Energy Challenges in the post-liberalisation era

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It's time for a broader vision of the role and importance of electricity and for greater regulatory coherence and stability if European electricity companies are to make the investments necessary to ensure reliable, competitively-priced supply to meet the needs of industry and our modern society

Competition was introduced into energy markets in order to improve the overall EU-competitiveness, and to allow customer-choice to bring its various benefits. With the implementation of the 2003 "package" of EU energy liberalisation measures now under way, that process is well advanced. Competitive pressures have already led to productivity gains and overall price-reductions in the electricity sector. It is now incumbent on Member States to assiduously implement the provisions of the 2003 Directive and Regulation, which lay solid foundations for a pan-European market. Simultaneously, the electricity industry is making a considerable contribution to the other two "pillars" - environmental and social - of the EU Lisbon Agenda: our companies have reduced output of CO2 and other emissions and pursued energy-efficient innovations that reduce energy-intensity and benefit the environment; they also ensure the provision of a vital public service.

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Now the main challenge is to encourage the liberalised markets to work in a manner that will attract the necessary ongoing investments in plants and infrastructure that are so vital to ensure continuing security of supply, while integrating key environmental objectives, at competitive prices. This will require a period of legislative stability; a more coherent, consistent regulatory framework conducive to business-planning and investor-confidence; and a market-oriented approach to meeting environmental and other societal goals. It will also call for close cooperation and coordination between actors such as national Regulators and transmission system operators (TSOs) whose approaches are crucial in facilitating the market.

On a broader level, EURELECTRIC welcomes the new emphasis by the European legislative institutions on revitalising the Lisbon Agenda and simplifying the regulatory burden on business - notably through the use of impact assessments - with a view to bringing the imperative of economic competitiveness back to the top of the EU energy policy agenda.

1. Electricity: What Future for this Essential Industry?

Energy is the lifeblood of our modern society. Due to its versatility and virtual non-substitutability for many end-uses, electricity continues to see its share in final energy consumption grow, driving industrial processes, public transport, and the expanding health and services sectors and information and communications technology sector that are central parts of the modern economy, plus the increasing number of home appliances. Modern electric technologies bring substantial energy savings. Consequently, to an even greater degree than in the past, a secure supply of electricity at competitive prices must be seen as essential in both practical and political terms.

Yet the European electricity industry whose mission it is to serve this need has recently been living through what the old Chinese curse called "interesting times". The advent of liberalised markets and competitive pressures has coincided with a number of high-profile incidents and power-outages and the growing emphasis on environmental sustainability by society at large and policymakers, especially in relation to the challenge posed by the effects of global climate change.

The future of the European electricity industry in the coming decades will be determined by a nexus of interlocking issues. These include the demands of competition and customer-expectations; the constraints imposed by national and EU energy policy and wider geopolitics; the imperative of

supply security and the consequent need to ensure sufficient investments in plant and infrastructure; the requirements of sustainable development, notably climate-protection policies and actions; and research into and ongoing development of energy, fuel and electro-technologies.

2. The Market – Huge Progress

The 1996 Electricity Market Directive and 1998 Gas Market Directive marked an ambitious move to open up these formerly restricted markets, within each EU Member State and across internal borders to create an Internal Market in electricity and gas. The original imperative was to enable the energy sector to make a greater contribution - through unrestricted provision and customer choice - to the overall competitiveness of EU industry. Emboldened by the results which, in electricity, far outpaced the requirements of the Directive, the EU legislators subsequently agreed the 2003 "accelerated liberalisation" package, which provides for full and final market opening to all customers large and small by July 2007 at the latest. EURELECTRIC fully supports the move to a competitive framework and has accompanied the process, providing information and advice to the EU policymakers at every stage.

The objective of creating a single European energy market calls for coordination and harmonization on a wide range of issues. The European Electricity Regulatory Forum - commonly known as the "Florence" or "Rome" Forum - gathering all relevant stakeholders (Regulators, TSOs, traders, large consumers, the power industry and the European Commission) has proved a useful platform in this regard. Achievements include the elimination of specific cross-border transmission fees and the adoption in early 2002 of a temporary compensation mechanism for TSOs hosting transits on their network. The Forum has also adopted congestion guidelines calling for the adoption of non-discriminatory market-based capacity allocation mechanisms on all EU interconnectors and has stressed on several occasions the need to make progress in the harmonization of network charges.

2.1. Positive Results

Liberalisation has led to significant positive developments in the electricity market. Cross-border electricity trade has grown to around 8% of total EU electricity consumption and most interconnectors are being fully used. The former nationally-based markets are giving way to trans-national, regionally-centred markets. International power-exchanges have been set up and developed, helping to provide price signals. While the industry has witnessed some consolidation and concentration, the overall effect has been towards internationalisation of companies.

Eurobarometer surveys have consistently shown a high level of customer-satisfaction with their electricity supplier. A study carried out by the European Commission's DG for Enterprise and Industry on EU productivity and competitiveness shows recent productivity growth in the electricity industry far higher than the European industry average and also superior to that achieved in the United States. (fig 1)

Figure 1

Labour productivity growth (%/a)

	EU - 15			US		
	79-90	90-95	95-01	79-90	90-95	95-01
Total economy	2.2	2.3	1.7	1.4	1.1	2.3
Electricity, gas & water supply	2.7	3.6	5.7	1.1	1.8	0.1

Source: DG Enterprise publication:
"EU productivity and competitiveness: an industry perspective.
Can Europe resume the catching up process?"

The latest (4th) Benchmarking Report from the Commission's DG for Transport and Energy reveals that, in spite of price increases over the last 18 months due in part to higher prices for primary energy sources, electricity wholesale prices are now lower in real terms than in 1995 and there is some evidence of wholesale price convergence between Member States.

However, we and our industrial customers share the concern that these

efficiency improvements are being cancelled out by ever-increasing taxation, charges, levies and obligations placed on our industry. Recent European and national legislation has led to additional energy taxation, levies of all kind, costs related to fulfilling the EU's Kyoto commitments for CO_2 emissions-reductions, costs arising from support for renewable energy sources and combined heat and power plus non-market-based obligations in the field of security of supply. While applauding the basic objectives behind these policies, EURELECTRIC questions their lack of coherence and consistency and calls for more market-oriented and Europe-wide solutions that allow a least-cost approach

Liberalisation can of course provide no guarantees of lower prices, as prices must respond to varying market-conditions, including the price of inputs, but Member State governments and EU policymakers have a role to play in ensuring an economic, policy and regulatory framework that enables electricity companies to deliver a top quality product and services to their customers at competitive prices. What is certainly true is that the frequent expectations of customers for steady price-decreases run contrary to the recent trend towards ever-increasing taxation, levies, charges and costs of support schemes placed on electricity.

