

These set out principles to which all multinational companies should adhere: for example the OECD guidelines prohibit threatening employees and employee representatives with transferring the whole or part of an operating unit from the country concerned.

However, these guidelines are non-binding: companies do not always stick to their spirit or letter across their worldwide operations nor do they always demand the same of their suppliers. There is a deficit of transparency and accountability particularly concerning the operations of multinational companies, which should be remedied, for example in respect of international standards. Further work also needs to be made on how to make CSR practices achievable for small and medium-sized companies.

The European Union must improve scrutiny, transparency and accountability of CSR, thereby also enabling consumers to make informed choices. The aim should be to create a modern, new alliance for decent work and sustainability, enabling modern businesses, enabling employees, enabling consumers to act together for the cohesion and sustainability of society.

## CHAPTER 6

# Knowledge and innovation - the key to smart green growth

The generation of knowledge, innovation and sustainability for prosperity, employment and environmental balance is one of the key pillars of the New Social Europe. The EU and its Member States must:

- Substantially raise public and private investments in research and development to reach the EU's target of 3% GDP in R&D by 2010;
- Invest in sustainable forms of energy and energy efficiency;
- Improve the attractiveness of European universities for researchers and students;
- Foster closer links between universities, research institutions and the private sector, to translate research into innovation in the economy;
- Improve student and researcher mobility;
- Establish closer coordination of investments and promoting trans-European projects;
- Introduce the systematic exchange of information between innovation agencies;
- Promotion of knowledge and innovation in the Single Market;
- Deploying the Galileo project in order to bring forward an innovation-oriented European industrial policy;
- Anchor use of new technologies in public services.

Knowledge, learning and employment are core elements of social democratic policies, at the national as well as at the European level. Knowledge is a prerequisite for improving Europe's human capital, fostering higher productivity and widely shared prosperity: a foundation for a New Social Europe.

Europe has great traditions in research and development – from ancient philosophy and the first university through to 20<sup>th</sup> century breakthroughs in medicine and natural sciences – but Europe has been lagging behind the US and Japan in R&D investment for quite some time, with the sole exceptions of Finland and Sweden. In so doing, Europe has diminished its capacity for innovation.

At the same time, the depletion of Europe's natural resources and the existential threat of climate change demand a new approach to the economy and management of resources: Europe needs "smart growth" based on new sustainable forms of energy, technology and knowledge.

Europe has a huge potential for growth and employment if there were greater investment in sustainability, research and development resulting in more innovation.

### 1. Why is knowledge so important?

During the last 10-15 years we have seen a fundamental rethinking of growth theories: knowledge and technology have become central element of economic analysis. We have learned to understand the difference

between labour and capital on the one hand and knowledge on the other. While labour and capital are rival goods, which can be used by one person/enterprise at a time, knowledge is a non-rival good, a resource which can be used simultaneously by a great many people. Basic research findings, the Internet and patents, aimed at expanding markets for innovations, all are examples of the unique role of knowledge.

Knowledge is not a fixed quantity, which has to be divided in slices like a cake. Knowledge can be used by many, without limiting the value of knowledge for others. As a consequence – and the main point in the new growth theories – the traditional economic perspective of diminishing return is replaced by a new one: we are living in the age of increasing return. This is a great idea, of utmost importance for the way we look at the future and for the way we organize our societies.

Knowledge in general, scientific and technological knowledge in particular, will be crucial for most of our actions and decisions, as workers, voters, consumers or investors. Our economies are becoming more knowledge intensive and the highly knowledge-based sectors are growing faster than the rest of the economy; half of the new jobs are created in these sectors, representing one third of the economy.

### 2. Investing in new knowledge and innovation

The knowledge economy can be described as a combination of four elements:

- The production of knowledge through scientific research;
- Its transmission through education and training;
- Its dissemination through the information and communication technologies;
- Its use for innovation in medicine, technology, organization, etc.

