

Organisation for Economic Co-operation and Development  
Directorate for Education  
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Programme on Institutional Management of Higher Education (IMHE)

**Supporting the Contribution of Higher Education Institutions to  
Regional Development**

**Peer Review Report:**

***Värmland Region  
Sweden***

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The views expressed are those of the authors and not necessarily those of the OECD or its  
Member countries.

*This Peer Review Report is based on the review visit to Värmland in December 2005, the regional Self-Evaluation Report, and other background material. As a result, the report reflects the situation up to that period. The preparation and completion of this report would not have been possible without the support of very many people and organisations. OECD/IMHE and the Peer Review Team for Värmland wish to acknowledge the substantial contribution of the region, particularly through its Co-ordinator, the authors of the Self-Evaluation Report, and its Regional Steering Committee.*

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## PREFACE

This report is one of a set of fourteen similar reports on higher education institutions and regional development. It is written for four main audiences. The first is the people working together to nurture the development of Värmland, the elected representatives of the municipalities and the County, the public servants working under their direction, the businesses and industries of the region, and the staff and students of the educational institutions, especially Karlstad University.

Secondly, the report is intended for others in Sweden concerned with regional development; those with similar roles in other Swedish administrative regions; and those in central government who have the Swedish regions as part of their political interest or administrative responsibilities.

Thirdly, there are the other regions involved in the project and who make up a network learning about and contributing to understanding the role of higher education in regional development across regions in a number of OECD countries, and beyond.

Finally, we aim to reach a wider international readership and to provide something of value to regions both within and beyond the OECD that are not included directly within this project.

Our report attempts to read in a way that will be comprehensible and useful to these readers, with a minimum of assumptions about local knowledge, and as few acronyms as possible. As with the other reports in this OECD project, we have had to write for a highly involved and well informed regional policy and practitioner community; but also for a more remote readership unfamiliar with the local story. Our primary consideration is to give back to the region something that will contribute to further development and be evaluative in this particular sense. We have drawn upon the substantial regional Self-Evaluation Report (SER) written by the Regional Co-ordinator, Per Fredriksson, and his team, under the direction of the Steering Committee. Although we make no attempt to reproduce or summarise that work, some key elements of it have been utilised in drafting this report. Readers requiring more background data should also refer to the full report which is available on the OECD website.<sup>1</sup>

High expectations were generated by the region's own self-review process, as well as by our visit. During the course of their week in Värmland, the review team interviewed a wide range of busy and committed people. We were met everywhere with hospitality, openness and enthusiasm. The quality of the team's observations into the region owes a great deal to the frankness and insight of those to whom they spoke.

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1. See <http://www.oecd.org/edu/higher/regionaldevelopment>

## EXECUTIVE SUMMARY

### *The OECD/IMHE review*

This review of Värmland in Sweden is part of the OECD/IMHE project entitled “Supporting the Contribution of Higher Education Institutions to Regional Development”, which engages 14 regions throughout 12 countries in 2005/2006. The IMHE thematic review project was launched as a response to the multiplicity of initiatives across OECD countries to mobilise higher education in support of regional development. The aim was to synthesise this experience into a coherent body of policy and practice to guide higher education institutions and regional and national governments. At the same time, the IMHE project was designed to assist with capacity building in each country/region through providing an opportunity for dialogue between HEIs and regional stakeholders and clarifying the roles and responsibilities.

### *The review process*

The review drew on a self-evaluation process initiated and led by the Karlstad University and conducted by a Steering Committee representing the main regional and national actors. The resulting report is available on the OECD website [www.oecd.org/edu/higher/regionaldevelopment](http://www.oecd.org/edu/higher/regionaldevelopment). The review visit took place in December 2005, at a time when Government initiatives to mitigate the impact of restructuring in the defence industry were due to be announced, and reorganisation of the management of Karlstad University was about to be implemented.

### *Region: Värmland*

Värmland is located in central Sweden on the border with Norway and has a population of approximately 275 000 inhabitants. It is one of the smallest regions under study as part of the OECD project. The main city of Värmland is Karlstad, with approximately 130 000 inhabitants in its labour region. Värmland has a low birth rate and the average age of the population is rising. The movement of people from Värmland to other parts of Sweden has been accompanied by emigration abroad. As a result, the proportion of the age group between 20 and 39 years has declined, while the proportion of the population in the 40 to 64-year-old age group has increased.

The economic life of Värmland has been built on its abundant natural resources. The forestry and steel industries remain important, but they employ fewer and fewer people. Services, including tourism and information technology are growing. Värmland's development is dependent upon attracting investment and people from Sweden and abroad. Värmland has links to Gothenburg in the south, to Stockholm in the east, and to Norway to the west, and the relative priority it gives to developing these will be decisive.

Politically there is abundant evidence of a will to work together for the region's future development. The small size of the region means that collaborative and consultative bodies are relatively easy to establish. Informal networks are strong.

### *Higher education and the region*

Considerable efforts have been made in recent years to foster and promote innovation, both nationally and regionally. There have been some notable successes and in many respects the integration of higher education into the developmental structures of the region is exemplary.

Higher education and research policy in Sweden is nationally led, and equity of treatment across the country has been a guiding principle. Yet even within this small region there are marked differences in tertiary attainment and employment rates between the rural municipalities and the city, and between men and women. Karlstad University is the region's main higher education provider: its student intake is almost two-thirds female.

Karlstad University plays an active role in many aspects of the social, cultural and environmental development of the city and the region, but there is scope for a more comprehensive approach.

### ***Major issues and key recommendations***

The major issues in the region and the key recommendations of the report are summarised in Chapters 6 and 7, respectively. Although the review team found much to commend, it believes that action needs to be taken, or pursued, in a number of areas.

In the national context, policies that will more unambiguously encourage the universities and other higher education institutions – and their staff – to engage with the economic and cultural development of the region are desirable.

The low participation rate of young men from the outlying municipalities needs to be addressed at both national and local levels.

In terms of regional geography, Värmland is caught between maintaining its own identity or seeking strength in greater collaboration with one or more of its neighbours. Looking further afield, the business links with Europe and beyond will depend on improved transport infrastructure.

For the region, the main political need is to move from consultation to concerted action. Although Värmland is not in crisis, several indicators are moving into the amber zone. Decisive leadership may be required to prevent a slow decline.

In terms of economic development, there is a need to strengthen ties between key regional clusters and national innovation policy.

Karlstad University is justifiably proud of its short history. Like many of its size and age, it is ambitious, but will find it difficult to simultaneously sustain regional, national and international missions. Higher education is an increasingly competitive sector and some hard choices may need to be made by the institution's leaders and managers. The review team strongly recommends that the university should focus its activities on those in which it has clear strengths and on which Värmland's economy can give it competitive advantage. It makes a number of specific proposals designed to help in this process.

## ABBREVIATIONS AND ACRONYMS

CERUT	Centre for Research on Regional Development (within the Karlstad University)
CTF	Service Research Centre
EPA	Environmental protection agency
GDP	Gross domestic product
HE	Higher education
HEI	Higher Education Institutions
IT	Information technology
IMHE	Programme on Institutional Management in Higher Education
IPR	Intellectual property rights
KK-Stiftelsen	The Knowledge Foundation
KY	Advanced vocational education
NUTEK	Swedish Agency for Economic and Regional Growth
OECD	Organisation for Economic Co-operation and Development
PRR	Peer Review Report
PRT	Peer Review Team
R&D	Research and Development
SER	Self-Evaluation Report
SME	Small and medium sized enterprise
Vinnova	Swedish Governmental Agency for Innovation Systems

## **1. INTRODUCTION**

### **1.1. The OECD study**

The review of Värmland is part of the OECD/IMHE project entitled “Supporting the Contribution of Higher Education Institutions to Regional Development”. The project will engage fourteen regions across twelve countries in 2005-06.

The IMHE launched the project in spring 2004 as a response to a wide range of initiatives across OECD countries to mobilise higher education in support of regional development. There was a need to synthesise this experience into a coherent body of policy and practice that could guide institutional reforms and relevant policy measures, such as investment decisions seeking to enhance the connection of higher education institutions (HEIs) to regional communities. Current practice needed to be analysed and evaluated in a way that was sensitive to the varying national and regional contexts within which HEIs operate.

The aim of the IMHE project is to compare and evaluate the efficiency and effectiveness of regional initiatives and partnerships, to provide an opportunity for a dialogue between higher education institutions and regional stakeholders, to assist with identifying the roles and responsibilities of stakeholders, to provide advice at a national level on the impact of policy initiatives, *e.g.* funding initiatives at a regional and institutional level, and to lay the foundations of an international network for the further exchange of ideas and good practice.

Each of the participating regions engages in a self-review process, followed by site visits by international review teams. Participating regions have designated Regional Co-ordinators and Regional Steering Committees to oversee the process. Each regional review is conducted by an International Peer Review Team with two International Experts, one being the Lead Evaluator, as well as a National Expert and Team Co-ordinator. The entire project is co-ordinated and led through project management at the OECD secretariat and a Project Task Group, which is also charged with the task of nominating the members of the Peer Review Teams. Each regional review will produce two independent reports, a Self-Evaluation Report (SER) and a Peer Review Report. All reports will be published online on the OECD project website for the benefit of the participating regions and a wider audience. A final OECD synthesis report, drawing from the experiences of the participating regions and a comprehensive literature review, will follow in 2007.

The focus of the IMHE project is on collaborative working between the higher education institutions and their regional partners. It seeks to establish a regional learning and capacity-building process.

### **1.2. The conduct of the evaluation**

The self-evaluation exercise in Värmland was a major project co-ordinated from Karlstad University by a Steering Committee including representatives of national and regional authorities, and the private sector. The membership of the Steering Committee is given in Appendix 2. A substantial proportion of the human and financial support for the study was provided by Karlstad University, and

contributions were also made by the County Administrative Board, the Municipality of Karlstad, the Region Värmland, and Vinnova.

The self-evaluation and the capacity building process began in May 2005 with a regional consultation meeting of about 70 participants representing a broad range of stakeholders throughout the region. Three workshops were held in August and September 2005 on *Interpersonal Contacts*, *Regional Enlargement and Alliances*, and *The Gender Perspective*. Summary reports of these workshops can be found in the SER, pages 105 to 107.

To our knowledge, Värmland was the only region involved in the study to organise workshops such as these. They appear to have been valuable in building a sense of partnership in the region.

### **1.3. The international peer review**

The international Peer Review Team (PRT) consisted of Frans van Vught (the Netherlands), Steve Garlick (Australia), Lars Nordström (Sweden), and Richard Yelland (OECD). Brief curricula vitae of members of the team can be found in Appendix 1.

The Lead Evaluator and the Team Co-ordinator visited Karlstad in October 2005 to agree on the procedures for the review with the region and to give feedback on the draft of the self-evaluation report. The OECD review visit took place between 11 and 16 December 2005. During the first four days of the visit, about 30 separate meetings were held, involving about 100 people associated with Värmland and Karlstad University. Some key actors met the review team on more than one occasion. The team worked on an initial summary of its findings on the morning of 16 December and those were presented to members of the Steering Committee that afternoon. For most of the meetings the team was accompanied by the Regional Co-ordinator. The meetings provided valuable insights supplementing the written report and opportunities to discuss issues arising from it. Details about the review visit programme are in Appendix 3 of this report.

### **1.4. The Structure of this report**

The next chapter sets the scene for the regional context. Chapter Three then focuses on research and the regional innovation system and Chapter Four on teaching and learning. Chapter Five has a focus on the wider approaches to development, such as the social, cultural and environmental agenda. Chapter Six considers the major issues arising from the national and regional contexts and the future of the university. In the final chapter we provide an overview of our recommendations.

Our report draws on interviews carried out during a week-long site visit in December 2005, on the findings of the Self-Evaluation Report, also using additional information provided to the Peer Review Team. Any review represents only a snapshot of an evolving process of development. This is also true in the case of Värmland and its university, which are currently in a state of transition.

## 2. THE REGIONAL CONTEXT

### 2.1. The county of Värmland

Värmland is located in central Sweden, bordering with Norway, and has a population of fewer than 275 000 inhabitants. It is one of the smallest regions under study as part of the OECD project. The main city of Värmland is Karlstad, with approximately 130 000 inhabitants in its labour region. Karlstad is about 300 km from the capital Stockholm in the east, and 250 km from Gothenburg to the south. Oslo, capital of Norway, is 250 km to the west.

Värmland is an old county with a recorded history reaching back more than 1000 years. It has a strong tradition of cultural activity in literature, songs and storytelling. The landscape is scenic and gives opportunities for recreational activities and tourism, both in summer and winter.

Historically, Värmland has had a strong connection to Gothenburg and the Swedish west coast. The wood industry exported its products through Gothenburg and was earlier partly owned by industrialists there. Today the relation to Stockholm is stronger and most of the industries are owned by companies in Stockholm and in Finland. The major industries in Värmland are pulp and paper, steel and service (including tourism, public service and cultural events). In recent times the connections to Norway have become increasingly important. Many people commute to Norway to work and more and more people from Norway travel to Värmland for shopping or to live.

