## GLOBAL WARMING AND THE BREWING INDUSTRY

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It is a fact that energy consumption, or rather  $\mathrm{CO}_2$  emissions, is identified as the main contributor to global warming. The brewing industry is consuming a lot of energy in the manufacturing of our products. This obviously means that we need to recognise

our responsibility in regards to reducing our impact on the environment by taking a close look at our production and distribution. Even now, the many breweries are facing demands for reduction of emissions through the  ${\rm CO}_2$  quotas available for the production. With the increasing commitment from governments and society to reduce the emissions, the number of quotas available for the production will be reduced in the years to come. Further, the price tag for buying quotas will increase as the total number of quotas available will be reduced and more industries will be included in the trading system.

I believe we should actively embrace this challenge by stepping up and acknowledging the possibilities that this gives us for reviewing our supply set-up. The pressure from society will open new opportunities to market new products with a more environmentally friendly profile. This will be seen by our customers and consumers as adding value for them and will help to raise the image of the industry and thereby help to stop the volume decline in the mature markets, especially in Europe. The possibilities are many if we look at the whole supply chain from field to table. One option is introducing adjuncts, in terms of raw cereals, to a larger extend than today, thus, avoiding the energy consumed for the malting process, the Clim8 beer from Harboe's Brewery in Denmark

is one example of this. Consolidation of breweries is actually another as the efficiency is increasing in larger plants and the  $\mathrm{CO}_2$  emission per unit is therefore reduced. Despite an increase in transport there is still a positive effect, especially if the transport over longer distances is done by rail.

In the process, there are still untapped opportunities. There are still possibilities to reduce consumptions just by focussing on consumption by closer daily follow-up. Other options are to reduce the peak loads in the process, consequently improving the efficiency in production of utilities. But what about looking at the by-products and using them to generate our utilities? In Europe, a few breweries have introduced combustion of spent grains to produce steam. This has proven difficult, but I am sure with further development this could be possible. Biogas production from wastewater is another known technology that could be exploited. Heat pumps are not very widely used, but could be used to exploit untapped heat sources by generating heat for e.g. CIP processes.

If all available technologies where to be taken into use, I believe it would be realistic to have a step change in the  ${\rm CO_2}$  emissions from our production process in 2020 by maybe up to 50 per cent. This will require further fine-tuning of existing technologies both by the brewing industry and our suppliers. We cannot do this alone. We need a willingness of our customers and consumers to pay a premium for environmentally friendly products – a willingness I believe is already there and only will increase in the years to come. However, we also need to acknowledge our responsibility and embrace change to our processes that have been more or less unchanged for many years.

Anders Kokholm