International comparisons show that Europe is lagging behind other major economies in all these respects. Europe invests about 1.9% in R&D, while US spends 2.8% and Japan 3.1% of GDP on production of new knowledge and on the transformation of knowledge into innovation and production. Europe has less than 1.2 million researchers, while the US – with a smaller population – has more than 1.3 million researchers.

80% of the investment gap is due to underinvestment in R&D from the private sector, particularly in information and communication technologies. The links between universities and business – key to innovation – seem to be much weaker in Europe than in the US. For example, less than 5% of innovative companies consider information from universities or other higher education establishments as being a very important source of information.

There is a need to bring universities and other public research organizations closer to industry and improve innovation systems. A strong cooperation between universities and business would develop the practical side of innovation policies.

Indeed use of innovation in the public and private sectors must be further developed. Public services must set the example and be at the forefront of the use of new technologies, bringing efficiency gains and improving service to citizens. Society has become more demanding: citizens are asking for faster and better services, more transparency and more user-friendly administration. Greater work should be undertaken to build more innovation-related public services.

There are reasons to be concerned about the state of knowledge production in Europe, both for the level of investment, the return of investment in terms of innovation and production and for the role of knowledge in building a New Social Europe.

Raising public and private investments in R&D to reach the 3% GDP target would have hugely positive effects on the economy, on employment and on prosperity.

The European Union currently invests about 2% GDP, but is lagging behind compared to the United States (2.8%) and the rest of the OECD (3.1%). The benefits would be enormous if the 3% GDP target were reached on an annual basis from 2010 to 2025: the best scenario would add an extra 10% GDP to the European economy, raise consumption by 7% and real wages by 9.5% by 2025; the most conservative scenario would see the economy grow an additional 3% GDP, consumption up by 1% and real wages 3% higher.

Furthermore, reaching the 3% target would require an additional 600,000 scientists, raising employment in the R&D sector

alone by 30%. Overall, the European economy and Europe's people would benefit enormously.

Thus, investing in knowledge is key to economic growth and employment and will require a fundamental rethinking of the policies of the past. The economic potential is very high. The reward in terms of prosperity is great.

At the moment, European universities - responsible for 80% of fundamental research - offer scientists and students a less attractive environment than the US. Many European students go to the US and stay there. Student mobility in Europe is low: only 2.3% of European students are pursuing their studies in another European country.

Researcher mobility across the EU and with third countries should be considerably strengthened because it could decisively contribute to developing new knowledge and allow for greater dissemination of experiences across countries. More partnerships between European universities and centres of research excellence worldwide could also help fostering mobility.

The majority of European countries need to make a decisive restructuring of public expenditure in favour of greater R&D investment and improve incentives for business investment in knowledge. There are huge differences between Member States in R&D investment.

A few invest between 3% and 4% and count among the best performing economies in

the world. Several Member States invest around 2%, and others even below 1%.

The European Union is supporting Member States to reach this target, through benchmarking and financial support. At EU level, the Seventh Framework Programme on R&D has been approved with a total budget of almost €55 billion over seven years, an annual average increase of about 60%. That means that EU investment in R&D until 2013 is now supporting technology platforms, a new form of cooperation between Member States in areas of high priority.

The European Union can also help improve student and researcher mobility. The EU's funded student and researcher programmes should be significantly developed to foster greater mobility across the EU.

Innovation policy is also an area where simultaneous Pan-European actions and investments can generate further economic growth. Coordinating initiatives and developing specific trans-European projects in areas where regional and national programmes can cooperate across borders would encourage business innovation and further develop best practice. A systematic exchange of information between innovation agencies and analysis of common strategic issues is essential and this can be spread out through the development and implementation of joint initiatives and programmes.

