



DEMOGRAPHIC CHANGE, AGE MANAGEMENT AND COMPETENCIES IN LIGHT OF THE CHALLENGES FACING THE EUROPEAN GAS

-SUMMARY OF STUDY-

Introduction

The average age of European citizens is increasing and this means that in the future there will be less people of working age to support an expanding number of retirees. This has direct implications for the European labour market as there will be a shortage of workers to fill vacancies as older workers retire, which in turn will slow down growth and the region's competitiveness. This study seeks to identify how demographic change might impact upon the European gas sector, in terms of the future size, profile and competencies of the gas workforce, and to put forward recommendations for the social partners to limit its negative impact.

The social partners within the European gas sector support the work of the European Commission by undertaking regular social dialogue, through their formalised Social Dialogue Committee. In 2008 the social partners signed their first common declaration on a study carried out by ECOTEC, which examined the impact on employment within the EU25 as a result of the opening of the electricity and gas markets. In addition the social partners have reached an agreement on violence within the sector. This study, focusing on demographic change, forms the latest joint venture between the two parties and focuses on the impact of Europe's ageing workforce on skills and competences and, more specifically, the impact on skills of the ageing workforce within the European gas industry itself. Although it is impossible to predict the future and to precisely gauge the numbers of workers required to replace those retiring, changing sectors, retraining, being recruited or made redundant due to changes in the industry, populations and ageing, it is nevertheless a very good idea to begin discussions ahead of change and to ensure that the social partners within the gas sector are able to play a positive role in supporting the development of the sector to ensure its long term survival. Obviously, the better prepared the social partners are, the smoother the transition through what will undoubtedly be a fast changing, and sometimes unpredictable, two decades ahead.

Monitoring the age profile, and addressing subsequent shortcomings, of a given sector is important to ensure there is a continual movement between younger people gaining new skills within an emerging career path, and knowledge transfer at the other end of the age spectrum. This will ensure that the sector has a constant flow of adequately trained professionals who then later pass on their knowledge to new recruits entering the sector, completing the cycle. Of course individuals in Europe are aware of the changing nature of work and that a job is rarely for life. However a company which develops people throughout their working life, at any age and at any level within the organisation is better placed to deal with changes in consumer demand by having the necessary skills and flexibility in place to enable them to adapt their business accordingly. An ageing population throws up important issues that need to be thoroughly considered by the social partners. For instance fewer young people entering the labour market will mean that companies will have to compete more to



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recruit younger workers and, particularly if they then cannot retain them, recruitment and training costs will rise. At the same time as older and more experienced workers retire skills will be lost, and these ‘lost knowledge costs’ will also tend to reduce company and industry competitiveness.

Europe’s ageing population

Due to better healthcare, lower mortality and fertility rates the average age of the European citizen is rising. The European Commission predicts that by 2020 the employment rate across the EU27 will begin to decrease as Europe suffers from a shortage of labour resulting in lower economic growth and prosperity while national governments struggle to meet the cost of caring for retirees due to lower tax revenues of a smaller working population. The issue of the ageing European population is already a serious one and is given specific attention by the European Commission, national governments, employers and trade unions. This phenomenon is a result of two factors – a reduction in age-specific mortality (longer lives) and a reduction in fertility rates (fewer births). In Europe, although the total population will remain broadly stable¹, during the next 40 years the average age of the EU citizen will rise by 10 years – from 38 to 48². The proportion of people living to over 60 in Europe is growing at two million a year, and is predicted to do so at this rate for the next 25 years. Over the coming decades, due to population ageing, the number of people retiring will rise significantly relative to those of working age, moving from 4 to only 3 persons of working age for every retired person. We will therefore risk witnessing a situation where there will be insufficient numbers of economically active adults to maintain current employment rates and current economic growth, not to mention difficulties faced by European states in relation to pension and healthcare provision.

One of the key indicators in measuring the extent to which a population is ageing is the *old-age dependency ratio*³ which represents those within a population aged 65+ as a percentage of those aged 15-64, which for a number of countries is given in graph 1 below⁴. The bars on the graph show how many adults, over the next 40 years, will be aged 64 or over in Italy, Japan, Germany, the United Kingdom and the United States. By 2050 in Italy, for example, the graph shows that the number of adults aged 65 plus will be equal to almost 70 per cent of the number of adults of working age.