2.2. Speedy Implementation Essential

The philosophy underpinning the second Electricity Directive consists in fully opening the power market to competition, establishing a national independent regulatory authority and strengthening the requirements for separation of competitive from monopoly activities, known as unbundling, so as to eliminate all possible discrimination in network access. It thus requires electricity companies to separate their transmission and distribution operation businesses from all other activities in terms of legal form, organization and decision making (legal and functional unbundling) as of 1 July 2004. However, Member States may decide to postpone legal unbundling of DSOs until 1 July 2007 and not to impose this requirement on DSOs serving less than 100,000 customers. Legal unbundling specifically consists in the obligation to create a distinct legal entity in charge of these network activities, which may nevertheless remain part of a holding structure. With a view to reinforcing fair access to the network, the Directive mandates third-party access (TPA) based on approved and published tariffs or tariff methodologies – an approach known as regulated TPA.

EURELECTRIC urges Member State governments to implement the 2003

package with all speed as it provides a full range of essential elements for making progress towards a pan-European electricity market and ensuring a level playing-field for market actors.

The new Directive moreover also provides a range of important tools for addressing security of supply.

2.3. Coordination and Cooperation Vital

EURELECTRIC also wishes to see closer coordination and cooperation between TSOs and between national Regulators in general. The various TSOs which serve as the backbone of the European electricity market should act as one, as seen from the network users' standpoint. Likewise the various national Regulators must coordinate their approaches and actions optimally if they are to facilitate the construction of a European energy market.

2.4. Pan-European Market the Goal

The transition from nationally-based to regionally-based markets is a positive step on the way to a genuine EU Internal Market. Where national or EU authorities are called upon to assess mergers or other issues in the light of competition policy, they should take due account of these "relevant markets" in making their assessments. However, all efforts should be made to ensure that regional configurations do not hamper the ongoing evolution towards the wider European market.

EURELECTRIC supports the development of a pan-European energy market embracing in its scope neighboring countries to the East of the European Union and the countries of the Mediterranean basin and has contributed to dialogue and study work in these directions. EURELECTRIC has accompanied and contributed to recent efforts towards creating a South-East European Energy Community. We also support the European Commission's determination to work for closer energy market links to the Russian Federation and the other CIS countries on the basis of three pillars: compatible market structures; and environmental frameworks; and a high level of nuclear safety.

3. Security of Supply

The importance of a secure supply of electricity has been highlighted by a number of incidents and power-outages in recent years and it must be clear to everyone that the extreme "boom-and- bust" cycles seen in some industry sectors would certainly not be acceptable for a product as essential as electricity. It is important to point out however that, when the causes of the 2003 outages experienced on both sides of the Atlantic are analysed, neither market-liberalisation per se, nor alleged generation inadequacy can be blamed for these events. A range of different technical and communication failures linked to the operational reliability of the systems in question were variously responsible for the events.

The 2003 Electricity Market Directive requires Member States to monitor security of supply and regularly submit to the Commission a report outlining findings and detailing measures they adopt or envisage in this area. Should security of supply be at risk, Member States must ensure the possibility of providing new capacity or energy efficiency/demand-side management measures through tendering or other procedures. EURELECTRIC believes that these provisions should be sufficient for safeguarding security of supply, provided there is a clear understanding of the roles and responsibilities of the various market actors in this regard.

3.1. Towards a Definition

Although security of electricity supply is unquestionably of primordial importance, actually describing what it means is not easy as it involves many more aspects than simply generation adequacy. It may be defined as the ability of the electrical power system to provide electricity to end-users with a specified level of continuity and quality in a sustainable manner. It is for example also vital *inter alia* to draw a clear distinction between long- and short-term security of supply.

3.2. Roles and Responsibilities

EURELECTRIC published in November 2004 a paper[61] which outlines four major aspects: access to primary fuels; adequacy of the system and its assets and investments; market adequacy; and operational reliability/security including the ability to overcome short-term failures of individual

[61] Security of Electricity Supply -Discussion Paper, EURELECTRIC November 2004

components of the system. We have called for a discussion among the stakeholders to achieve consensus on roles and responsibilities for these various aspects.

3.3. Tight Margins Foreseen

However, some commentators have expressed doubts that adequate power supplies can be maintained and some are predicting an imminent crisis of power generation capacity. Experts in EURELECTRIC working groups, while foreseeing in their latest projections fairly tight margins, do not envisage a crisis, and express confidence that the market will essentially be able to provide adequate power production. This scenario rests however on the basic belief that the market will not be over-burdened by regulation and/or new legislation likely to drive away potential investors.

According to European grid coordination body UCTE, electricity supply in 2010 should be assured, with two major uncertainties: the effects of both CO_2-trading and the EU Large Combustion Plants Directive on existing fossil fuel plants and hence on the market incentives for new investments. They also warn that the increasing impact of renewable energy sources, mainly wind power, in the generation mix of the UCTE system brings new challenges for transmission.

3.4. Meeting the demand for electricity : the need for new capacity and investments

Electricity consumption continues to grow in Europe but the pace has decreased. According to EURELECTRIC projections[62], the increase will be 1.5% per year during the period 2000-2020. Accordingly, electricity demand will increase from 2894 TWh for the EU-25 area in 2000 up to 3872 TWh in 2020. Assuming a normal reserve margin and availability, the total installed capacity needs of the interconnected systems will be 734 GW in 2020,106 GW more than installed capacity in 2000 (see fig 2).

[62] "Statistics and prospects for the European electricity sector (1980-1990,2000-2020) (EURPROG 2004)" EURPROG Network of Experts

Figure 2

EUR 25: GENERATION CAPACITY BALANCE FOR THE INTERCONNECTED SYSTEM

		Actual data		Prospects		
		1990 (*)	2000	2005	2010	2020
Key data	Electricity demand (TWh)	2373	2894	3134	3389	3872
	Utilization hours (h/yr)	5929	6155	6074	6073	6107
	Reserve Margin (%)	23	19	19	18	16
	European peak coincidence factor	98%				
Requirements	Likely maximum peak demand (GW)	400	470	516	558	634
	Required reserve capacity (GW)	92	92	96	100	100
	Total generation requirement (GW) (b)	493	562	612	658	734
Availability	Maximum net capacity (GW)	598	697	712	764	848
	Guaranteed capacity under contract (GW)					
	Foreseeable not available capacity (GW)	55	70	71	83	100
	Total available capacity for internal demand (a)	543	628	641	681	748
Balance	Surplus (GW) (a-b)=(c+d)	50	66	30	23	14
	- Sum of national surpluses (GW) (c)	42	56	19	12	1
	- Benefit of international Network (GW) (d)	8	10	11	11	13

