

Export jobs in the Danish water technology sector in 2018

31 May 2013

The current level of exports by Danish water technology firms will not enable the industry to maintain its current job level when taking productivity gains and outsourcing into account.¹ In order for the sector to be a net generator of jobs, export needs to grow at a faster pace, and exceed the growth of global water technology demand.

CE has been asked by The Danish Nature Agency to update the assessment of export jobs within the Danish water technology sector based on new data. The original assessment was based on projections for 2015 from the Global Cleantech Report (2012)² while the update is based on a brand new report from Global Water Intelligence (2013)³ containing market growth projections for key water technologies towards 2018.

This report uses the newest 2018 forecast of the development in the global market for water technologies from Global Water Intelligence (2013). The most recent forecast estimate an average growth of the global water technology market of 5.8 per cent per year until 2018. This is a slightly lower annual growth rate than the previous 2012-study, which predicted a 6.0 per cent annual growth towards 2015.

Based on the slightly lower expected growth rate, we find that the growth rate of Danish water technology export still needs to exceed the growth in global demand if the water technology sector is to provide a net job creation. An estimated decrease in the demand for water technology in two of Denmark's largest trading partners (Germany and the UK) is likely to be a major challenge facing the sector.

In the following, figures 1 through 3 depict export job potential in three different scenarios:

- a. Zero growth in export despite global market growth
- b. Danish water firms are competitive and export grow as global market growth
- c. Danish water firms outcompetes global trends and export growth exceeds global market growth.

¹ Copenhagen Economics, Employment in the Danish Water Technology Sector, March 2013

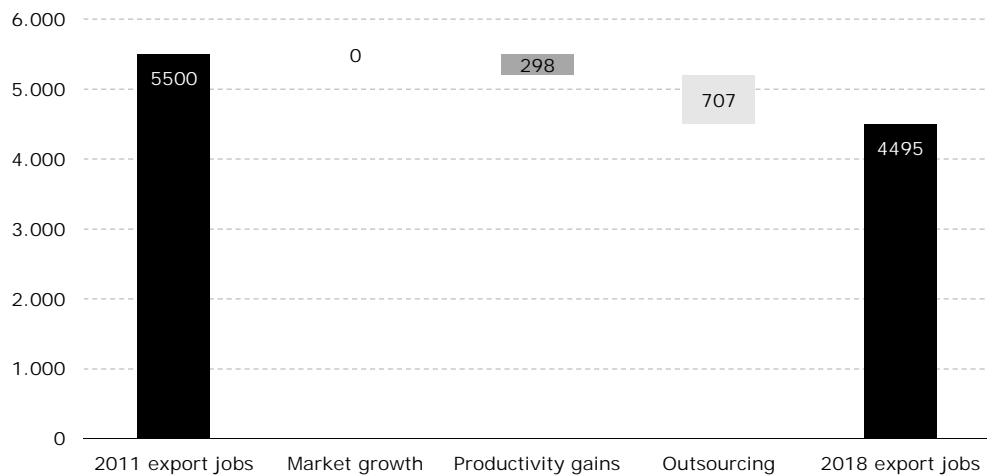
² The report "Global Cleantech Report 2012", is conducted by Copenhagen Cleantech Cluster's Complex Cleantech Solutions and funded by the Danish Industry Foundation <http://www.cphcleantech.com/global-cleantech-report>.

³ The report "Global Water Market 2014: Meeting the world's water and wastewater needs until 2018", provides market estimates for countries and the global market based on research from *Global Water Intelligence* <http://www.globalwaterintel.com/publications-guide/market-intelligence-reports/global-water-market-2014/>

1 Scenario a: Zero growth in export despite global market growth

From figure 1 (the scenario where export will remain unchanged over the period) it can be seen that if the current outsourcing rate prevails, the job loss from outsourcing production will erode the small gain stemming from a yearly productivity increase. The net result will be a loss of 1000 export jobs by 2018.

Figure 1 Scenario a: exports flat despite global growth



Note: An export growth of 0 per cent per year is assumed. Productivity gains are 0.8 corresponding to the average productivity growth from 1996-2011 from the Productivity Commission.

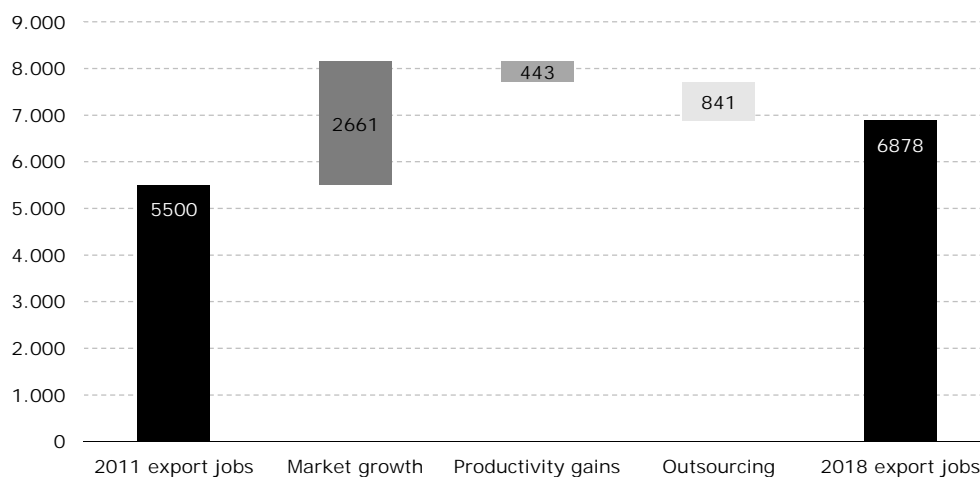
Source: CE analysis based on Global Water Intelligence (2013) for market growth, Statistics Denmark and Danish Productivity Commission (2012).