The European Union can indeed play a positive role in promoting innovation policy. National innovation policies are

currently evaluated and bench-marked at European level on a voluntary basis, and this has already generated some good results. However, this voluntary cooperation could be made more targeted and formal. A move from the regional and national dimension of innovation to European cooperation would counter the fragmentation of innovation policy and create high spillover effects across the whole European Union.

We must unlock the potential of the Single Market to generate knowledge and innovation. Better regulation - not less - will be needed to achieve this. The EU's Galileo project will also be a key means for bringing forward a real, innovation-oriented European industrial policy. In this way, the EU will help promote knowledge and innovation for smart, green growth and jobs.

### 3. Sustainability for employment, growth and environmental balance

Since the mid 20<sup>th</sup> century climate change has been accelerating at such a rate that the world is now faced with a serious threat to the future of the planet and humanity. Atmospheric indicators show that the concentration of carbon dioxide (CO<sub>2</sub>) in the lower atmosphere has increased from its pre-industrial concentration of 280 ppm (parts per million) to its 2003 concentration of 375 ppm. This is the highest level in the last 500,000 years.

In Europe, many catastrophic events since 1980 are attributable to weather and climate extremes: floods, storms, droughts and heatwaves. In 2003 alone, more than 20 000 people died as a result of the summer heat wave in Western and Southern Europe. The losses due to extreme weather have been in human lives and also in financial terms with damage to private households, industry and infrastructure. Heatwaves and other extreme weather occurrences are due to become more frequent and more intense throughout this century.

Rises in energy prices hit the poorest hardest: across the EU, millions of people live in energy poverty. The effects of climate change will exacerbate this trend, exerting a profoundly negative pressure on economic and social development both in Europe and the world.

The world has a limited window of opportunity now to act against climate change. The recent Stern Review on the economics of climate change has made clear the high costs if we fail to act now against climate change:

*"If we don't act, the overall costs and risks of climate change will be equivalent to losing at least 5% of global GDP each year, now and forever. If a wider range of risks and impacts is taken into account, the estimates of damage could rise to 20% of GDP or more. In contrast, the costs of action - reducing greenhouse gas emissions to avoid the worst impacts of climate change - can be limited to around 1% of global GDP each year. The investment that takes place in the next 10-20 years will have a profound*

*effect on the climate in the second half of this century and in the next. Our actions now and over the coming decades could create risks of major disruption to economic and social activity, on a scale similar to those associated with the great wars and the economic depression of the first half of the 20th century. And it will be difficult or impossible to reverse these changes."*

The European Union played a leading role in the agreement of the Kyoto Treaty and should now re-take this leadership role in the definition of a post-Kyoto agreement to combat climate change. These actions at global level should be complemented by European, national, regional and local efforts to create a post-fossil fuel society: raising energy efficiency, to reduce our energy consumption, and investing in sustainable forms of energy.

There are substantial gains to be made in making the EU the leading producer of renewable energy. In the last 25 years, out of all money spent on R&D in energy in OECD countries, 75% went into nuclear and fossil fuels, and only 1% into wind power, although wind power alone could supply over a third of the world's electricity by 2050, and one-fifth by 2025. The growth in the wind power sector would correspond to an employment of nearly 3 million people. This example illustrates how the EU should take the lead in wind power and other renewable sources of energy that will generate jobs, growth and sustainability in a mutually reinforcing way.

Furthermore, the EU could save at least 20% of its current energy consumption through energy efficiency measures, representing a saving of €60 billion for the European economy, vital savings in energy costs for those on low-incomes, and the creation of several hundreds of thousands new jobs. The EU and its Member States will have to take the lead in rigorously enforcing energy efficiency measures and promoting further innovations for generating energy efficiency. The EU's Action Plan on Energy Efficiency is an important step forward, which requires full and effective implementation.

The European Union and its Member States must take serious action to meet the challenge of climate change, while taking advantage of the potential for renewable energies and energy efficiency, through its forthcoming common energy policy and negotiations of the post-Kyoto period. The outcome of such action could finally eliminate energy poverty and set Europe on the course of truly sustainable development.

