

## **Mobilising higher education for sustainable development – lessons learnt from the OECD study**

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### **Abstract**

Following decades of expansion in higher education, policy attention in OECD countries has begun to focus on the outcomes of higher education, its quality, relevance and impact. Consequently, there is also a greater interest in how universities and other higher education institutions contribute to sustainable development of their regions and how they can address global challenges such as global warming. With the processes of globalisation and localisation, the "Triple Bottom Line" i.e. economic, environmental and social performance of not only companies, but also universities is becoming increasingly important.

This presentation looks into sustainable development of and by universities and other higher education institutions. It argues that sustainable development can best be mobilised in the context of regions. It draws lessons from the OECD study on "Supporting the Contribution of Higher Education Institutions to Regional Development". This thematic review project was managed by the OECD Programme for Institutional Management in Higher Education (IMHE) in collaboration with the OECD Directorate for Public Governance and Territorial Development. It engaged fourteen regions across twelve countries in 2004-2007. The review project resulted to fourteen regional self-evaluation reports and fourteen international experts' reports as well as a final synthesis report "Higher Education and Regions – Globally Competitive, Locally engaged" which is available in English, Spanish and French. While the review of the fourteen regions did not provide one-size fits-all solutions, it did point to important general issues that need to be considered by higher education institutions, the local and regional stakeholders and national governments.

The presentation will highlight what sustainability in its wider sense means for universities and other higher education institutions. It will describe the steps that higher education institutions can take in order to adopt the “Triple Bottom Line” approach encompassing economic, social and environmental sustainability. It draws light on the challenges and benefits of adopting a systematic approach to sustainable development. The presentation will highlight the experiences of individual universities and higher education institutions throughout the OECD countries. It will address the second phase of the OECD reviews which will focus on rapidly developing economies, G8 countries and city regions.

The key questions include: What is sustainable development of higher education institutions? What are its drivers and barriers? What does it mean to the mission strategy, and governance and management of HEIs, for regions and for nations? And, finally, what can higher education institutions contribute to sustainable environmental development?

Higher education institutions contribute to sustainable environmental development in their regions in many ways, for example by:

- Generating human capital in the region through their learning and further education programmes in areas of sustainable development.
- Acting as a source of expertise through research, consultancy and demonstration.
- Playing a brokerage role in bringing together diverse regional actors and elements of capacity to the sustainability process.
- Demonstrating good practice through on-campus management and development activities, strategic planning, building design, waste minimisation and water and energy efficiency practice, responsible purchasing programmes and pursuing good citizen type initiatives like a “green campus”.
- Offering recognition and reward incentives for staff to be involved in sustainable development leadership groups in the regional community.

At the first Earth Summit in 1972 in Stockholm, education was identified as fundamental to the successful achievement of sustainable development. Launched in 2005 by the United Nations, the Decade of Education for Sustainable Development has witnessed many higher education institutions with sustainability development policies, statements and visions. Some have developed estate management systems and supplier policies which are geared towards minimising energy use and are also working to reduce the “travel foot print” of their staff and students. There is also a wide range of R&D activities and consultancy services available to facilitate and embed environmental management systems into local businesses. In general, however, the

OECD study revealed only limited conjoint action in the domain of environmental sustainability. What is needed is a strategic partnership between the higher education institutions and their region that can play a key role in environmental sustainability generally and global warming in particular.

Higher education institutions are not only consumers of non-renewable energy and generators of CO<sub>2</sub>, they are also sources of technological and organisational expertise in this field. Opportunities arise from technology-based research (e.g. the exploitation of geothermal energy sources) and its incorporation into the actions in the wider community where regional and local agencies such as local government play an important role, for example through the land use planning systems. Students and graduates as future actors and opinion formers are critical members of regional as well as global learning systems. Embedding sustainability into their learning experience can have long-term impact on the working life. This requires articulation from within the region outwith the universities higher education institutions as well as inside the institutions.

The opinions expressed and arguments employed herein do not necessarily reflect the official views of the Organisation or of the governments of its member countries.

Following decades of expansion in higher education, policy attention has now moved towards the outcomes of higher education. There is also a greater interest in how universities and other higher education institutions contribute to sustainable development of their regions and how they address the global challenges such as global warming. With the processes of globalisation and localisation, the “Triple Bottom Line” i.e. economic, environmental and social performance of universities is becoming increasingly important.

