

News

The Mercury

Opinion

Talking Point: Forestry burns the smoking gun

- by: JOHN HUNTER
 - From: Mercury
 - September 01, 2015 12:01AM
-



Smoke from a forestry burnoff hangs over Waterloo, south of Geeveston, in 2005. Picture: JAMES KERR

Source: News Corp Australia

BASED on the latest national greenhouse gas accounts ... the state's emissions have reduced significantly in recent years, down from 17.3 megatonnes to just 1.7 megatonnes. This represents a decline in emissions of 90 per cent from the 1990 baseline, which means Tasmania has achieved its legislative 2050 target of 60 per cent below 1990 levels several decades ahead of time – Matthew Groom, June 12.

Thus spoke Tasmanian Environment Minister Matthew Groom to a Legislative Council Estimates Committee.

To some these words may be encouraging, but to others they will ring alarm bells.

Since most of the 90 per cent emission reduction occurred in the past decade, it seems reasonable to ask what on earth we have done recently to cause this momentous reduction in our greenhouse emissions?

13

The simple answer is we have done virtually nothing other than reduce timber harvesting. The “national greenhouse gas accounts”, to which the Minister referred, are produced annually by the federal Environment Department, using globally recognised techniques, in order to show how we are tracking relative to our commitment under the Kyoto Protocol. While these accounts involve complicated calculations, simple lessons may be drawn from them.

Let’s unpack the two numbers quoted by the Minister – 17.3 megatonnes of Tasmanian emissions during 1990 compared with 1.7 megatonnes during 2013 (I’ve added the dates from the actual accounts). The main thing contributing to this massive reduction (15.6 megatonnes) was from forestry, which was 4.8 megatonnes in 1990 and minus 8.4 megatonnes in 2013 (a negative “emission” represents an equivalent drawdown of greenhouse gases from the atmosphere). Therefore, forestry emissions reduced by $4.8 + 8.4 = 13.2$ megatonnes per year from 1990 to 2013 – accounting for 85 per cent of the reduction in Tasmania’s total emissions.

There are two main contributors to forestry emissions – emissions when forests are logged, and absorption of greenhouse gases when forests regrow. In Tasmania, about 75 per cent of logging results in making paper, most of which is converted into greenhouse gases within a few years. So Tasmanian logging results in an almost immediate release of a substantial quantity of greenhouse gases.

The absorption of carbon dioxide (the principal greenhouse gas) by regrowing forests is a slow process involving over a million hectares of regrowing Tasmanian forest (equivalent in area to a square of 100km by 100km). It is essentially the “ghost of past logging” – places that have been historically logged and then replanted. They are now in various stages of maturity after which the absorption of carbon dioxide becomes small. Because this process is so slow and covers an enormous area, there is little we can do in the short term to change it – on timescales of several years, it is effectively a constant drawdown of carbon dioxide. It is also a moot point whether we should even include this process in our accounting of our greenhouse emissions, as it is compensation for decades of huge forestry emissions.

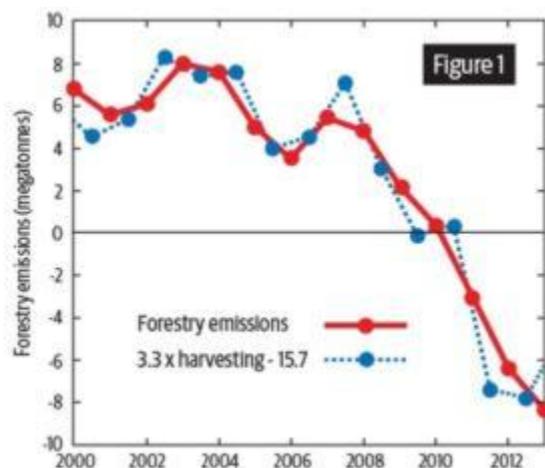


Figure 1: Emissions from logging correlate well with the rate of timber harvesting.