(*) 1990 data do not include former East Germany

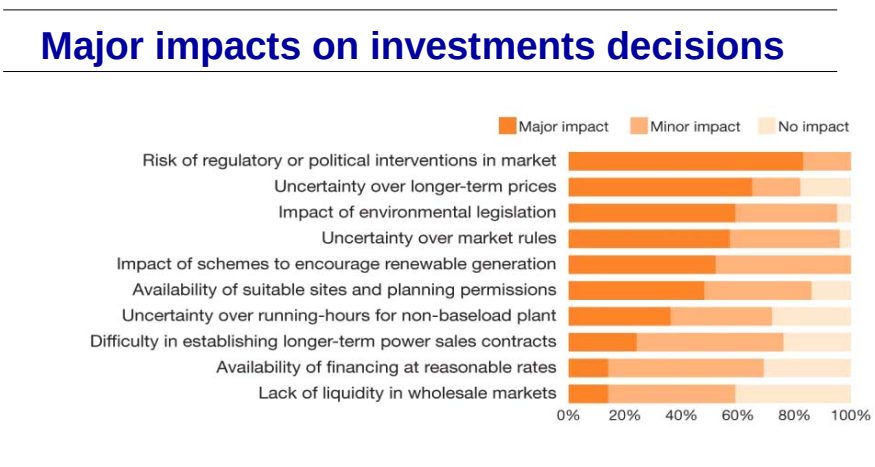
However, the real need for investments in generation is much greater since many older power plants will be retired before 2030 or will have to be shut down because of stricter environmental rules, political decisions (e.g. nuclear phase-outs), the costs of meeting climate-policy-mandated CO_2 emissions reductions, or unsatisfactory commercial and economic performance. Estimates show that in the EU-25 around 766 GW new generation capacity must be installed by 2030[63], at an estimated cost of between €500 and €1,000 billion.

[63] IEA World Energy Outlook 2004

3.5. The Investment Climate: Can We Attract Adequate Investment?

Investments in generation will henceforth be determined by market forces and commercial decisions taken in an open and increasingly pan-European market. The challenge of these new investments is, relatively speaking, not greater than the investment boom that was needed to cope with the staggering electricity growth of the 1960s and 70s, and there is little reason to doubt that capital markets will deliver provided sufficiently attractive conditions are offered to investors. This attractive investment climate depends largely on a greater degree of regulatory stability and consistency than we see today. Top managers of the electricity industry consistently point to regulatory instability as the major hindrance to investment (see fig 3)

Figure 3



Source: Capgemini 2004 Global Utilities Survey
"Deregulation: Meeting the delivery and sustainability challenges?"

3.6. The market must be allowed to develop, not overregulated

The questions of security of supply and attractiveness to investors are thus deeply linked to and influenced by the legal and regulatory framework, its consistency and stability. As the International Energy Agency (IEA) states in its 2003 Outlook Report: "More important than the absolute amount of finance available worldwide, or even locally, is the question of whether conditions in the energy sector are right to attract the necessary capital. (…)

Governments need to create more stable, transparent and predictable regulatory conditions in order to enable players in competitive markets to evaluate those risks and to ensure that market structures do not impede investments that are economically viable".

Hence the main focus of governments and regulators should be on allowing the market to develop and creating an attractive business environment, not on multiplying interventions in the market or rules of behaviour. It is above all important that investors themselves enjoy the freedom to assess the generation costs and price risks for all possible different technology and fuel options. This means leaving all energy options open so that companies can maintain a balanced portfolio of coal- and gas-fired plant, plus hydropower, nuclear energy and new renewables. Policymakers must fully recognise the vital ongoing role that traditional technologies will need to play here. The should moreover avoid price interventions, use market mechanisms to pursue environmental objectives, facilitate authorisation procedures and, above all, provide a consistent and sufficiently stable regulatory framework.

Investment needs in transmission and distribution networks have also been estimated at a cost of some €600 billion. As these investments will continue to be conditioned by a regulated regime governing tariff-setting and allowable investments in each country, the key success factors will involve allowing a fair return on investments and a regulatory regime that also enables the time-period required to obtain authorisations to be shortened.

In this regard, a EURELECTRIC report[64] on the financial situation of distribution business in Europe reveals that for nearly half of the distribution players analysed, returns are not sufficient to cover their costs of capital, despite being fully regulated and, consequently, less risky.

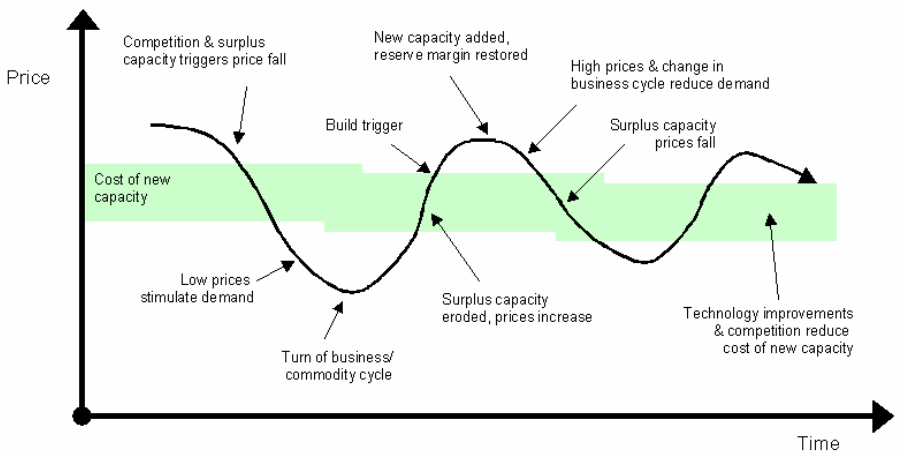
3.7. Coping with the Business Cycle

That competitive markets will automatically, and in a timely manner, deliver all necessary investments and related security of supply should not of course be taken for granted. Fluctuations in prices and investment volumes are quite normal behaviour in liberalised markets, where periods of under-investment, resulting in rising prices and profitability, are then followed by periods of over-investment and falling prices, as illustrated in figure 4.

[64] The Operating Environment for Distribution Companies, EURELECTRIC February 2005

FIGURE 4

Business cycle dynamics, according to ECON



However, a too pronounced boom-and-bust cycle could cause harm to many customers, investors and to society at large. Such extremes would certainly not be acceptable for a product as essential as electricity.

3.8. Confidence, not complacency

Looking at all aspects of security of supply, the European electricity industry is not complacent. A major incident can never be excluded. In particular for reserve and peak-power investments the market might not always deliver the necessary incentives. Liberalisation has brought new challenges, which require an adequate response. In the competitive market, regulated investment in power generation has disappeared, reserve margins have been reduced and the former integrated approach to generation, transmission, distribution and supply is also a thing of the past. Moreover, at a time when commercial flows are increasing and intermittent generation such as wind power increasing its share of electricity, difficulties in obtaining authorisations is proving a barrier to investment in transmission capacity. Numerous projects, including vital missing links, are blocked not because of unwillingness to invest, but because of lengthy authorisation procedures or red-tape.

