat earth society.” He even accused some of sticking their heads in the sand to avoid seeing the oncoming storm. He reminded his audience that America's founders believed that those in positions of power were elected not just to serve as custodians of the present, but as caretakers of the future. He said that everyone who represents them at every level of government should be reminded that sheltering future generations against the ravages of climate change is an absolute prerequisite. Americans, he said, are not a people who fear the future, but rather shape it. To that end, he encouraged the audience to become climate hawks, investing in clean energy, and divest from dirty energy.

Mindful of the uphill battles in the Congress during his second term, yet determined to leave a lasting environmental legacy, Obama asked the President's Council of Advisors on Science and Technology (PCAST), consisting of a group of distinguished scientists and business leaders, led by his chief science adviser, former Harvard Professor John Holdren, to come up with suitable options. PCAST, whose members include a number of luminaries such as MIT Professor Ernest Moniz

– now head of US Department of Energy (DOE) – and Google's executive chairman, Eric Schmidt, submitted a 9-page letter with six broad recommendations in March 2013.

The policies that Obama has proposed can be implemented with relative ease. They include efforts to tighten appliance energy efficiency standards, continue to support clean energy technologies and reduce greenhouse gas (GHG) emissions from both existing and future coal-fired plants by enforcing new regulations by the Environmental Protection Agency (EPA) as mandated under the Clean Air Act. Obama surprised the coal lobby by calling for additional restrictions on existing coal-fired plants – the dirty, inefficient and old clunkers that are responsible for most of the damage. According to the Edison Electric Institute, there are 1142 coal and 3967 natural-gas-fired plants in America. Under Obama's plans, all would face new carbon emission limits for the first time in US history. These fossil fuel plants produce 67% of the nation's electricity and 40% of the carbon emissions.

In its March 2013 letter to the president, PCAST was careful not to kill the goose that lays America's golden eggs – the shale oil and gas production. PCAST acknowledged that substituting cheap natural gas is preferred to burning more coal, and more domestic oil production

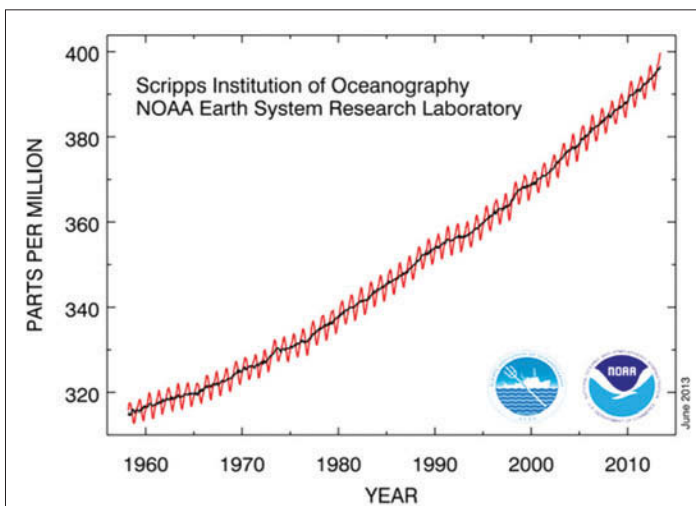


Fig. 1: Atmospheric CO<sub>2</sub> concentrations recorded at Mauna Loa observatory in HI, 1956 – 2013, ppm.

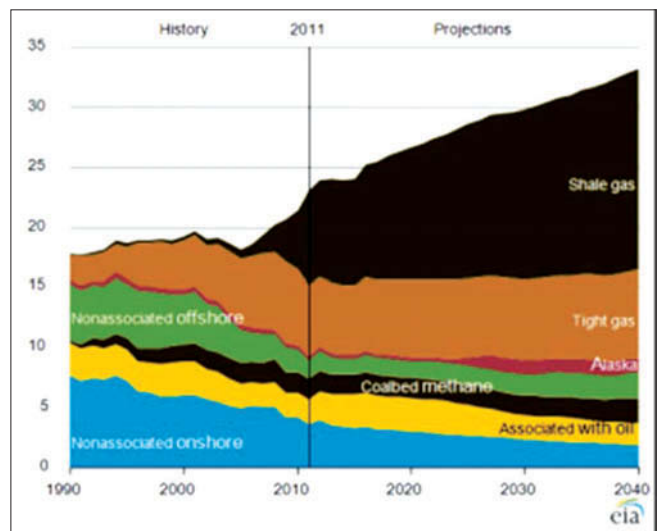


Fig. 2: US dry natural gas production by source, 1990 – 2040.

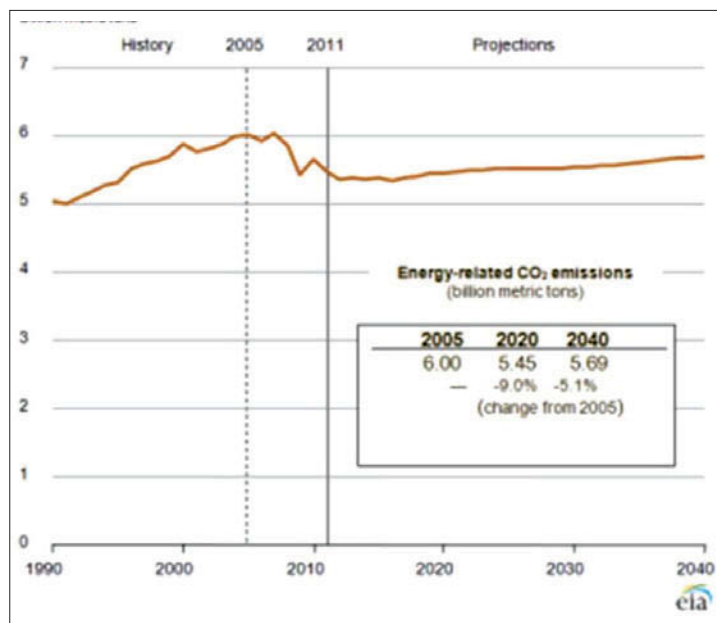


Fig. 3: US energy-related CO<sub>2</sub> emissions, 1990 – 2040.