### 2.2. Population

Värmland has gone through a long period of development and change. The number of inhabitants has declined a little during the last 20 years. This is related both to the mechanisation of the main industries and to general tendencies in the Swedish economy. As young people seek higher education provision and its subsequent employment opportunities, there is a strong flow not only from the regions to the bigger cities in Sweden, but also within regions to their major cities.

About 34% of Värmland's inhabitants live in Karlstad. This compares with 24% in 1968. This concentration shows no sign of ending and the problems caused by population decline in the small municipalities in the northern part of the county can be expected to continue. Of the 16 municipalities in Värmland, 12 have experienced a decrease in population during the past 15 years, while only 4 have seen growth (see Table 2.1. below).

Table 2.1. Population of Värmland municipalities 1990-2005

Municipality	1990	2000	2005	Change 1990-2005
Arvika	24 887	26 188	26 231	+ 5,4
Eda	9 555	8 664	8 626	- 9,8
Filipstad	13 341	11 598	11 032	- 17,3
Forshaga	11 913	11 589	11 485	- 3,6
Grums	10 274	9 551	9 412	- 8,4
Hagfors	16 121	14 059	13 356	- 17,2
Hammarö	13 468	14 162	14 371	+ 6,7
Karlstad	76 467	80 323	82 084	+ 7,3

Kil	12 221	11 192	11 843	- 3,1
Kristinehamn	25 865	24 297	23 895	- 7,4
Munkfors	4 816	4 162	4 002	- 15,8
Storfors	5 299	4 725	4 533	- 14,5
Sunne	13 564	13 169	13 590	+ 0,2
Säffle	17 979	16 639	16 013	- 11,1
Torsby	15 105	13 725	12 957	- 14,2
Årjäng	10 235	9 790	9 783	- 4,9
Total	283 110	275 003	273 213	- 3,5

Source : SER

Broadly speaking, the municipalities that are home to traditional industries based on wood and iron have decreased in population, and those that focus on service sector activities have increased.

The demographic development of the county as a whole has shown a long-term negative tendency. In general terms the situation in Värmland is similar to that of Sweden more generally, with a low birth rate and a rise in the average age of the population. The movement of people from Värmland to other parts of Sweden has been accompanied by emigration abroad. As a result, the proportion of the age group between 20 and 39 years has declined from 26.4% in 1984 to 23.2% in 2004, while the proportion of the population in the 40 to 64-year-old age group has increased from 30.2% to 33.7 %.

There are also differences between the sexes. There is a higher share of men than women in the age groups up to 39 years and the converse in the older ages. Behind these figures lies the problematic situation in Värmland where a lack of jobs for women and an old industrial structure means that men have found it easier to find employment.

The likely shape and size of the future population is strongly related to the development of the service sector and economic relations with Norway. In the long term, the population situation in Värmland could pose a real problem if there are few people with young families and potential students and employees.

### 2.3. Industry

Värmland has a long tradition as an industrial region founded on the abundance of raw materials. The industries have been very competitive and total production has increased every year. Originally locally owned by people in Värmland or in Gothenburg, today all the major companies are part of global firms with dispersed ownership. Productivity has increased much faster than output, so that the number of people who work in the traditional industries has decreased rapidly. Even the production of raw material now requires fewer employees following the introduction of new techniques.

The tendency today is for small and middle-sized companies to grow in number. Many of them are related to the basic industries and support them in different ways. There has also been a growth in number of industrial research institutions. Some of these new institutions and companies are spin-off companies from the university in Karlstad.

Major changes in the Swedish defence system have resulted in cuts in defence and related industries, so the region will lose one of its economically reliable sources of employment and business.

One industrial sector which has increased in Värmland is activities connected with information and communications technologies. A substantial part of this reflects trends in the wider economy, but the university has played and still plays an important role in their development. In the longer term IT has the potential to become one of the basic industries in Värmland.

Värmland is now in a period of structural change that will result in even fewer people working in the manufacturing industry and in activities related to industry. During recent years, the rapid and strong economic development in Norway has led to a movement of some businesses from Norway to Värmland. This has been driven by high costs in Norway and the lack of people of working age. In the longer term, the connection to Norway will become more and more important and both industrial and service related linkages can be expected to increase. From being a region related primarily to Gothenburg and the Swedish West Coast, Värmland has developed strong links with the capital region Stockholm: now a new third leg is developing. These three different geographic relations are all very important and have potential for development, but there is also a danger. It is difficult in the political process to prioritise between these three directions when there is a shortage of money for infrastructure investments and this may lead to missed opportunities.

#### **2.4. Service sector**

The service sector in Värmland is well developed. In general, the population has good public services in health care and in education, and in the commercial sector. The broad trend is that more and more service activities are concentrated in and around Karlstad. As a result, commuting and other travel to Karlstad is more and more frequent and the roads and public transport links that connect Karlstad to the rest of Värmland are critical. During the last 10 years, the commercial service production has increased through expansion of the market outside Värmland. Even in this field the relation to Norway is important and close to the border new shopping facilities have been established. IKEA will soon open a mall in Karlstad that also will attract people from Norway.

Perhaps the most important actor in the service sector in Värmland today is Karlstad University. The structure and services of the university and its impacts and potential will be discussed later. At this point it is sufficient to note that the university plays an extremely important role as an education facility, and more and more as a research centre. Karlstad University is also a major employer and attracts people from all of Sweden, but also from abroad. The connection between the university and the society has increased during the last years. Many spin-off companies and other business-oriented activities in Karlstad are the result of this interaction.

#### **2.5. Karlstad University**

The relationship between the Värmland region and higher education and research started in 1967, when Göteborg University opened a branch in Karlstad. The aim was to improve teaching standards in the Swedish primary school system. In 1977, Karlstad University College was founded as an autonomous entity offering higher education programmes that were directed to the needs of the region. In 1988 the University College adopted a plan to create a full university by the year 2000, and on 1 January 1999, Karlstad University was founded. In the government decision on its foundation it was pointed out that the new university should develop its own profile based on existing good performance and promising new areas of research.

Karlstad University has 10 500 students and 1 000 employees. It offers a wide range of undergraduate programmes with an emphasis on vocational training (such as teaching, engineering and business studies), as well as some postgraduate programmes. It has several strong research areas and has developed a few specialised research centres (see below). Until recently Karlstad University

comprised 10 divisions for both education and research. In January 2006 this organisational structure was replaced by a structure of four faculties and the governance and management structure of the university is being adapted.

The University has developed a vision document (adopted by the University Board in November 2004), entitled *Vision 2015*, which emphasises the importance of the social, ecological and economic development of society, as well as of the university's high scientific quality and social relevance. The vision document operates as a framework for the strategic plans and budget decisions of the university.

## **2.6. Infrastructure**

Värmland is strongly dependent on good connections both to the rest of Sweden and also abroad. The roads and railways to the south (Gothenburg) and to the west (Norway) suffer from marked under-investment. Travel is slow and it can be dangerous in bad weather. Both the road connections and the railway to Stockholm are much better. If Värmland wants to fully exploit its situation with "three legs", there is a need for substantial investment in both roads and railways, and the infrastructure within Värmland ought to be better developed if the full potential is to be used. It will take time to attract the necessary investment in infrastructure in competition with other regions in Sweden. Therefore it seems necessary to make hard choices between the alternatives and to decide what should be the major geographic direction for the development of the county.

In the shorter term it is necessary to solve the problem related to the economic viability of Karlstad Airport. If Värmland and its internationally oriented activities are to develop, there must be better air connections at least to Copenhagen, and preferably also to cities such as Frankfurt. Without these flights it will be impossible in the long term to attract people from abroad either in industry or the service sector. The financial problems related to the airports must be solved both in the short, but also the long term.

## **2.7. Political organisation**

The Värmland region has a somewhat complex policy and governance context and there are three organisms working with planning and decision making on a regional level.

The County Administrative Board is the governmental organisation for planning and regional development. The Board funds the implementation of the Regional Growth Programme. Historically the board has played an important role in developing Värmland and it remains the most powerful organisation for questions of future development. Formally, the national government appoints the county governor who presides over the County Administrative Board.

In Sweden, County Councils (originally established as a counterweight to the County Administrative Board; nowadays elected political bodies with the right to raise taxes) have an impact on regional policies and development. The County Council in Värmland has as its major task the provision of health care, but it also has a major stake in the public transport system in the county.

Until recently the Council had a broader range of functions, but many tasks have been moved to Region Värmland. This is an indirectly elected organisation including politicians from the 16 municipalities and from the County Council. The Region Värmland is now responsible for the fields of culture, energy, media and some strategic planning.

As in the rest of Sweden, the municipalities have important responsibilities for the provision of various public services (land use planning, pre-schooling, primary and secondary education) for which

they can raise taxes. The municipalities are well established, but there is now political pressure to rationalise by reducing the number and increasing the size. In the long term the small municipalities will have difficulties in providing services to a declining and ageing population.

This political organisation is now in a period of change. On the regional level, Värmland – like other regions and counties in Sweden – is involved in a major reform process. In 2007, the conclusions of the *Ansvarskommittén* (a parliamentary commission) will be published and discussed. The proposals from *Ansvarskommittén* may result in the transfer of responsibilities between the authorities identified above, and/or changes in the distribution of competence between national agencies and regional authorities. The geographic area for the board may be changed. There is discussion today to merge Värmland with some other counties.

There is also the Partnership Värmland, a body of representatives from County Administrative Board Region Värmland, the County Council, Karlstad municipality, the business sector, the labour unions, Karlstad University, and the Employment Board. The County Governor assumes the chair of this Partnership, which sees itself as “the joint owner” of the Regional Growth Programme. However, the Partnership has no formal authority and works on a basis of communication and consensus-building.

## **2.8. The future**

Värmland has a long and strong history. The county’s cultural tradition has shaped a very strong identity and people in Värmland are proud of and, in many ways, satisfied with the situation in the county. There is no sense of crisis. The economy has developed well over a long period and the living standard is high compared to other regions in Sweden. The last 15 years have seen some change in this situation. On the positive side, there is the rapid development in the service sector where Karlstad University plays a central role. On the down side is a reduction of jobs in industry and also in some state-owned activities. Globalisation and rationalisation in the industry and service sectors have reduced the number of employees in the labour market in the region and resulted in a concentration on Karlstad and on the big cities outside Värmland.

The future in Värmland will be dependent on a number of factors: prediction is a dangerous game, but it is clear that investment in structurally important sectors is crucial to development. As will be seen later, the university has a potentially very significant role, but decisions on infrastructure and in the business sector are also critical. Decisions about political organisation in Värmland may be significant and need to be taken soon in order to minimise distraction from fundamental issues. But even under current arrangements there is scope for prioritisation in the areas of infrastructure, investments in research, and small business support.

Perhaps the critical question for Värmland is in what direction, or directions, from a geographic point of view, it should focus its attention: south, east, or west, or a combination of the three. The question of continued internationalisation and integration needs addressing too – it is not only a matter of the fruitful relations with Norway but, in the long term, the increasingly important relations with the rest of the world. The industry, service sector and university in Värmland will be involved in the globalisation process more and more.

## **2.9. Recommendation**

*The Peer Review Team recommends that the political and business actors in Värmland redouble their efforts to create a process through which they can discuss the questions outlined in the preceding paragraphs and make the decisions necessary to secure the region’s future development.*

### 3. RESEARCH AND REGIONAL INNOVATION

#### 3.1. The national context

The Swedish Higher Education Act and Higher Education Ordinance indicate that the main tasks of the 14 state universities and the 22 state university colleges are to provide education and to carry out research. However, in addition the universities and university colleges are assumed to co-operate with society at large and to provide information about their activities. As far as research is concerned, governmental regulation is limited and universities have a substantial autonomy. Nevertheless, the higher education Act, as well as several guidelines passed in Parliament, emphasise the importance of the need for universities to meet the needs of society and to contribute to economic development and rising employment. In addition, the official yearly regulatory letters to universities and colleges increasingly demand reports on issues such as multi-disciplinarity, gender distribution and international competitiveness.

##### 3.1.1. Research policy

At the national policy level, government has been supporting, over recent years, the creation of special research centres. In the bill “Research and Innovation” (*Forskning och förnyelse*) government argued that these centres stimulate the co-operation with society and thus are important instruments for regional development. Parliament and government have supported the establishment of research centres by commissioning research foundations to allocate funds for the long-term co-operation between higher education institutions and business and industry. Vinnova has funded 28 so-called competence centres at eight institutions; recently Vinnova has decided to rename these competence centres VINN Excellence Centres. At Karlstad University, Vinnova supports an excellence centre on public transport.

##### 3.1.2. Research funding

Most university research in Sweden is publicly funded. Traditionally the Swedish Research Council (*Vetenskapsrådet*) is the largest funding organisation (with a budget of EUR ±200 million per year); other research councils (for the environment, spatial planning and agriculture; working life and social sciences; energy; space research) also provide substantial funding. Two agencies are especially focused on regional development and innovation. These are NUTEK, which is the national agency for industrial development; and Vinnova, which finances applied research based on the needs of business and industry and of society at large. Vinnova (which was formed in 2001) has a budget of EUR 130 million per year and has developed into a strategic funding agency of Swedish research and innovation processes.