¹ European Commission, “Europe’s demographic future: facts and figures” (2007)

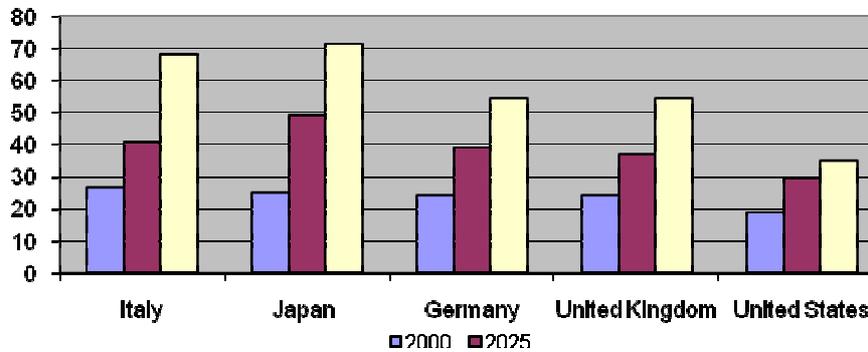
² Münz, R “Population change and its consequences” (2007)

³ For example, in a country with an *old-age dependency ratio* of 100 per cent there will be as many adults aged 65 plus as there are adults of working age

⁴ UK Government “Aspects of the economics of an ageing population” (2003)



Old-age dependency ratio in selected countries 2000-2050



As with all ageing populations there will be fewer younger workers entering the European labour market in the future and this will eventually limit Europe’s employment growth. The European Commission forecasts that up until 2019⁵ total employment in Europe will increase due to rising labour force participation, meeting the Lisbon target of 70 per cent by 2020. This will be achieved through a combination of an increase in the numbers of older workers and an increase in the participation rates of women the labour force. However, from 2019 onwards Europe’s shrinking workforce will begin to reduce overall employment, driving down average growth in GDP from its 2.4 per cent average in 2007 to 1.2 per cent for the period 2031 – 2050. Europe’s ageing population has implications for its labour markets. If we assume that the figures presented so far in this report stay constant there will be an insufficient number of adults to maintain employment growth - there will be a labour shortage. One way to ensure there is an adequate supply of labour is to increase the participation rate of adults. Current policies being pursued by national governments are aimed at increasing the overall participation rate of adults, and in particular the participation rate of older workers. Currently only 50 per cent of men and 40 per cent of women aged 60 are still in the labour market⁶. If these figures remain constant there will be insufficient numbers of workers to fill vacancies, resulting in lower economic growth and skills shortages. Raising employment rates and skill levels will be crucial as the total European population stagnates and productivity and employment participation become the most important drivers for future economic growth⁷. Increasing the participation rate of adults has been an aim of the European Commission for some time and is a key component of the Lisbon objectives. Forecasts by the European Commission suggest that participation rates for the 15-64 age group will increase in the EU25, rising from 65.5 per cent in 2007 to 69 per cent in 2020 and this rise is mainly due to the increased participation of females, although the increased participation for older workers will also be a factor in this growth⁸. Raising the participation rates of female adults is a key policy objective of the European Commission and, as female workers are already under-represented within the European gas sector, the

⁵ “New Skills for New Jobs –Anticipating and matching labour market and skills needs”, EC Staff Working Document (2008)

⁶ “Meeting social needs in an ageing society” European Commission (2008)

⁷ European Commission, “Enhancing higher productivity and more and better jobs, including for people at the margins of the labour market” (2007)

⁸ “New Skills for New Jobs –Anticipating and matching labour market and skills needs”, EC Staff Working Document (2008)





recruitment and retention of this group, will significantly help the sector deal with demographic change. Training and education are recognised as key issues by the European Commission to improve participation in the labour market and all European member states are in the process of taking steps to develop or improve their lifelong learning strategies, under the European Employment Strategy. Education levels across Europe generally are expected to increase over the next decade as a result of the greater use of technology, newer forms of work organisation and the impact of globalisation. Projections by Cedefop (2008) suggest a decline in the number of jobs with lower qualifications, offset by an increase in both jobs requiring medium and high levels of skills.

