



# Observatory PASCAL

*Place Management, Social Capital and Learning Regions*

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*PURE Regional Visit Report (RVR1)*

*VARMLAND, SWEDEN*

*6<sup>th</sup> – 8<sup>th</sup> April, 2009*

*Steve Garlick, Fumi Kitagawa, Kate Sankey and Henrik Zip Sane*

## **Executive Summary**

In the past three years after the previous OECD project, the Värmland region has made considerable progress in areas such as regional leadership, regional coordination, cluster development and their connections to higher education programs of innovation and research, and capacity building. However there is now much more that needs to be done and changes in national policy for regions (amalgamation), higher education (skewed funding and concentration threats) and innovation and in the global environment make more effort needed for the region.

We suggest that the region should have a greater focus on:

- Human capital development strategy that embraces a number of existing mechanisms (e.g. Technical Hunt, Children's University, young entrepreneurship programs such as Drivhuset (The Green house), the municipality based learning centres, etc) and addresses a range of regional and external pressures such as demographic shifts, gender issues, 'brain' drain, refugee question, etc. A broader approach to bridge these initiatives to raise the 'knowledge capability' of the region is of importance. We propose that the region should consider making a plan which links up different learning sectors and stages, including recognition of the early years for fostering relevant capabilities.
- Regional Innovation System strategy - more of a holistic approach to regional innovation that goes beyond an innovation focus on clusters and includes: (a) human capital and enterprising skills; (b) improvements in university structures, management and culture to be more proactive in the regional innovation and entrepreneurship process. Strategic international partnerships are needed - beyond the region-specific triple helix.

## **Review Background**

Värmland constituted the last visit of the three Scandinavian regions studied by the CDG (29 March – 8th April). The visit was hosted by Region Värmland, Mr. Anders Olsson being the Link Partner. Regional Coordinating Group (RCG) consists of the following: Anders Olsson (LP, Region Värmland); Lennart Blomquist (Karlstad University); Catrin Huss (Region Värmland); and Patrik Bångerijs (Karlstad University); Bengt Dahlgren (County Administrative Board); Ulf Johansson (Municipality of Karlstad) and Frida Johansson (Värmland Chamber of Commerce).

The Region Värmland, in collaboration with Karlstad University, participates in the PURE project as a follow up to the previous OECD project. The OECD review, Contribution of Higher Education Institutions to Regional Development, encompassing 14 regions in 12 countries, was conducted between 2004 and 2007. Following the 'Self Evaluation Report', the international peer review visit in Värmland took place in December 2005, and the 'Peer Review Report' was published in May 2006. These two reports served as the basis of the PURE CDG visit. Prior to the CDG visit, it was emphasised by the Link Partner that it is important for the Värmland Region that the OECD study is

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properly followed up, remaining issues to be identified and discussed, and the recommendations to be taken up. The PURE project is seen as an opportunity for the Värmland Region to take the next step for regional development. During the three day visit, the CDG met several people who had been also involved in the OECD project and discussed changes since then, and new challenges the region is facing.

Following are the members of CDG representing a variety of national and regional experiences and international dimension to the review:

- Fumi Kitagawa (CLR, Japan).
- Steve Garlick (Australia).
- Kate Sankey (Scotland, UK).
- Henrik Zip-sane (Sweden, LP from Jämtland).

Professor Steve Garlick, who had previously participated in the 2005 OECD peer review visit, has made a valuable and unique contribution in the CDG in the PURE project, and indeed, he identified substantial progress in the formation of regional partnerships since the last review in 2005. Fumi Kitagawa, who also participated in the OECD project, and currently based at Lund University in southern part of Sweden, conducting research on innovation and research policy, brought some international and inter-regional comparative perspectives to the visit. Kate Sankey acted as a rapporteur throughout the visit in Värmland, though participating in all discussions and she particularly contributed to the discussion on the issues concerning environmental education and issues concerning sustainability. Henrik Zip-sane, who hosted the CDG as LP in Jämtland, acted as a national expert during the Värmland visit.

The Värmland PURE review took place 6-8 April 2009. See the programme of the visit and the details of the thematic meetings and focus groups (ANNEX 1 and 2). The thematic meetings and focus groups were structured in accordance with the priority strategic areas that the Värmland Region is facing as of today. The meetings took place over three days, with as many as ten thematic and focus group meetings, number of people participating in the discussions with CDG cumulating to approximately forty. These meetings were very well coordinated by the LP. The agenda of the thematic meetings had been discussed between the LP and CLR prior to the CDG visit.

