Employment trends in all sectors related to the sea or using sea resources

Sweden

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An exhaustive analysis of employment trends in all sectors related to sea or using sea resources

Country report – Sweden

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1.0 Summary[I]

The Swedish maritime sector is an important sector in the Swedish economy and in 1995 different maritime activities produced goods and services amounting 37.9 billion SEK, which represented nearly 2% of Sweden's GDP. The maritime sector is also an important exporter of goods and services and in 1995 the exports of the maritime sector amounted to 23.4 billion SEK, 3.5% of Sweden's total exports.

In "The role of the maritime sector in the Swedish economy – a cluster analysis" it was estimated that employment in the core maritime sectors (including shipping and ship owners) was around 15,000 in 1997. A further 60,000 were estimated to be directly employed in other maritime sectors including seaports, maritime services etc. In addition to these, it was also estimated that a further 150,000 people were employed indirectly through supply chain linkages.

This means that every employee in the maritime sectors contributed 530,000 SEK to GDP. Thus, the value added by each employee was relatively high at the time and suggests that there is a high degree of specialisation in the sector. Indeed, only the financial services sector added more value per employee than the maritime sector.

An update of the above analysis has recently been commissioned by the Swedish Shipowners' Association and the Swedish Maritime Administration. Preliminary findings show that more than 14,000 people were employed in the core of the maritime cluster (shipping) in 2002 and a further 70,000 were employed in other maritime sectors. In addition to these, the Swedish maritime activities also contributed to the employment of 133,500 people through supply chain linkages. In other words, it is estimated that some 220,000 individuals were employed – either directly and indirectly in the maritime activities in 2002. Compared to the earlier study, these findings suggest that there has been a slight decline in the number of employees in the maritime sectors. Despite this slight fall in employment, the new study suggests that the value added per employee has increased and that there are significant indirect effects of an expansion of the maritime sector (in particular shipping and ship owners). Indeed, it is estimated that every employee on board (seafarer) contributes to the employment of another 5-6 people on shore.

Table1.1 Employment in the Swedish maritime cluster, 1997-2002

Employment	1997	2002
Shipping	15,000	14,000
Other maritime sectors	60,000	70,000

[I] This reports excludes employment related to fishing.

Total direct employment	**75,000**	**84,000**
Indirect employment	150,000	135,000
Total indirect employment	**225,000**	**119,000**

Source: Swedish Shipowners' Association and the Swedish Maritime Administration, 2006

Sea related employment, as defined in this study, stands at around 108,500 with coastal tourism being by far the largest sector. Without coastal tourism sector, the maritime activities create about 37,500 jobs. From the traditional maritime industries, shipping is the most significant one generating 14,000 jobs in 2002.

Table 1.2 Employment in sea related sectors, 1995-2005

	1995	1997	1998	1999	2000	2001	2002	2003	2004	2005
Shipbuilding	-	2,527	2,617	2,525	2,689	2,627	2,635	-	-	-
Shipping	-	15,000	-	-	-	-	14,000	-	-	-
Seaports	-	-	-	-	-	-	-	-	-	6,500
Maritime services	-	-	-	-	-	-	-	-	-	2,401
Navy	-	-	-	-	-	-	-	-	-	5,670
Maritime works	-	-	-	-	-	-	-	-	-	35
Rec. boating	-	-	-	-	-	-	5,000	-	-	-
Coastal tourism	57,484	-	-	-	67,141	70,918	70,429	71,712	71,023	-
Offshore wind energy	-	-	-	-	-	-	1,300	-	-	-

Source: ECOTEC Research & Consulting

2.0 Shipbuilding

Sweden was once the second largest shipbuilding country in the world after Japan. The shipbuilding sector grew significantly after the end of the Second World War, partly because Sweden did not participate in the war and thus had all of its shipyards intact.