Across the EU27, all occupation categories will require a greater amount of high and medium level skills and while this is especially so for skilled jobs, it is also true for the so-called elementary occupations. As many of these workers are already in the labour market this presents employers with the challenge of offering their workers more training opportunities, especially to those currently employed within elementary occupations. However the greatest challenge will be how employers create interest and demand for training from their workforces. Although the employment participation rate of older workers has in fact increased slightly in recent years, this increase is inadequate to solve the problems associated with Europe's ageing population⁹. In response to these fundamental issues both employers and employees must rethink their approaches to working life so that they can begin to reshape and redesign the process from leaving full-time education to retirement. The changes required are fundamental and include actual behaviour as well as attitudes. According to a report for the European Commission, "new patterns of working time are considered crucial since the innovative capacity of the economy will be sustained essentially by an ageing workforce"¹⁰.

The shape and makeup of a workforce must be examined if gas companies are to remain competitive and productive. All parts of the business should be reviewed and some radical, if contentious, changes will need to be made. For example, the traditional trend, in times of restructuring, of early retirement as a solution ought to be reconsidered as well as the problems posed by fewer younger adults entering the labour market and the differences in employment participation rates between men and women - proposals for the latter have been adopted by the European Commission in its Lisbon Strategy.

The Gas Sector

As research from ECOTEC¹¹ has already identified there are a number of very important trends to appreciate when examining the European energy sector:

- The industry has an ageing workforce
- Women are significantly under represented, accounting for less than 20 per cent of the workforce

⁹ "Employment in Europe 2004: Recent trends and prospects", European Commission (2004)

¹⁰ "Reforms in an ageing society", OECD (2000)

¹¹ "The effects of the liberalisation of the electricity and gas sectors on employment", ECOTEC (2000)





- The skills profile of the sector is one of semi-skilled, skilled technical and middle management
- There is a traditional ‘job for life’ expectation within the sector

These characteristics have profoundly affected the sector and its workforce development, planning, retirement and operational policies. For instance, the age profile of the workforce has enabled employers, with the support from trade unions, to offer voluntary redundancies through early retirement. In addition the ECOTEC report highlighted that the majority of jobs have been lost across the semi-skilled and skilled technical areas and this has posed problems of skills transferability for those people exiting the industry.

The figures for the gas sector are not easy to isolate from the combined figures for electricity, gas and water. However, according to ECOTEC¹², it has been estimated that more than 250,000 jobs have been lost in the electricity and gas sectors in the period 1990 – 1998, with those states embracing liberalisation to the greatest extent showing the largest number of job losses, for example the UK and Germany. On the contrary the job losses have been experienced to a lesser degree in those countries that have adopted less liberal approaches to deregulation, for example France.

The European Gas sector in the Future

As historic trends have already demonstrated operations within the gas sector are more likely to be undertaken by fewer people as technology offers less labour intensive methods for producing the same level, if not higher levels, of output. However developments in energy production will result in the introduction of new roles and changes to the organisation of work. The current trends for residential and commercial energy users to waste less energy will also have an impact upon the sector, as will the demographic issues already raised in this study. We know that the European gas sector, in common with other sectors, has seen a large increase in the number of workers it requires qualified to a medium and higher level and this trend is set to continue. The European Commission and a number of national governments are already working towards greater education participation, post secondary school, and greater adult participation in higher education as well as expectations of individuals undertaking lifelong learning throughout their working lives. If we assume these policies will remain in force, we can also assume that this trend will continue. Given the interest across European governments, and within the European Commission, of the continual improvements in energy efficiency and building insulation it is possible to predict that, despite the increase in its share of the overall total energy market (as we have already seen on page 36) – partly due to its ‘green’ credentials compared to those of coal - the gas sector will see its usage decline among its residential and commercial customers over the coming decades. This trend is confirmed by findings from Eurogas which suggest that the growth in gas usage over the coming decades is likely to come from the industry and power generation sub sectors and to a lesser extent industry.