However, the foundations of Europe's regulatory framework are sound and a consistent model for competitive markets is being implemented. The industry today enjoys high-quality infrastructure and has an excellent track-record in providing reliable power supplies. We are therefore confident of being able to raise the necessary capital to develop infrastructure and successfully integrate environmental objectives, provided that good cooperation continues between market players, network operators, national regulators and the EU authorities and the market is allowed to function within an attractive business climate.

This implies a number of prerequisites including stable and transparent market regulation; consistent and cost-efficient environmental regulation with use of market mechanisms wherever possible for environmental objectives; an end to tax distortions; development of price signals; no price caps; freedom to use both short term and long-term contracts and demand flexibility (e.g. interruptible contracts). These prerequisites will help to enhance the financial attractiveness of the electricity industry.

3.9. Some market-specifics facilitating security of supply

A liberalised **competitive market** implies that wholesale prices are not distorted via price caps, price approval procedures or other such interventions, and that regulations in force do not bring too much subsidised capacity into the market. The development of liquid spot markets and relevant price signals is vital.

Capacity tendering, as referred to in the Internal Electricity Market Directive, should only be used in exceptional situations for market correction, as a means to encourage the building of new power plants to ensure long-term security of supply.

However, these mechanisms must be specifically designed for the stated purpose of security of supply and must be properly calibrated so as to avoid them distorting the price signals and weakening the incentive for using peak capacity and building new capacity.

An adequately developed **ancillary services market** – in parallel to the electricity market (though highly interdependent) – is needed. In line with the importance of such services, this market would ensure an additional revenue stream for generators able to provide needed services, which is significant enough to be considered when investment decisions are made.

Demand-side actors should also be able to help ensure the balance between supply and demand through participation on power-exchanges, interruptible contracts and by managing consumption. Introducing price-responsive demand should help to reduce extreme price volatility and the risk of blackouts. This in turn leads to better-functioning markets with lower risk of regulatory or political intervention, both of which will facilitate investment in new generating capacity, while also reducing the need for peaking capacity.

Under the Electricity Market Directive, market participants should not be limited in their use of **risk management instruments**. Specifically, allowing longer-term contracts could be a way to reduce price-risks for customers and at the same time reduce investment risk for the generators. As long as there is enough competition between companies at all levels of the value chain, longer-term contracts would not distort the competitive market. Longer-term contracts are important as they give investors an opportunity to justify their investment decision when seeking to raise the necessary capital. Producers would have to compete strongly for these contracts, and not all customers will choose this option. Ideally, the market would develop a reasonable mixture of varying-term contracts, in the interests of customers, producers and of competition in general.

Direct investment support can be an effective way to achieve desired energy policy results but is by definition market-distorting. Indirect investment support, such as tax exemptions, can improve the competition situation for technologies with higher costs but still nevertheless implies a distortion of the liberalised market.

Feed-in tariffs have demonstrated their effectiveness in supporting renewable energies (RES). However, they distort the market and slow down the innovative process, which is why market-based mechanisms such as green certificates should be used instead. For the limited "take-off" stage for new renewable-based technologies, R&D funding from the state budget could be used.

Green certificates are a market-based instrument that is preferable to feed-in tariffs and /or subsidies for supporting RES. International trading of green certificates should be encouraged in order to create a liquid market for green certificates. This implies EU-wide harmonised rules for green certificates.

Current Directive Provisions Adequate

Against this backdrop, the EU Internal Electricity Market Directive includes an impressive range of measures allowing governments to intervene to safeguard security of supply in a way unseen in any other market. This Directive, in addition to extensive monitoring and reporting obligations at national and at EU level, explicitly includes security of supply in public service obligations, and empowers Member States to directly intervene through capacity tendering or equivalent procedures should security of supply be threatened.

Given the extensive provisions of the existing Directive, the European electricity industry is concerned about the contents of the new proposed Directive governing security of supply and infrastructure investments, which seems to be based on a series of non-market approaches and measures to be largely decided at Member State level, leading to more market distortion, new unnecessary obligations, increased red tape and costs.

4. Environment & sustainable development: electricity's contribution.

The electricity industry is well aware of the overall impacts of industry on the environment and we firmly believe that the electricity industry is in fact a key part of the solution to the challenge of global sustainable development, with an essential role to play in meeting the long-term challenges of climate change, sustainable development and sustainable energy supply. Further electrification, in both developed and developing countries, based on a mix of primary energies, is a prerequisite for poverty eradication and for a global strategy to reduce emissions of greenhouse gas (GHG) linked to climate change. Electric technologies bring important energy-efficiency gains which can not only improve the security of supply situation but also deliver considerable reductions in CO_2 emissions.

4.1. Emissions of air pollutants

The electricity industry is a major emitter of sulphur and nitrogen oxides, which contribute to environmental problems such as acidification, eutrophication and ozone formation.

Over the past two decades the European electricity industry has reduced its

emissions of SO2 and NOx considerably (reductions of 74% and 53% for SO2 and NOx respectively), while electricity production increased 65% during the same period. Moreover, specific emissions of these pollutants (i.e. quantity of SO2 and NOx emitted by kWh produced) have been cut dramatically: the NOx specific emissions fell by 50% between 1980-1990, and by 69% between 1990-2000, while SO2 specific emissions were 44% lower in 1990 than in 1980, and 50% lower in 2000 than in 1990.

4.2. Emissions of Greenhouse Gases

The electricity industry is one of the main emitters of the most important GHG - carbon dioxide. On the supply side, a portfolio of measures to reduce CO_2 emissions, both in absolute terms and relative to the amount of electricity generated, is available and being employed by the electricity industry. Examples include switching to fuels with lower carbon content (e.g. coal to gas) or to non-carbon technology (i.e. renewables or nuclear), installing new and more efficient thermal power plants, improving the efficiency of existing power plants and switching to renewable fuels, i.e. biomass, in those plants.

The measures outlined above, together with improvements in generation efficiency, meant that between 1990-2000 the total emissions of CO_2 from the Electricity Industry in the EU15 countries fell by approximately 2.3% while electricity production rose 26%. Moreover, the slight decrease in electricity's share of overall CO_2 emissions over ten years from 26.4% in 1990 to 25.9% in 2000 shows that the electricity industry's performance is better than the average, thus helping to lower the trend in EU CO_2 emissions, despite the significant increase in electricity production.