At its peak in 1974-75 the shipbuilding industry employed 39,000 persons, however, already by the late 1970s almost all shipbuilding activities had been lost to countries such as China, South Korea and Japan. In addition the increased competitiveness of the Asian countries, Swedish shipbuilding was also significantly affected by the abolition of state subsidies at the end of the 1970s.

Today there is no new building activity in Swedish shipyards, instead the activity at the shipyards is very much focussed on repair, maintenance and conversion.

2.1 Employment trends

According to the official Swedish statistics there were 2,635 people employed in the shipbuilding sector (including repair and maintenance) in 2002. Compared to 1997, this represents a marginal increase of 4% or 108 jobs.

Employment in the shipbuilding sector, 1997-2002

	1997	1998	1999	2000	2001	2002
Shipbuilding	2,527	2,617	2,525	2,689	2,627	2,635

Source: SCB, 2006

Although the official statistics suggests that there are some 2,600 people employed in the sector, only 225 are employed in the three large shipyards, Gotaverken Cityvarvet, Falkvarv and Oresundvarvet. In addition to these permanent employees, the three large shipyards also employ a significant number of people on a temporary basis. By way of example the Oresundsvarvet employs 50 people in addition to the 50 people permanently employed. Thus, total direct employment is more likely to be in the region of 500 rather than 225[i].

In respect of the indirect effect of the shipbuilding industry, the rule of thumb is that 1 shipyard worker contributes to the employment of 3-5 workers in other sectors. Given that the shipbuilding sector has significant links with the maritime equipment sector it is likely that a considerable proportion of these indirect jobs will be created in this sector.

[i] Interview with Jonas Hansson at Oresundsshipyard

2.2 Employment projections

Generally, 2005 was a good year for Swedish shipyards but the shipyards are not likely to take up new building activity again. However there are good opportunities for repair, conversion and maintenance activities.

2.3 Skills and training

There is currently a significant lack of skilled workers in the shipbuilding industry. For some of the occupations needed in the sector, such as welders, there are currently no educational programmes and thus shipyards in Sweden have been forced to hire staff from other countries such as Denmark and Poland. Previously when Swedish shipbuilding was still a world leader, each of the shipyards had their own apprenticeship programmes.

3.0 Shipping

Sweden's geographical location and its major dependence on foreign trade give shipping a dominant role in the transport of the country's international trade. Indeed, more than 90% of all exports and imports are conveyed via cargo vessels or ferries[I].

Conditions for shipping companies Sweden have picked up in recent years, after a downturn in 2001, and freight volumes have increased by some 8% or 2.6% annually since then. In fact, conditions in the shipping industry are better now than for years. Nevertheless, it should be noted that not all vessels controlled by Swedish companies fly the Swedish flag. The introduction of "Shipping Aid" in 2001 is likely to have contributed to this upturn in conditions for the shippingsector.

3.1 Employment trends

As mentioned above, there were some 14,000 people employed in this sector in 2002. A majority of these, around 13,000, were employed as seafarers and the rest were employed on shore. This represents a slight decrease compared to the employment data provided in the first cluster analysis, which suggested that some 15,000 people were employed in the sector in 1997. To some extent this fall in employment may reflect the relative downturn of the sector in 2001. However, since 2001 conditions within the sector has picked up and employment is likely to have increased since then.

[I] The Swedish Maritime Administration (2005) The Swedish Maritime Sector –Progress report

Table 3.1 Employment in the shipping sector, 1997 - 2002

	1997	2002
No of people employed	15,000	14,000

A great proportion of seafarers employed in the Swedish fleet are Swedish, 76% in 2003. It is not clear from the available statistics if the remaining 24 percent are from another EU country or from a country outside the EU.

3.2 Employment forecast

According to the Swedish Shipowners' Association much of the future of the sector is dependent on the introduction of a tonnage tax. Without a tonnage tax, the Swedish Shipowners' Association fears that conditions for Swedish shipping companies will not be internationally competitive and thus the Swedish merchant fleet will decline when the old tonnage is sold and new tonnage is not flying the Swedish flag.