In addition, several national foundations play a major funding role. The Knowledge Foundation (KK-stiftelsen) is an important funding base for young universities and colleges (as is the case with Karlstad University); the Wallenberg Foundation funds research equipment and instruments; the Innovation Bridge (*Innovationsbron*) operates as a “bridge” between higher education institutions and

the business sector by offering seed funding for promising business ideas and by supporting incubators; the Industrial Fund provides early venture capital funding.

These various sources for research funding allow universities and university colleges to develop their own specific niches in the broad Swedish research landscape. A university or college can decide to seek funding from the councils, agencies and foundations that match their missions. By doing so it will develop its own specific research profile and create its position in its regional, national and international environments. At the same time, however, having to address a large number of agencies and other actors that may have an impact on their funding levels creates the need for universities and colleges to invest much time and energy in administrative and interactive activities, especially since no overall national funding co-ordination appears to exist.

### ***3.1.3. Regional development***

As indicated above, in Swedish national policies (economic policy, regional policy, and higher education policy) emphasis is increasingly being put on the importance of research and innovation for regional development and the creation of new jobs. Already during the 1990s, government's ambition was to have a strong higher education institution in every county. Recently, initiatives by Vinnova focus on selecting and supporting "key actors" in innovation processes and in using a "market pull" approach by supporting the needs of small and medium sized enterprises (SMEs). NUTEK has shifted its policy focus "from regional aid to regional growth", stimulating the Swedish regions to identify their own economic growth potentials and to develop the regional governance structure that allows them to make optimal use of these potentials. Government has also identified six key Swedish growth areas as a crucial aspect of a long-term national growth strategy. These growth areas are assumed to be operationalised at the regional level, in the various Regional Growth Programmes. Generally speaking, the new overall government philosophy has been described as a triple helix strategy, in which three independent sectors (government/public sector, business and industry and higher education) work together in partnerships.

## **3.2. The regional picture**

The Värmland region has a strong interest in and a strong relationship with its university. In Värmland's Regional Growth Programme, the university plays a major role. In this programme, "Sustainable Growth in Värmland: Programme for 2004-2007", a focus has been established on issues that clearly involve Karlstad University (see below).

### ***3.2.1. Regional industry***

Värmland has a tradition in the paper and pulp, as well as in the iron and steel industry. These industrial sectors were especially strong in the 1950s and 1960s and, although the changes of ownership and internationalisation led to a rather new economic setting, the region has kept its focus on these sectors. Given that, in these sectors too, the knowledge component has become increasingly important, the interaction between these industrial sectors and Karlstad University has become of the utmost importance. For years now, co-operative research with industry at Karlstad University has been undertaken in paper, pulp and printing technology, as well as on materials and chemical engineering. And these research activities are being developed further, based on the, regionally supported, idea that these industrial sectors can form the crucial base for regional innovative clusters.

The Värmland region and Karlstad University work together in research on energy, environmental engineering and information technology. Especially in the latter sector, a successful co-

operation has been developed with the largest private employer in the city of Karlstad (TietoEnator) with the objective to stimulate further economic growth for the region.

### **3.2.2. Regional policy**

The Regional Growth Programme is the major policy instrument for the regional development in Swedish counties such as Värmland. It offers a joint context for the many actors involved in the sustainable development of the region and it provides direction to their plans and actions. The funding of the programme comes largely from the county (Administrative Board), but the private sector, the municipalities, the County Council and Region Värmland also contribute to the programme. These funds are mainly used to finance efforts to stimulate co-operation and development in regional business and industry, and to raise the educational competences in the region.

The general policy philosophy in the Värmland region appears to be that the various regional actors use the Regional Growth Programme for the planning and implementation of their own activities. The Growth Programme identifies various challenges and focus areas, and formulates plans of actions for: strategic governance, innovative clusters, raising the educational level, connecting Värmland and the “Oslo-Stockholm Corridor”.

Both the national and the regional contexts appear to have major influences on the development and organisation of the research and innovation activities in Värmland. The national context has its impact through the general governmental policies that emphasise the importance of research for regional economic development and the various funding sources that are made available in order to reach the nationally set objectives. The regional context has its influence by means of the traditional industrial setting of the region (forestry, steel industry), as well as by the guidance offered by the Regional Growth Programme and the governance structure supporting that programme (Region Värmland, Partnership, etc.).

The result is a rather elaborate palette of clusters, centres, projects and other initiatives that intend to contribute to the development of the Värmland region. Karlstad University plays a major role in many of these initiatives.

Given its relatively young age, Karlstad University has still a rather weak standing vis-à-vis the traditional national research councils. But the university has built a certain reputation for itself as an “innovative environment” in which the focus is on the application and commercialisation of research outputs. Already, in the past, research at Karlstad University was often developed in conjunction with regional partners, especially business and industry in the forestry and steel sectors. More recently the university was successful in realising a national VINN Excellence Centre (a 10 year research project, funded by Vinnova on public transport), a research programme on the coating and surface treatment of paper products (co-funded by the national Knowledge Foundation), a so-called “platform” on Human IT (funded by the Knowledge Foundation) and a so-called “profile” (co-funded by the Knowledge Foundation) on “the new service economy”.

### **3.2.3. Regional clusters**

The regional context shows important innovation-oriented initiatives by business and industry like the “Paper Province” (a cluster of paper and pulp companies) and “Graphic Valley” (a cluster in graphical technology). Together these two have formed the “Packaging Arena”, which has the ambition to bring together the best packaging competences and develop them on a global stage. The Packaging Arena receives national funding via NUTEK. It keeps a close eye on the rapidly changing consumer needs regarding packaging.

Another important regional cluster is “Compare”, focused on co-operation in the IT sector, in which it tries to create and attract new business and for which it develops the relevant competences. Compare and the telecom company TietoEnator are interested in building an open innovation test centre for information technology that may have a major influence on the economic growth of the Värmland region.

In addition, the regional cluster on steel and engineering should be mentioned. With a long and strong tradition in the region, this cluster increasingly focuses on new materials and the development of wear – and damage – resisting tools.

Finally, the Värmland region intends to develop a cluster on tourism and the event industry, making use of its large and unspoiled natural environments and the events that can be organised in them.

#### **3.2.4. The role of Karlstad University**

The regional context thus shows a number of strong business clusters in which research and innovation activities are undertaken. In all these clusters, Karlstad University is seen as a crucial and competent partner, not only because of its own academic expertise, but also because, as an internationally oriented university, it offers windows and opportunities for interaction with specialists on a global scale. It appears that the Värmland business community is highly supportive of Karlstad University. The Chamber of Commerce offers to form a number of advisory boards for the university to assist in creating even closer links with the business sector.

The broad research ambition of Karlstad University is to be a dynamic and open university in the international knowledge society. In order to realise this ambition the university has (in its latest research strategy of 2003) formulated six “profile areas” on which it wants to concentrate. These six areas are: forest, environment and materials, the communication and service society, learning at school and at work, regional identity and welfare, gender in society, culture and creative art. Karlstad University has also built up eight multi-disciplinary research centres. These centres focus, respectively, on: regional development, the service sector, information technology, social care, gender issues, river safety, teacher education and the creative arts. Given the fact that the university also addresses the various national and regional research fields and topics that were mentioned above, the university has a very broad research portfolio.

The Värmland region and especially Karlstad University have developed, always in regional partnerships, an elaborate set of mechanisms for knowledge transfer and commercialisation. In addition to more traditional forms of knowledge transfer (like contract research and doctoral students sponsored by industry), the co-operating regional partners in Värmland have established (in 1994) the “Inova business incubator” (since 2005 part of the national incubator programme of “Innovationsbron”); the so-called “Greenhouse Foundation” (*Drivhuset*), a student initiative to stimulate student entrepreneurship; and the “Designstudio Värmland”, a platform for the design of new products and services. These transfer and commercialisation mechanisms are highly successful and are closely related to the regional business clusters mentioned before. They appear to be a successful and effective regional translation of the national triple helix philosophy in which the business sector, the public sector and a knowledge institution work together to create and stimulate regional development.

### 3.3. Trends and observations

Overseeing the various activities and initiatives in the field of research and innovation, both at the national and the regional level, a number of relevant trends can be identified. These trends can briefly be described as follows:

- At the national level there is a clear emphasis in governmental policies on “relevant research” and concentration on potentially successful economic sectors. The recent identification of the six national growth areas and the emphasis on the triple helix are clearly an expression of this trend.
- Competition for national research funding is increasing. An inter-regional competition appears to be developing, now that NUTEK stimulates each region to identify and develop its own strengths.
- In this context the discussion on a new Swedish regional political structure may lead to important outcomes. The size and shape of the future region and the distribution of competences between the various political actors may have an impact on the innovation strengths of the region.
- At the regional level there is, on the one hand, a multiplicity of regional governance bodies for development and innovation, and, on the other, the Regional Growth Programme and the business clusters which offer a solid base for prioritising innovation initiatives.
- The relationships between the national priorities and the regional innovation initiatives appear to be weak.
- The suggestion (by the Compare cluster) for an open innovation test centre offers an interesting perspective for a further and concentrated development of the innovation processes on a regional scale.
- Karlstad University is a central actor in the various regional innovation structures and has strong regional ties. It has (with its many partners) taken a leading role in building up an effective and successful set of mechanisms for knowledge transfer and commercialisation and a solid reputation in multi-disciplinary innovation oriented research.
- The university has nevertheless allowed a certain level of proliferation of research initiatives, which has led to a fragmented research portfolio with a large number of centres, profiles, programmes and projects.
- It is unclear what impact the new organisational and governance structure of the university will have on its strategic orientation regarding research and innovation.

### 3.4. Recommendations

*The Peer Review Team recommends:*

- *That regional structures to support innovation should be strengthened through further development of the regional business clusters.*
- *That Karlstad University should, through its own research strategy, create stronger relationships with these regional clusters; it should create more focus in its research portfolio and should try to achieve national and even international levels of excellence in the fields that are the focus of the regional business clusters.*

- *That the ties between the regional clusters and the national policy context need to be strengthened. The various regional governance bodies need to intensify their co-operation and create an effective co-ordinating mechanism in order to translate the results of the prioritisation process into a more effective implementation strategy.*
- *That, in order to achieve the above, the regional governance bodies maintain and further develop channels of communication (and effective lobbying) to national socio-economic policy, development and decision-making.*

*The Peer Review Team accordingly recommends that the new regional political structure should be developed with these objectives in mind.*

## 4. TEACHING AND LEARNING

### 4.1. The national context

Sweden has a comprehensive national system of lower secondary education with a common curriculum. The great majority of young people attend their local schools run by the municipality and follow very similar programme.

It is in upper secondary education that courses are differentiated to meet national needs across a range of seventeen programmes. Based on a common core, these programmes offer opportunities to specialise with a view to continuing into higher education or entering the labour market directly. Most young people attend upper secondary education in their own municipality and schools seek to offer programmes which respond to demand, which is itself influenced by the local labour market. Students are, however, free to choose a programme that is not on offer locally.

#### 4.1.1. Higher education policy

The higher education system is steered at a national level: the Government develops tertiary education policy and is the main source of funding for institutions. Institutions develop their own strategies and profiles within the legislative and budgetary framework set by Government. Although policy has aimed at providing a university within easy reach of every potential student it is not assumed that they should choose their “local” institution. Admission is administered nationally.

The average age of starting tertiary studies in Sweden is now 23 years. Only a minority of young people go straight from school to university. This may reduce the likelihood that the regional university is the first choice for undergraduate study.

As elsewhere in the OECD area, tertiary attainment has been rising. Looking at the 25 to 34-year-old age group as a whole, Sweden has one of the highest rates of tertiary attainment at over 40% of the population, although the rate is not growing as fast as in many other countries. In Sweden in 2003, the latest year for which comparable figures are available, 35% of the age group completed tertiary type A programmes, only just above the average for OECD countries.

However, Sweden has the highest aggregate graduation for advanced research programmes in the OECD, at 2.8%.

As in many other OECD countries, women outnumber men in higher education. However, gender differentiation between programmes in higher education is a Swedish characteristic: there are many study programmes that are almost unisexual.

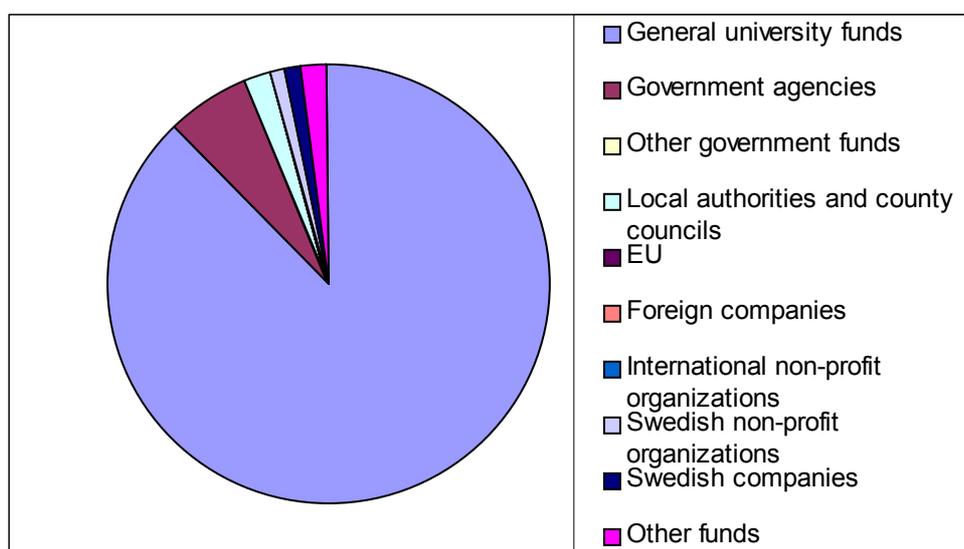
Advanced vocational education (KY) is a relatively recent development, having been introduced as a pilot project in 1996 and extended across the country in 2002. It is not generally regarded as higher education, although the skills levels can be comparable. Workplace training is an important element and courses are focussed on the engineering industry, trade and tourism, agriculture and the forest industry, information technology and health care.