Drawing lessons from the OECD study on “Supporting the Contribution of Higher Education Institutions to Regional Development” this paper looks into sustainable development of and by universities and other higher education institutions. It highlights what the “Triple Bottom Line” approach means in higher education. Based on the underlying rationale that sustainable development of higher education institutions can be mobilised best in the context of regions, it highlights the experiences of individual universities in the OECD countries. Finally, it draws light on the constraints against this activity and suggests how to move forward.

### **Universities and sustainable development and the triple bottom line**

Sustainable development was defined by Brundtland commission as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” and encompassing three components: environmental protection, economic growth and social equity (UNITED NATIONS, 1987). Closely related concepts in corporate management include corporate social responsibility and the triple bottom line: it is increasingly expected that companies drive for progress on the economic, the environmental and the social bottom line (CARROLL, 1979; ELKINGTON, 1997).

The triple bottom line structure of sustainability is applicable not only to companies, but also to other organisations, such as higher education institutions. Firstly, higher education institutions have considerable direct and indirect economic impacts in the local and regional economies: their staff and students increase consumer demand, the use of services and tax income in the region. The provision of locally relevant skills and knowledge contributes to regional business innovation and employment. Economically responsible higher education institutions also carry out their operations in a cost efficient way.

Secondly, the social responsibility of higher education institutions refers to the wellbeing of staff and students, and good relations with stakeholders. Investing in people brings benefits in terms of employee loyalty and productivity. Flexible reward policies may enhance staff motivation to take on new entrepreneurial activities, such as knowledge transfer and regional engagement (see GODDARD *et. al*, 2000). Student support services and work-based learning opportunities may improve learning outcomes, enhance learning experience and reduce the dropout rates. Close collaboration with local stakeholders helps the universities diversify their funding sources and may provide research themes and work based learning opportunities.

Thirdly, higher education institutions are not only consumers of non-renewable energy and generators of CO<sub>2</sub> (negative impacts), but also sources of technological and organisational expertise to tackle these challenges (positive impacts). Technology-based research (e.g. the exploitation of geothermal energy sources) and its incorporation into the actions in the wider community bring benefits to regions. In

addition, embedding environmental sustainability into the learning experience can have long-term impact on the working life as students and graduates are future opinion formers.

Figure 1 outlines the structure of the triple bottom line of sustainability in a higher education institution.

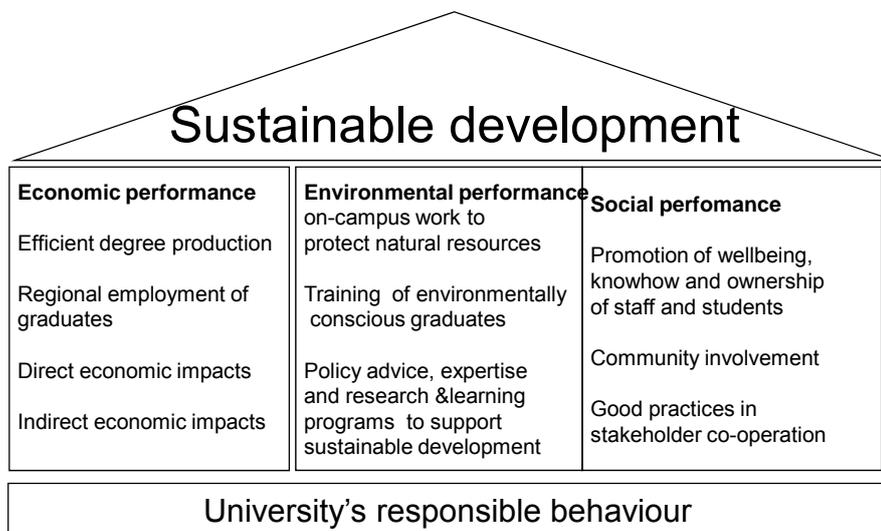


Figure 1. Triple bottom line of sustainability in a higher education institution (PUUKKA, 2005)

Recently, the Decade of Education for Sustainable Development (2005-2014) has encouraged higher education institutions to adopt sustainability development policies, statements and visions. They are taking steps to minimise energy use and

reduce the “travel foot print” of their staff and students. Some institutions are implementing comprehensive corporate social responsibility schemes to address the triple bottom line. How did this progress in sustainability thinking in higher education sector manifest itself in the fourteen regions reviewed in the OECD study in 2005-2007? How does the wide concept of sustainability fit into the regional engagement of higher education institutions? The following sections will address these issues by reference to the OECD study.