## CHAPTER 7

# Learning from the beginning - and learning throughout life

The revolution in knowledge, technology and globalization require a radically new approach to learning in society and in the labour market. Welfare policies must be reformed in order to:

- Institute universal provision of high quality educational child care for babies and children;
- Make the outcomes and benefits of education and training independent of socio-economic background and other forms of disadvantage;
- Eliminate early school leaving;
- Institute a right to lifelong learning and second chance education for those without tertiary level education;
- Upgrade vocational education systems for rapid, relevant responses to risks of delocalization and structural changes in the private sector;
- Encourage businesses to give early warnings of their skills needs to ensure dynamic and relevant re-training for jobs through vocational training and skills programmes.

- Ensure the permanent updating of teaching materials and equipments, making the knowledge and competencies delivered by education, training and lifelong learning systems relevant to labour market needs;
- Ensure a smooth transition for young people into work;
- Raise investments in and reform of the tertiary education system;
- Widen access to tertiary education;
- Democratize access to and participation in the digital society;
- Promote incentives for education and training through the EU structural and education funds, including a possible contribution to fulfilling the new right to adult education for those with basic qualifications;
- Strengthening EU efforts towards an inclusive information society, including better defining and fulfilling new rights, setting out the role of public authorities and services in extending digital access, establishing European benchmarking in the attainment of targets;
- Placing education and training at the heart of the Lisbon Strategy.

The knowledge and innovation factor will be the most important determinant of Europe's future success. It will be the essential means of building a New Social Europe in the long run. In this sense, building a knowledge-based society – consisting of the highest level of human capital – will be the basis of the knowledge and innovation economy. But Europe's fundamental problem is that continuing inequalities are stopping the democratization of knowledge and educational achievement.

Education is fundamental for the progress of humanity. Knowledge and understanding are the foundations of society itself. It is therefore vital that all children gain this knowledge and understanding through education. Education throughout life is based on four pillars: learning to learn; learning to do; learning to live together and learning with others; learning to be. Given its pivotal role in assuring human development, education is a priority that should never leave the top of the political agenda.

The dividing effect of globalization not only impacts on wealth distribution or labour standards, but on knowledge in society. Information and communications technologies have significantly changed the skills that are needed to access and profit from new knowledge and take full part in society and the economy.

With 1.2 million engineers and scientists graduating from Chinese and Indian universities annually, the EU's comparative advantage in knowledge and technology is shrinking over time even in relation to developing economies. The average European is less educated than citizens of other industrialized countries, with two years' worth of education less than the average American and one year less than the average Japanese. At the same time, each additional year of additional education increases aggregate productivity by 5% immediately and a further 5% in the long-term.

Europe simply cannot afford to keep the best education and training opportunities in the hands of a small elite, thereby restricting the spread of knowledge in society and the economy. If children from all backgrounds are not given the means and motivation to learn from the beginning, if adults of all ages are not allowed to raise their skills and realize their potential throughout their working lives, how can Europe expect to build a knowledge-based society that unlocks the doors to rising living standards and higher sustainable growth in a global economy?

The future of the European Social Model – the possibility for building a New Social Europe – lies in our ability to become the best-performing region in education and training and hence knowledge and innovation.

The major part of these efforts will take place at local, regional and at national levels. The useful role that the European Union is already playing should be strengthened, to stimulate reform through more intense exchanges of best practice and the reinforcement of existing policy processes, such as the Bologna process in relation to tertiary education and the Copenhagen process for lifelong learning, including the setting of clear targets and objectives and ensuring effective implementation at national level.

Learning for life – from high quality child care, through schools and universities to further education and training – is the main road to an innovative, knowledge-based and inclusive society. It focuses on our most precious resource: people.

### 1. Learning from the beginning: shifting the investment curve towards babies and children

In order to design sustainable social policies for an ageing Europe we need to put children first. Thus, our first priority is to make high quality child care and pre-school education as basic a public service as health care or education in Europe.