Labour market programmes for unemployed, especially young unemployed, are not considered as part of higher education.

#### 4.1.2. Higher education funding

Higher education and research in Sweden is financed predominantly by public funds, mainly via direct allocations from the state to the institutions. The proportion of funding allocated directly by the state to the entire sector is 65%. For higher education (excluding research and doctoral studies) direct state allocations account for approximately 85% of institutional funding; for research and doctoral studies the share is substantially lower at approximately 45%. Other funding comes from external sources, which include both public and private funding agencies (for example, research councils, public and private research foundations, as well as private enterprises). Tuition fees for individual students are not permitted. The only exception to the no-fees rule is contract education, for which the commissioning organisation pays a fee on a full cost coverage basis and which cannot be commissioned by individuals.

Figure 4.1 Revenues for higher education except doctoral studies, 2004



Source : National Agency for Higher Education Statistical Database

Students usually cover their living costs and other expenses through the state study grant and loan system. Slightly less than half of the students also work part-time.

The current funding system for higher education institutions was introduced in 1993 as part of a general reorientation of state agencies towards management by goals and objectives. The reform aimed to reduce the amount of detailed central state control over the activities of the institutions and to increase their autonomy and accountability.

The main feature of the current system is that funding is allocated to the institutions on the basis of the number of students and study results. Every institution is given an educational directive with goals that include the minimum number of full-time equivalent (FTE) students. Funding is dependent on the results achieved by the institution. The funding allocation for each institution consists of a ceiling figure, determined by the Riksdag, and in some cases combined with funding for certain

special assignments. It is up to the governing board of the institution to distribute the funding internally according to the priorities it sets.

The actual amount of the grant is calculated at the end of the financial year, when the number of students and their results are known. If an institution does not reach its planned ceiling, it does not receive the full funding. On the other hand, if an institution enrolls more students than is allowed for in the ceiling amount, no additional compensation is paid. Thus fluctuations in the number of students directly affect the funding of the institution, even in the same year. In order to mitigate these effects, institutions are allowed to carry over 10% of the ceiling amount to the following years.

## 4.2. The regional picture

While for Sweden as a whole, 35% of the 25 to 64-year-old age group have completed tertiary education, for Värmland the proportion is 27%, while for Karlstad it is 39% (see Table 4.1.).

Table 4.1. **People proceeding to tertiary education and educational attainment in municipalities in Värmland, the County of Värmland, and Sweden**

Municipality/ Region	Students who have completed an upper secondary programme in 1999/2000 and proceeded to tertiary education within three years (in %)			Share of people aged 25-64 years with tertiary education (in %)		
	Men	Women	Total	Men	Women	Total
Arvika	29	51	39	20	28	24
Eda	15	32	24	12	18	15
Filipstad	39	57	48	13	18	15
Forshaga	30	38	34	20	26	23
Grums	12	34	23	13	20	16
Hagfors	26	41	34	13	20	16
Hammarö	40	56	47	34	41	37
Karlstad	42	52	47	36	42	39
Kil	34	52	43	20	29	25
Kristinehamn	36	48	42	20	28	24
Munkfors	17	53	38	12	20	16
Storfors	36	52	42	14	21	18
Sunne	23	39	31	17	27	22
Säffle	34	59	46	18	25	21
Torsby	25	28	26	13	23	18
Årjäng	31	29	29	12	18	15
<i>County of Värmland</i>	<i>34</i>	<i>47</i>	<i>40</i>	<i>24</i>	<i>31</i>	<i>27</i>
<b>Sweden</b>	<b>37</b>	<b>48</b>	<b>43</b>	<b>30</b>	<b>36</b>	<b>33</b>

Source: SER

### 4.2.1. The role of Karlstad University

The importance of Karlstad University as a key factor in raising the general level of competence in the region is clear. Karlstad University (including the Ingesund College of Music) is the only higher education institution in Värmland. The number of undergraduate students at the university has risen sharply in the last decade and is now around 10 500. More than 60% are female.

The new educational strategy includes targets for student recruitment, nationally and internationally, prioritisation of technological programmes, more support for flexible learning, an increase in the number of Master's programmes offered, the adaptation of provision to the Bologna process, and an emphasis on continuing professional development.

Karlstad University does not seek to offer a comprehensive range of courses, and its current offerings reflect its history as a provider of professional training for health care and education, as well as its research strengths. While the University's strategic plan, *Vision 2015*, aims to provide high quality education in all areas, while increasing student numbers to around 10 000 a year, like all Swedish universities it is part of a national system governed by national policies. In determining the range of programmes it offers, the University therefore quite rightly has only one eye on local demand.

The number of undergraduate students at Karlstad University has increased by more than 15% in five years, while the number of doctoral students enrolled has more than doubled.

Table 4.2. **Karlstad University in figures**

<b>Undergraduate studies</b>		
	1999	2004
Students, absolute numbers	9 147	10 554
Students, full-time equivalent (incl. contract education)	7 542	9 086
Programme degrees awarded	919	1 251
Undergraduate allocation, million SEK	287,6	445,8
Alumni	50	1450
<b>Research</b>		
	1999	2004
Publications, total	219*	325
Patents and licences		299 **
Citation index total		1 781
Doctoral students enrolled total	107	239
Doctoral degrees without a preceding licentiate degree, total	12	13
Doctoral degrees, preceded by a licentiate degree, total	0	6
Licentiate degrees, total	0	20
Research allocations, million SEK	52,9	145,7
External funding, million SEK	65,9	113,4
Research volume, man-years	177	289
* 2001		
** 1994-2001		

Source: SER

#### 4.2.2. *Attainment and recruitment*

Several issues came to the attention of the Peer Review Team and are briefly discussed below:

- Gender differences in tertiary attainment in Värmland.
- Variation in tertiary attainment between rural and urban municipalities.
- Recruitment difficulties in science, engineering and technology programmes.

Gender differences in attainment are striking: in only one municipality do more boys than girls complete upper secondary education, but even there far fewer of them go on to tertiary education. The situation is not improving: the most recent freshmen intake was only 33% male.

The SER acknowledges that “this, in turn, results in a gendered, or sexually segregated, labour market. Despite this, women work part-time, have the lowest income, and fail to be promoted to management levels.” (2005)

In Karlstad University the imbalance can be partly explained by the strength of the teacher and nursing training and traditional gender patterns when it comes to the choice of education and profession. There has been some increase in the number of male students enrolled in health care study programmes, made possible by exploiting the freedom accorded by the Higher Education Ordinance to base 10% of admissions on criteria other than school-leaving certificates or SAT-tests. Progress is patchy and in some other areas, for example primary school teacher education, where the number of male students has been the same ever since it began in 2001, there has been little or none. Amongst older students – those who start their studies past the age of 35 – the preponderance of females is even more marked, suggesting that, once lost to the system, very few males are taking the opportunity of a second chance to enter higher education.

The variation in the level of tertiary education attainment between municipalities in a relatively small county is also marked and surprised team members, who came to Värmland with an assumption of greater homogeneity. The Self-Evaluation report referred to efforts by Karlstad University to promote more diverse recruitment of students with different backgrounds to higher education. However that report identifies the emphasis on student performance in the national system of resource allocation as a counter-incentive to the promotion of diversity.

There are not enough applicants to fill available places in the natural sciences and technology, although the problem in Värmland is no worse than in other parts of Sweden or of Europe. In Värmland as elsewhere, special attention has been paid to making young people more interested in the natural sciences and technology.

The University has undertaken a number of initiatives aimed at attracting more women students to technical programmes. Nevertheless, and despite the growing proportion of women in higher education, there has been no corresponding increase in the numbers of women taking technical subjects and ICT. The number of women beginners in engineering has decreased by half since 2000, and their share of students there has dropped from 26% to 19%. In systems science, the decrease is even bigger, with a drop from 41% to 13%.

#### ***4.2.3. Distance learning***

Karlstad University participates actively in the Swedish Net University. Programmes offered include dental hygiene, specialist nursing, and teaching. About one-sixth of the educational provision at Karlstad University is via distance learning and, in most cases, instruction is wholly net-based. The region used to be the main catchment area, but now students are recruited from all over Sweden, although the south still predominates. Teacher training programmes make use of learning centres as local resources.

The use of distance education has had an impact on the flexibility of on-campus education, where the use of ICT is increasing. Some disciplines practise “blended learning”, where the same course is offered off and on campus at the same time, and the University aims to introduce “blended learning” and flexible web-based learning for all forms of education.

**Box 4.1. Master of Public Administration - an example of an innovative teaching programme**

The Master of Public Administration (MPA) programme has been jointly developed by Karlstad University and Hedmark University College in Norway. It is intended to help management level staff of Swedish and Norwegian organisations and public authorities deal with change and to stimulate development and flexibility. Core subjects include organisational theory, political science, management economics, and strategy and change. There is a focus on the historic context and current situation in the inner Scandinavian region in which the parent institutions are based. The programme is partly financed by the European Union and attracts many applicants. One focus is on creating a learning community through open seminars and the establishment of reference groups.

**4.2.4. Advanced vocational education**

The University is not the only provider of tertiary programmes in Värmland and analysis of how the education system contributes to meeting the needs of the labour market needs to take a broader perspective. There is an extensive programme for advanced vocational training in Värmland offered by the municipalities and developed in conjunction with Region Värmland. These post-secondary training programmes combine theory and practical work. In 2005-06, 21 such programmes were available and, for most, Karlstad University is represented in the steering committees.

**Box 4.2. Advanced vocational education meeting the needs of industry**

BrobyGrafiska in Sunne is a centre offering high school and post-secondary vocational training and continuing professional development, primarily in the graphic design, packaging, photography and media areas, although there are also some programmes in health and leadership. Housed in attractive buildings one hour from Karlstad, it has state-of-the art equipment and offers programmes that are directly relevant to local industry. The same building houses the Ideum, which describes itself as "a meeting place for ideas, training, research and business for business and industry" (<http://www.brobygrafiska.se/>). The project cost approximately SEK 40 million, which has been partly sponsored by the European Union and by the public and private sectors.

Sunne has developed from its roots as an agricultural community to a popular tourist destination with a small but effective business sector. We were impressed by the quality and relevance of the programmes on offer, and the involvement of the industry in the planning and delivery of programmes.

Life-long learning is supported by Region Värmland and municipal investments in learning centres. Equipped with computers, databases, and classrooms, these provide facilities for local students to meet, participate in interactive instruction, search in library databases, and order books.

**4.2.5. Commissioned education**

In addition to providing a range of full-time programmes, higher education institutions can respond to need by supplying courses on demand. As of 2005, responsibility for commissioned or contract education at Karlstad University has been centralised with the aim of improving communications with the world outside and of making developmental resources available to faculties and disciplines. Responsibility for the planning and running of courses still rests with the faculty/discipline, but it is hoped that the new arrangements under the management of Karlstad University Professional Services AB will facilitate a pro-active approach and the planning of attractive and relevant programmes (see Box 4.3.).

#### Box 4.3. Karlstad University Professional Services AB

- Established in January 2005 to handle the business side of all commissioned education given by the university to companies and to public organisations.
- Clients
  - County council of Värmland and other public organisations.
  - Municipalities: Karlstad, Arvika, Sunne and others.
  - Paper Province and other similar non-profit trade associations.
  - Companies: AstraZeneca, Ericsson, MetsoPaper, SkiStar, etc.
  - International: Jiangxi University and several Norwegian counties.
- Courses are given by the University with the overall goal of strengthening research and teaching. Major areas are:
  - Culture and learning
  - Management
  - Business and administration
  - Health care
  - Industry, IT and technology
- Course examples
  - Pulp technology, 7.5 ECTS
  - Production management, 30 ECTS
  - MBA, 90 ECTS
  - Tissue technology, 7.5 ECTS
  - Business administration, 15 ECTS
  - Computer vulnerability analysis, 1.5 ECTS

#### 4.2.6. Careers guidance

Karlstad University's job centre and student career service – *Vägvalet* – helps undergraduate students to make contact with potential employers and work placements during their studies. Efforts are primarily directed at local employers and regional development.

A project aimed at providing better information about the relevance of programmes to employment is currently in progress at Karlstad University. It is intended that all students will receive a questionnaire three to five years after their graduation. The questionnaire will focus on the relation between current employment and the job market trained for, and on career progress to date. The project has focussed on the technological and health care sectors and it will be extended to other sectors.