The main thematic areas following the OECD study and recommendations were identified as follows: the regional leadership; Development of the University; Education and life long learning; Development of the Clusters; Entrepreneurship; National politics on research and innovation; Demographic change, social needs and gender and Climate and environmental problems. Overall, three issues were identified as the current foremost perceived challenges to the Värmland Region: 1) the competition with urban areas, namely, Stockholm and Oslo; 2) National agenda of concentration of research funding; and 3) Demographic change (i.e. ageing) and existing and new social needs (e.g. gender issues).

The initial Regional Profile and Regional Briefing Paper were supplemented with a number of policy documents. The CDG hereby acknowledges and appreciates the great efforts made by the LP and the RCG to provide relevant documents translated in English, including the central strategic regional development programme recently developed through an extensive and participatory consultation process, "Värmland 2020: The Regional Development Program – Värmland's strategy for the future" (Värmland växer och känner inga gränser, Regionalt utvecklingsprogram 2009-2013) . The CDG was provided with sufficient documents prior to the visit, and the well-structured programme and the warm hospitality of the RCG made the visit a very successful one.

The CDG visit was built on existing and continuing efforts and enthusiasm of the Region Värmland, Karlstad University, and the cluster organisations to work collaboratively, and support the regional

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development through a strong partnership-based approach. The impacts made by the previous OECD initiative and the progress made since then are clear after three years following the 2005 peer review visit. The rest of this document elaborates on these impacts and changes, and also identifies more recent challenges and issues faced by the region. The region is currently facing the unprecedented difficulties both in the short and long terms, due to national research policy and also the current financial crisis. These were repeatedly discussed during the visit, and would require further co-ordinated efforts and strategic approach at both regional and inter-regional levels. In the final section of this short report, we identify matters for discussion for PURE Vancouver workshop to be held in May 2009. This document is not comprehensive or conclusive. Instead, it intends to be part of wider and further open discussions.

## Essential characteristics of the Region

### Geography and contested boundaries

The Värmland Region lies in the boundary areas between Norway and Sweden, and between the big two capital cities in Scandinavia, namely, Oslo and Stockholm. Between these urban areas, there are competitions for talents, work places, investments, and their relationship with the Värmland Region has taken various forms including cooperation, conflicts and labour migration. Many young people from Värmland are absorbed in the service sector in Oslo. In recent years, the region, in collaboration with a number of partners, has worked on a “Regional development programme”, one of the focuses has been on the development of the so-called ‘growth corridor’ between Oslo-Karlstad –Stockholm.

Värmland has a strong identity as a region and there are many formal and informal co-operations across the region. Värmland is also active in developing the interregional linkages, especially taking advantage of European funding. For example, inter-regional ERDF programme covers Sweden, Norway and there are programmes covering the North Sea Region and the Baltic Sea Region in which the region takes part.

The region also historically has had a strong link with Greater Gothenburg Region (Västra Götalandsregionen). There is a political agenda on the horizon for the Värmland Region - whether to be integrated as part of this Greater Gothenburg Region as part of the restructuring of regions in Sweden. Strategic positioning of the region through the restructuring of administrative boundaries is currently in process.

## Different levels of regional organisations

There are three regional public organisations working closely together on regional development issues. These are namely, the County Administrative Board (a national authority serving as a link for the central government to the region and municipalities), the County Council of Värmland (an elected assembly, responsible mainly for healthcare), and Region Värmland, a federation consisting of 16 municipalities and the County Council of Värmland. It is recognised, and also pointed out by the OECD review, that there is a need to further strengthen the regional leadership and the regional partnership in order to make decisions necessary to secure the region’s future development. The “upgrading” of Region Värmland to a regional federation year 2007 strengthened the regional leadership considerably. Now one single organization has the same assignment from the local, regional and national level to be accountable for regional development. National funding was also redirected to Region Värmland.



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The newly developed “Regional Development Programme” is a great way forward, whilst the challenge remains in the implementation of the action plans. How to co-ordinate multi-level governance structures while developing strong regional partnerships? While Värmland has developed a well structured regional leadership mechanism with close communications between organisations, the role and vision of leaders at this time of difficulties will be tested.