Early years care, providing early learning opportunities for children from the earliest age, is proving to be the principle means of maximizing the life chances of children from diverse backgrounds. The quality of early childhood is fundamental in determining youth and adult development. It is the principle means of breaking the cycle of generational poverty and low achievement that can be seen in too many European countries.

The benefits for babies and children from child care and pre-school education will be enormous: developing cognitive skills, thereby diminishing the importance of socio-economic background in the ability to learn; fostering important social and communications skills for life, showing them for the first time, in a certain sense, how to be

citizens of a community; encouraging creativity through early stimulation; and integrating children of diverse cultural and linguistic backgrounds. This is particularly true for immigrant and ethnic minority children, especially those whose native language is not the home country's language, who would get a head start in language learning and improve their chances at integrating later on in school and their communities. Pre-school education fosters the capabilities that are the very basis for the later development of knowledge, competences and social interaction.

Furthermore, Europe will be unable to reduce poverty, achieve gender equality and tackle the demographic challenge without systems of universal child care provision for babies and pre-school children. Too many women are still denied the opportunity of working full-time or sometimes even part-time, due to insufficient and expensive child care, and are left with few prospects of providing for their families, fulfilling themselves professionally and earning a good pension for their retirement. Women are not having the number of children they desire, largely as a result of these difficulties, fostering the fertility crisis we now see across most of Europe. The prevalence of poverty amongst single-parent households and amongst households with several children, in which women do not work or work too few hours, makes the need to facilitate female employment ever more important. Children also benefit from growing up in a household in which parents do work, given that it significantly reduces the risk of poverty that has been shown to damage children's prospects in life.

The need to provide high quality early years care is particularly pressing for children under three years where coverage is barely minimal in most European countries. These are also the crucial years to ensure the re-integration of mothers back into the labour market. Only Denmark and the Flemish part of Belgium have achieved child care provision for over 50% of children under three years of age, followed closely by France and Sweden. Coverage of children between three years and mandatory school age is better: nine EU countries provide child care for over 90% of children.

Furthermore, the opening hours of child care facilities do not always correspond to working hours, making it difficult for parents to have full time jobs. For this reason, involuntary part-time employment is an unwelcome reality in Europe, affecting women particularly. Thus the question of restricted opening hours for child care facilities is a political issue which must be resolved, given its close link to enabling full-time employment and equal opportunities for women and men.

Most formal child care services are already publicly-provided, mostly with a progressive scale of parental contributions even in Denmark, the Flemish part of Belgium and Sweden where coverage is high. In a system that intends to be universal, parental contributions should be low and progressive enough for low-income earners and those

with more than one child to afford care. Consideration should also be given to the role that the private and non-profit sectors could play in achieving universal provision, within the framework of a publicly-defined strategy.

Socialists and social democrats have been the driving force in many countries for expanding child care and pre-school education facilities, but efforts must be radically stepped up to make universal high quality child care as basic a public service as health or education all over Europe.

## 2. Learning for life: democratizing educational achievement and preparing better for work

Our second learning priority is to make our education systems all over Europe inclusive and excellent, ensuring that children from all backgrounds have the best chances of educational success from primary to tertiary education. While the task for socialists and social democrats in the 20<sup>th</sup> century was to democratize access to education – through universal primary and secondary schooling – our task for the 21<sup>st</sup> century will be to democratize educational achievement by promoting inclusion in high quality education at all levels.

Existing and new jobs will increasingly require a high level of education and professional training. By 2010 only 15% of newly created jobs will be for people with basic schooling, whereas 50% will require highly skilled workers. However, at the moment almost 15% of young people aged 18-24 in the EU are leaving school prematurely every year, with at most lower secondary education. Estimates of the total cost of early school leaving reach figures of between €0.6 and €2.5 million over the lifetime of a person, in terms of lost labour input and extra social and health service costs. Europe will not be able to perform well and achieve full employment, if this trend continues. The result will be a Europe of comparatively declining wealth and potential, marked by ever-increasing inequalities.