Source: Supplied

As we would expect, the first of these two components, emissions from logging, correlates well with the rate of timber harvesting, as shown by the figure, where the continuous line shows the forestry emissions (in megatonnes per year). A pretty good approximation to forestry emissions may be obtained by taking the rate of logging (in millions of cubic metres per year), multiplying it by 3.3, and subtracting 15.7 (shown by the dashed line in Figure 1).

The “3.3” multiplier indicates that cutting down trees and using most of them for making paper (as done in Tasmania) is very emission intensive, every cubic metre of wood generating more than 3

tonnes of greenhouse gases. The 15.7 (megatonnes per year) represents the long-term absorption of carbon dioxide by regrowing forests.

Tasmanian emissions for 2003 and 2013 are illustrated schematically in Figure 2. The brown columns represent emissions directly caused by logging, the green represents the ongoing absorption of carbon dioxide by regrowing forests and the blue represents the remainder of state's emissions. Finally, the open red boxes represent the total Tasmania emissions. The 90 per cent decline in emissions noted by Minister Groom is therefore almost entirely due decline in logging in Tasmanian forests since 1990 (mainly since 2003). We have therefore done virtually nothing other than reduce timber harvesting to secure this 90 per cent decline.

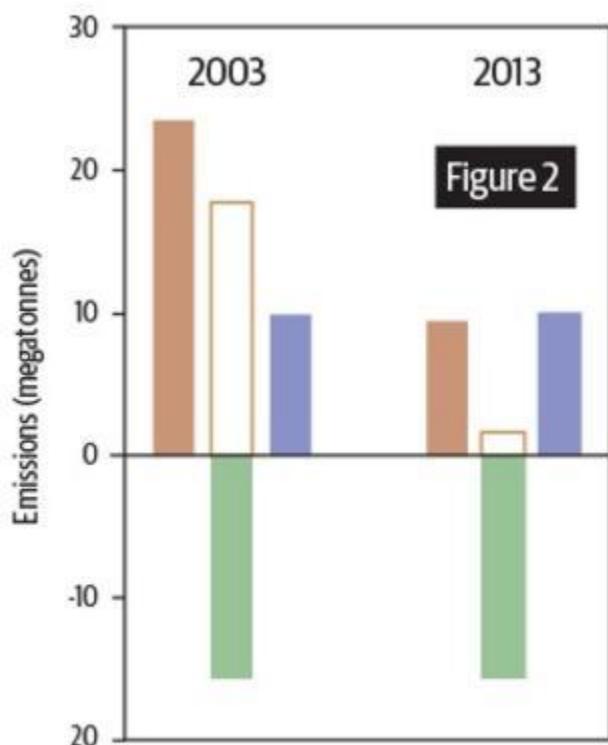


Figure 2: Tasmanian emissions for 2003 and 2013: from logging (brown), carbon dioxide absorption (green) and the rest of the state's emissions (blue). The open red box is the state's net emissions.

Source: Supplied

So what happens now, assuming we do nothing other than change our rate of forest harvesting? Let's look at two scenarios.

First, suppose the forestry industry returns to what it was doing a decade ago – the result would be that forestry emissions would also return to those of a decade ago, back where we started.

Alternatively, suppose we continue logging at the present (reduced) rate – forestry emissions would, for a while, remain about the same as they are at present (i.e. absorbing carbon dioxide). However, the 15.7 megatonnes per year of absorption of carbon dioxide by regrowing forests would gradually dwindle as the regrowth forest matured and was replaced by fewer new trees as a result of the reduced logging activity – the final result would be a return to positive forestry emissions.

The message is pretty clear – forestry, as historically practised in Tasmania, is not a viable method of long-term mitigation of greenhouse gas emissions. Instead, we need to tackle the difficult problems – large emission contributors such as industry (2.6 megatonnes a year), agriculture (2.2 megatonnes a year), transport (2.0 megatonnes a year) and land clearing other than for forestry (1.6 megatonnes a year).

John Hunter is a climate scientist with Climate Tasmania.