### ***The OECD study on higher education institutions and regions***

The OECD Programme on Institutional Management in Higher Education (IMHE), in collaboration with the Directorate for Public Governance and Territorial Development, conducted in 2004-2007 a comparative study of how issues relating to higher education institutions and their regional engagement were addressed in the OECD area (OECD, 2007b).

The study drew from the OECD territorial reviews of different regions in the OECD countries as well as a specific thematic review project entitled “Supporting the Contribution of Higher Education Institutions to Regional Development”. This study sought information on institutional, regional and national strategies, policies and activities to understand the rationales, and drivers and barriers to higher education institutions’ regional engagement.<sup>1</sup>

Fourteen regions across twelve countries were reviewed in 2005-2007. The regions were: Atlantic Canada, Busan Metropolitan City (Korea), the Autonomous Region of Canary Islands (Spain), Jutland-Funen (Denmark), the Jyväskylä region (Finland), the North East of England, the State of Nuevo León (Mexico), the Öresund Region (Denmark/Sweden), the Sunshine-Fraser Coast Region (Australia), Trøndelag (Norway), Twente (the Netherlands), the Autonomous Region of Valencia (Spain), Värmland (Sweden) and northern Paraná (Brazil), the only region outside the OECD area.

The review embraced unitary (e.g. the Netherlands) vs. federal systems (e.g. Canada, Australia), highly centralised governance systems (e.g. Korea, United

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<sup>1</sup> A detailed description of the project and reference documents can be consulted at [www.oecd.org/edu/higher/regionaldevelopment](http://www.oecd.org/edu/higher/regionaldevelopment)

Kingdom) vs. devolved systems with strong regional governments (e.g. Spain). Some higher education systems provided the institutions with a broad scope of autonomy, while others reduced their capacity to engage externally. The sample included research intensive as well as vocationally and professionally oriented higher education institutions with distinctive missions and profiles. The regions themselves ranged from rural to metropolitan and from peripheral to central. The population numbers ranged from 160 000 in the Jyväskylä region in Finland to over 4 million the State of Nuevo León in Mexico. In terms of economic development, some of the regions were dynamic, some static or even declining. (OECD, 2007b)

Despite these differences, the regions were often faced with similar challenges including environmental problems, demographical change and intra-regional disparities with growth in the centre and decline in the periphery. Many regions were experimenting in different ways to unlock the full potential of higher education for regional development. While most their higher education institutions and regions were already working – individually or collectively – to address a wide range of sustainability issues, in most cases sustainability was understood in its narrow sense, encompassing environmental sustainability only.

The methodology of the OECD study consisted of the following elements: (1) a common framework for regional self-evaluation; (2) a self-evaluation report produced by the region using OECD guidelines; (3) a site visit conducted by an international peer review team; (4) a peer review report and a response from the region; and finally (5) analysis and synthesis drawing upon regional case studies and other OECD work.

The way the project was organised aimed to establish a learning and capacity-building process to support sustainable development in the regions and to reinforce the partnerships between higher education institutions and their regional stakeholders. In practice, the regions were at different stages of capacity building: for some the OECD project was the first opportunity to bring together the higher education institutions and their stakeholders to discuss the development of the region, whereas others had operational framework and mechanisms in place for that purpose (e.g. Busan and the North East of England). Still, the machinery for stakeholder engagement was often in need of improvements to guarantee more systematic consultation, dialogue process

and long term value creation. Table 1 displays the challenges, partnership arrangements and environmental sustainability initiatives in the fourteen regions.

Table 1.

**TABLE 1. OECD reviews of higher education and regions development 2004-2007: The 14 regions: challenges, partnerships and sustainability initiatives**

<b>Region</b>	<b>Regional position and identity</b>	<b>Key challenges</b>	<b>Partnerships</b>	<b>Sustainability initiatives</b>
<b>Atlantic Canada</b>	Three Atlantic maritime provinces; Weak regional entity with no legislative basis	Outmigration and brain drain; Intra-regional disparities; Difficulties to sustain growth, employment and per capita income	Atlantic Canada Opportunities Agency; Atlantic Innovation Fund; Coordinating bodies for universities and community colleges	Green design in some campuses; the Centre for Environmental Excellence at Memorial University; The University of Cape Breton's research to clean up Sydney Tar Ponds
<b>Busan metropolitan region</b>	The second economic centre in Korea but gradual decline; Weak role of local government	Pull effects of the Metropolitan Seoul; Stagnated growth; Ageing population; Progressing decentralisation	Regional Innovation Committees; HEI collaboration at early stages; New University for Regional Innovation (NURI) Programme	Research coordinated by Busan Environmental Technology Center with HEIs and governmental and other agencies
<b>Canary Islands</b>	Autonomous Region of Spain with two provinces and seven islands; Special status as	Fragile economy based on tourism; Dependency on external demand; Environmental degradation; Low	ACECAU a coordinator in higher education and research; Competition between the two	The Forum for Sustainable Development with HEIs and governmental and other agencies