Specific CO_2 emissions from the electricity industry (i.e. the quantity of CO_2 emitted per kWh produced) fell by 26.5 % between 1980 and 1990, and by 22.7 % between 1990 and 2000.

4.3. Energy Efficiency

EURELECTRIC recognises the important part that energy efficiency, both on the demand and supply sides, must play in helping Member States meet national and international emissions reduction targets, enhance security of supply and provide customers with more affordable and competitive energy services. We support the goal of promoting the efficient use of energy and underline that electricity can play a vital role in reducing overall energy

consumption and diminishing adverse environmental effects through wider application of electric technologies.

The greater use of energy-efficient electric technologies is one of the most significant factors supporting economic growth, improving energy efficiency and reducing CO_2 emissions. This happens both by replacing less efficient electrical equipment with energy-efficient electric technologies, and by switching from fossil fuel end-use applications to more energy-efficient electric technologies. Therefore, the creation of a framework for fostering market penetration of energy efficient electric technologies through market-oriented mechanisms should be pursued (e.g. labelling, energy audits, information and dissemination of best practices).

Our industry's proactive stance on environmental concerns is also illustrated in a number of initiatives in this field that EURELECTRIC has taken. Two examples are a reporting mechanism for reductions in greenhouse gas emissions and improvements in energy efficiency, known as the *Energy Wisdom Programme*, and, the EURELECTRIC *Environmental Statistics Report*, an initiative designed to show the industry's proactive approach to reducing the environmental impacts of its activities.

The *Energy Wisdom Programme* (EWP) is a voluntary, project-based electricity industry initiative for sustainable development launched by the EURELECTRIC in the year 2000. Participating companies, representing over one third of the total EU's installed generation capacity, reported nearly 100 cutting-edge projects, mainly in electricity generation, which reduced or avoided emissions by 64 Mt CO_2 eq in the period 2000-2002. The EWP is currently operating in twelve companies in nine countries and provides a platform upon which electricity companies operating in a competitive environment are able to demonstrate their proactive approach towards sustainable energy production, delivery and use.

The electricity industry has thus contributed and is committed to further contributing to meeting key environmental objectives. However, EURELECTRIC would like to see a halt called to the constant piling up of seemingly never-ending burdens, levies and charges without consistency or mutual coherence that we have seen in recent years. The time has come to approach environmental and other valuable societal objectives in a more coherent manner, with ambitious but realistic objectives, fair sharing of the burdens between relevant sectors, and the use of market instruments to achieve the goals.

4.4. The Kyoto Protocol …

The European Union is a party to the international agreements in the various areas associated with global change such as the Kyoto Protocol on Climate change and the UN Conventions on Biodiversity and Desertification. It has a duty to make a substantial and coherent contribution to the efforts made through the major international research programmes on clean technologies and on climate change. Under the Kyoto Protocol, the EU is required to reduce its greenhouse gas emissions by 8% compared with the 1990 levels in the period 2008–2012. Achieving this objective in the short term requires a major large-scale effort to deploy technologies currently under development.
The Kyoto Clean Development Mechanism will be the key driver for technology transfer, therefore, its rules and procedures, if simplified and designed in a more business-friendly manner, would stimulate further investments in developing countries.

4.5. … and Post 2012 Action

Meanwhile EURELECTRIC climate change experts have also drawn up a set of seven fundamental principles that should guide any climate-change policy decisions for the post-2012 period.

4.5.1. A genuine global approach

Without a genuine global approach, the costs to the EU of reducing emissions would considerably outweigh any environmental benefit. Consequently, all industrialised countries need to agree on common objectives that address the challenge of climate change. This is imperative not only for the environment, but also for competitive reasons. Developing countries must play an increasing role. Depending on their level of emissions, a transitional period to some form of commitments should be envisaged. The United Nations should remain as the coordinator of international negotiations and administrator of a post-2012 framework.

4.5.2. Longer timelines

The absence of certainty regarding future obligations related to Kyoto based commitment periods after 2012 creates excessive commercial risk. Businesses need a coherent and consistent framework in which to operate.

The electricity industry, in particular, makes massive investments in power plants and networks infrastructure. To enable industry to engage effectively, clarity is needed on goals and instruments over a time period that reflects the economic life of our investments (i.e. covering at least a 10 to 20 years period). Interim assessments, for example every 5-10 years, could be designed to monitor progress.

4.5.3. Emissions reduction goals

Long-term international reduction goals, and the rate of progress towards these, must be based on sound scientific and economic analyses, on economically available mitigation and adaptation technologies, including the timeframe necessary for technological development, and on thorough consultation with stakeholders. These global goals should be translated into national, regional or sectoral goals, as appropriate.

4.5.4. Market-oriented policies

Well designed and implemented market-based instruments, taking into account relative or absolute targets, have the potential to ensure compliance with balanced policy objectives at the lowest cost. In a competitive market they offer the most cost-effective path towards a low-carbon economy. Market instruments, therefore, should be the preferred tool to achieve emissions reductions worldwide. Kyoto's flexible mechanisms (emissions trading and project-based mechanisms) should be available under simplified procedures and incorporated in the future framework taking into account the necessity of long-term objectives. Market driven use of flexible mechanisms will help to achieve the most efficient environmental outcome. Global emissions trading can be an important policy instrument to drive technology innovation and dissemination and thus emissions reductions.

4.5.5. Participation of all sectors

Specific sectors should not be exempted from contributing to emissions reduction goals. All economic actors should participate, and provide solutions, in the global effort to combat climate change. However, policy instruments to address climate change should, where appropriate, recognise other national or regional policy objectives.

4.5.6. Increase R&D and technology transfer and dissemination

In the long run, alternatives to fossil fuels will be provided through Research & Development. This will happen earlier through accelerated and increased funding and international coordination. Policies and measures should also be pursued to increase the use of: energy end-use efficient technologies and non- or low-emitting generation technologies, such as renewables, nuclear power, combined heat and power, high-efficiency natural gas and advanced clean coal technologies (including carbon capture and storage). In addition, research into climate change should be stepped up to allow decision-makers, and public opinion, make informed decisions.

4.5.7. Encourage changes in consumer behavior

Consumers and their choices make markets. Whilst those markets can give appropriate signals to consumers to modify their behaviour, Governments should also implement policies and measures that will influence them to adopt more climate-friendly behaviour. To achieve this, it is necessary among other things to promote education and training and to encourage a culture in society of more efficient use of resources and environmental awareness. In particular, joint public-private awareness campaigns and alignment of public procurement with climate policy objectives should be supported. Regarding the basic principle for a post-2012 climate policy, EURELECTRIC argues that a genuine global approach is vital for any post-2012 architecture to succeed. We also want to see longer timelines to create certainty and clarity; emissions reduction goals to be based on sound scientific and economic analyses; market-oriented policies; for all sectors to play a part; and for greater R&D and technology transfer/dissemination. It is also vital to encourage changes in consumer behaviour.