#### 4.3. Trends and observations

Karlstad University is seen as and, to some extent, sees itself as *Värmland's* University, providing HE for the region. But it is also Värmland's *University*, fulfilling a national and international role. The relationship between the education available in a region to the labour market needs of that region is complex. No one suggests that all those born in a region should be educated there or work there all their lives. But when there is a long-term flow of educated young people away from a region, the consequences for development can be serious. Trends need to be monitored, and a balance struck between mobility and development. Education providers and regional authorities both have a role to play.

The SER reports that 50% of the graduates find a job in the region. “A majority of the students say that they would have liked to stay in Värmland if they had found employment here... Statistics on the present job situation for newly [*sic*] graduates show that there is a clear imbalance in supply and demand in certain areas. Regarding health care, there is a lack of qualified applicants, while there is a surplus of graduates with degrees in the humanities or the Fine Arts.” (2005)

There is an inherent tension between labour market policy and provision – primarily, but not exclusively, aimed at providing training, upskilling and retraining for the employed and the unemployed – and education policy and provision – primarily, but not exclusively, aimed at new entrants and to meeting national demand in the longer term. In devising and offering study programmes the university has to make a judgement about short-term demand and long-term need, both from students and from the labour market. It may take the view that even though graduate unemployment is high in certain sectors, demand may pick up in a few years time. Short-term demand is not the only or even the main consideration in setting professional training capacity.

Furthermore, although size is an issue for an emerging institution, the number of undergraduate students is far from being the main indicator of strength and esteem. Although the employability of its graduates is important for an institution, competition for status is based on a number of factors. International rankings and comparisons tend to drive new and emerging institutions to mimic longer-established research universities. Research strength is highly desirable. The Bologna process is a further complicating factor. In the developing programme structure, masters and doctoral courses are a requirement, and Karlstad cannot afford to develop many such offerings.

Karlstad University – like others in similar situations – needs to ensure that there is synergy between its teaching programmes, its research priorities, and the industrial and innovative context in the region, as well as nationally and internationally. It could be assisted in achieving this if success in articulating regional demand and responding to regional need were recognised and rewarded more unambiguously.

The two vectors of difference in levels of tertiary attainment both demand further attention. The Peer Review Team sought to understand the social, economic and cultural factors that may explain the variation in tertiary attainment in terms of gender and of geography. The SER suggests proximity to Karlstad may be one factor and the socio-economic structure of the municipalities another.

The programme for regional growth, “Sustainable Growth in Varmland: Programme for 2004-2007”, identifies raising the general level of education as a challenge and sets goals for male and female tertiary attainment that may be difficult to reach unless efforts are directed at the more rural municipalities. Students that we interviewed identified social expectations as a key factor, while others suggested that part of the problem may lie in what has been defined and recognised as tertiary education. Teaching and nursing have become professionalised to a greater extent than technical training for manufacturing

However, the economic structure of the Karlstad region differs in several respects from that of the county as a whole. Around the city the share of industrial workers is lower than the national average while the areas of trade and communications are stronger than the national average. The SER says: Compared to the county as a whole, the share of persons employed to do “work that requires theoretical specialist knowledge” and “work that requires a limited university education or equivalent knowledge” is clearly in the Karlstad region.

The perceived shortage of potential students for science and technology also deserves attention, even though it is a widespread phenomenon in Europe, not limited to Värmland. As has been noted

above, Värmland has a larger industrial sector than the country as a whole. The county also has proportionately more people employed in the areas of education, health care, and social services.

In the past ten years, resource allocation for undergraduate studies, as well as for research, has increased dramatically, as has the number of doctoral students and degrees awarded. The educational level in the region is rising, especially in the Karlstad area. The funding of higher education rewards institutions for student success and does not encourage the recruitment of students who may require expensive remedial support during their studies.

Nevertheless the region and the university recognise that there is a need to focus on raising the level of education among the population in the region. The strategy of investing in flexible education is part of this effort. This effort needs to go hand in hand with efforts to increase employment. The more job opportunities there are the more graduates will remain in the region.

When we consider mid-career training and updating provision, it appears that the medium-term needs of business and industry for updating of skilled personnel are not especially well-served. Contract or commissioned education is identified as a priority for attention in Karlstad University's *Vision 2015*, but in a somewhat understated way. The newly-formed company, which provides an external face to companies seeking tailor-made programmes, is undeveloped and its potential remains to be realised.

The University is making efforts to provide professionally oriented programmes that are relevant for and based on business practice. It has some impressive programmes to assist graduates to make the transition from education to business. However, there is no systematic support of entrepreneurship, and there is some evidence that the demand from students for support in helping them start their own businesses is limited. It was telling, perhaps, that although much is made of the attractions of Värmland as a leisure and recreational destination, and of the significant investment made by foreign investors in the tourist industry, we heard very little discussion of how the higher education system might contribute to this development.

The University has recognised the professional development of its teaching staff as an area for attention. A high level of competence is vital to any university's capacity to progress. Karlstad seeks to increase the proportion of its teaching staff with PhDs from 39% in 2005 to 55% in 2008 and to offer them opportunities to pursue academic careers. As things stand, individuals are more likely to receive recognition for achievement through publication, and the securing of research funding, than they are through services to regional business or the community. Activities that are rewarded are more likely to be pursued, and although there is no inherent reason why regional engagement and international profile should be in conflict, funding and incentive mechanisms can make it so.

#### **4.4. Recommendations**

*The Peer Review Team recognises that ingrained attitudes to participation in tertiary education cannot be eradicated swiftly, but is concerned that disparities in attainment between male and female, and between rural and urban, are increasing. The Team recommends that the Region, with the support of the University, should address these issues as a matter of urgency.*

*While the Peer Review Team acknowledges the efforts made by Karlstad University to increase the proportion of teaching staff with doctoral degrees, it recommends that the university seeks to identify ways to recognise and reward staff who devote their efforts to regional engagement through teaching, and service. Serious signals need to be given if energy is not to be diverted from these areas.*

*The Peer Review Team was impressed by the range and the energy of the innovative and responsive, professionally oriented training and support programmes and initiatives that were presented to them. It notes that several of these are quite recent and have been funded by the European Union. It is concerned that unless sustainability of funding is achieved, some of these initiatives and programmes may wither.*

*The Peer Review Team recommends that efforts are made to understand student career choices, to promote entrepreneurship, and to provide better information about the relevance of programmes to employment.*

*The Peer Review Team found only weak relationships between research strengths, the clusters of innovation in the region, and the teaching programmes offered by Karlstad University, and recommends that the new management team at the institution addresses this issue as a priority.*

*The Peer Review Team commends the initiative to unify the management of commissioned programmes to meet the specific needs of business and industry, but suggests that this work needs to be given an even higher profile by giving Karlstad University Professional Services a greater strategic role in planning provision.*

## 5. SOCIAL, CULTURAL AND ENVIRONMENTAL DEVELOPMENT

### 5.1. The national context

The Ministry of Health and Social Affairs has responsibility for the Swedish Government's policy of common welfare, where all citizens have the same freedom of choice whatever their stage in life. The policy covers social insurance, social services, public health and health care, elderly issues, children's issues, and disability issues. County councils are responsible for delivering health services and medical care. Responsibility for elderly care services, children's services and services for the vulnerable rests with the municipalities and county councils. The objective is to reduce the gaps between different groups in society, while offering people security and the prospects for development, and to enable more people to participate in the workforce and contribute to growth and production.

Society, culture and the environment provide an important supporting fabric for a sustainable regional community. HEIs, with their other regional partners, can play a significant role in contributing to these areas in many ways. This can occur through the actions of students as knowledgeable members of the regional community, coming from different backgrounds and experiences, through specific learning and research programmes, through specialist infrastructure, and through the provision of targeted services.

#### 5.1.1. Social policy

The public health responsibility of the Ministry focuses on preventing disease and improving people's health. It includes promoting health lifestyles, discouraging the use of drugs, and preventing communicable disease. In medical care, the Government's objective is to improve people's access to high quality medical, dental, psychiatric and elderly care and pharmaceuticals. Disability care is connected to policies on human rights and anti-discrimination in society

#### 5.1.2. Cultural policy

The National Council for Cultural Affairs is the Swedish agency with responsibility for implementing cultural policy. The aim of the policy is to increase access to culture for Swedish residents through a range of strategies including the promotion of high quality facilities such as museums, galleries, orchestras and other cultural facilities, through encouraging participation and through financial support for artists and cultural institutions. The regions and the municipalities share the responsibility for achieving cultural objectives.

Certain national cultural institutions receive funding direct from the Swedish government. These include the Royal Opera, the Royal Dramatic Theatre, *Riksutställningar* (Swedish Travelling Exhibitions) and *Rikskonsorter* (Concerts Sweden).

#### 5.1.3. Environmental policy

The Swedish Government in 1999 and 2005 established targeted objectives across 16 key areas as benchmarks for all environment related development, consistent with international and European

Commission protocols and Swedish research. Administered through the Swedish EPA, the overall plan of the Government is to bring about ecologically sustainable progress by 2020. Five principles underlay the achievement of the 16 objectives. They are:

- Promotion of human health.
- Preservation of biological diversity.
- Preservation of cultural heritage assets.
- Preservation of long-term production capacity of ecosystems.
- Wise management of natural resources.

The Parliament (*Riksdag*) sets particular targets against each of the 16 objectives for the nation as a whole, while the County Administration Boards and the Local Municipalities set regional and local targets so as to encourage community co-operation. The Swedish EPA disseminates data, implements innovative investment and other programmes, supports research, carries out surveys, and monitors progress in meeting the national objectives. Other sectoral agencies, such as the Ministry of Agriculture, the National Board of Forestry, and others, are also involved in delivering on the objectives.

## **5.2. The regional picture**

The Karlstad University *Vision 2015* lists its values as (*inter alia*) “...Our goal is to contribute to the socially, ecologically and economically sustainable development of society” (Karlstad University, n.d., p. 1). The SER supports this vision by highlighting a number of specific initiatives in this goal area. The University says it seeks to achieve its goal through close collaboration with the regional community. The Peer Review Team commends the University for clearly articulating its vision in this area and for supporting it through a range of new and planned initiatives.

At the community level, the “Sustainable Growth in Varmland: Programme for 2004-2007” provides a regional framework administered by the County Administrative Board in collaboration with regional stakeholders – particularly the leadership group Region Värmland. The overall goal of the programme is “...increased growth in Värmland which is sustainable from a social, economic and ecological perspective. It is such development that we strive for and hope to achieve with this programme”. The programme outlines goals in the areas of leadership, human capital competence, attracting more population through a quality social and physical environment, infrastructure to assist mobility in the labour force, and industry competitiveness.

### **5.2.1. Social development**

Karlstad University contributes to the social development of the Värmland region in a number of ways. These include through the activities of students themselves, through the provision of research and learning programmes directed more broadly within the region and elsewhere that address key areas of social concern, and through its involvement on a number of community leadership groups in the area of social development.

The Peer Review Team notes from the Self-Evaluation Report that the University does not provide direct services itself that are accessible to the community at large. This may be something for the future as the institution grows and matures in its programmes and research expertise. Because of their research expertise, the role of the higher education institution in the provision of some aspects of social development services throughout Sweden may be a policy consideration for the future for the

national government. The Peer Review Team was made aware, for example, that a new hospital is planned for Karlstad. While the University does not have a medical school, there may be prospects for the University to become connected in a range of paramedical and community health programmes such as physiotherapy, sociology, psychology, health and exercise, in addition to the existing programmes in nursing, health services and medical administration.

Of significance at Karlstad University is the work of the CTF service research centre, which has a high reputation throughout Sweden and Europe. Priority research areas for the Centre are service management, quality and communication with an emphasis on customer involvement (see Box 5.1.).

#### Box 5.1. CTF Service Research Centre

The CTF works with companies and others to develop new models of service provision as it relates to the use of technology, quality, organisation design and networks with an emphasis on customer involvement. The CTF has a staff of 45 and has 37 partner bodies. Researchers and doctoral students involved with the CTF come from a range of disciplines, such as sociology, psychology, theology, business administration, life sciences, and IT. Key projects have included transportation, e-commerce, customer value systems, developing competence criteria for those in the travel service industry, customer relations, the role of the church in society, and the impact of stress on people in society and human resource management matters. Funding for the Centre comes from the KK Foundation, Vinnova, and individual companies and organisations. A number of projects are undertaken in the Värmland region, however, one difficulty is the degree of funding support that is available locally for such initiatives.

The University makes a contribution to regional society through the services that are provided to students themselves. As is the custom in the Swedish higher education system, the Student Union provides health services, a child care centre, religious services and some accommodation for students. Interestingly, the City of Karlstad guarantees that every student will be found suitable accommodation. However, there needs to be more integration of students within the regional community in the form of volunteer programmes, internships in social and community based organisations, and better career links to local social organisations. A similar social concern for the Värmland region relates to the degree of participation by boys in education and professional and technical vocations. In a knowledge world, the University needs to play its role in encouraging males into higher education and professional and technical occupations, particularly as restructuring in traditional heavy industries dominated by male employment reduces the numbers of job opportunities for males in these industries in the future.

The comment was made that the Swedish welfare system as it relates to university students makes them lazy in their contribution back to society. The University, however, runs a number of learning programmes that have direct relevance to society in the region, for example in the various health disciplines, particularly nursing, sociology and social work, and religion and theology, education, and community safety and their connectivity to regional organisations needs to be strengthened.