	a peripheral region in the European Union	skills base and absorptive capacity in the SME-based economy; Intra-regional disparities	universities and between the islands and the two provinces	
<b>Jutland-Funen</b>	Loose configuration of eight counties and 173 municipalities; No official standing in government structures; Birth of three regions in 2007 as a result of regional reform	Pull effects of Metropolitan Copenhagen; Global competition; Intra-regional disparities with growing cities and lagging rural areas	Jutland-Funen business development collaboration; Regional Growth Forums; Strong networking tradition	Research, work-based learning and consultancy in mapping pure water in Funen (The University of Southern Denmark) and drinking water areas and biomass treatment (University of Aarhus); Energy savings and reduction of waste by universities
<b>Jyväskylä region</b>	One of the eight subregions of Central Finland; A major higher education centre and a growth region with positive image	Intra-regional disparities with growth in centre and decline in periphery; Social exclusion and unemployment; Low productivity in the SME-based economy	Complex regional system; Collaboration between university and polytechnic at early stages; HE-based regional growth	Basic and applied research, consultancy, knowledge transfer, education and demonstration projects (schools and roadsides) in renewable energy
<b>NE England</b>	The smallest and most peripheral of the nine English regions; Fragmented governance with no elected bodies; Regional identity of exclusive nature	Intra-regional disparities; Lagging in most socio-economic and innovation indicators; Ageing population; Low skills and absorptive capacity in the SME-based	Regional Development Agency; Long established higher education regional association (Unis4NE) linking the five HEIs into collaboration	University environmental policies; Staff participation in Agenda 21; Student Union activities; Study programmes and research and its application (Wetland project with European conservation award);

		economy		Advice, services and support for the business and local government; Green design in some campuses
<b>Northern Parana</b>	Part of the State of Parana with no official status in governance structures; One of the highest living standards but loss of relative position	Inequity in access to higher education; Competition between the two cities	Limited collaboration among HEIs and between HEIs and business and industry; Evolving Maringá-Londrina axis	Some research and educational programmes; University waste control
<b>Nuevo León</b>	Third largest state economy in Mexico with a strategic position next to the US border	Limited links between the economy and education; Social disparities and equity issues	The State Commission for Higher Education Planning COEPES; INVITE for integration between North East Mexico and Texas	Centre for Environmental Quality (ITESM Monterrey) providing teaching, research, consulting, laboratory services and continuing education in environmental quality
<b>Øresund</b>	Cross-border region between Sweden and Denmark; Some of the most advanced and most depressed areas in the two countries	Unbalanced development; Intra-regional disparities; Growing cities with ethnic diversity	Cross-border partnership based on Øresund Contract; Øresund University with 14 member universities; Øresund Science Region	Øresund Environment Academy linking academic research, business community and public sector to enhance skills, research and innovation; Teaching collaboration in environmental chemistry
<b>Sunshine-Fraser Coast</b>	Rapidly growing coastal region;	Rapidly ageing population profile;	Evolving collaboration	Institute for Sustainability, Health

	Loosely established with no single structure of governance	Limited economic diversification	between HEIs	and Regional Engagement (iShare); Fraser Island teaching and research laboratory; Eco-tourism in Kingfisher Bay Resort
<b>Trøndelag</b>	A “region” with two counties in Mid-Norway: High living standards, weak regional identity and governance not recognised in national governance structures	Lack of strategic vision; Low absorptive capacity; Intra-regional disparities between Trondheim and rural north	Trøndelag Council with representatives of the two counties	Green City Network with HEIs and local and national government agencies and business: Research on renewable energy; Green contracts and procurement policy by NTNU
<b>Twente</b>	Eastern part of Overijssel Province in eastern Netherland; Strong regional identity but no official status in national governance structures	Weak regional growth capacity; Region lags behind in most socio-economic indicators; Intraregional tension between the key cities	Innovation Platform Twente between firms, higher education and local government	Research, education and consultancy in sustainable energy and environmental policy by the HEIs and the Centre for Clean Technology and Environmental Policy; Green design in some buildings
<b>Valencia region</b>	Autonomous region of Spain with three provinces	Low R&D expenditure; intra-regional disparities; Low absorptive capacity and innovation intensity	Regional government with responsibility for higher education; Limited collaboration between HEIs and HEIs and business	Some HEIs with ISO 14001 certificates
<b>Värmland</b>	County in central	Intra-regional	Regional Growth	University