4.6. CO_2-Emissions Trading

The electricity industry is fully committed to contributing its share of the required emission reductions, but is, nevertheless, concerned that any measures taken should be as cost-efficient as possible and cause as little distortion to the market as possible. EURELECTRIC believes that, once political targets have seen set by policymakers, emissions trading - one of the "flexible mechanisms" provided for in the Kyoto Protocol and now the centrepiece of the EU response to the challenges of climate change - represents a useful market-based mechanism for helping to meet emissions-reductions goals in a cost-effective manner. EURELECTRIC has

undertaken a series of groundbreaking trading simulations called *Greenhouse Gas and Energy Trading Simulations* (GETS 1-4)[65] in order to learn more and demonstrate the usefulness of such a scheme.

A recent EURELECTRIC report[66] argues that a single market-price for carbon throughout the EU will ensure emissions reductions are made where the cost is the lowest, although the impact of the cap-and-trade system on the cost-structure of energy at national and sectoral level will depend on the targets set.

As emissions trading increases the marginal cost of high-carbon generation, sending the market a signal to run less carbon-intensive power generation, it will encourage investments in low-carbon technologies, plus energy efficiency on the demand side, helping to achieve the desired policy-objectives agreed by the Kyoto-signatories.

Efficient electricity and emissions markets will send the right short- and long-term signals for both power generators and customers. The emissions trading and electricity markets should now be allowed to function without interference or distortive measures - such as price caps or removing the carbon cost from electricity markets – that may remove the incentive for companies to invest in appropriate technology, entailing unforeseen long-term consequences.

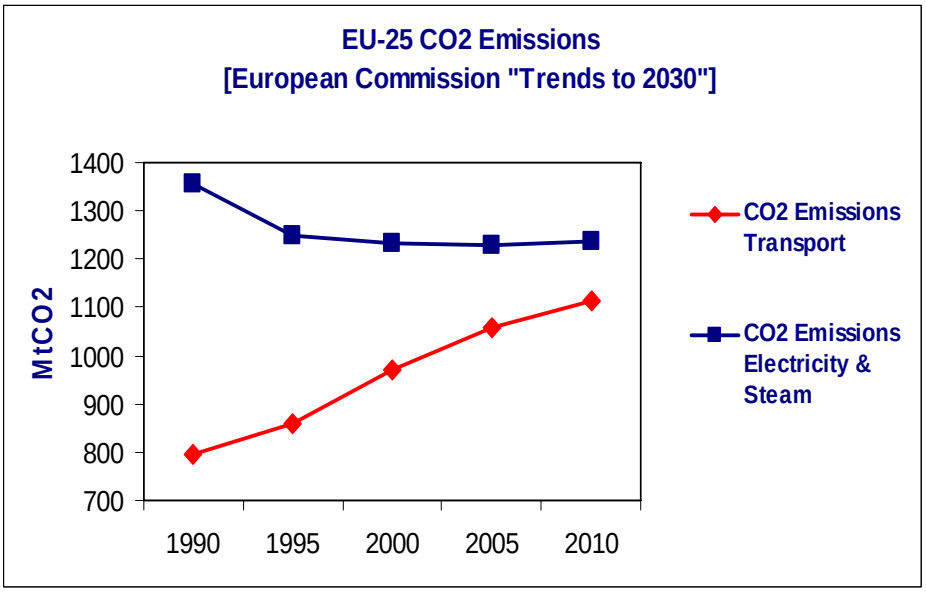
We also regard the Kyoto Protocol's project mechanisms - ie Joint Implementation (JI) and the Clean Development Mechanism (CDM) - as important tools for promoting transfer of technologies to developing countries and addressing the global aspects of climate change.

4.7. Fair Sharing of Efforts

Policies and actions should be based upon fairly shared efforts from all sectors, including the transport, industry, business, domestic and agricultural sectors. This applies in particular to CO_2 emissions reductions, where the importance of curbing CO_2-emissions from transport is obvious. (Fig 5)

[65] GETS 4 Greenhouse Gas And Energy Trading Simulations, EURELECTRIC November 2004
[66] The Impact of Emissions Trading on Electricity Prices, EURELECTRIC June 2004

FIGURE 5



Research and Development,

R&D and consequent technological innovation have a vital role in tackling climate change. Funding should be channelled into more efficient technologies on both supply side and demand side.

In the power generation field, Europe can develop its leadership not only in renewable energies and nuclear fusion technology, but also in clean-coal technologies, including CO_2-capture and storage.

Other important areas include transmission and distribution savings (reduced losses) through superconducting materials; distributed resources such as energy storage devices and distributed generation technologies; efficient demand-side technologies for industry and domestic sectors; and dissemination of information on the economic and environmental benefits.

5. The Generation Mix

Both "traditional" and newer power generation technologies will have an important part to play on meeting the imperative of security of supply while fulfilling important environmental-policy goals in a liberalised market. Coal-

fired generation has been the mainstay of electricity production in many countries and solid fuels will be able to maintain a strong role in the future through the application of modern combustion techniques and CO_2 capture. Large hydropower, while having few opportunities for further development, should also play a continuing role provided the Water Framework Development is applied sensibly by the Member States. Gas is currently the fuel of choice, but there are questions-marks over external supply-dependency and international market-structures. Nuclear power appears to be at the crossroads. While some Member States have decided to phase out the use of this technology, other countries are keen to maintain or even boost recourse to nuclear energy and the main area of debate today centres on disposal of wastes. Meanwhile the various new renewable energy sources are in variation stages of development, and distributed generation may also hold promise. It is thus essential that EU and national energy policy should not exclude *a priori* any available energy sources and it is vital that a full and diverse range of options be kept open.

5.1. Conventional Fuels

Many forecasts see natural gas-fuelled plants, either combined cycles or, when feasible, as combined heat & power (CHP)-plants, dominating the investment scene in the next few decades (see fig 6).