## Issues concerning demography and disparities

The region has significant disparities in terms of male/ female balance in education levels. This reflects the old industrial structure of the area whereby generations of families used to work in paper mill factories, steelworks and workshops, and especially male workforce didn't require high educational qualifications. Females tend to enter higher education more than men and more women get jobs in the public sector. The current economic down turn is affecting the male workforce with lower qualification in manufacturing sector.

Within the region, there are significant disparities in terms of population growth and decline, and also in education attainment between the urban area (i.e. Karlstad) and the periphery and rural areas of the region.<sup>1</sup> Provisions such as learning centres seem to be effective in meeting the skill needs of some of the local areas preventing ‘brain drain’.

Ageing and its effects on workforce composition are seen as a big problem for the future of the regional economy. There will be a retirement of a large cohort of engineers, and a question is raised as to how to keep the industry sustained with demographic changes.

Overall, transport, environment, health and education infrastructure are recognised as future key agenda for the region.

## Preliminary findings from the visit

### **Main progress after the OECD review in 2005**

The region has made considerable progress in the past 2.5 years in areas such as regional leadership, regional coordination, cluster development and their connections to higher education programs of innovation and research, and capacity building.

Good institutional infrastructures are in place and working to enhance regional partnerships:

- A stronger co-ordinating and leading role for (the organization) Region Värmland.
- The newly developed “Regional Development Programme” through extensive consultation process.
- Building of cluster organisations (The Paper Province, Compare, Kingdom of Culinary Arts and Meals, the Packaging Arena, and Cluster of Steel and Engineering).
- Active dialogue between the regional bodies and the University.

## Role of the University in the regional development - key achievements

Karlstad University (KAU) received university status in 1999 from the former Karlstad University College, and it has rapidly developed research activities. It has been strengthening its ties with regional development agenda through various levels and routes. One of the key progresses that can be identified after the OECD review in 2005 is the agreed five research areas between the University



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and Region Värmland. These are: service science in connection to engineering industry; gender research; consumer driven packaging industry; wellness and public health and Culture economy/creative economy; and a pilot project on technology and clusters.

Research links with regional clusters have been substantially developed – there is significant progress identified after the OECD review both in quantitative and qualitative forms (e.g. increased networks and partnerships). Fostering greater reach-out to businesses by researchers (with more of a joint partnership approach) would be a way forward. For example, industrial placements of students (especially in the engineering and technology faculty) and industrial chair professors with cluster initiatives can be areas for further improvement and so strengthening the existing linkages. Cluster initiatives serve as an exploratory space to identify potential future strategic areas: e.g. packaging-service (through the Packaging Arena and CTF- Service Research Centre), renewable energy (through Clusters of Steel and Engineering). The Packaging Arena has developed world-wide networks and strategic partners. Some of the areas of environmental technology seem to be a potential future strategic developmental area for the region, in close collaboration with the University.

Institutional support mechanisms for entrepreneurial activities are in place. E.g. Innovation service (commercialisation) and Green house (student start-ups). Further comprehensive support to entrepreneurial activities of staff, students and beyond, including entrepreneurship education/training and support may be needed. There are positive experiences in teaching programmes reflecting the needs of cluster development, especially undergraduate education including student placements and mentorship (e.g. ICT/Compare), and a wide range of Continuing Professional Development (CPD) Course offerings developed with industrial partners.

## Constraints in the national research funding and finding alternative research resources

The current national policy on R&D and innovation impacts on the regional knowledge capability in a number of ways. The national resource allocation is skewed to large traditional universities. It is estimated that additional funding for one and each of the big traditional universities such as Uppsala and Lund through the new funding programme introduced by the government (i.e. Strategic Research Areas) would be same as the whole research budget of KAU. For the University, one of the challenges under the current government is to handle the risk of losing strategic research competence to the older and bigger universities.

For the University, one of the challenges under the current government is a pressure to identify institutional research priorities and profiles. This might open up new opportunities for the University, while this could cause internal tensions and conflict within academic communities.

The CDG felt that the long term effects of the current national research policy could have serious consequences for the role of the university in the region. One of the important roles to be played by universities in their regions is translating (international) research to regional needs. Karlstad University has been playing this role and successfully strengthening this function over the last several years, but the current policy is giving detrimental effects on these activities. We advocate the internationalisation and diversification strategy of research funding while existing circumstances however seems constraining. KAU receives 75% of its funding from the national government (research funds are 60% from the national Government). Out of its total operational research budget of 186million SEK only around 10million SEK comes from the KK Foundation. Therefore the internationalisation and diversification strategy would need to be gradually built up in a way that was as consistent with the Government's policy as possible.