The majority of Member States need to strengthen their efforts in the coming years to avoid this wasted potential for individuals themselves and for society. This places the need for excellence in education and training for all at the centre of our political efforts.

The benefits and outcomes of education and training should finally become independent of socio-economic background and other forms of disadvantage. European countries currently differ in the extent to which education systems close the gap between students from richer and poorer backgrounds.

any given month. Lifelong learning is more of a problem in the private than in the public sector: public sector workers are twice as likely to receive training as those in the private sector across Europe (41% and 21% respectively). All European countries must improve their efforts to widen access to lifelong learning amongst the employed and unemployed.

Second, the providers of lifelong learning must teach the right skills: teaching those that are relevant to current and future labour market needs and being able to give formal recognition to informal skills. Everybody is capable of building on what they know – whether that means having informal skills formally recognized or learning something new. The key competences needed to progress in today's global economy include foreign languages and the use of digital technology; all educational programmes should include information and communications technology as a central part of the curriculum.

For this to take place teaching equipment and materials should be constantly updated. Businesses should also give early warnings of their skills needs to ensure dynamic and relevant re-skilling for jobs.

Bringing lifelong learning to Europe's working age population will require a new inter-play between educational institutions, businesses and trade unions. Educational institutions must have established relationships with businesses, trade unions and public employment services in order to respond effectively to real labour market needs by teaching the right skills. In this context, public-private partnerships between learning institutions and employers can increase the relevance of adult learning.

#### 4. Living and learning in the emerging digital society

Information and Communications Technology (ICT) education is our fourth learning priority. European countries must democratize access and participation in the digital society as it has become a new factor for social inclusion or exclusion. In most EU countries, income, education and age emerge as the main determinants of digital exclusion, followed by geographical location (the rural/urban divide) and gender. The emerging Information Society in the new Member States is more polarized than in the EU-15 zone, even in areas showing an Internet penetration rate close to the EU-15 average (Estonia and Slovenia). Access to computers and Internet-facilities are provided in public settings in most of the EU-10. However, facilities are limited in scale compared with the EU-15 and are unevenly distributed among regions.

Disadvantaged persons often lack access and do not possess the necessary skills to participate actively in the knowledge-based society. Around 30-40% of the EU population

still reaps few or no benefits from ICT. On average, only 16% of persons over 55 in Europe have Internet access. For people with disabilities lack of accessibility is a major barrier to the use of new technologies having a direct impact in their inclusion and participation in society.

Thus, digital inclusion should be made into a political issue and consist of clear rights to access and participation. Member States should move towards the universal provision of ICT content and services, for example in schools, public libraries and community centres. Digital inclusion is of strategic importance socially, economically and culturally and should be treated as such in public policy.

There are substantial improvements in public service delivery and citizen engagement that can be brought about through the use of ICT. But the whole set of improvements – from e-health consultation to online interaction with public administration – will only benefit citizens and the workforce if ICT skills are shared by all and access to ICT equipment is democratically available – in spite of economic, social, educational, territorial or disability-related disadvantages.

Although most efforts must be concentrated at the local, regional and national levels, European cooperation can provide value-added in this field. The EU has already taken initiatives in the area of e-inclusion, including targets and specific EU funding for e-inclusion projects. The EU Education ministerial declaration of June 2006 for an inclusive and barrier-free Information Society sets out targets and actions in relation to Internet usage for groups at risk of exclusion, broadband coverage, digital literacy, the accessibility of public websites and e-accessibility. Such efforts must be strengthened with further work on defining and fulfilling new rights in relation to the Information Society, setting out the role of public authorities and services in extending digital access, establishing European bench-marking in the attainment of targets.