A report was commissioned by the Government to investigate the possible introduction of tonnage tax and the Commission presented its findings and proposals to the Government in February 2006. It is expected that a decision will taken later this year. If implemented, the tonnage tax is likely to have a positive impact on employment as it may persuade shipowners to re-register their ships under the Swedish flag. For example, there were 60 confirmed orders for vessels by Swedish shipping companies in December 2005 and the Swedish Shipowners' Association suggests that if all of these 60 vessels would register under the national flag there would be an estimated increase in employment of some 7,200[I]. However, they estimate that only half of the 60 vessels on order will fly the Swedish flag thus reducing the possible employment impact to some 3,500 people.

3.3 Skills and training

The future of the Swedish shipping industry is going to be affected by the ageing population as a high proportion of seafarers are going to retire in the next 10 years. Indeed, about 900 deck officers and some 650 engine room officers at sea will retire in the next ten years. The extent of the problem is illustrated by the fact that 35% of ship officers are aged 50 years or older. The corresponding figure for engine room officers is even more alarming, 40%.

[I] As a rule of thumb, an offshore employee contributes to the employment of 5-6 people onshore. Thus, an average onboard crew of 20 people (corresponding only to the security staff) on 60 vessels would lead to a total employment effect of 7,200 (20*60*6=7,200).

Efforts therefore need to be made to make a career in the maritime sector an attractive long-term alternative for young men and women. In this respect it is important that good working conditions and modern work organisation are maintained.

Although the Swedish Shipowners' Association believes that there is sufficient supply of skilled labour, it would still like to see that more people were admitted to courses. There are currently more applicants than admissions, which is unique to Sweden. In 2000, there were some 1,500 students in maritime related education in FE or HE[I].

Significant efforts are also needed to raise the competencies of Swedish seafarers, in order to strengthen the competitiveness of the Swedish shipping sector and to move along with technical developments.

Although the Swedish education system is regarded as leading in the world on many grounds, there is currently little weight given to research activities in Swedish maritime education. This is significant given the increasing focus of research in the neighbouring countries of Finland, Denmark and Norway, which are also the main competitors of Sweden. Thus, Sweden will need to develop a model that better promotes Sweden's competitiveness[II].

A nationally proposed programme identified a number of areas that will be crucial to increase the competitiveness of Swedish shipping sector:

- Maritime technology (base for innovation)
- Security and environment (to meet increasing future requirements)
- Logistics, value adding in the total transport supply chain (closer integration with owners of the cargo)
- Global operation and management (increase the understanding of problems with the management of global activities)
- Market dynamics and customer relations (better understanding of markets and better marketing)
- Maritime competencies as an industrial driving force (better understanding of the importance of competencies on the sector)
- IT applications in the maritime sector

Since this programme was suggested in 2000, Swedish maritime research has become a lot more active. Even though research activities are still at a small scale compared internationally, it has grown significantly in recent years.

[I] The Institute of Shipping Analysis (2000) Kompetens i sjofartsnaringen
[II] The Institute of Shipping Analysis (2000) Kompetens i sjofartsnaringen

4.0 Seaports and stevedoring

The major significance of shipping means that Swedish ports are handling considerable volumes of goods. In 2004 there was a turnover of about 157m tonnes of goods subject to charges, which represents an increase of 2.6% from the previous year[I].

There are currently 50 ports and 30 industry ports operating in Sweden and in recent years there has been a trend towards greater specialisation at these ports. As a result, transportation of crude oil and oil products dominates the West Coast, container goods the predominantly on the West and South Coast, bulk goods on the East Coast, and forest raw material and forest products dominate traffic on the North East Coast.