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## Regional innovation strategies

The university and the region need to develop a strategy to survive in the current policy environment. The Region Värmland could support the University through further regional partnerships and additional resources, but in building such a coalition, very careful strategic thinking is required.

Forming strategic international alliances would be critically important for the future of the region. This can be done through academic research alliances, for example through the strategic expansion of EU programmes and also, strengthening international ties with industrial R&D through regional cluster initiatives (e.g. Packaging Arena; ICT industry and EU funding, see Region Värmland document, April, 2009). In other words, reaching out internationally to ensure innovation and entrepreneurship is networked and connected through the cluster companies to international universities and regional partners. A key technology platform needs to be built which might attract foreign investment. For example, in Arvika, a new global research and development centre for heat pumps has been established by a Danish firm.

Either way, appropriate public support to counter balance the current research funding concentration to a few number of universities would be needed, and strategic project formation with national funding bodies which support applied strategic research, such as Vinnova (e.g. Vinväxt programme), KK Foundation and SSF2, in collaboration with industry R&D seems to be increasingly important for not only Karlstad University, but also for the future of the Värmland Region as a whole to sustain the knowledge capability of the region. For example, it is important to build on the Key Actors Programme at KAU which was funded by Vinnova. In this light, a strategic regional science and innovation policy approach would be of high relevance, and existing bodies such as Innovative Värmland could take on this role. c.f. Regional Science Councils in English regions.

## Human capital strategy approach

The CDG found that there are a number of initiatives in different sectors and different levels delivered quite often separately to enhance skills and competence of the workforce in the region (e.g. KY, learning centres, KAU Uppdrags AB, and other forms of CPD). A broader approach to bridge these initiatives to raise the 'knowledge capability' of the region is of importance. We propose that the region should consider making a plan which links up different learning sectors and stages, including recognition of the early years for fostering relevant capabilities. In other words, this is an approach to reach into the regional community, to build a broad-based culture of lifelong learning in innovation and entrepreneurship among the region's residents with an associated social support.

Karlstad University has had very good initiatives in these areas. e.g. young entrepreneurship programme, science education for children (e.g. Children's University and Technical hunt). A recent Open day at University reportedly had 900 children with 400 parents. This could be linked to cluster presentations showing young people the potential career opportunities! Enhancing further links between school and the University, both children and parents, and alumni, would be a good way to outreach to the community and develop support for the University. Furthermore, CPD provisions and various forms of distance learning mechanisms could be further combined to meet the needs of various stages of employers and employees, cluster and industry organisations, especially to retain and up-skill the labour force in the region. Such an approach would connect these various pieces, build clearer and more meaningful pathways between education sectors and strengthen the connection of learning mechanisms to business outcomes by having a focus on enterprising skills through work integrated learning and other workplace experiences as part of undergraduate study.



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We feel that we would need to explore these areas further, possibly with similar international examples, and the RCG and CDG agreed on the importance of these issues in the final meeting during the visit.

## Toward Learning Region - Building Regional Capability

There are further issues which were discussed explicitly and implicitly through the meetings:

- Clusters and workplace relationships e.g. to address the gender issues (wellness cluster – female dominant; other clusters – gender balance)
- Environmental and social sustainability.
- Measurement and feedback loop – the region is building competences and expertise in measuring cluster development and the role of the University through existing data, projects and reports observations e.g. the OECD evaluation, on-going PURE exercises, PhD projects, Key actors programme.
- More critical assessment needed? Hard core data sets?

## Matters for discussion for PURE Vancouver agenda May 2009

Specialist sub-group cluster subjects and possible partner regions.

Värmland Region is interested in two subject areas, namely:

- Understanding and developing Regional Innovation Systems; and
- Development of metrics and templates for Impact Evaluating of HEIs on the region.