Expected new developments with likely benefit to the local community will be a new sports complex to cater for sports events, as well as cultural events. The distance of the campus from the City of Karlstad will detract against full use of university facilities by the local community however.

Finally, Karlstad University leadership are involved with a number of socially oriented regional organisations in the areas of health, community services, local and regional authorities.

### **5.2.2. Cultural development**

In every county there are theatres, music institutions, county libraries and county museums. Regional and municipal heads of these organisations have financial responsibility for their own institutions and the scope and nature of their activities. The state and regions also jointly fund specialist county consultants for dance, the pictorial arts and design, with the aim of promoting activities in these areas.

In Sweden's 290 municipalities there are also cultural institutions funded wholly or for the most part from local income taxes, *e.g.* public libraries, art museums and, in some instances, municipal schools for children and young people specialising in music and the arts. In certain cases, the state provides funding for projects and special commissions.

Other agencies with a responsibility for delivering on the national cultural objective include the Swedish Arts Grants Committee, which supports practicing artists, the Royal Library of Sweden, the National Archives, the National Heritage Board, which manages sites of cultural significance, Concerts Sweden, which organises classical, folk, and jazz music concerts, the Swedish Film Institute, and the National Swedish Public Art council.

Värmland has a strong cultural presence in its regional community. The Värmland Museum, Värmland Theatre, the Värmland Opera, Dance in Värmland, and the Symphony Orchestra are some of the institutional drivers of this culture. In addition, there are several key festivals and concerts, such as the four day Wermland Classic Festival, and the monthly Cultural Breakfast for culture workers and others, where issues of culture in the region are discussed.

The University, through the Centre for Creative Arts and the Ingesund College of Music, aims to enhance the cultural knowledge of students. The Centre for Creative Arts works closely with the Museum and Dance in Värmland and the various cultural, design, media, film and drama teaching and learning programmes in the University. Two areas of research have been established in the Centre; the significance of storytelling and narrative to meaning and interpretation, and memory formation in creating our common identity, culture and history.

The Ingesund College, with 140 full-time students, is located in Arvika 80 km to the west of Karlstad and was integrated into Karlstad University in 2002 and teaches students to be music teachers. A course in music therapy is also provided to train therapists for those who are intellectually disabled in schools, hospitals and other centres. The College also runs a programme on lighting and sound engineering and studio production for the music industry. It is involved with the Karlstad Symphony Orchestra and gives examination concerts as well as some performances at annual festivals. In addition, the College is seen as important for the kind of music that is traditionally important for Värmland. It is unfortunate, however, that the majority of music graduates leave the region after graduation. While Arvika as a community is known for its art and tourism, the College and its music do not play a big role and tend not to engage with the Arvika community.

Another area of Swedish and Värmland tradition in which the University is a strong participant is through its choir, which takes part in many traditional religious celebrations, such as the annual Lucia and Easter festivals, as well as national holidays.

### **5.2.3. Environmental Development**

In the area of environmental sustainability, the Peer Review Team was not made aware of initiatives that were being undertaken by the University. The information made available to the Peer

Review Team resulted from additional requests to the interview programme during the visit. The SER is relatively brief in this area, although it suggests the University has plans in relation to energy consumption, green house gas emissions and waste minimisation through recycling. The new university library building, for example, is expected to have energy saving design built into it.

The University has recently released a new environmental policy with the aim of making gradual improvements to the impact the campus has on the environment. In 2003, a sustainable travel programme was established to reduce motor vehicle travel by staff and students and to encourage public transport and bicycle travel to the campus. The Municipality has provided a subsidised bus service from the CBD to the campus to assist with this objective. A waste minimisation programme was introduced among staff and students on campus to promote waste recycling at source. At present, the recycled waste is taken off campus.

The University has several teaching and learning programmes focussed on environmental sustainability disciplines and there is a need to better incorporate these programmes into regional sustainability initiatives through work placements and other connections. The Environmental Research Centre Forest and Society and the CERUT (Centre for Research on Regional Development) both carry out research involving environmental objectives and their contributions to society. However, the Peer Review Team was not made aware of any key regional initiatives where these research connections were being made.

### **5.3. Trends and observations**

HEIs can make an important contribution to the wider and longer term social, cultural, environmental, and civic development that underpins and sustains economic development of their region. While a good start has been made in Värmland, and considering the short time the University has been in existence, there is much that can be done in this area that will be of benefit in strengthening regional and university goals and be a demonstration of “good practice” to other Swedish universities and their regions

The University has an important role in the development of the Värmland region’s culture. This occurs through the provision of cultural facilities and activities on campus that are available to the community, a number of specialist programmes that have community spin-off benefit, and through university involvement, public lectures, workshops, demonstrations and seminars, and support for some of the key cultural activities of the region through the staff of the university. Students themselves, particularly international students, are an important stimulus for cultural development on a regional scale. The University is committed to promoting aesthetic and artistic and cultural forms. Developing the culture of the community is a way of strengthening the region’s human capital and for community building through social cohesion.

The Peer Review Team notes the University’s objective to become one of the most active universities in Europe as regards co-operation with society in its region, and commends its early efforts to bring about a greater integration between learning programmes and societal needs. However, there is still some way to go.

The Peer Review Team found a concern among leaders on the cultural side of the Värmland Community that, apart from sport, there was a failure to actively encourage a wider cultural appreciation among young people in the community and that the University could make a greater contribution to this by having stronger community reach-out programmes in the cultural area. It was noted, for example, that the Ingesund Music College has little engagement with the Värmland cultural community. While this may in part be due to its location 80 km away at Arvika and its relatively new

role in the Karlstad University, it was felt that there could be more by way of internships, performances and involvement in festivals than has been the case so far. While there were no tensions between the University and the community in this area, it was generally felt that more could be done. There was a concern that the average age of attendees at Värmland cultural events was too high, causing a drop off in general support for them, and that more young people needed to be attracted out of the clubs and bars to both express their cultural skills more widely and to appreciate traditional Värmland cultural experiences.

Higher education institutions can contribute to sustainable environmental development in their regions by being: (a) a source of regional expertise through research and demonstration; (b) as *animateurs*, in bringing together diverse regional actors and elements of capacity to the sustainability process; (c) as generators of human capital in the region through their curricula teaching and learning programmes in areas of sustainable development; and (d) as examples of good practice through their own on-campus management and development activities, such as through strategic planning, building design, waste minimisation and water and energy efficiency practice.

The Peer Review Team commends the University for its emerging focus on the importance of focussing on sustainability goals within the campus. However, the team is of the opinion that this is not a sufficient demonstration of leadership to the rest of the regional community about what higher education institutions can do to enhance environmental sustainability.

#### **5.4. Recommendations**

*The Peer Review Team recommends that there be a wider approach to integration through the use of greater local internships and career planning for students involved in society-oriented learning programmes, the dissemination of research findings in the area of services in such a way that they are of practical use to the region's service providers, and more active promotion of student volunteerism to enable their connection with regional society. This is in keeping with the National Agency for Higher Education report "Higher Education and Co-operation with the Surrounding Community".*

*The Peer Review Team recommends that the University review its various cultural programmes with a view to strengthening the connectivity with regional cultural institutions and organisations.*

*The Peer Review Team recommends that a comprehensive and specific Green Campus strategy be formulated that embraces sustainable environment principles that relate to all campus functions. Through the implementation of such a strategy there will be many opportunities to work with the region, local authorities and local enterprises concerned with solving environmental issues, such as water quality, air quality and waste minimisation.*

*The Peer Review Team recommends there be greater consultation between University leadership and programme managers on social, cultural and environmental matters, with involvement from appropriate community organisations. This should, naturally, lead to the implementation of new partnership initiatives that strengthen the connectivity between social, cultural and environmental expertise and programmes within the university and partners within the wider regional community.*

## 6. THE MAJOR ISSUES

### 6.1. The national context

The need for government departments to deliver messages and implement consistent policies is a recurrent theme of reports such as these. “Joined-up government” is a laudable aim, but the reality is that different constituencies will have distinct and sometimes conflicting objectives. It may well not be possible to satisfy all of them at the same time. The field of regional development is especially difficult. Policy objectives, such as comparability of programmes nationally and equity in access to educational opportunities, may lead to implementation strategies that are detached from regional contexts. Policies that seek to correct or reduce regional disparities may assume a desired homogeneity of outcome that is not what the region itself may want.

The Review Team had only limited time with national agencies and government departments. The clear impression they received from the Ministry of Education was that, having established the national framework of provision, funding and legislation for higher education, it was not a priority for them to influence, or even monitor, the way in which the regions and “their” institutions worked together to address specifically regional concerns.

#### 6.1.1. Innovation policy

An overt innovation policy in Sweden is a relatively recent development. For much of the second half of the twentieth century, Sweden’s economic strength rested on a small number of large manufacturing enterprises. Globalisation has seen ownership of many of these move outside Sweden’s borders, reducing both their influence on policy development and the influence of national policy on their strategies. Although many industries are healthy, the result of rationalisation and technological development has been jobless growth.

Regional development policy used to focus on supporting sparsely populated areas and reducing imbalances between regions. In recent years, however, the development of clusters exploiting regional competitive advantage has been encouraged by national policy in Sweden. Improved understanding of the workings of the triple helix (higher education-government-industry) has caused the three sectors to be looked at together and focused attention on the need for research and development to support knowledge intensive industry. Networking is seen as increasingly important in stimulating “open innovation”.

Nonetheless, there remains scope for further exploiting regional strengths in Värmland. Government’s role in Värmland has been mediated primarily through Vinnova, which took the bold decision to allocate long-term funding for the VINN Excellence Centre on public transport to a young university, a decision which apparently caused some astonishment.

Other national level organisations and agencies, including Innovationsbron, KK-stiftelsen and NUTEK, all contribute in various ways to Värmland’s development, and the review following the withdrawal of defence forces has identified further specific initiatives. There remains in the mind of the review team a lack of focus and clarity in the aggregate effort.

*The Peer Review Team recommends that the Government, through the County Governor, should rapidly review the impact of the different initiatives to promote regional development and innovation in Värmland, with a view to identifying opportunities for further targeted support.*

### **6.1.2. Expanding higher education funding**

The funding base for higher education in Sweden has become increasingly diversified, although to a lesser extent than in some countries. To ensure financial sustainability, universities need greater awareness of the costs of the services they provide, and the financial capacity to fund them adequately. National government can help them achieve this by insisting on transparency in the reporting of expenditure and by clearly identifying the purposes of the funding streams they provide. Engagement in the region has only recently been separately identified as a responsibility for universities in Sweden and although the funding of research and innovation has been reorganised, no specific funding stream has been attached to regional engagement. This gives a mixed message to higher education institutions in Sweden and risks leaving them seeking to fulfil a responsibility, but unable to provide the appropriate incentives to their staff to do so.

*The Peer Review Team recommends that the Ministry of Education should review the practice and impact of third role activities since the amendment to the Higher Education Act in 1997 that made “co-operation with the surrounding community” a statutory responsibility.*

## **6.2. The regional picture**

It is never easy to reach decisions in a complex environment where there are many dynamic and unknown factors. There are no right answers and opportunities may be lost if decisions are delayed too long. The search for consensus takes time and it may be better to take firm action in the short-term, rather than to delay until everything becomes clear. Värmland is not in crisis, but there are some warning signs.

### **6.2.1. External pressures**

We have seen how the Värmland region is – like many others – having to cope with a rapid globalisation of some of its key industries. While it retains employment and expertise in both the forest-related and steel sectors, some jobs have moved offshore, and few major companies remain locally owned. International companies have rationalised production and while there is growth in output, employment has levelled off. The focus has moved to high-quality specialised products.

Internationalisation has broadened the outlook and frame of reference of the region so that it looks not only to neighbouring regions of Sweden, but to Norway, the Nordic triangle, and the European Union. While some of these links are co-operative, there is growing competition between regions and countries.

The changing regional governance structure in Sweden is a further cause of uncertainty. It opens the prospect of new alliances, but can deflect attention from strategic issues to internal political issues.

### **6.2.2. Strengthening the regional platform**

The review team formed a clear view that Värmland is still looking for a shared regional vision and ambition, which is a prerequisite before it can properly develop the policies that will enable it to be achieved. While much progress has been made, notably in the process which led to the “Sustainable Growth in Värmland” regional growth programme, future planning has to be more oriented towards specific priorities, and with a clear action plan for the future, based on a co-ordination and implementation structure.

Värmland needs a platform for analysing external trends (and the associated threats and opportunities) that is stronger than those currently at its disposal, for example, in Partnership Värmland. On the evidence available to us, this will mean stronger leadership and the development of a single mechanism for dialogue and co-ordination and implementation initiatives.

*The Peer Review Team suggests that the region needs to focus more than it has done so far on which regional clusters are crucial for its development. The further development of joint activities and investments in these clusters are, in particular, of crucial importance. This issue has to be addressed with some urgency and a time horizon might be one year.*

Such a mechanism should take as one of its responsibilities the development of a more effective communication and lobbying strategy regarding decision making in Stockholm. There is a lack of risk capital in the region – *therefore, the Peer Review Team recommends the creation of a regionally owned risk capital foundation. And in this new context, there is a stronger role for the university in helping develop the regional agenda for the future. This should be the subject of a contract between the Region and Karlstad University, and it needs to be funded regionally and locally, and supported nationally.*

In many spheres of activity, comparison with others is a valuable way towards self-knowledge and improvement. Värmland, by its participation in this project, has demonstrated its awareness of this, and the improved international benchmarking of its activities would be a further step forward.