Occupations fundamental to the generation of power will require a greater number of workers in the coming years. There will therefore be an increase in the demand for engineers and

¹²ECOTEC, “The Effects of the Liberalisation of the Electricity and Gas Sectors on Employment”, (2001)





other power plant occupations in the future. In addition (again from data provided by Eurogas), the amount of investment required by the gas sector over the coming years is €210bn and it is required in all sections of the gas supply – exploration and development, transmission systems (which include Liquefied Natural Gas infrastructure) and storage. The possibility of gas companies increasing their penetration rate is low in those countries where there is already a high usage of gas, and at some point in the future penetration will be limited in other countries whose gas usage is currently expanding. This will limit the growth of the sector in the future. It does mean that in those countries with lower market penetration there will be less pressure to rationalise employment in the coming years as the market expands and so too will employment.

It is perhaps worth mentioning at this point the effects of liberalisation on the energy sector workforce generally, and figures are available which demonstrate that, for specific workers, liberalisation has in the past brought bad news. Those workers more likely to be negatively affected by the liberalisation of the energy sectors tend to be older, low skilled males working in the distribution sector¹³. Bearing this in mind employers ought to give consideration of the future impact of liberalisation alone on these groups of workers.

The data in the ECOTEC study highlights the occupational changes within the EGW sector from 2000 to 2006. It shows that there has been an increase in the numbers of people employed within a number of EGW occupations and at the same time a decrease in the numbers employed in others. In the future, if current trends continue, the data in the above table illustrates that in the future, within the European energy sector as a whole:

- There will be a requirement for more engineers, across all EU states
- There will be small growth and heavy decline of Other Professionals in the EU15 and NMS respectively
- There will be a need for less Office Clerks and Secretaries across all EU states
- Within the EU15 there will be less need for Electronic equipment mechanics, yet a growth in these occupations in the NMS
- Process Plant Operators will be required in greater numbers in NMS but slightly less in the EU15

Analysis of the surveys

For this study questionnaires were distributed to the trade unions and employers within the European gas sector. The majority of company responses highlighted that 20 to 30 per cent of their workforce is aged 50 or over. This means that over the next decade more than a fifth of their workforce will retire, jeopardising their skills and knowledge base and, ultimately, their long term future. In fact almost 70 per cent of gas companies surveyed stated that at least 30 per cent of their workforce was aged 50 or more. What is even more worrying is the fact that many of the companies have failed to introduce any procedures to resolve this issue and a large number had no even held discussions with the relevant trade unions, as the table below shows.

Responses from Employers and Trade unions regarding various issues

¹³ “The Employment Impact of the opening of Electricity Markets” ECOTEC (2007)

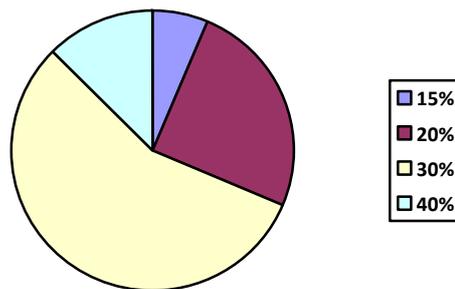


| Workforce > 50 years | | Jobs affected* | | Steps taken | |
|----------------------|------|----------------|-----|----------------------|-------|
| Up to 20 % | 27% | Engineering | 80% | None | 20% |
| 21 to 30 % | 60% | I.T | 30% | Discussions only | 54% |
| 31% to 40 % | 6.5% | Commercial | 30% | Specific Initiatives | 13.5% |
| > 41 % | 6.5% | Administration | 10% | Agreements reached | 13.5% |

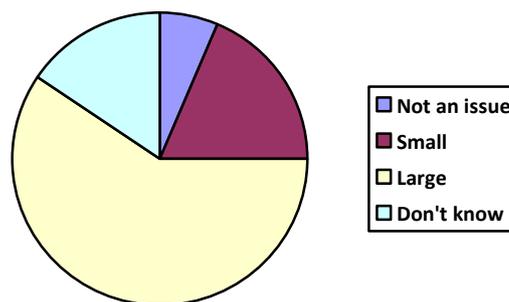
* A number of respondents cited more than one job type

These responses are consistent with existing research findings. Large chunks of the gas sector workforce will retire over the coming decade and there will be a greater demand for engineers. From the responses it is clear that employers and trade unions need to set aside time and resources to properly study the effects of the sector’s ageing workforce and adequately address them jointly.