The CDG identified the following common issues through the three regions reviewed this time:

- The problem of an ageing rural population and the brain drain of younger people to the larger cities.
- The general low higher education participation from the local rural population
- Tourism – development of R&D/programmes and Centre of Excellence and cluster - here there are obvious comparability with Värmland and Jämtland.
- National v Regional strategic development policies facing the county and the HEI – and the emerging negative national government policy towards regional innovation via higher education - again these are matters of concern in Sweden.
- National/International v Regional collaborations for R&D in support of regional development issues
- The plethora of agencies involved in the regional development process and a belief that there should be larger geographic regions through amalgamation.

This might be worthwhile exploring in Vancouver workshop and will need some discussion with the RCG for possible development. .

### a) Benchmarking

Värmland Region is interested in utilising the Benchmarking tools and the HEI benchmarking tool is currently being tried out.



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- Build on Identification of international good practices.
- Need for hard core data to measure the development of clusters, competences, knowledge.

**b) Examples of Good Practice – to be developed.**

**Technical hunt and other outreach activities.** This could be linked to wider human capital development initiatives.

The University could play a vital role in this. i.e. the human capital strategy approach as we proposed above building on technical hunt, children's university, municipal learning centres, Inova, Drivhuset (=The Greenhouse), etc, etc to provide a more holistic and connected system of learning.

Different forms of cluster activities –this would lead to discussion of what a cluster actually is and what value added it provides.



## Thematic Meetings / Focus Groups

### 1. The Regional Leadership

Location: Region Värmland, Navigatören, Lagergrens gata 2, Karlstad.

Time: Monday 6th of April, 09:00 A.M.

- The needs to further strengthen the regional leadership and the regional partnership in order to make decisions necessary to secure the region's future development.
- How (the organization) Region Värmland has developed since the OECD-study.
- The newly adopted regional development program, the new vision for the region and how it is carried through.
- The regional partnership, how it is organized or not. Capacity building – joined-up governance, leadership.
- Multi-level governance structure and development of regional leadership. The connections to the national level.
- The competition concerning people/population/talents, work places, ideas, investments, research funding and so forth with urban areas such as Stockholm and Oslo.
- The orientation of Region Värmland towards Västra Götalandsregionen.
- Branding of the region.

Participants:

1. Christer Svahn, Region Värmland.
2. Ann Otto, Region Värmland.
3. Gert Nilsson, Uddeholm.
4. Göran Nilsson, Region Värmland.
5. Hedvig Bergenheim, Region Värmland.
6. Tomas Riste, Region Värmland.
7. Lars Christensen, Region Värmland.
8. Mats Skoting, Compare.
9. Sture Hermansson, Länsstyrelsen Värmland.

### 2. Development of the Clusters

Location: Region Värmland, Navigatören, Lagergrens gata 2, Karlstad.

Time: Monday 6th of April, 13:00.

- Strengthening ties between regional clusters and research centres.
- Strengthening ties between regional clusters and teaching programmes.
- Innovation.
- Cluster management.
- Evaluation and cluster performance.
- Research and research facilities.
- Spin offs.
- Internationalization.
- Learning, interactive learning in networks in the industry and knowledge spill over.
- Entrepreneurship.



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## Participants

1. Gunnel Kardemark, Karlstad University.
2. JanErik Odhe, Stål och verkstad.
3. Mats Williams, Paper Province.
4. Staffan Bjurulf, Region Värmland.
5. Charlott Larsson, The Packaging Arena.
6. Bo Jonsson, Länsstyrelsen.
7. Mats Skoting, Compare.
8. Anders Gustafsson, The Packaging Arena.

## 3. Entrepreneurship

**Location:** Region Värmland, Navigatören, Lagergrens gata 2, Karlstad.

**Time:** Monday 6th of April, 15:30

- There is a lack of entrepreneurship in large areas of the region.
- Entrepreneurship education: what is done and what effects?
- Corporate spin-off.
- Entrepreneurship in knowledge intensive environments e.g. at the university, at hospitals within the cluster's leading companies.
- Demographic changes and business sustainability.

### Participants:

1. Britt Lööv, Inova.
2. Victor Isaksen, Inova.
3. Samuel Petros Sebatho, Karlstad University.

## 4. Development of Research at the University of Karlstad

**Location:** University of Karlstad.

**Time:** Tuesday 7th of April, 08:30 AM.

- The university's role in the development of the clusters.
- Research areas with international reputation and regional relevance.
- Prioritizations of research areas and groups of researchers at the university vs. a wide spectrum of research areas and the freedom of science.
- The "research matrix" from the OECD-report in relation to the aspirations today.
- Strategic development of the university in a national, European and global context.
- Competitiveness on research funding and talents.
- Development research for industry within the clusters.
- Cluster management.
- Evaluation and cluster performance.
- Innovation.
- Research and research facilities.
- Spin offs.
- Internationalization.