### **6.2.3. Upgrading the regional infrastructure**

While the issue of infrastructure goes beyond our remit, it is clear that there are issues to be addressed. Karlstad is well situated between Oslo, Copenhagen and Stockholm, but links to all three could be improved. Karlstad airport provides a vital link to Stockholm and Copenhagen and it is crucial for business and industry. But flights are few and costs are high, and it is not the only airport in the region. Its ownership and development need to be resolved. Road and rail are also important and Värmland can only benefit if journey times can be reduced and frequency of services increased.

### **6.3. The future of the University**

It is worth reemphasising in this broader context the need for universities to focus on identifying and developing their strengths as a way of developing a national and global profile. Only in this way can they hope for strategic growth in an increasingly competitive global higher education market, which in turn will enable them to support regional economic, social and cultural development most effectively.

The very existence of Karlstad University bears witness to several trends in higher education – the creation of institutions with a specifically, but not exclusively, regional mission; the increasing proportion of young people undertaking tertiary education; and the growing status of advanced vocational education. The University has had to find its feet in a context of proliferation of disciplines and associated research and innovation activities, accompanied by specialisation and fragmentation. As a young institution it faces the difficulties that all new entrants face in developing a strong research culture, but it has more flexibility than older, larger institutions in responding to calls for multidisciplinary approaches.

### 6.3.1. More focus in the research portfolio

Karlstad University has a heritage of strong regional ties, and it is taking initiatives to strengthen and develop them. Yet for many of its student population, the surrounding community is something they take for granted. Quite rightly, their focus is less on engagement with the community than on their own qualifications and careers.

As the only local university, Karlstad does not perhaps have to sell itself to its natural customer base in Värmland; and, as an institution that attracts students from across Sweden, it focuses on its qualities as a university and the attractions of Värmland. But no institution is immune to competition for talent amongst its researchers, its teachers and its students. After fifty years of growth, the competition between universities is heating up. Global rankings have focused media attention on perceived strengths and shortcomings. Questions of critical mass and strategic alliance are frequently on the agenda.

Karlstad University has developed a set of important, relevant and often high quality research centres and programmes. This development has taken place over a short time. Nevertheless, the centres and programmes remain in large part disconnected entities. There is now a pressing need for the University as an institution to focus and prioritise its research activities, and to develop a strategy that reflects its strengths, its ambitions and its context.

Karlstad University should look at strategies for strengthening the position of its research centres. A university with a profile such as that of Karlstad cannot expect to be strong across the board. It might envisage having five disciplinary foci for research, and to relate these to specific vectors of regional development. Activities seeking support should be able to locate themselves in a matrix of the following type:

Table 6.1. **Research-Industry Matrix**

	Forestry/packaging	Culture/tourism/events	Steel	One more
Information technology				
Entrepreneurship				
Consumer focus				
Gender				
One more				

*The Peer Review Team recommends that Karlstad University should develop and apply specific criteria for supporting and fostering research. These might include:*

- *The international reputation of the research team.*
- *The regional relevance of the activity.*
- *The critical mass of the research team.*
- *The potential for external funding.*

The matrix above should not be interpreted exclusively. There will always be some worthwhile programmes which will not fit in neatly. But these will be exceptions: as one member of the review team put it, some room must be left for flowers to grow.

In the view of the Review Team there are two preconditions for success in this approach: the University will have to adapt its internal resource allocation model to stimulate priority areas, and it

will have to develop strategic alliances with other universities and organisations in its chosen areas of research focus.

### **6.3.2. A strong innovation strategy**

Karlstad University has a strong and well-developed set of facilities and mechanisms related to innovation, but there is still room to focus. Like the region, the university has to develop a shared vision of what its strengths and priorities are, and then be single-minded in pursuing them. Research initiatives need to be linked to priority areas. Initiatives such as the development of open specialised testing facilities and platforms are promising.

The region will benefit more if the university can provide it with the skills and the people who will enable it to grow and nurture new business. Success needs to be measured more in terms of the sustainable growth of companies, and not just the number of spin-offs emanating from the university. In the words of one interlocutor, there is greater benefit in teaching people to fish than in providing them with fish.

The university has developed an effective range of mechanisms for technology transfer and interaction with regional business and industry. The Peer Review Team felt that the time-frames offered to start-ups could sometimes be restrictive. While quick development should be encouraged in some cases the 12 months offered in Drivhuset is insufficient and this policy could be reviewed.

*The Peer Review Team suggests that performance could be further improved if a one-stop shop for external enquirers to Karlstad University could be developed.*

The aim should not necessarily be to give a quick response, but to provide a place where enquiries are welcomed, and a learning environment for smaller and medium-sized businesses to find solutions to problems. Efforts to communicate with this sector need to be intensified: people need to hear about them regularly.

### **6.3.3. Focus and linkages in teaching and learning**

In the field of teaching and learning there are three objectives:

- Seeking to offer a broad competence-building strategy for the region.
- Increasing tertiary attainment in the region and broadening access by under-represented groups.
- Meeting the needs of the regional labour market.

Meeting these objectives also requires focus and linkage between the various arms of the university. Teaching – especially Masters teaching – must be articulated with research strengths (*e.g.* the CTF). The reforms associated with the Bologna process provide opportunities here.

*The Peer Review Team recommends that Karlstad University can render service to Värmland, at little cost to itself, by accepting responsibility for advising students about courses that it does not itself offer. Reciprocal action by other universities would result in a better service to the country as a whole. There is a need to promote education for entrepreneurship as a module for far more students. Internships can be developed. More attention should be paid to the upgrading, and continuing education of the labour force as it becomes increasingly professionalised. Commissioned education has a major contribution to make in this regard.*

#### ***6.3.4. Further developing the governance and management structure***

The University needs to find, or create, and then protect and develop its niche in a broad and diversified higher education system that is essentially national, but increasingly global, in scope. This will imply a sophisticated approach to “competition” the development of understandings and alliances with other Swedish and international institutions.

The involvement of business and industry leaders in university governance has a positive effect on creating strong networks that reach beyond the institution. This principle can be extended beyond national borders. We understand that the legislation in Sweden does not permit the inclusion of non-Swedes on the Board of the University. Experience suggests that an international perspective can be of great value to an institution seeking to develop its profile. Indeed, the Rector of Karlstad University is herself a member of the board of institutions in Denmark and Norway.

Higher education institutions and their staff can contribute in many ways to the development of their regions and Karlstad University has been effective in many ways. Nevertheless, there is little evidence that their recruitment and promotion policies leave them in a stronger position than others to foster and reward such contributions

The multiple missions of the institution make clear communications strategies difficult to develop. Nevertheless, like all such institutions, Karlstad University is obliged to develop its image before a range of audiences and it needs a communications strategy that is based on a clear articulation of its vision and mission and emphasises the institution’s role in regional development.

At the time of our visit a far-reaching reorganisation of the internal management of Karlstad University was about to be implemented. Vice-rectors appointed by the Rector will work with Deans elected by the Faculties. Deans had been elected and Vice-rectors appointed, but working relationships remained to be determined and experienced. It was not clear to the review team how the new arrangement would affect the institution’s capacity to relate to and engage with the Värmland region – whether positively, negatively or not at all.

We were concerned at a more general level that the division of responsibilities between Deans and Vice-rectors might sometimes be counter-productive. When things are going well, the Deans and Vice-Rectors would work in synergy for the development of the institution, but in times of difficulty or disagreement the lack of clarity about spheres of responsibility might lead to conflict between Deans and Vice-Rectors in which one or the other would seek to dominate.

Although it went somewhat beyond our remit, the Peer Review Team did ask itself the question of the scope for the expansion of Karlstad University. It has been growing steadily and there is clearly scope for improving participation amongst boys, but the ceiling may soon be reached.

Growth in isolation may not be enough and links with other universities should be explored. Karlstad’s traditional links are with Gothenburg University, reflecting the links of the region with that city. Would a more strategic relationship with Gothenburg give Karlstad University the critical mass necessary to enable them to compete in higher education?

## 7. OVERVIEW OF RECOMMENDATIONS

In this concluding chapter we draw together the recommendations embedded in earlier chapters. They are not summative judgments and hence should not be read in isolation from the argument in the body of the report.

### 7.1. Recommendations for national higher education policy

The Peer Review Team recommends that the Ministry of Education should review the practice and impact of third role activities since the amendment of the Higher Education Act in 1997 that made “co-operation with the surrounding community” a statutory responsibility.

The Peer Review Team recommends that the Government, through the County Governor, should rapidly review the impact of the various initiatives to promote the regional development and innovation in Värmland with a view to identifying opportunities for further targeted support.

### 7.2. Recommendations for the Värmland region

The Peer Review Team recommends that the political and business actors in Värmland redouble their efforts to create a process through which they can discuss the questions regarding the economic and political future of the region, and make the decisions necessary to secure the region’s future development.

In addition, the Team suggests that the region needs to focus more than it has done so far on which regional clusters are crucial for its development. The further development of joint activities and investments in these clusters are, in particular, of crucial importance. This issue has to be addressed with some urgency and a time horizon might be one year.

Regarding the lack of risk capital in the region, the Peer Review Team recommends the creation of a regionally owned risk capital foundation. And in this new context, there is a stronger role for the university in helping develop the regional agenda for the future. This should be the subject of a contract between the Region and Karlstad University, and it needs to be funded regionally and locally, and supported nationally.

Regarding research and innovation in the Värmland region, the Peer Review Team recommends:

- That regional structures to support innovation should be strengthened through the further development of the regional business clusters.
- That Karlstad University should, through its own research strategy, create stronger relationships with these regional clusters; it should create more focus in its research portfolio and should try to achieve national and even international levels of excellence in the fields that are the focus of the regional business clusters.
- That the ties between the regional clusters and the national policy context need to be strengthened. The various regional governance bodies need to intensify their co-operation and create an effective co-ordinating mechanism in order to translate the results of the prioritisation process into a more effective implementation strategy.

- That, in order to achieve the above, the regional governance bodies maintain and further develop channels of communication (and effective lobbying) to national socio-economic policy development and decision making.

The Peer Review Team accordingly recommends that the new regional political structure should be developed with these objectives in mind.

Regarding teaching and learning in Värmland, the Peer Review Team recognises that ingrained attitudes to participation in tertiary education cannot be eradicated swiftly, but is concerned that disparities in attainment between male and female, and between rural and urban, are increasing. The Peer Review Team recommends that the Region, with the support of the University, should address these issues as a matter of urgency.

### **7.3. Recommendations for Karlstad University**

The Peer Review Team recommends that Karlstad University should develop and apply specific criteria for supporting and fostering research. These might include:

- The international reputation of the team.
- The regional relevance of the activity.
- The critical mass of the research team.
- The potential for external funding.

The Peer Review Team also recommends that performance could be further improved if a one-stop shop for external enquirers to Karlstad University could be developed.

While the Peer Review Team acknowledges the efforts made by Karlstad University to increase the proportion of teaching staff with doctoral degrees, it recommends that the university seeks to identify ways to recognise and reward staff who devote their efforts to regional engagement through teaching, and service. Serious signals need to be given if energy is not to be diverted from these areas.

The Peer Review Team was impressed by the range and the energy of the innovative and responsive, professionally oriented training and support programmes and initiatives that were presented to them. It notes that several of these are quite recent and have been funded by the European Union. It is concerned that unless sustainability of funding is achieved, some of these initiatives and programmes may wither.

The Peer Review Team recommends that efforts are made to understand student career choices, to promote entrepreneurship and to provide better information about the relevance of programmes to employment.

The Peer Review Team found only weak relationships between research strengths, the clusters of innovation in the region, and the teaching programmes offered by Karlstad University, and recommends that the new management team at the institution addresses this issue as a priority.

The Peer Review Team commends the initiative to unify the management of commissioned programmes to meet the specific needs of business and industry, but suggests that this work needs to be given an even higher profile by giving Karlstad University Professional Services a greater strategic role in planning provision.

The Peer Review Team recommends that Karlstad University can render service to Värmland, at little cost to itself, by accepting responsibility for advising students about courses that it does not itself offer.

Regarding the social, cultural and environmental development of the Värmland region, the Peer Review Team recommends that there be a wider approach to integration through the use of greater local internships and career planning for students involved in society-oriented learning programmes, the dissemination of research findings in the area of services in such a way that they are of practical use to the region's service providers, and more active promotion of student volunteerism to enable their connection with regional society. This is in keeping with the National Agency for Higher Education report *Higher Education and Co-operation with the Surrounding Community*.

The Peer Review Team recommends that the University review its various cultural programmes with a view to strengthening the connectivity with regional cultural institutions and organisations.

The Peer Review Team recommends that a comprehensive and specific Green Campus strategy be formulated that embraces sustainable environment principles that relate to all campus functions. Through the implementation of such a strategy there will be many opportunities to work with the region, local authorities and local enterprises concerned with solving environmental issues such as water quality, air quality and waste minimisation.