Although a port is viewed as a geographically fixed location designed to handle seaborne goods from/to industry in its hinterland in several context, the markets for ports has developed towards an increasingly dynamic and globalised reality. Like other business operations, ports are now in competition, both nationally and internationally. New opportunities are continually emerging to operate and develop port and terminal operations, their organisation and services. In other words, current structure cannot be taken for granted in the longer term future as a result of increasing competition and other factors. In Sweden this has lead to rationalisation and regionalisation as described above. Moreover, it has generated significant amounts of investment in recent years. By way of comparison investment in ports in 1993 was 200m SEK, whilst throughout the 21st century it has averaged around 1,000m SEK per year[II]. This investment is likely to continue and between 2005 and 2009 nearly 6,000m SEK is planned to be invested in ports.

Apart from certain bottlenecks and minor extension requirements, the existing infrastructure can be used for substantially higher transport volumes without major capital expenditure. Compared with the road transport system, the maritime transport system imposes only minor demands on infrastructure investment in relation to its transport performance capacity.

In most ports, the municipality owns the land and buildings and usually finances major investments in the facilities. In these cases, the port company pays for the use of facilities, as governed by an agreement. But there are exceptions, such as in the case of Gothenburg where Goteborgs Hamn AB owns the land and buildings. According to the Malmo Copenhagen Port AB the fact that most ports are owned by the municipalities creates some form of security, socio-economic safety and sufficient level of infrastructure.

[I] Swedish Maritime Administration, 2005
[II] The Swedish Maritime Administration (2005) The Swedish Maritime Sector –Progress report

However, on the other hand, it is also believed that public ownership makes it difficult to make ports more effective and efficient as they are often seen as employment generators by local decision-makers. Indeed, the representatives of Malmo Copenhagen Port AB believes that privatisation of ports may make them more efficient and effective.

Compared to other countries, salaries for workers in Swedish ports are significantly higher. For the workers, this is the strength of the Swedish port sector, however, from a competitive perspective it may be seen as a weaknesses. Although Swedish ports are small compared to ports in other countries (including Hamburg and Rotterdam), they are all technologically advanced. Nevertheless, there are still some improvements that can be made in respect to logistics and cargo handling. The main threat to Swedish port activities comes from countries such as Poland and the Baltic States which have recently taken over some of Sweden's share of transit goods.

4.1 Employment

Most seaport and stevedoring companies have two types of employees (both covered by collective agreements) – those that are permanently employed and those that are temporarily employed. The number of permanent employees is around 4,000 and the number of temporarily employed is approximately 2,000. In addition to these there are white collar workers at various levels. With an average of approximately 10 white collar workers per company (seaports and stevedoring companies) and some 50 seaport companies in Sweden, it is estimated that around 500 white collar workers are employed in the sector. This brings the total number of employed up to some 6,500 workers.

Employment in the seaports, 2005

Blue collar workers	White collar workers	Total
6,000	500	6,500

During the last ten years there has been an employment freeze among those covered by collective agreements (blue collar workers) and before that the number of employees declined marginally. Since the employment freeze implies that retired staff will not be replaced you could say that the number of employees is decreasing.

Investments in new technology by both seaport companies and shipping companies (more modern ships and handling technology) and rationalisation of seaports have also contributed to a decline in employment in the Swedish seaports.

4.2 Employment projections

The number of employees will probably not increase in the near future. It is more likely that demands on flexibility in seaports, in respect of accessibility, competencies and prices, will lead to a further reduction in the number of employees and extended working hours.

This will in turn lead to a reduction in the number of seaports and greater concentration of activity around a number of logistical centres. To some extent, signs of such developments are already visible.

4.3 Skills and training

The skills demands on people working in cargo handling are comparatively low, however, they vary widely between seaport companies depending on what kind of cargo handling they are involved in. It should be noted though that demands for specialised skills are continuously increasing and more and more companies are demanding that their employees have a three-year higher secondary education, driver's license and appropriate language skills.

