Denmark's Increasing GHG Emissions

In two previous notes, I tried to characterize the Danish greenhouse gas (GHG) emissions in comparison with other European countries[1][2].

In the note of July 2nd, 2019, I showed the difference between *emission inventories* and *emission accounts* (fig. 1, based on Eurostat). The difference has been between 12 and 22 mill tons CO_2 equivalent.

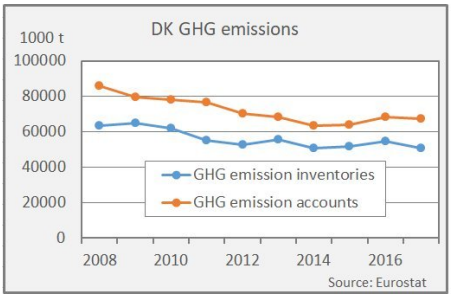

Fig. 1 - Emission inventories and emission accounts from Eurostat

Emission inventories assign emissions to the country where the emission takes place. Emission accounts assign emission to the country where the economic operator causing the emission is resident.

Data from Statistics Denmark shows much larger differences[3].

Emission inventories do not include "International transport by Danish ships, planes and vehicles". This element in fig. 2 is considerably larger than the difference in fig. 1.

The reason for the difference between fig. 1 and 2 has not been specified. It might be a difference between European data and global data.

The Kyoto protocol is based on emission inventories. The GHG emission except biomass and international transport in fig. 2 is in good agreement with emission inventories in fig. 1.

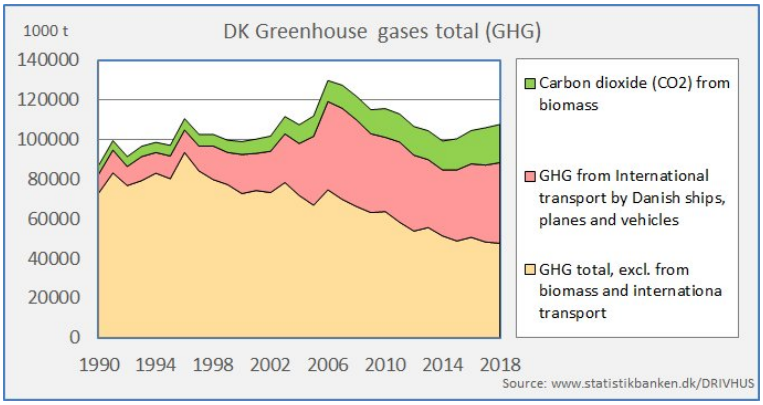

Fig. 2 – Total Danish GHG emission 24% higher since 1990

It is debatable if the use of biomass as fuel is sustainable, but the transport sector is mainly based on fossil fuels. Forty million tons of CO_2 could be the result of burning about 13 million tons of oil. This amount seems to be large compared to fuel used locally in Denmark. However, data from the largest Danish shipping company, A.P. Moller – Maersk, confirms the magnitude (table 1).

Maersk Line			
	2017	2016	2015
Energy consumption			
Fuel oil (1,000 tons)	10,227	9,477	8,858
Greenhouse gas (GHG) emissions			
GHG emissions (1000 tons CO_2 equivalent)	32,802	30,461	27,973

Table 1- Maersk Line emitted 32.8 mill tons GHG of the 38.8 mill tons from Danish international transport in 2017.

[1] Green Competition, 13 May 2018
[2] A General Election on Climate, 2 July 2019
[3] https://www.statbank.dk/DRIVHUS

In the Danish political arena, it has been debated if the GHG reduction target by 2030 should be 65% or 70%. The difference is 3.7 million tons GHG emission. The 70% target was first promoted by a few left-wing parties, but all parties want to be seen as green, and most other parties followed reluctantly.

Nobody knows how to reach that goal or what the cost will be. The question is if the same money could have better effect in the international transport sector.

A good performance in relation to Kyoto criteria may be honourable, but if a 40 million tons Danish GHG emission from international transport is ignored, the 3.7 million tons improvement seems to be a symbolic action.