The Peer Review Team recommends there be greater consultation between University leadership and programme managers on social, cultural and environmental matters, with appropriate community organisations. This should, naturally, lead to the implementation of new partnership initiatives that strengthen the connectivity between social, cultural and environmental expertise and programmes within the university and partners within the wider regional community.

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## APPENDIX 1. THE OECD REVIEW TEAM

### Lead Evaluator

Prof. **Frans van Vught** is a Member of the Group of Societal Policy Analysis (GSPA) of the European Commission (under the leadership of EC-President Barroso) and a Member of the Executive Board of the European University Association (EUA). From 1997 to 2005 he was Rector and President of the University of Twente, and before that the founding director of the Center for Higher Education Policy Studies (CHEPS), a higher education research centre of the University of Twente. In the Netherlands, Frans van Vught is a Member of the National Innovation Platform (presided over by the Prime Minister) and of the National Social Economic Council. He has been, among others, a Member of the National Council on Education, President of the Board of Governors of the International Institute of Aerospace Survey and Earth Sciences, Chairman of the Dutch National Foundation for the Advancement of Science and Technology and President of the Supervisory Board of the *Hogeschool Enschede*. Internationally, he is a Member of the University Grants Committee of Hong Kong and the German *Akkreditierungsrat*. Van Vught is an expert in higher education policy and management. He has published widely and has been consultant for many international organisations, governments and universities. He holds several academic awards and is honorary doctor of the University of Ghent, Belgium.

### International Expert

**Dr Steve Garlick** has more than twenty years experience in the field of regional development as a policy developer and ministerial adviser, programme manager, regional practitioner, and researcher. He was a senior executive in the Australian Government for around twelve years in the areas of regional development, industry and local government. He holds Master's and PhD degrees in economics. He is currently Professor of Regional Engagement at the University of the Sunshine Coast and an adjunct professor in regional development at the Swinburne University of Technology in Melbourne. His research interests are in the fields of regional and community development, higher education, and institutional performance assessment. For the last eight years he has researched and published, particularly in the area of universities and regions. He also runs a research consultancy business, has an interest in ethics, and in his spare time is the president of a large Australian native animal caring organisation.

### National Expert

**Dr Lars Nordström** is Professor of Human Geography at the Göteborg University. He has been a member of the European Union Committee of Regions since 1995 and is Chair of the Board of West Sweden, an organisation of 68 local authorities in Western Sweden. He also chairs the Board of Reväst, an organisation of regional research. He is the Chair of the Political Board of Culture in Region Västra Götaland and a deputy member of the Regional Board of Västra Götaland. Over the years, Professor Nordström has held several governmental board positions in Sweden, including Chair of the Governmental Board of Transport Research, Chair of the Governmental Committee of Traffic and Climate, and Member of the Governmental Board for Research in the area of civil defence and crisis.

## **Team Co-ordinator**

**Richard Yelland** is Head of the Education Management and Infrastructure Division in the OECD Directorate for Education. As a member of the Directorate for Education's Management Group, he leads its work on tertiary education. His Division is responsible for the work on the governance and management of higher education institutions and on educational facilities at all levels. Richard joined the OECD in 1986 from the then Department of Education and Science in the United Kingdom, where he had held a range of posts in educational policy and administration since 1974. He was appointed to lead the OECD's Programme on Educational Building (PEB) in 1989; and took responsibility for the Programme on Institutional Management in Higher Education (IMHE) in 1998. He is a member of the Advisory Board of the UNESCO Centre for European Higher Education (CEPES) and of the international advisory board of the Leadership Foundation for Higher Education in England. Richard was born and educated in England, and studied Mathematics and Religious Studies at Cambridge University. He has three teenage children.

## **APPENDIX 2. REGIONAL CO-ORDINATOR, REGIONAL STEERING COMMITTEE, AND THE AUTHORS OF THE REGIONAL SELF-EVALUATION REPORT**

### **Regional Co-ordinator**

Per Fredriksson Karlstad University

### **Members of the Regional Steering Committee**

Per Eiritz (Chair)	Metso Paper
Bengt Möller	TietoEnator AB
Christina Ullenius	Karlstad University
Malin Ryttberg	Ministry of Education and Culture
Per Eriksson	VINNOVA
Sune Berger	Karlstad University
Sture Hermansson	County Administrative Board of Värmland
Anna Sandborgh	Municipality of Karlstad
Christer Svahn	Region Värmland

### **Authors of the Regional Self-Evaluation Report**

The self-evaluation report was written by a working group made up of staff members of organisations represented on the Regional Steering Committee and led by the Regional Co-ordinator.

## APPENDIX 3. PROGRAMME OF THE REVIEW VISIT

### OECD Review Visit to Värmland, 11-16 December 2005

#### Sunday 11 December

Stockholm

19:00-21:00

*Sture Nordh*, Chairman of the Board, Karlstad University  
*Christina Ullenius*, Rector

#### Monday 12 December

Stockholm and Värmland

08:30-09:45 Vinnova, KK-foundation, Nutek, Innovationsbron  
*Per Eriksson*, General Director, Vinnova  
*Susanne Andersson*, Handling Officer, Vinnova  
*Madeleine Caesar*, Managing Director, KK-Foundation  
*Kurt Ekelund*, Area Manager, NUTEK  
*Jan Nylander*, Managing Director, Innovationsbron  
*Lena Blomberg*, Managing Director, Vinnova

10:00-11.00 Ministry of Education  
*Kerstin Eliasson*, Parliamentary Under-Secretary  
*Malin Rytberg*, Senior Administrative Office  
*Karin Röding*, Departement Advisor

11:00-12:15 Ministry of Trade  
*Jonas Bjälfvenstam*, Parliamentary Under-Secretary

13:00-16:15 Train Journey to Karlstad

16:30-17:45 The partnership Värmland  
*Per Samuel Nisser*, Vice chairman, Region Värmland  
*Catarina Segersten-Larsson*, Chairman, County Council  
*Dorothea Sohlberg*, City Executive Committee, Storfors Kommun  
*Ulla-Britt Stenholm*, Chairman, Chamber of Commerce, Värmland  
*Christina Ullenius*, Rector, Karlstad University  
*Eeva Vestlund*, County Labour Director, Värmland  
*Åsa Hååkman-Feldt*, Filipstads kommun  
*Inge Stüffe*, Chairman, Adamant Märksystem AB

## Tuesday 13 December

07:30-08:30 Lucia

08:30-10:00 University Management, Karlstad University  
*Christina Ullenius*, Rector  
*Lars Haglund*, Pro-rector  
*Boel Henckel*, University Advisor  
*Lena Larsson*, University Director  
*Per Fredriksson*, Director University Outreach  
*Gunnel Kardemark*, Vice-rector  
*Stig Håkangård*, Vice-rector  
*Monica Schagerholm*, Vice-rector  
*Bo Hidén*, University Advisor  
*Cristina Grenholm*, Dean

10:00-11.00 Academics, Karlstad University  
*Curt Räftegård*, Vice-dean  
*Monica Jacobsson*, Lecturer  
*Marija Borenius*, Lecturer  
*Lisbet Korp*, Training Officer  
*Martin Sundqvist*, Managing Director, Karlstad University Professional Services AB  
*Elisabeth Wennö*, Head of Department  
*Jan van Stam*, Senior Lecturer  
*Bo Enquist*, Senior Lecturer, CTF, Karlstad University

11:00-12:00 Students, Karlstad University  
5 students + 4 doctoral students

12:00-14:00 Research Groups (incl. Lunch)  
*Peter Rättö*, Area Manager, [Surface Treatment Programme](#)  
*Magnus Lestelius*, Area Manager, [Surface Treatment Programme](#)  
*Anders Gustavsson*, Professor, CTF, Karlstad University  
*Simone Fisher Hübner*, Professor, Computer Security, Karlstad University  
*Lena Gonäs*, Professor, Wors Science  
*Berit Sundgren-Grinups*, Lecturer, Equal  
*Lars Johansson*, Professor, TMA  
*Girma Kifetew*, Senior Lecturer, Mechanical Engineering  
*Solveig Häggglund*, Vice-dean, Teaching

14:00-14:45 County Council, Chairman  
*Catarina Segersten-Larsson*, Member of Board of Directors, Karlstad University

15:00-16:15 County Administrative Board, Chairman  
*Eva Eriksson*, County Governor, Värmland

16:30-18:00 The Municipality of Karlstad  
*Lena Melesjö-Windahl*, City Commissioner  
*Anders Knape*, City Commissioner  
*Anna Sandborgh*, City Director  
*Ingrid Ivars*, Director of Commerce

18:00 – 20:00 Dinner

*Lena Melesjö-Windahl*, City Commissioner  
*Anders Knape*, City Commissioner  
*Anna Sandborgh*, City Director  
*Ingrid Ivars*, Director of Commerce  
*Per Eiritz*, Managing Director, Metso Paper, Karlstad  
*Christina Ullenius*, Rector, Karlstad University  
*Eva Eriksson*, County Governor, Värmland  
*Lena Larsson*, University Director, Karlstad University

### **Wednesday 14 December**

08:30-09:30 The City of Sunne

*Karl-Johan Adolfsson*, City Commissioner, Sunne kommun  
*Peter Karlsson*, Chairman of the City Council, Sunne kommun

09:30-11:15 Learning Centre, Broby Grafiska

*Inga-Lill Lindkvist*, Rector, Broby Grafiska  
*Per Branzén*, Senior Faculty, Administrator, Broby Grafiska

11:15-12:15 Travel to Karlstad

12:30-13:45 The Packaging Arena, The Packaging Green House (including lunch)

*Ulrika Evermark*, Project Leader, The Packaging Arena  
*Torbjörn Wahlström*, Research Director, Metso Paper AB

14:00-14:45 Designstudio Värmland

*Tomas Edman*, Manager

15:00-16:15 Inova, Drivhuset

*Patrik Bongerus*, Project Manager, Stiftelsen Inova i Wermland  
*Britt Lööf*, Process Developer, Stiftelsen Inova i Wermland  
*Carl Danielsson*, Project Leader, Stiftelsen Inova i Wermland

16:30-18:00 Kvaerner, StoraEnso, BTG, Ord&Bild, The Paper Province

*Ola Knuts*, R o D, Stora Enso Research  
*Tom Gustafsson*, Managing Director, BTG AB  
*Robert Gustafsson*, Project Leader, Ord och Bild AB

18:30-21:00 Dinner

*Tom Gustavsson*, Managing Director, BTG AB  
*Ulrika Evermark*, Project Leader, The Packaging Arena  
*Gert Nilson*, R o D, Uddeholm Tooling AB  
*Bo Hidén*, University Advisor, Karlstad University  
*Per Fredriksson*, Director University Outreach, Karlstad University

### **Thursday 15 December**

09:00-10:00 The Board of Region Värmland

- 10:00-11:30 The Norwegian Perspective  
*P-O Norell*, Senior Lecturer, Karlstad University  
*Birgitta Nilsson*, Departmental Secretary, Karlstad University  
*Ole Jörn Alfstad*, Hedmark County, Norway
- 11:30-13:30 SME: Mecel, Veriscan, Manpower, INVA, The Chamber of Commerce  
*Ulf Ljungdahl*, Managing Director, Värmland CC  
*Sebastian van den Bergen*, Assistant Project, Manager Investera i Värmland  
*Jakob Ångeby*, Visiting Research, Professor Mecel AB  
*Karin Guliksen*, Manpower AB  
*Magnus Persson*, Managing Director, Assorted Nuts AB  
*Erik Öhrner*, CFO, Assorted Nuts AB
- 13:30-14:45 Compare, TietoEnator  
*Mikael Lundström*, Project Manager, Compare  
*Bengt Möller*, Divisional Manager, TietoEnator, Karlstad
- 14:30-15:30 Universitetsforum
- 15:00-16:00 Media, Universitetsforum
- 16:30-18:00 Cultural Discussions  
*Björn Sandborgh*, County Council County, Adm Board  
*Erik Rynefors*, Conductor CMB  
*Rolf Alzen*, Senior Lecturer, Karlstad University  
*Pernilla Schedin*, Archaeologist, Museum of Värmland

### **Friday 16 December**

- 09:00-15:00 OECD Internal Meeting
- 15:00-16:00 The Chairman of the Steering Group and the Rector of Karlstad University  
*Per Eiritz*, Managing Director, Metso Paper  
*Christina Ullenius*, Rector, Karlstad University  
*Per Fredriksson*, Director University Outreach, Karlstad University
- 16:00-18:00 The Steering Group and the Working Group  
*Per Eiritz*, Managing Director, Metso Paper  
*Christina Ullenius*, Rector, Karlstad University  
*Christer Svan*, Director Region, Värmland  
*Sune Berger*, Professor Karlstad, University  
*Bengt Dahlgren*, Analyst, County Adm Board  
*Anders Olsson*, Project Leader, Region Värmland  
*Ingrid Ivars*, Director of Commerce, Karlstad  
*Bo Hidén*, University Advisor, Karlstad University  
*Curt Räftegård*, Vice-dean, Karlstad University  
*Christina Knowles*, Chief Information Officer, Karlstad University  
*Per Fredriksson*, Director University Outreach, Karlstad University