

I am writing on behalf of Transition South Lantau, a group of people who are working to promote local, community responses to the crises of global warming and Peak Oil. I believe that the Panel on Economic Development will be meeting on July 19th to discuss HKIA's Master Plan 2030, and it is for this reason that I would like you to see our response to the plan for a third runway. I have sent a copy to the AAHK, of course, but I would also like you to see why we are so opposed to any extension of the airport. I think things have reached such a critical state that major decisions must be taken now to stop the world being plunged into a climatic tailspin which will spell disaster on an unimaginable scale. Here is the submission I made:

I would like to respond to your consultation paper on Hong Kong's third runway by putting the issue into a wider and, I think, much more important perspective. Whatever the economic benefits are for HK of a third runway, the overwhelming and increasingly desperate scenarios opening out before the world concern global warming and Peak Oil.

James Hansen, acknowledged as one of the world's leading climate scientists, has recently published a paper which re-evaluates the situation regarding the climate. This should be compulsory reading for all governments and businesses:

http://www.columbia.edu/~jeh1/mailings/2011/20110505_CaseForYoungPeople.pdf

Most governments have been working on the assumption that an increase in global temperature of 2C is safe. Hansen says that the best science shows that this is dangerously 'unwise'. We have so far increased the temperature 0.8C above pre-industrial levels, but this has already brought about substantial changes:

- 1) Summer sea ice in the Arctic plummeted in 2007.
- 2) Greenland and Antarctica are shedding ice at several hundred cubic kilometres a year and accelerating.
- 3) Mountain glaciers are receding almost everywhere.
- 4) Hot, dry subtropical climate belts are expanding especially in the US, Australia, the Middle East and the Mediterranean.
- 5) Coral reef systems are declining by 1-2% annually due to ocean warming and acidification.

Perhaps most ominous is the fact that this has been enough to set in motion certain

slow feedback mechanisms – such as the release of methane from the permafrost, and the melting of the ice masses – which, if allowed to continue, will take the world to a point whereby humans can do nothing to stop the process of warming as the driving mechanism will no longer be human activities, but nature itself.

However, at the moment we are still possibly in a position to prevent the future from becoming a nightmare. The current warming is 80% due to burning fossil fuels, and 20% due to deforestation. Hansen says we cannot allow the temperature to rise much above 1C for any great length of time or the slow feedback mechanisms will become unstoppable. This will happen if we continue with business as usual (BAU) until 2020, committing the planet to 100 years of temperatures 1C above pre-industrial levels (assuming BAU does not continue beyond 2020!). In order to keep temperatures to little more than 1C for a relatively short period of 30 years we need to bring down levels of CO₂ in the atmosphere to 350ppm. The only feasible way of doing this is by reducing global CO₂ emissions by 6% a year beginning *now*, along with a massive reforestation programme, and converting our modern industrial farming systems to organic farms which sequester huge amounts of carbon in the soil via composting. These are enormous targets to set, but the alternative is unthinkable. A 2C rise in temperature would lead to ‘massive and continual disruptions of both society and ecosystems.....There are no credible arguments that such rapid change would not have catastrophic circumstances for human well-being.’

The best science shows us unequivocally that we as a species are in a dire situation. How much more evidence is needed to make people realise that we cannot continue with BAU? When will people realise that we have got to stop using fossil fuels as quickly as possible? And that means learning to live without economic growth, because economic growth has gone hand in hand with the use of fossil fuels, and especially the use of oil, which has often been described as the lifeblood of industrial civilisations.

This leads me into the issue of Peak Oil, another major crisis we are facing. Because oil is so essential to advanced societies – 95% of all transport depends on oil; modern agriculture and medicine are heavily dependent on oil, as are the military; and plastics are made of oil, to name but a few of its uses – any reduction in supplies is going to cause tremendous problems. This is especially true at a time when China, India, Russia, Brazil and Saudi Arabia are in need of ever greater supplies of oil as they grow their economies at phenomenal speeds. Yet the International Energy Agency, which advises the 28 OECD countries on energy matters, and whose annual World Energy Outlook (WEO) is regarded as a kind of energy bible by these countries,