FIGURE 6

MAXIMUM NET CAPACITY IN 2000-2020

10a - EU 15

Type of origin	*2000*		*2005*		*2010*		*2020*	
	GW	*%*	*GW*	*%*	*GW*	*%*	*GW*	*%*
NUCLEAR	*124*	*21.2*	*123*	*20.5*	*118*	*18.3*	*99*	*13.6*
CONVENTIONAL THERMAL								
- Coal	*111*	*19.1*	*96*	*16.0*	*92*	*14.2*	*76*	*10.4*
- Brown coal	*28*	*4.9*	*29*	*4.8*	*28*	*4.4*	*28*	*3.8*
- Oil	*55*	*9.5*	*42*	*7.1*	*41*	*6.4*	*35*	*4.9*
- Natural gas	*101*	*17.3*	*125*	*20.9*	*151*	*23.3*	*228*	*31.4*
- Derived gas	*3*	*0.6*	*3*	*0.6*	*3*	*0.5*	*4*	*0.5*
HYDRO								
- Gravity	*84*	*14.4*	*86*	*14.3*	*89*	*13.8*	*92*	*12.8*
- Pumped and mixed	*35*	*6.0*	*36*	*6.0*	*37*	*5.7*	*38*	*5.2*
OTHER RENEWABLES	*21*	*3.6*	*37*	*6.2*	*64*	*10.0*	*106*	*14.6*
NOT SPECIFIED	*20*	*3.4*	*21*	*3.6*	*22*	*3.4*	*20*	*2.8*
TOTAL	*583*	*100.0*	*600*	*100.0*	*647*	*100.0*	*725*	*100.0*

The advantages of these technologies are indeed numerous: a high conversion efficiency, lower CO_2-emissions, relatively low investment costs and short construction times.

However doubts remain regarding the gas supply side, with particular concern centring on excessive import-dependency and market-development, with consequent worries over price-levels and price development.

Coal technologies are more expensive than gas-fired plant in terms of initial investment and have the drawback of higher CO_2-emissions. However, coal is now "in fighting mode" and aside from considerations of reducing overall dependence on hydrocarbons, some promising technology developments are appearing on the horizon. "Clean coal technologies", based on highly-efficient advanced steam-cycles, eventually combined with CO_2-capture and storage can ensure a continuing vital role for coal-fired electricity in Europe and, moreover, advanced European coal technology can make a significant contribution to curbing pollution and CO_2-emissions all over the world.

5.2. Large Hydropower Installations

Hydropower, a renewable and CO_2-free energy source, has long played an important role in Europe's electricity production and the more recent focus on reducing greenhouse gases while promoting security of electricity supply emphasises this role. Hydropower plants generate a total 675,000 MW worldwide, the energy equivalent of 3.6 billion barrels of oil, supplying a quarter of world electricity to over a billion people and providing almost a fifth of total power production in the European Union, Norway and Switzerland. However, opportunities for expanding large hydro in Europe have now been almost entirely exhausted.

Most hydropower plants in Europe are built with multiple purposes in mind including flood-reduction, supplying drinking water and irrigation capacity, plus tourism. As well as being renewable and CO_2-free, and thus indispensable if the EU is to meet environmental commitments under the Renewables Directive and Kyoto Protocol, hydropower contributes greatly to a secure electricity supply, reducing EU dependence on imported energy. Additionally, the operational flexibility of hydropower plants contributes to network stability, while "pumped storage" hydropower plants can store electricity in considerable amounts - both important advantages as intermittent electricity sources increase their share of Europe's electricity

mix.

While the electricity industry works pro-actively to reduce the environmental impacts of its activities and recognises the need to protect the environment and improve water quality in Europe, we are nevertheless concerned that the impact of the Water Framework Directive (WFD) could impose onerous costs on hydropower leading to reduction in capacity and output, perhaps resulting in a switch to other, less appropriate, energy sources.

The WFD establishes a framework for EU policy on both surface and ground water, stipulating that where the ecological status of a water body is not classified as "good" or "excellent", a river basin management plan must establish necessary measures to achieve the required quality. Recognising that the Directive's aims are difficult to reconcile with important uses of water such as hydropower, the legislators established the category of "heavily modified water bodies" (HMWB), for which less stringent but by no means lenient ecological criteria will be applied.

WFD impact on hydropower will depend on how it is implemented nationally. A set of non-binding guidelines has been drawn up, providing interpretation of some key concepts and examples of best practice, in order to ensure a high degree of uniformity in implementation. Even with HMWB classification, existing hydropower operations will be affected by WFD requirements. Measures to enhance ecological quality, such as fish ladders or changes to regulatory regimes, may be required and building new hydropower capacity or changing hydrology regimes in existing regulated water bodies are likely to become more difficult and costs of monitoring water quality, ecological parameters, etc may increase considerably.
It is incumbent on the policymakers to take a balanced view of hydropower's merits, and, when implementing the WFD, the authorities must assess the legislation's specific aims within the broader policy-context and seek an optimal long-term approach.

5.3. Nuclear Energy

Currently, thirteen of the 25 EU Member States produce electricity from nuclear, and many more consume nuclear power, so that it currently enjoys a 35% share of EU electricity production. Nuclear power has typically high capital costs, but in overall terms is in many cases able to compete with gas technology and is much cheaper than most renewable energy sources.

Nuclear power ensures security of supply, reduces import dependency, has consistently been available at an affordable price and on a permanent and reliable basis, and helps to smoothe out the influence of fossil fuel price variations.

As a part of the energy mix, it has a role in minimising the consumption of fossil fuels and thus minimising the long-term impacts on the climate. Without nuclear energy the EU would face serious difficulties in meeting its Kyoto requirements and climate-change action requirements beyond 2012.

However, the future of nuclear power depends largely on public acceptance, and both industry-side efforts and political support are needed to overcome the low public awareness of basic nuclear energy facts, which impacts strongly on acceptance.

The safety of the nuclear power plants in Europe is excellent and has been continuously improving. Public concerns mainly centre on safe disposal of nuclear wastes. Nuclear waste exists in small, highly manageable amounts that can be safely stored without harmful impact on human or animal life or the environment Technological solutions also already exist for the final disposal of spent fuel.

At a recent workshop on *Nuclear Waste: Facts and Choices*, hosted by EURELECTRIC in conjunction with the European Commission and nuclear sector association Foratom, EU Energy Commissioner Andris Piebalgs expressed his conviction that "we must keep the nuclear option open for those countries which want to generate or consume nuclear electricity", which he stressed will depend on demonstrating that wastes are being properly and safely handled. This implies a serious need for greater efforts to inform the public of what is being done to ensure high-level safety for nuclear facilities across the EU. Problems linked to the issues surrounding nuclear power are in fact much more of a political and communication nature than technical or economic.

5.4. Distributed generation

In a changing supply scenario, distributed generation technologies have increased visibility. Short-term energy-storage technologies such as mechanical flywheel, chemical batteries and fuel cells, magnetic superconducting, electric ultra-capacitor, can be part of the future.