2 Scenario b: Danish export growth corresponds to Global market growth

If the Danish export of water technology follows global market demand, we estimate an additional 2.500 jobs will be created over the period, i.e. figure 2. Accounted for outsourcing and productivity gains, this will lead to a net increase of 1.000 to 1.500 export jobs, or equivalent to a 25 percent increase across seven years.

However, it is worth mentioning that the demand of Denmark's largest and third largest trading partner, Germany and UK, is expected to contract at an annual rate of -2.4 and -4.4 percent respectively. This will somewhat limit the potential for Danish export related employment to grow at a rate similar to that of global demand. Consequently, to succeed, Danish water technology firms will need to focus even more on other export opportunities such as emerging markets.

Figure 2 Scenario b: Export growth corresponds to Global water market growth



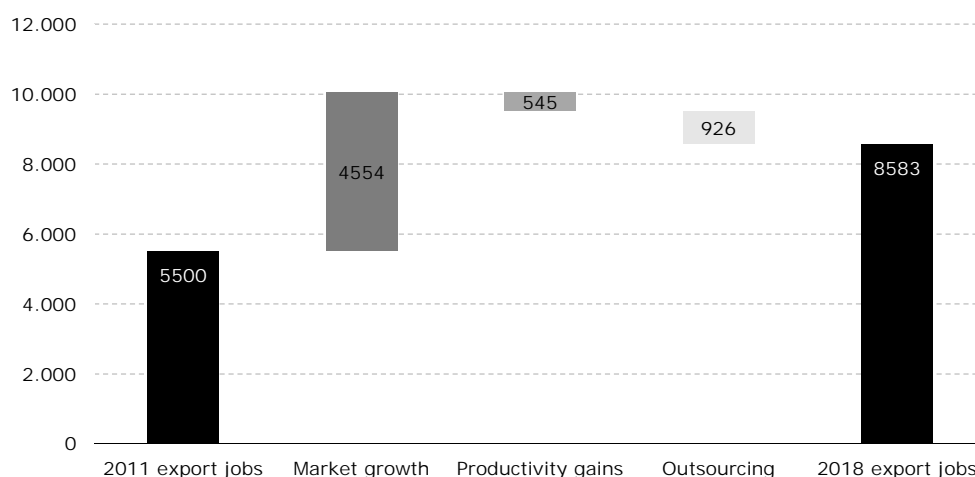
Note: An export growth of 5.8 per cent per year is assumed. Productivity gains are 0.8 corresponding to the average productivity growth from 1996-2011 from the Productivity Commission. In the original report we applied the forecasted growth rate for the European market. As this is not available towards 2018 in GWI (2013) we apply the global growth rate.

Source: CE analysis based on Global Water Intelligence (2013) for market growth, Statistics Denmark and Danish Productivity Commission (2012).

3 Scenario c: Danish export growth exceeds global market growth

Figure 3 illustrates the scenario where Danish export of water technology growth exceeds global demand growth. In this scenario, export related employment increase by more than 50 percent over the period to a total of 3.000 additional jobs net of outsourcing and productivity gains.

Figure 3 Scenario c: export growth exceeds global water market growth



Note: An export growth of 9 per cent per year is assumed. Productivity gains are 0.8 corresponding to the average productivity growth from 1996-2011 from the Productivity Commission.

Source: CE analysis based on Global Water Intelligence (2013) for market growth, Statistics Denmark and Danish Productivity Commission (2012).

4 Summary of export job analysis

The conclusions from the latest Copenhagen Economics report do not change substantially with the addition of new growth projections. However, utilizing the potential for export related employment growth within the water technology sector looks slightly more challenging due to a drop in European demand.

The mapping of Danish firms' strength reveals strongholds within the water energy-nexus, distribution and control of water and intelligent handling of waste water.⁴

⁴ Copenhagen Economics, Employment in the Danish Water Technology Sector, March 2013, page 29

If Danish water technology firms are to increase export related jobs towards 2018, we find that Danish export growth need to exceed the growth in global demand, i.e. scenario c.

Given the low estimated growth rate within two of Denmark's largest trading partners, it will be challenging to increase exports at the same pace as global demand and continuing current export patterns will not be sufficient to deliver a net increase in water technology related export jobs.

We find that it will be challenging to achieve an export growth which exceeds the projected growth in the global market demand. This is mainly because the market for water technology within some of Denmark's largest trading partners is expected to contract relative to their current size. This will lead to a drop in demand which will have to be outweighed by an increase in export to other trading partners such as emerging markets, if export related jobs are to increase.

According to the Global Water Intelligence study, the utility wastewater market is expected to grow around 5.4 percent per year, with the design and engineering service market, one of Denmark's strengths, growing up to 5.6 percent each year. The industrial water market is expected to grow in excess of 7 percent each year, and could therefore represent a potential for Danish export to grow in excess of global demand trends. However, this market represents only a small fraction of the global water and wastewater market.

Despite the gloomy growth rates facing some of Denmark's largest trading partners; we find that there is still potential for Denmark to increase its market share. Areas where Danish companies have a strong position and where the future market is expected to grow above 7% per year include technologies for reduction of energy consumption for e.g. water distribution, industry applications and buildings.⁵

If Danish water technology firms are able to exploit these strengths and increase their exports to other markets in the face of dropping demand within France, Germany and the UK, the Danish water technology sector could be able to outperform the global market and in that case we estimate that there is a potential for additional 3000 export jobs in 2018.

⁵ Copenhagen Cleantech Cluster (2012) p. 8.