informed the world – very quietly, to save itself embarrassment – that production of conventional crude oil had ‘peaked’ back in 2006. This, after they had denied for years that there was any danger of Peak Oil happening any time soon. They have said that crude oil production will drop from a high of 70mbd in 2006 to 15mbd in the next 25 years, and that the shortfall must be made up from ‘fields yet to be developed’ and ‘fields yet to be found’. This means the equivalent of 4 Saudi Arabias are needed simply to make up for the shortfall, never mind the increase in demand. Considering that discovery of oil fields peaked in the 1960s and that we are now using at least three times as much oil as we are finding, these figures are regarded by objective observers to be pie in the sky. Oil in the quantities needed is simply not going to be available at any price:

http://www.worldenergyoutlook.org/docs/weo2010/WEO2010_es_english.pdf

Unfortunately, there is still enough oil and other fossil fuels available to enable us to fry the planet unless we adopt the kind of radical changes proposed by James Hansen and others. So what does this mean for air traffic?

As it happens, Charles Schlumberger, the Principal Air Transport Specialist for the World Bank, gave a presentation to the ASPO-USA 2010 Peak Oil Conference on the future of the airline industry. (Click on the slides as he’s talking):

<http://aspo.tv/speakers/schlumberger-charles/the-future-of-air-transportation/>

Basically, what he’s saying is that the airline industry believes that it has enough fuel to last another 44 years, and that it plans for a doubling of passengers in the next 20 years. ***It does not take Peak Oil into consideration.*** However, the industry also has stated that it can’t cope with oil prices above \$80 per barrel. At the moment they are \$100+. The biggest cost of operating an aircraft is the cost of the oil. Considering the situation concerning the production of oil, as Schlumberger puts it, the airline industry is ‘on a collision course with reality’. He insists that the industry will not disappear, but it will be for the very rich only because prices are going to shoot back up to the levels, relatively speaking, of what they were in the early days of air transport. In his conclusion he says that Peak Oil will severely affect air transport, first by recession, and then by escalating costs and reductions in funding. As air transport is the key driver in today’s economy, a serious reduction in services will result in serious economic, social and political impacts.

Finally, I’d like to look at the question of aircraft emissions of greenhouse gases. According to Wikipedia, in 1992 CO2 emissions from aviation were estimated at 2%

of global anthropogenic emissions. By 1999 the IPCC were claiming that the total impact of aviation was 2-4 times the direct emissions of CO₂, not including the effect of cirrus cloud enhancement from contrails. NASA's Glenn Research Center currently states on its website that, "*Aircraft produce up to 4 percent of the annual global CO₂ emissions from fossil fuels near the Earth's surface as well as at higher altitudes (25,000 to 50,000 feet)*". Meanwhile, in 2009, an analysis produced by Stanford University in Palo Alto maintained that commercial airline flights are responsible for 4-8% of surface global warming, and that contrails over the Arctic are responsible for no less than 15-20% of warming. Apparently, previous studies have only *estimated* the impacts of commercial aviation, whereas this study is the first to use actual emissions data produced between 2004-2006:

<http://www.nature.com/news/2009/091221/full/news.2009.1157.html>

Finally, a recent study from the German Aerospace Centre states that although aircraft are responsible for 3% of annual CO₂ emissions from all fossil fuels, their contrails, which form cirrus clouds, actually have a greater impact on the climate than their CO₂ emissions. I'm not able to judge which of these figures is the most accurate, but clearly there is an indication that aircraft emissions are an important contributor to global warming.

To conclude, the building of a third runway would be further confirmation of the utter indifference – or is it wilful ignorance – of the HK business community to the catastrophic effect we are having upon the world's climate through our profligate use of fossil fuels. Climate science and the unavoidable restraints that will be imposed upon us by impending resource depletion demand that we totally re-assess the way we live. To push ahead with a third runway (and, incidentally, with any number of other so-called 'developments') would be a disgrace. Hong Kong, of course, is not alone in this. Every single community needs to work towards a fossil-free world as quickly as we possibly can. You have a golden opportunity to trumpet the importance of these issues by scrapping this ridiculous plan.

With respect,

Donald Latter

Transition South Lantau