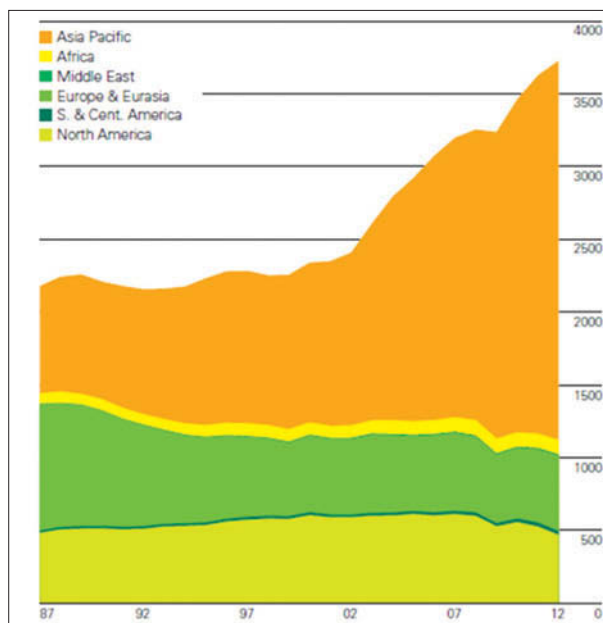


Fig. 4: Coal consumption by region in million t oil equivalent.

reduces oil imports and enhances national security goals.

Yet natural gas emits significant amounts of GHGs and can only play a transitional role in the short to medium term until a longer term low-carbon solution is in place. If the aim is to curb GHG emissions, switching from coal to natural gas only goes so far. If a heavy smoker is advised to quit smoking before he has a fatal heart attack – to use an analogy – it doesn't help much if he decides to cut smoking in half. Proponents of natural gas seem to miss the point that their favourite fuel, while far cleaner than coal, won't ultimately address the carbon issue.

Mindful of the deep political schisms in Washington, PCAST went to great length to explain that the focus on decarbonising electricity generation has been misconstrued by some as an attack on coal. The shift away from coal, PCAST points out, is largely driven by economic factors. In other words, cheap natural gas is killing coal; the EPA is a mere accessory to the crime. That did not appease the powerful coal lobby. Surprisingly, the immediate reaction from US utilities was mostly muted. They must have already decided that the time to build more coal-fired plants and spew unlimited amounts of carbon into the atmosphere were numbered.

PCAST takes a sober yet realistic stand on nuclear energy. Firstly, it notes that nuclear power plants require special attention, and secondly, that achieving low-carbon goals without a substantial contribution from nuclear power is possible, albeit extremely difficult.

That is the message that has eluded Chancellor Angela Merkel as Germany

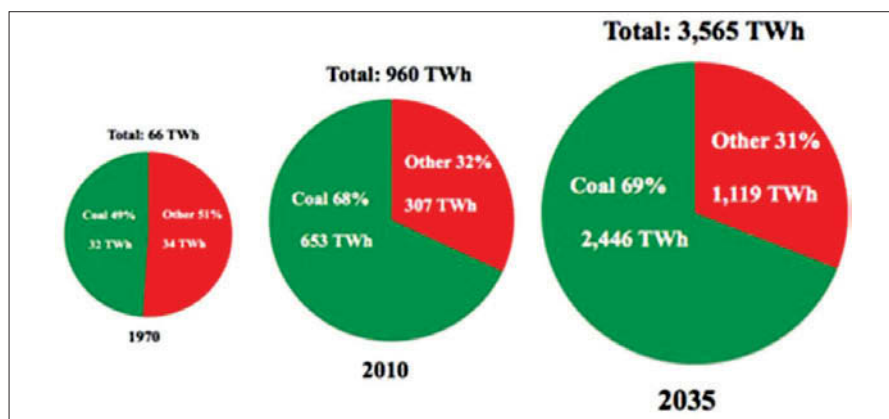


Fig. 5: India's electricity generation and proportion from coal, 1970, 2010 and projections for 2035, in TWh and %.

hastily moves towards shutting down its remaining perfectly safe, perfectly functional, nuclear fleet by 2022. Meeting Germany's carbon emission targets will be so much more difficult – and expensive – without the nuclear option. How the US, the UK, Japan and other large democracies around the world ultimately handle the nuclear option – or non-option – will have a large impact on future global GHG emissions, everything else being equal.

America's current good fortune, low demand growth, plentiful supplies of natural gas substituting for coal, and energy efficiency gains, mean that the US emissions will not reach their historical peaks, certainly not by 2040. That is in sharp contrast to rapidly growing economies of China and India, for example, who continue to rely on coal for large proportion of their power generation.

China alone consumes roughly half of global coal production making it the

biggest GHG emitter, and India's growing economy is expected to rely on coal for roughly 70% of its generation until 2035. Most developing economies of the world are resorting to coal out of sheer necessity. Americans, Europeans, Australians and other developed economies, can increasingly decide what type of fuel mix they want and take steps to achieve it – as is happening with renewable portfolio standards and low-carbon targets that are now prevalent within OECD economies.

To those who say "why bother", the obvious answer is that GHG emissions have to be curbed by significant amounts and it does not matter who does the cutting first. Those who are in a position to set an example should lead, encouraging others to follow. In this context, Obama should be given credit for what he said.

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