What percentage of your workforce are over 50 years of age ? (Employers only)



The scale of the problem (Employers and trade unions)



The majority of respondents are concerned about the future of the European gas industry given that many gas companies will be relying on an ageing workforce in many cases. The increase in the age at which workers retire (see page 18). This has implications for the future of these companies and the industry itself unless these workers are not only replaced, but adequate succession planning is undertaken - older, more experienced workers, transferring their knowledge, on to younger workers is crucial. However ensuring there is an appropriate environment for older workers to pass their knowledge and skills to younger workers doesn't necessarily mean that older workers must remain in work longer. In fact employers need to plan ahead of time and

ensure there is adequate time prior to retirement for the process of knowledge transfer to take place. There was a common theme running through the responses in relation to what the social partners saw as the key challenges for the sector over the coming years. A large proportion of the survey respondents, from both trade unions and companies, placed an emphasis upon recruiting and retaining younger workers and retaining older workers. Of those employers who stated that they understood the problems facing their company, and given the choice between suggesting that changing demographics will cause a large problem and a small problem, the majority of employers stated that they faced a large problem.

Challenges for the future in the gas sector

| Challenge | % of respondents |
|---|-------------------------|
| Updating the skills of older workers | 45% |
| Retaining older workers in the company | 21% |
| Recruiting and retaining younger workers | 59% |
| Knowledge Transfer | 83% |
| Forecasting skills and planning for the future | 48% |
| Getting the issue of demographic change onto the bargaining table | 17% |

The table above highlights the number of respondents that thought particular issues presented challenges for age-management for the future of the sector. Despite the European Commission’s objective to increase the participation rate among older workers, gas sector employers didn’t see this as a priority and only a fifth of employers saw this as a challenge. This raises important questions about how the gas sector intends to increase the participation rate of workers in order to combat demographic changes.

Less than a quarter of respondents considered that retaining older workers was an issue, quite possibly because their focus is on knowledge transfer - that is the passing of knowledge and experience from older workers to younger workers. However as research, from the European Commission, shows beyond 2020 this alone will not be adequate to safeguard the industry and to ensure the industry has an adequate supply of skilled labour. The most important issue for the future, according to the responses, is how companies undertake this process. But rather worrying is the fact that less than 40 per cent of respondents stated that they had introduced any kind of programme for either mentoring or knowledge transfer. The majority of respondents stated that there was no programme in place despite this, collectively, being the sectors’ social partners biggest fear for the future of the sector. Those companies and trade unions surveyed were asked about current initiatives being undertaken, either jointly or unilaterally, which attempt to forecast future skill requirements. Interestingly only 19 per cent of employers stated that their company had NOT introduced any initiatives to forecast future skills and competencies, yet 64 per cent of trade union respondents replied this way. This suggests that many employers have introduced initiatives to forecast future skills and competencies but did not involve the trade union, despite the importance of trade unions in this area. A report by Eurofound for the European Commission¹⁴ found that there was little evidence of collective bargaining over age management policies and that they tended to be

¹⁴ “Employment initiatives for an ageing workforce in the EU15”, European foundation for the improvement of living and working conditions (2006)





driven by HR departments. However the report did suggest that trade unions “could be crucial in securing or undermining the commitment of staff [and] clearly the success of measures depended to a great extent on the lead by trade unions, with good co-operative relations with management convincing the workforce that participation was worthwhile”.

The overwhelming majority of the questionnaire respondents stated that in their opinion their company faced problems due to demographic change and that these problems will manifest themselves within the next decade, or even sooner. Only two respondents cited that they didn't expect any impact due to demographic change. Interestingly trade union respondents were more likely to feel that the problems associated with demographic change were more likely to impact on companies within the next 5 years while employer representatives felt that their company didn't expect to feel the impact of demographic change for another two or three decades. While a number of countries stated that they had begun acting to limit the effects of demographic change upon their business, these actions had been carried out largely without trade union involvement. Given the added value on this issue of representatives of employers and employees working together for a common goal, this is perhaps both surprising and disappointing. According to both employees' and employers' representatives the main category of jobs which respondents felt would be most affected by demographic change within the workplace are those involving engineering and the use of IT.