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Sweden	disparities with	Programme with	environmental policy
bordering	growth in centre	the university,	with waste
Norway; Local	and rural decline;	business and	minimisation, energy
and regional	Jobless growth;	government	saving and sustainable
government	Outmigration		travel; teaching and
change			research on
			environmental
			sustainability

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### ***What is universities' regional engagement?***

The key aspects of higher education's regional engagement relate to the contribution of research to regional innovation, the role of teaching and learning in the development of human capital, the contribution to social, cultural and environmental development, and the role of higher education institutions in building regional capacity to act in an increasingly competitive global economy. (OECD, 2007b) The three elements of sustainability, *i.e.* the economic, social and environmental performance are hence embedded in higher education institutions' regional role.

The OECD guidelines for the regional self-evaluation were designed to reflect the roles that higher education institutions can play in regional development. They asked higher education institutions to evaluate, with their regional partners and in the context of national higher education and regional policies, how effective they were in contributing to the development of their regions.

The underlying rationale of the OECD study was based on a recognition that regional engagement must be integrated with teaching and research functions if higher education's contribution to learning outcomes, and to knowledge exploitation by business and to civil society is to be maximised. (OECD, 2007b)

Similarly, higher education institutions can play a key role in sustainable development of their regions through their research, education provision and services.

What lessons can be learnt from the OECD study with respect to enhancing sustainable development in regions? The following section takes a look at how higher education institutions can support innovation-led sustainable development in regions.

### ***Contributing to innovation-led development in regions***

Globalisation has increased the competitive advantage of regions that create the best conditions for growth and development (DRABENSTOTT, 2008, forthcoming; OECD, 2007c). Innovation continues to cluster around regions with vibrant communities, skilled people and universities (FLORIDA, 2005; ASHEIM & GERTLER, 2005; BOUCHER *et al.*, 2003; LORD SAINSBURY, 2007). Within this context, the role of higher education institutions is of growing importance.

In recent years, regional policies in the OECD countries have moved from giving state aid to disadvantaged regions towards supporting local development through skills development, entrepreneurialism and innovation. (OECD, 2007a; OECD, 2007b) As more than half of the total growth in output across the developed world results from innovation, it is increasingly seen as a key catalyst for productivity and economic growth in the knowledge-based economies (SIMMIE *et al.*, 2002). Consequently, universities' capacity to bring forth innovation-led growth is an important element of their economic responsibility.

LESTER (2005) has identified four local pathways of innovation-led growth, each involving a different role for HEIs. These are: (1) indigenous creation of new industry; (2) exogenous creation of new industry; (3) diversification of existing industry into new; and (4) upgrading of existing, mature industry. In the following these pathways are briefly examined in light of sustainability initiatives in the fourteen regions.

Indigenous creation of new industry relates to the development of an entirely new industry with no technological antecedent in the regional economy. The review of the fourteen regions confirmed that local industry links with higher education institutions, particularly with research-intensive universities, are in high technology sectors and appear to focus on the same few fields, including nanotechnology, biotechnology and information and communication technologies. As this approach requires critical mass, presence of knowledge-based industries, venture capital and considerable investments in the commercialisation of research results, non-metropolitan regions may face considerable difficulties in implementing this pathway.

Exogenous creation of the industry relates to the development of a new industry that is imported to the region from elsewhere. Due to the labour costs in many OECD countries this approach is feasible mainly in knowledge-intensive sectors. In some regions among the OECD study this approach was part of regional policy (e.g. North East of England in the 1990s); while elsewhere it appeared almost accidental, but influenced by the knowledge and skills supply of the higher education sector (e.g. the rise of Trondheim as the Europe's Search City when Google and Yahoo located part of their research and development activities in the vicinity of the Norwegian University of Technology). The successful implementation of this pathway requires well developed support structures for attracting talent and inward investment programmes, and negotiating power within the regional and local governments to influence the national level decision making. (SOTARAUTA *et al.*, 2006)

While the sample of the fourteen regions did not include examples of this type of activity in environmental sustainability, the Wetland Project in the North East of England deserves attention for its export potential and also because it demonstrates that regional engagement and research excellence can be complementary efforts, the one reinforcing the other.