The education and experience of workers in seaports is highly transferable to other sectors. Most of the workers have a licence to operate a number of machines and forklift trucks, which are also used in other industries. There are relatively good development opportunities for workers in seaports due to the introduction of the Seaport and Stevedoring School (see the main report). Moreover, there are opportunities to become a supervisor, production manager and operational manager. Notably, most employees do not leave the occupation until they retire and thus it can be quite difficult for young people to get a job in the sector.

5.0 Maritime services

No studies have been conducted on maritime service employment in Sweden. For the purpose of this study, some key maritime institutions have been contacted to obtain information on the number of employees. According to this data the core Swedish maritime service sector generated some 2,400 jobs in 2005/2006, with the largest employer being the Swedish Maritime Administration with 1,300 employees (see table overleaf).

Table 5.1 Employment in the Swedish maritime service sector, 2005/2006

Sweden	Employment
Swedish Maritime Administration	1,300
The Swedish Club – marine insurer	92
SSPA Sweden AB – maritime research	75
Marine research[I]	75
Maritime education[II]	150
Swedish coast guard	700
Swedish Shipowners' Association	9
Total	**2,401**

Source: ECOTEC Research & Consulting, 2006

6.0 Navy

The Swedish navy currently employs 5,670 people.

7.0 Maritime works

Boskalis Sweden AB is one of the leading dredging companies in Sweden. Employment in the company has remained stable over the past 5 years with 30-35 employees each year.

8.0 Coastal tourism

Tourism plays an important role in Sweden and is s major source of income in some regions, especially small communities along the coast and in the archipelago. Sweden has a relatively long coastline compared to other European countries, 7,600 km, and around 40 percent of Sweden's population lives within 5 km of the coast[III].

Given the length of the Swedish coastline it is not surprising that most tourists come to Sweden by sea. The demand for tourist trips is an important complement to the ferry industry when freight transport declines during the holiday season. The development and growth of tourism will depend on an effective port sector and on the supply of interesting guest harbours.

[I] Estimation by Sjöfart.
[II] Estimation by Sjöfart.
[III] Boverket (2006) Vad hander med kusten?

Compared to other countries in the EU the economic impact of the Swedish tourism sector is relatively small. The added value of tourism in Sweden corresponded to 2.54 percent of Sweden's GDP in 2003. Since 1995 the tourism share of GDP has been between 2.4 and over 2.7 percent since 1995[I]. During 2004 the turnover of the Swedish tourism sector was nearly 172 billion SEK - almost 50 billion SEK of this expenditure was spent by foreign visitors and the rest by Swedish households (83.5 billion SEK) and business travellers (40.2 billion SEK)[II]. Compared to 1995 the turnover of the tourism sector has increased by 57 percent.

In 2004 the tourism sector accounted for 2.6 percent of Sweden's total GDP.

8.1 Employment trends

In 2004 employment in the tourism sector was approaching 130,000 (126,827) (FTE). Although employment in many other sectors in Sweden has decreased in recent years, the tourism sector has created more than 24,000 new jobs since 1995, an increase of some 24 percent. In comparison, employment in Sweden as a whole grew only by 6 percent during the same period[III].

There is currently no official data that specifies the employment effect of coastal tourisms, however, given that some 56 percent of tourist nights in 2004 were spent in municipalities directly adjacent to the coast, it has been estimated by the Swedish tourism industry stakeholders that more than half of all employment in the tourism sector is related to the coast (see table below). Clearly, this is a very crude measure of coastal tourism and should serve as guidance only.