Effects of Climate Change

Research suggests that, in terms of climate change, the key driver for companies operating within the energy sectors is regulation¹⁵. A recent report by GHK¹⁶ stated that in the seven sectors studied, including the energy sector, the overall conclusion was that the impact of climate change “tended to be in relation to skills rather than on the actual levels of employment”. The report also concluded that there is a general need for up-skilling in relation to climate change, and that new training programmes, especially technical training programmes, were required for companies to maintain their competitiveness. A further point mentioned in the report is the necessity for employers to engage early with their workforces to “raise their awareness, and to build the capacity of staff through the acquisition of skills and training”. Of course a company acting on these issues in isolation will be less likely to survive in the long term compared to one which works with its supply chain and their employees. Interestingly of all the companies studied in the GHK report only those in the energy sector had not introduced environmental training programmes for their workforce to raise the awareness of environmental and climate change.

Projections for Gas Sector Occupations

It is possible from the data in this chapter to project the likelihood of rises and falls in a number of key gas sector occupations and this has been carried out below.

Exploration and allied trades

¹⁵ Impact of climate change on European employment and skills short to medium term”, GHK, (2008)

¹⁶ “Impact of climate change on European employment and skills short to medium term”, GHK, (2008)





The need to ensure security of supply coupled with the sectors' growth will mean that exploration will continue to play a vital role, and those workers employed in occupations allied to these operations will continue to be required and replenished when they retire.

Distribution Workers

Evidence shows that these workers are adversely affected by liberalisation in the energy sectors.

Customer services

These occupations are unlikely to grow in those countries which already have a liberalised gas sector due to the reduced possibilities of growth. On the contrary if, as the UK market suggests, that energy providers within mature liberalised markets tend to 'overlap' their operations (see page 52), there may well be a reduction in these occupations as electricity firms and gas firms use common customer service platforms.

Engineers

Due to the likely growth within the power plant sub sector, the number of engineers required in the coming years will increase. However as the demand, according to Cedefop (see page 41), for technical and craft related workers is due to decrease across the board, gas sector employers ought to be able to provide the necessary number of engineers from the existing European pool of labour.

Plant operators

If the size of the power plant sub sector grows, as is expected, and the demand across Europe for these workers decreases, gas companies ought to be able to adequately fill their requirements from existing workers. Evidence shows that Process Plant Operators will be required in greater numbers in NMS but slightly less in the EU15.

Meter readers

These workers are the most likely to be affected by the recent changes in new technology that allow companies to remotely access data stored within residential or commercial users' premises. However there are opportunities for the social partners to work jointly to examine emerging roles allied to energy saving which this group of workers may be in a position to fill.

Two scenarios of the future of the European Gas Sector

A - Employment practices continue at current rates.

In this scenario, the social partners fail to act collectively or strategically and instead rely on ad hoc change at the local level. In the build up to 2020 employers will witness greater difficulties in recruiting the right workers with the right skills. Gas sector employers, like those within other energy sectors, will face severe skills gaps and shortages forcing a slump in productivity just as more gas markets are being liberalised, which will have a number of negative effects upon the existing companies:

- Competition from other companies traditionally outside of the gas sector



- Employment relations may suffer as a result of lower productivity as employers attempt to hold wages down to compensate
- Pension funds will come under pressure as more and more workers retire early, forcing a radical rethink of the pension provision by gas companies
- Off shoring and outsourcing will generate tension between employees as different employers attempt to introduce different payment systems based on their own company policies
- Users of gas, experiencing a poor service, switch to other forms of energy supply, either dramatically contributing to worsening climate change or boosting employment on renewable, further weakening employee commitment within the gas sector

The social partners locally work constructively to introduce measures over the coming decade to alleviate pressures caused by the retirement of those workers due to retire in the next ten years. Knowledge transfer programmes are introduced and experience and knowledge is passed from the older workforce to the newer younger recruits. Of course this can only take place if gas companies recruit and retain young workers. The gas sector must be seen by this younger cohort as a modern, attractive sector to work within and lifelong learning opportunities must be established, based on employee willingness as well as business needs, in order to retain this group of workers. However given the rates of training within the sector and the record so far of national lifelong learning strategies, progressive change may not be enough to overcome the challenges the sector faces.