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## Participants:

1. John Sören Pettersson, Dekan Karlstad University.
2. Bo Edvardsson, Karlstad University.
3. Anna Brunström, Karlstad University.
4. Line Säll, Karlstad University.
5. Anders Brodin, Stora Enso Research.
6. Per Eiritz, Karlstad University.

## 5. Education and Lifelong Learning at the University of Karlstad and other Institutions

Location: University of Karlstad.

Time: Tuesday 7th of April, 13:00.

- The flexibility and responsiveness of the systems for education and life long learning.
- The level of education in general and especially in the industry; e.g engineering.
- Disparities in educational attainment.
- Competence building of regional labour force, collaboration with employers.
- Demographic changes and needs for new lifelong learning?
- Especially the national “agenda” on concentration research funding to a few universities. The concentration of education for teachers to a few HEIs in Sweden.

## Participants:

1. Martin Sundqvist, Karlstad University.
2. Marianne Andersson, Paper Province.
3. JanErik Odhe, Stål & Verkstad.
4. Ove Johansson, Säfte lärcenter (teaching centre).
5. Lasse Hägglund, Arvika.

## 6. National Politics on Research, Innovation and Cluster

Location: University of Karlstad.

Time: Wednesday 7th of April, 15:30.

- The national politics concerning higher education and research striving to focus on the old and bigger universities, especially the national “agenda” on concentration research funding to a few universities.
- The concentration of education for teachers to a few HEIs in Sweden.
- How to make the regional message heard?
- Inter-regional partnership, capacity building?
- The lack of a strong national innovation and cluster policy with a regional perspective.
- Communication with national funding bodies and policy communities.
- Multi-level governance of science and innovation.
- Horizontal linkages between clusters (neighbouring regions and international partnerships).



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## Participants

1. Jens Bergström, Karlstad University.
2. Stephen Hwang, Karlstad University.
3. Monica Schagerholm, Karlstad University.
4. Susanne Andersson, Vinnova.
5. Gunnel Dreborg, Vinnova.
6. Johannes Hylander, Westander.

## 7. Climate and Environment Problems and Solutions as Business Opportunities

**Location:** Region Värmland, Navigatören, Lagergrens gata 2, Karlstad.

**Time:** Wednesday 8th of April, 08:30 AM.

Most local environmental problems are solved, the rivers and lakes are cleared, there is drinking water in Lake Vänern, there are no big single sources of air pollution. The portion of renewable energy and the recirculation of waste increases.

- Business opportunities develops for energy technology (strong) and clean tech (new).
- Potential in developing innovation platforms in these areas.
- Links with university research.

## Participants

1. Per Eiritz, Karlstad University.
2. Bengt Månsson, Karlstad University.
3. Monica Schagerholm, Karlstad University.
4. Martin Larsson, Precer AB.
5. Emelie Löfman, Precer AB.
6. Magnus Persson, Energy Square.



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## ANNEX 2

### Programme

Relevant links retrievable as of 27 April 2009:

- Karlstad University <http://www.kau.se/en/about/description/facts>
- KK Foundation <http://www.kks.se/templates/StandardPage.aspx?id=84>
- Swedish Foundation for Strategic Research <http://www.stratresearch.se/en/>
- VINNOVA <http://www.vinnova.se/misc/menyer-och-funktioner/Global-meny/In-English/>
- Swedish Research Council (VR) <http://www.vr.se/2.69f66a93108e85f68d480000.html>
- Strategic Research Areas  
<http://www.vr.se/mainmenu/applyforgrants/archive/strategicresearchareas.4.ead945b11f699b5085800016194.html>
- Population development 2002-2007 in Värmland.  
<http://www.glesbygdsverket.se/site/Default.aspx?id=9890>
- Stiftelsen för strategisk forskning, Swedish Foundation for Strategic Research.
- It is generally thought that the Värmland environment is already clean and it is one of the marketing tools used to attract visitors. There are no aspirations to attract polluting industries to the region. Environmental friendly technology for export is on the key agenda.
- Especially the insights can contribute to the development of criteria for national research funding (as proposed in the national research bill).