

Norway

Prior experience with national leaders purported to be of the "greenest" variety, including Tony Blair and Angela Merkel, revealed their greenness to be greenwash¹.

But hope springs eternal. Given Norway's strong environmental bent, a trip to Norway provided an opportunity to draw attention to the enormity of tar sands development. The Norwegian government is two-thirds owner of Statoil, which is developing the Canadian tar sands.

Our "Target CO₂" paper² concluded that atmospheric CO₂ (389 ppm in 2010) is already in the dangerous zone. Stabilization of climate requires, other things being unchanged, that CO₂ be reduced to some value less than 350 ppm. Recent suggestions of specific lower targets are not helpful, smudging the clarity of the "<350 ppm" message that Bill McKibben's group has spread around the world³. "<350 ppm" is sufficient to define essential policy requirements, specifically:

- (1) coal emissions must be phased out rapidly,**
- (2) unconventional fossil fuels, such as tar sands, must be left in the ground,**
- (3) we should not pursue every last drop of oil and gas, especially in pristine regions.**

These requirements imply that we must move rapidly to the clean energy post-fossil fuel era. Failure to halt these fossil fuel extractions will force today's young people to either find a way to suck CO₂ out of the air, at an estimated cost² of \$40 trillion for 100 ppm of CO₂, or suffer a deteriorating climate out of their control.

We need one nation to stand tall, to speak truth to world leaders. Could that nation be Norway? If Norway foreswore the tar sands, it might be a catalyst to global action to stabilize climate. Norway would need another way to maintain a vital economy, but that is plausible (see below).

So I wrote a letter⁴ to the Prime Minister suggesting that the government, as the majority owner of Statoil, should intervene in planned tar sands development. I appreciate the polite response⁵, by letter, from the Deputy Minister of Petroleum and Energy. The government position is that the tar sands investment is "a commercial decision", that the government should not interfere, and that a "vast majority in the Norwegian parliament" agree that this constitutes "good corporate governance". The Deputy Minister concluded his letter "I can however assure you that we will continue our offensive stance on climate change issues both at home and abroad".

A Norwegian grandfather, upon reading the Deputy Minister's letter, quoted Saint Augustine: "Hypocrisy is the tribute that vice pays to virtue."

¹ Hansen, J., *Storms of My Grandchildren*, Bloomsbury, New York, 304 pp., 2009.

² Hansen, J., M. Sato, P. Kharecha, D. Beerling, R. Berner, V. Masson-Delmotte, M. Pagani, M. Raymo, D.L. Royer, and J.C. Zachos, 2008: Target atmospheric CO₂: Where should humanity aim? *Open Atmos. Sci. J.*, **2**, 217-231, doi:10.2174/1874282300802010217.

³ Observed ocean heat storage shows that Earth's energy imbalance is at least ~0.5 W/m². CO₂ must be reduced 35-40 ppm to increase heat radiation to space by 0.5 W/m², other factors being unchanged. Although other (non-CO₂), smaller, climate forcings may increase in the future, it is realistic to keep their net forcing change near zero via a focus on reducing positive (warming) forcings such as black soot and tropospheric ozone.

⁴ Available at http://www.columbia.edu/~jeh1/mailings/2010/20100730_NorwayLetter.pdf (Letter to PM)

⁵ Available at http://www.columbia.edu/~jeh1/mailings/2010/20100730_NorwayResponse.pdf (Response)

In my statement⁶ in Oslo at the Sophie Prize ceremony I noted that the Norwegian government's position reaffirms the global situation: even the greenest governments find it too inconvenient to address the implication of scientific facts. I also noted that stabilizing climate is a moral issue, a matter of intergenerational justice. We grandparents must support the young and other species in demanding an effective approach that preserves our planet.

Fossil fuel addiction can be solved only when we recognize an economic law as certain as the law of gravity: as long as fossil fuels are the cheapest energy they will be used. Fossil fuels are cheapest partly because of subsidies but mostly because they do not have to pay for their huge cost to society – the damage to human health, the environment, and the future of young people.

Solution requires a steadily rising fee on oil, gas and coal – a carbon fee collected from fossil fuel companies at the domestic mine or port of entry. All funds collected should be distributed to the public on a per capita basis to allow lifestyle adjustments and spur clean energy innovations. As the fee rises, fossil fuels will be phased out, replaced by carbon-free energy and efficiency.

Governments today, instead, talk of "cap-and-trade-with-offsets", a system rigged by big banks and fossil fuel interests. Cap-and-trade invites corruption. Worse, it is ineffectual, assuring continued fossil fuel addiction to the last drop and environmental catastrophe.

Statoil and other energy companies will continue to pour their investments into fossil fuels, extracting tar sands, coal, and the last drops of oil and gas, as long as that makes most economic sense to them. That is what the Norwegian government meant by "good corporate governance". But investments can change and they would do so if a rising fee is placed on carbon emissions.

Have our democracies sunk to a level where governments knowingly abdicate responsibility for young people and future generations? I have been disappointed in interactions with more than half a dozen nations¹. In the end, each offers only soothing words, "goals" for future emission reductions, while their actual deeds prevent stabilization of climate.

The glib response of Norway's Prime Minister is that we are 'future pessimists'. Clever engineers, he says, will solve the problem, perhaps with carbon capture. Meanwhile it is o.k. to develop tar sands and go after the last drop of oil in the Arctic. This is nonsense of course. Even if they use nuclear power to squeeze the oil from tar sands, the CO₂ will come out of tailpipes. Also, the environmental destruction in Canada would never be allowed by Norwegians in Norway.

Yet some nation, sometime, must stand tall and tell the truth.

Greatness exists, even if not in our present governments. A poignant reminder occurred as two Norwegians and I were on our way to a meeting with the Norwegian Environment Minister in Oslo. A small frail gentleman, neatly dressed in suit and tie, walking with help of a cane, seemingly about 90 years old, suddenly collapsed to the ground. After we went to his side he remained on the ground several moments, but insisted on regaining his feet and continuing. As his companion hurried off to fetch a taxi we learned that he was Gunnar Sonstebj⁷, a hero of the Norwegian Resistance during World War II. Sonstebj appears to be about 5½ feet in height, but he had stood tall against a seemingly impregnable Nazi war machine.

⁶ http://www.columbia.edu/~jeh1/2010/Sophie_20100722.pdf (Sophie talk)

⁷ [Gunnar Sonstebj](#) was a resistance fighter, leading several spectacular acts of sabotage that hindered the German war effort and even foiled plans to send young Norwegians to fight on the Eastern front.