Table 8.1 Tourist sector employment, 1995-2004

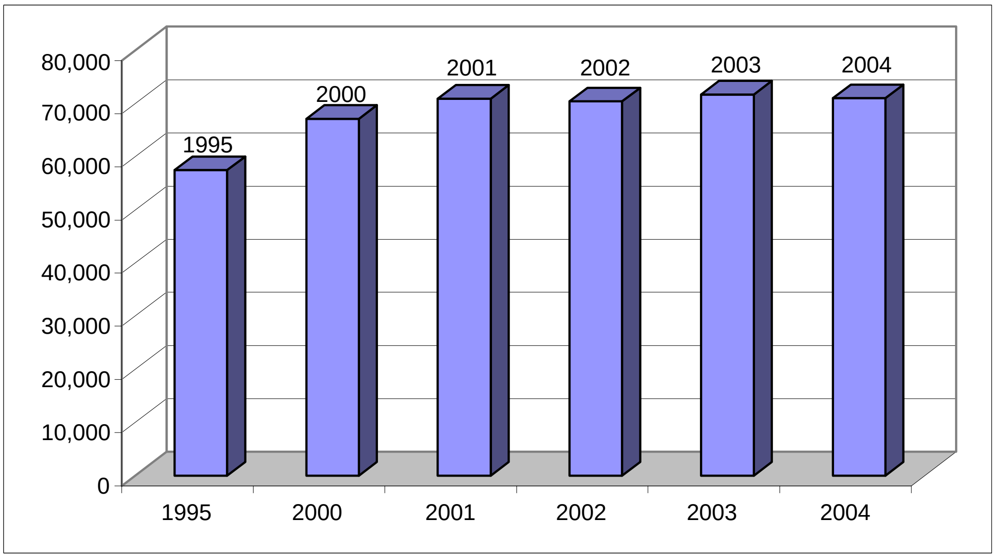
	1995	2000	2001	2002	2003	2004
Travel and tourism industry (direct)	102,650	119,896	126,639	125,766	128,057	126,827
Coastal tourism (estimate)	**57,484**	**67,141**	**70,918**	**70,429**	**71,712**	**71,023**

Source: NUTEK, 2006

As the following graph shows employment in the coastal tourism sector has increased considerably since 1995 but has remained fairly stable between 2001 and 2004. An increase of nearly 4,000 jobs took place between 2000 and 2001.

[I] NUTEK (2005) Tourism in Sweden 2005
[II] Turismens Utredningsinsitut (2006) Turism – en naring som skapar jobb
[III] NUTEK (2006) Fakta om svensk turism

Figure 8.1 Employment trends in coastal tourism sector, 1995-2004



Source: NUTEK, 2006

In respect of the greater effect of the 'tourism economy' it has been estimated by the World Travel and Tourism Council (WTTC) that total employment (direct and indirect) was 344,000 in 2006, or 8 percent of total employment. This means that coastal tourism may contribute to the employment of some 193,000 people.

8.2 Employment projections

Calculations by the WTTC (Tourism Satellite Accounting) suggest that the increase in employment in the tourism sector will be modest over the next ten years – real growth of 1 percent per annum between 2007 and 2016[I]. In other words, by 2016 total employment is estimated to be 378,000 in Sweden as a whole and 211,680 in municipalities directly adjacent to the coast[II].

9.0 Recreational boating

In 2002 more than 13,000 new boats were sold in Sweden which represents 2% of the world market for recreational boats. Out of these 5,500 boats were exported which generated 1.3bn SEK in revenue. The main export markets are Germany and Norway followed by the UK and the US. Sweden imported some 800 boats in the same year. A large proportion of the imported boats come from Finland and Norway.

[I] WTTC (2006) The 2006 Travel & Tourism Economic Research

[II] Assuming that the share of tourist nights spent in coastal areas does not change during this period.

The production of recreational boats is important for the Swedish economy, partly because production is often located in areas that have traditionally suffered from low activity rates, including Orust/Tjorn, Gotland, Varmland, Smaland and many local areas of Norrland. Moreover, it is important because it generates export income and contributes towards GDP by some 3-3.5bn SEK (boat sales) plus 15bn SEK (manufacturing of engines, repairs services etc) (SWEBOAT).

