

## **Investing in the Future of Jobs and Skills. Scenarios, implications and options in anticipation of future skills and knowledge needs for the Electricity, Gas, Water and Waste Sectors.**

### **Policy Summary**

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The electricity, gas, water and waste sectors - shorthand utilities - are as *enabling* sectors essential to the functioning of our economies. Traditionally the utilities sector has been strongly regulated by government to guarantee availability and quality and restrict environmental impact as much as possible. In terms of value added, the electricity and gas sector is with 177 bn euro nearly three and six times as large as the waste and water sector, respectively. Growth of value added is much higher in waste and water (2-2.5% annually, 1995-2006) than in electricity and gas (0-0.5%).

Investments in new and cleaner technologies, efficiency and ICT have increased the sector's capital intensity up to twice the manufacturing industry average. As capital and skilled labour are complements, this increase has led to larger demands for skilled labour and up-skilling. Sector strengths and opportunities include strong and growing demand, R&D innovation alongside new opportunities offered by new technologies combined with sound financial positions of individual firms. Sector weaknesses and threats include still a "culture of incumbents", monopolistic behaviour in a geographically fragmented market, large inefficiencies and an overall complicated regulatory environment as well as an increase in resource scarcity. Future developments in the utilities sector will be shaped by the following drivers: 'trade and market liberalisation', 'EU integration', 'environmental regulation', 'natural resources', the 'the availability and prices of oil and other natural resources'.

Employment in the electricity and gas sector is about 1.3 million people and decreasing (1.4% annually, period 2000- 2006). The water sector employs around 400,000 people and has been growing by 0.9% a year over the same period. Employment in waste is substantial and comparable to electricity and gas. Employment is currently dominated by medium educated employees, especially in the new Member States with only 4% low educated. The share of high educated workers is especially high in the EU-15, even 4% points higher than the economy-wide average. The employment structure in the utilities sector is remarkably stable over time..

The general trend of up-skilling across job functions is bound to continue in the coming years. Across all job functions soft skills will become increasingly important, especially for high skilled professional jobs. Technical knowledge will remain important but other capabilities will rise in importance. This applies especially to skills to adapt and learn new competences; interdisciplinarity and multiskilling will be put at a premium. In addressing future skills and knowledge needs, appropriate and timely joint action is needed by all stakeholders: industry (firms, sector organisations and social partners), training and education institutes, intermediary organisations and government (EU, national, regional and local). Targeted and reliable monitoring to enable balanced decision-making is vital. Adapting and modernising vocational education and training (VET) systems should be taken at hand, by increasing flexibility and promoting the modularisation of training and forms of blended learning, along with in-company training and lifelong learning. Actions need to be taken up pro-actively, and financially supported, especially for SMEs, for instance in building joint training facilities. Better career guidance and international and intersectoral acknowledgement of certificates to increase transsectoral and transnational mobility require further steps. Supply of special courses for older workers could 'tie' them longer the sector is important, as well as the transfer of their tacit knowledge to the young. Knowledge transfer between the old and new Member States should be anticipated. Last but not least: it is essential to improve the image of the sector – to the young (promoting chemistry linked to societal solutions at school) and to women, by better positioning the sector as an enabling sector crucial to modern society.