**Exogeneous creation of industry: The Wetland project**

In the County Durham the environment of Quaking Houses was blighted by polluted water running off the nearby pit-heap. Newcastle University scientists solved the problem by creating a wetland area containing special bacterial which break down the harmful chemicals in the polluted water as it passes through. The Wetland Project has won a major European conservation award and the product outcomes are being exported internationally.

(NE ENGLAND REGIONAL STEERING COMMITTEE, 2005)

The diversification of existing industries refers to a process in which the core technologies of the declining industry are redeployed to provide a basis for the emergence of a new industry. In regions which lack knowledge-based industries one of the main obstacles to implement this pathway is the limited basis on which to draw for

diversification. Interesting examples from the sample of fourteen regions include the following from the Danish agro-business sector:

**Diversification of existing industry: renewable energy through biomass treatment**

The Faculty of Agricultural Sciences of the University of Aarhus (formerly the Danish Institute of Agricultural Sciences) is the largest research institute in agriculture and food production in Denmark. It has helped to turn the byproducts of extensive agroindustry into renewable energy sources through manure and biomass treatment.

(RUSHFORTH *et al.*, 2006)

Finally, upgrading the existing, mature industry entails the introduction of new production technologies or product and service improvements. Most regions that participated in the OECD study have an industrial and economic base with small and medium-sized enterprises as major employers. Consequently, economic growth will depend not only on fostering the growth in new knowledge-intensive sectors, but also on the strengthening of the manufacturing and service sectors. Despite the difficulties to collaborate between academia and the business sector, higher education institutions are increasingly providing specialised services to SMEs in the field of environmental sustainability. The following examples come from the Northeast of England.

**Upgrading the existing industry: providing sustainability services for SMEs**

The Recycling to Land, Research and Advisory Centre in the University of Newcastle services small and medium-sized enterprises through free advice, guiding them into research to improve their competitive edge, to achieve cost savings and develop useful waste products.

Integra Environmental at the University of Sunderland provides environmental training and advice to the business sector in environmental management systems, and training and consultancy courses for local small and medium-sized enterprises.

(NE ENGLAND REGIONAL STEERING COMMITTEE, 2005)

The pathway of upgrading existing industry highlights the importance of training and upskilling the local workforce. The following section will focus on human capital development, which – in the triple bottom line context – can be understood not only as contributing to the economic, but also to the social responsibility of higher education institutions.

### ***Contributing to human capital development in regions***

Higher education institutions can support human capital development in many different ways. They can widen access to higher education regionally (from remote areas) and socially (from communities with low tradition of participation in higher education). They can attract talent to the region and help retain and develop it. They can improve the balance between labour market supply and demand through improved labour market intelligence, support for new enterprising and work-based learning programmes. (OECD, 2007b)

Higher education institutions can also upgrade the skills of the local workforce. Upskilling is a challenging task for higher education institutions not only because of the scope of the challenge – one-third of working age adults are poorly qualified in OECD countries – but because the orientation of most higher education institutions is often better geared towards meeting the needs of traditional learners (OECD, 2006; OECD 2007b).

Embedding sustainability into the learning experience can bring long-term benefits to the working life, while using the region as a laboratory links students and staff effectively to the local economy. The OECD study identified problem-based learning as a helpful method in mainstreaming regional engagement into the core

activities of teaching and research and in enhancing sustainable development. One of the examples comes from Denmark:

#### **Problem-based learning in Aalborg University**

Since the 1970s, North Jutland in Denmark has undergone a profound structural change. The shipbuilding industry has almost disappeared and the region has created new sources of growth. Aalborg University has played a role in this adjustment process: it has created new knowledge-based industries and equipped the citizens of North Jutland with the skills and capabilities. Through skills development The university has also helped to attract inward investors to the science park.

In Aalborg University, study programmes are organised around interdisciplinary project work in groups. Up to 50% of the study work is problem-oriented project work: students work in teams to solve problem areas which have often been defined in co-operation with firms, organisations and public institutions. Project Organised Problem Based Learning (POBL) has generated a high degree of co-operation with the society and private sector. At any one time there are 2000 to 3000 ongoing projects that ensure a high degree of co-operation with the society and private sector.