The production of boats is spread across 50 different local areas in Sweden and is dominated by 10 large boat producers. In 2002 11,000 boats were produced, out of which 700 were sailing boats, 800 large motor boats and 9,000 small boats. In comparison, around 50,000 boats were produced in the mid-1970s. At the time Sweden was the largest boat producer in the world but as a result of competitive pressures from emerging economies, a lot of the production has been outsourced or lost as indicated by the production figure for 2002. Despite this decline in production Sweden still has a relatively strong market position in the production of small boats and in some niche recreational boating markets.

The main strength of the Swedish recreational maritime sector is that there are more than 1 million boats Sweden, which makes it one of the most boat dense countries in the world. With such a large pool of boats there is a large demand for replacement boats, repairs, replacement equipment and other services. Swedish boat production also benefits from a strong historical past, which has made it renowned for its high quality boat production. A major weakness with the sector is that boat sales are highly dependent on the state of the economy. Boat sales are typically common in periods of economic upturn.

Most of the production of boats has been outsourced or lost to the Baltic States and Poland in recent years. The only exception is the production of small boats, which is still widespread in Sweden. The production of boats in these emerging countries is typically of lower quality but cheaper than boats produced in Sweden. As a result Sweden has experienced a significant increase in imported boats.

The fact that some production has been lost or outsourced to the Baltic States and Poland does not necessarily have to be a negative thing, as it benefits the consumers through lower prices. Moreover, if the boats produced in these countries are sold in Sweden they are likely to require new equipment fitted on a regular basis and as a result they will still benefit the Swedish recreational maritime sector. However, it should be noted though that as more and more production is moved to these countries, capabilities are improved and thus there is a risk that Sweden will lose its remaining boat production.

9.1 Employment trends

In 2002 5,000 people were directly employed in the Swedish recreational boating sector. Out of these, 1,000 were employed in boatbuilding, 2,600 in the manufacture of engines, 500 in the manufacture and sales of other equipment, and 1,500 in trade and services.

Taking into account supply chain linkages it is estimated that the recreational maritime sector contributes to the employment of another 10,000 people, which brings total employment up to 15,000[I].

Employment in the recreational boating industry in 2002

Employment	Boatbuilding	Manufacturing of engines	Manufacturing and sales of other equipment	Trade and services	Other	TOTAL
Direct	1,000	2,600	500	1,500	400	**5,000**
Indirect	-	-	-	-	-	**10,000**
Total	**-**	**-**	**-**	**-**	**-**	**15,000**

Although there has been a large decline in the building of boats, employment within the sector has remained more or less constant over the last ten years. This can partly be explained by an increase in boat sales in Sweden in recent years (+20 percent per annum) and thus more boats needs to be maintained and repaired. Although there is no official data available on the composition of employment, it is reasonable to assume that a large proportion of workers are employed in the service orientated industries rather than in the actual production of boats.

9.2 Skills and training

There is currently an issue with skills in some areas of this sector. In many cases, particularly in boating related tourism services, the sector is not treated as an economically important sector and it is not unusual that students are employed during the summer holidays. In order to exploit the opportunities in this sector in the future it will be necessary to employ more educated staff[II].

[I] www.sweboat.org
[II] The West of Sweden Tourist Board (2006)

10.0 Offshore wind energy

In 2002 there were some 1,300 people employed in the wind energy sector. However, it is believed that this has increased since then[I].

There are currently major gaps in available data for this sector, thus the Swedish Wind Power Association (SVIF) has been commissioned by the Swedish Energy Authority to investigate employment trends in this sector. The report is expected to be completed in the summer of 2006.

10.1 Employment projections

Today four small offshore wind farms are in operation comprising 18 turbines and 23 MW installed capacity. More than 70 large turbines will probably be built starting 2006. The effect on the national employment is limited, but the future expansion will have substantial local and regional effects on employment. It is expected that employment in this sector will increase to some 10'000 by 2015[II]. This is largely due to the increased competitiveness of wind energy compared to other energy source as well as the government's goal of prioritising wind energy as source of energy.

[I] Swedish Wind Power Association (2006)
[II] Wind Power Suppliers in Sweden (2006)