B - Radical Change

Companies and trade unions work in partnership to take into account all the issues raised in this study, and rapidly so. These changes must address the challenges thrown up by the effects on skills and occupations from climate change and energy usage, the low rates of participation among female workers, the low participation rate of low skilled workers in training and lifelong learning opportunities, ensuring there is opportunity for older workers, if they choose, to stay at work longer, and generally making a career in the gas sector a career of choice. This option will require a rapid amount of activity and is unlikely to be sustained in the long term. The arrival of 2020 will have very little impact upon the productivity, performance and employment within the sector, further strengthening the case for adults pursuing gas as a sector of choice for their career. This will mean that other sectors employing workers with gas sector type skills will be unable to recruit workers as unable to compete with gas as a source of energy. From 2020 the gas sector continues to lead on changing its employment practices and good social dialogue ensures compliance from the workforce.

The first scenario is extreme in nature but nevertheless possible if nothing is done within the gas sector to combat the issues raised in this study. It is of course possible that other sectors will act, and governments may introduce compulsory measures to ensure employers act in time to avert a real shortage of labour over the coming decades. However the gas sector social partners cannot risk this happening and must take the matters into their own hands. The second scenario, although rather ambitious, does offer the gas sector some hope for the





future. It will place employers ahead of their competitors and ensure their survival, not only as a leader in the energy sectors, but as an employer of choice more generally.

The European gas sector has experienced changes due to the liberalisation measures undertaken, to a lesser or greater extent, by EU member states. Although accounting for a very small amount of global gas reserves, due to its relatively high demand gas usage across the European Union remains relatively high. In the future demand for gas will increase within the EU, despite the increase in renewables, due to the demand for energy overall increasing. As a result Europe will need to continue to import gas from Algeria and Russia making security of supply an important issue. Despite the European Union's attempts to fully liberalise its gas markets there is inconsistency across the Union with a number of countries' markets fully liberalised and other barely so. Social dialogue within the European gas sector has been formalised since 2007, with the unions and employers making an important contribution the policy development within the Commission.

If the social partners are to ensure the sector's survival then a number of issues, specific to the European gas sector, must be addressed and these include tackling the ageing workforce, increasing the number of women in the sector, addressing the impending (if not current) skills gap, addressing the challenges the environmental agenda brings and offer employees support for training throughout their working lives. This study, and the accompanying toolkit, is part of that process. The following chapter will seek to outline the possible changes to the sector over the coming two decades, in terms of the industry's structure, skills and demographics.

Conclusions

Like all other parts of the European economy, the gas sector is experiencing technological change and this will continue. The sectors' strength lies in the fact the social partners are both committed to alleviating the threats posed by demographic change and this is vital given the necessity for change, but also given the requirement for employee support for this change, especially concerning the controversial issues such changing retirement practices and other traditional employment methods.

Fortunately for the sector, the many negative impacts of the ageing population twinned with projected changes in demand for workers and their skills, although not reversible, can be mitigated and in some cases solved. However this implies a full scale reassessment of working life within the European gas sector and the establishment of a long term and holistic programme of activity and joint work. Given the different stages of liberalisation and the consequent variations in the sector's operations, needs and requirements, the most difficult process is co-ordinating, monitoring and evaluating the actions of the social partners at all levels.

There are three stages through which the effects on individuals and employers of the ageing workforce within the sector will be played out:

A 2004 to 2012

During this current period, employers will find it easier to fill skill gaps and shortages than in the coming years. At this point gas sector employers need to begin mapping out their future





requirements and embarking on strategic plans to ensure their survival over the next two periods. This period ought to be dedicated to ensuring training measures are in place and that employment practices are established to weather subsequent stages.

B 2013 to 2019

This is the period in which companies will begin to witness the tightening labour market and will begin to find it difficult to find the right skills for their businesses. If employers have failed at this point to establish the foundations of in house strategic training programmes and newer forms of employment practices outlined in this report their business will begin to feel the economic pressures as the impact of older workers retire with less workers replacing them bites.

C 2020 onwards

At this point the ageing effect across Europe will be felt the hardest and it is throughout this period in which the number of people of working age drops, despite improvements in participation rates, and employers will literally be competing with each other to recruit the right number of people with the right skills. From 2020 onwards those employers, who have taken no steps to tackle the ageing effect, will quite literally be fighting for their survival.