(RUSHFORTH *et al.*, 2006 and OECD, 2007b)

#### **Contributing to social, cultural and environmental development in regions**

Regional development is often understood with a narrow focus on economy and technology-based development. The OECD project guidelines for regional self-evaluation, however, advocated a broader innovation concept including community development, social inclusion, sustainability, welfare and cultural vitality which underpin and stabilise economic growth. (OECD, 2007b)

Rapid structural changes often bring along challenges to social and economic sustainability in regions. The Jyväskylä region in Central Finland is one of the fastest growing city regions in the country. Due to structural changes in the economy, the region's long term and youth unemployment rates, and the share of the population receiving social assistance, are all above the national average. Higher education institutions are addressing this challenge. For example, Jyväskylä University of Applied Science has helped to rehabilitate the long-term unemployed back to working life with a wide range of rehabilitation measures, partly delivered through the student training centre. As a result, these persons no longer generate social cost but contribute to the regional and national prosperity. (OECD, 2007b)

**Enhancing sustainable development in times of structural change: WIRE programme in Central Finland**

The Jyväskylä University of Applied Sciences is working with a wide range of stakeholders to bring the long-term unemployed back into working life. The *WIRE programme*, which seeks to enhance the life quality and social inclusion of the long-term unemployed, has been running over ten years using a range of physical and social rehabilitation measures, partly through a Rehabilitation Service Clinic which is a student training centre of the University. A wide range of partners is involved across public, private and third sectors.

The WIRE approach has proved a success in empowering the long-term unemployed, encouraging them to acquire new skills and getting them back into employment; in 2000-2004 it contributed to the re-employment of 800 persons. WIRE has been recognised as the best practice by the National Research and Development Centre for Welfare and Health (STAKES) and its methods are being embedded into the service systems of the municipalities in Central Finland. WIRE is also one of the best practice cases linked with the European EuroHealthNet which aims at reducing health inequalities in Europe.

(GODDARD *et al.*, 2006 and OECD 2007b)

In Mexico, the concept of Student Social Service as a graduation requirement in higher education has since 1940s helped to foster sustainable development in the society: all university students are required to perform public service for at least 480 hours (6-12 months). Starting from marginal rural and urban communities, the student social service has expanded to the productive sector, and to the different layers of governments. The University of Monterrey has worked systematically for decades for sustainable development in the region (OECD, 2007b):

**UDEM supporting the social sustainability in Nuevo León**

The University of Monterrey in Nuevo León (UDEM) has twenty years' experience in working with low income communities. The university is involved with more than a hundred collaborative programmes with social work institutions. The institutional mission statement defines social service as a key component of its work. In effect, UDEM, which is a private university, has transformed its strong social mission into an asset for recruiting students.

UDEM's Center for Solidarity and Philanthropy enables the university community to take part in community work programmes designed to empower people and enhance social growth. Courses in Mexican Reality, Ethics and Social Responsibility and Social Community Development are linked with social service projects in the field.

(MORA *et al.*, 2006 and OECD, 2007b)

Higher education institutions contribute to the cultural foundation of their regions and to the quality of life of the community through providing access to their cultural programmes and performances, to a culturally-specific infrastructure (museums, libraries and concert halls), through research projects and culturally-based learning programmes and consultancy. The five universities in the North East England play an important role in the revitalisation of the region via cultural activities. The bidding process to be nominated European Capital of Culture for the United Kingdom was a starting point for active regional collaboration leading to a number of cultural

development projects and networks. The higher education regional association (Universities for the Northeast Unis4Ne), which brings together the five universities, has played an important brokerage role in the projects linked to arts, culture and cultural industries. Each university has its own strengths to drive the cultural agenda. (DUKE *et al.*, 2006 and OECD, 2007B)

Similarly, education institutions contribute to sustainable environmental development in their regions in many ways. Firstly, they can generate human capital through their learning and further education programmes in areas of sustainable development; Secondly, they are a source of expertise through research, consultancy and demonstration; Thirdly, they can demonstrate good practice through on-campus management and development activities (e.g. strategic planning, building design, waste minimisation and water and energy efficiency practice, responsible purchasing programmes and good citizen type initiatives); Fourthly, they can play a brokerage role in bringing together regional stakeholders to the sustainability process. Finally, they can encourage staff engagement in sustainable development leadership groups in the regional community through incentives. (OECD 2007b)

Many universities have recently adopted environmental policies. The University of Sunderland in the United Kingdom has integrated sustainability into its management and ethos.

#### **University of Sunderland – integrating sustainability into the management ethos**

Sustainability was one of a limited number of issues the University of Sunderland chose when it refocused its mission during the post-1994 reforms. Today, sustainable development principles are integrated in the university teaching and institutional behaviour. Sunderland collaborates with other higher education institutions to pursue environmental responsibility within the curriculum and institutional management. It draws on the private sector experience in developing environmental policy, reporting and other tools of management and measurement and has its own environmental consultancy Integra.

Sunderland was the first UK university to sign the global Talloires Declaration in 1994, and was appointed Regional European Node for the declaration. With the support of

the World Wildlife Fund it is leading sustainable development in the North East of England. Agenda 21 project cited the Sunderland reporting system as a best practice, converting initial enthusiasm and an ad hoc system into a reporting format that would ensure sustainable outcomes.

(NE ENGLAND REGIONAL STEERING COMMITTEE, 2005)

Despite the good practice examples, in comparison to science and technology based activities, higher education institutions' contributions to social, cultural and environmental development are often underdeveloped and suffer from a lack of collaborative action, limited funding and unclear metrics to evaluate impact. In only few cases in the fourteen regions, the socio-cultural and environmental engagement was embedded in the learning experience and academic research. (OECD 2007b)

#### ***Barriers and what to do with them?***

Despite good practice examples and activities linked to the regional engagement of higher education institutions, in general, this work lacks systematic processes and sustained collaboration between higher education institutions and their stakeholders and among higher education institutions themselves. In addition, only a few universities have adopted a broad concept of sustainability and embedded it in their mission and core activities. What is then preventing higher education institutions from becoming more active and responsive? The OECD study identifies a number of barriers which act as disincentives for higher education institutions: these range from national and regional level framework conditions to constraints within the institutions themselves (OECD 2007b).

The national higher education systems may include elements that reduce the capacity of higher education institutions to engage regionally, offering limited scope to decide on their programme offer and the use of their human, financial and physical resources. To overcome national barriers strengthening of university responsibility over curriculum and the use of their key assets is needed. In addition, autonomy should be supported by incentives and accountability schemes which do not burden the institutions. (OECD, 2007b)

At the regional level, fragmented local governments as well as inter- and intra-regional competition and a lack permanent partnerships structures prevent higher education institutions and their regional stakeholders from nurturing dialogue and mobilising higher education for the design and implementation of regional development strategies. Joint investments by higher education institutions and regional development authorities can be made into translational research facilities, advisory services for small and medium-sized enterprises, professional development programmes, graduate retention programmes and cultural facilities and programmes. (OECD, 2007b)

Despite the importance of regional and national framework conditions, regional engagement and sustainability strategies of higher education institutions depend on the role the institution chooses for itself and the leadership role it adopts. The reviews of the fourteen regions suggest that if higher education institutions intend to play an active role in regional sustainable development, they should revisit their mission statements and strategies and initiate a process of internal reform in order to strengthen their management capacity and to integrate regional engagement and sustainability into their core activities (OECD, 2007b; see also BURTON CLARK, 1998 for entrepreneurial university). The triple bottom line approach to sustainability and reporting schemes may provide a helpful conceptual frame for regional engagement of higher education institutions.

### **Conclusions**

Regions can, with the help of higher education institutions, play an important role in making countries globally competitive while at the same pursuing social and environmental sustainability goals. While many higher education institutions and regions are working – individually or collectively – to address a wide range of sustainability issues, in most cases sustainability is understood in its narrow sense, encompassing environmental sustainability only. There is for example a growing recognition of the need for a strategic partnership between higher education institutions and their regions that can play a key role in environmental sustainability generally and global warming in particular. In practice, higher education institution's capacity to become more regionally engaged is reduced by internal and external barriers.



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The national systems can increase the capacity of higher education institutions for external engagement and their capacity to decide on their inputs and outputs. Appropriate incentives or monitoring of the outcomes can strengthen the regional mission of higher education institutions. Permanent structures and processes facilitate long-term sustained collaboration between higher education institutions and regional stakeholders. As the scope and extent of the regional engagement depend on the role that the universities choose for themselves, they must embark on a journey to mainstream regional engagement and sustainability in their core activities. Implementing comprehensive sustainability policies and reporting on their economic, social and environmental outcomes is one way of making higher education institutions more accountable to their regional stakeholders and more responsive to the needs arising from the region.



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