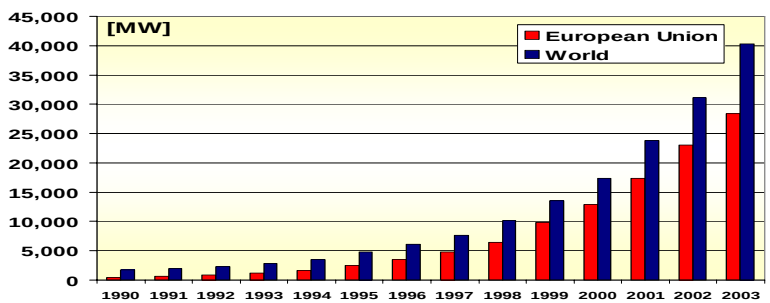
Distributed generation has the potential to offer a variety of value-added and cost effective solutions to customers, distribution grid operators and energy service companies and can transform the power industry. Apart from renewables, manufacturers are spending considerable funds in developing gas or hydrogen fuelled technologies such as micro-turbines and fuel cells. The latter are expected to possibly replace internal combustion engines for road transport, as a zero-emissions alternative. However, static applications, for local power generation, are also being developed, most often in CHP mode. Some manufacturers are developing 'black boxes' to allow 'plug n' play' connectivity. Distributed generation can contribute more and more to the power supply. Large central units will however remain the backbone for economically feasible base-power supply in the foreseeable future. Therefore, the two power-supply concepts are not rivals but complement one another.

5.5. Renewable Energies

Renewable energy sources (RES) have a role to play in future security of supply and in meeting environmental goals and the European Union can be proud of taking a world lead in this field.

FIGURE 7

Cumulative wind power installed capacity [MW] - 2003



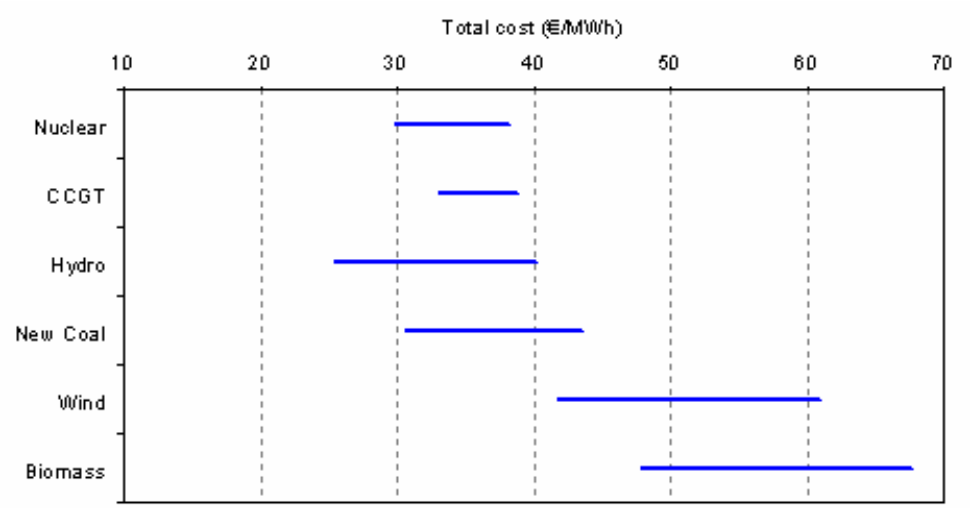
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
European Union	439	629	844	1211	1683	2497	3476	4753	6453	9878	12887	17315	23056	28440
World	1743	1983	2321	2801	3531	4821	6104	7636	10153	13504	17357	23857	31128	40301

Source: EURELECTRIC

Unfortunately however, although technical developments have led to substantial cost reductions and performance improvements, most RES electricity is still not competitive, with the exception of large hydropower (see Figure 8).

FIGURE 8

Indicative total generation costs (excl. taxes) for some technologies

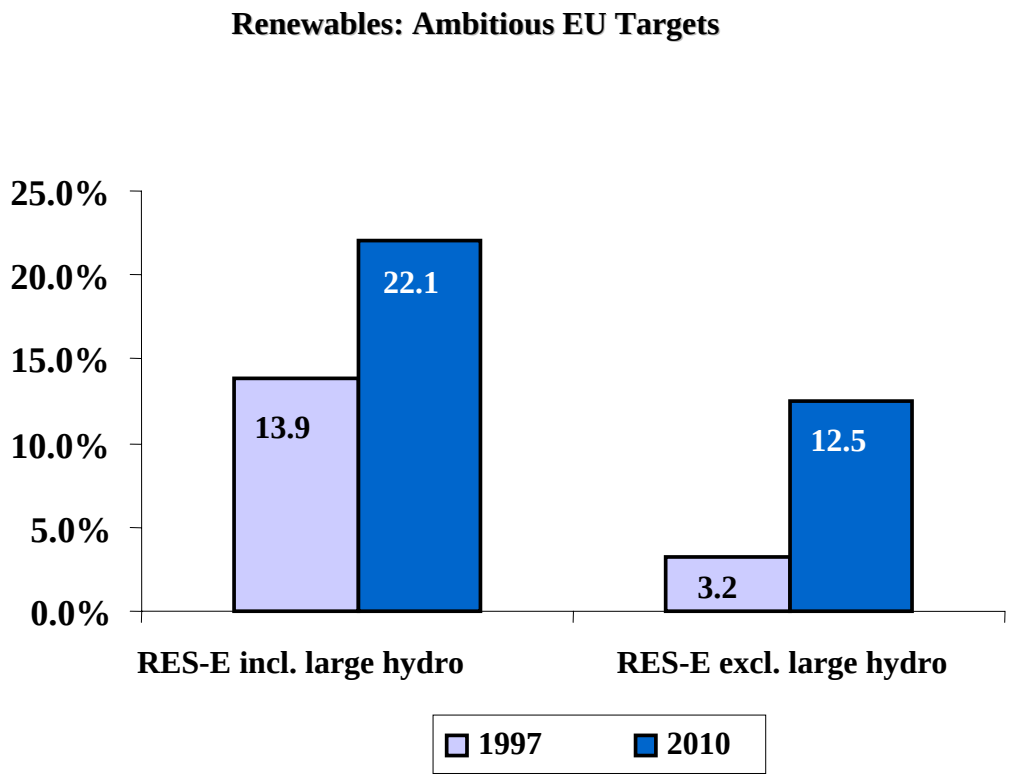


Source: EURELECTRIC "Ensuring Investments" report

Ambitious Targets

In 1997, the European Union set itself the highly ambitious target of achieving a 12% share for renewable energy sources in gross energy consumption by the year 2010. An EU Renewables Directive was subsequently adopted in 2001, under which Member States set national goals for RES-electricity. If these national targets are achieved, the RES-share in electricity will rise to an average 22% in the EU-15 countries.

FIGURE 9



However, figures produced by the European Commission's Directorate-General for Transport & Energy show that the contribution of RES-electricity to total European consumption 2001 was just 15.2 %. As most of current electricity RES is large hydro with little potential for further development, targeted growth will have to be achieved by small-scale technologies, which renders targets over-ambitious within the set timeframe.

Towards a Market-Oriented Approach

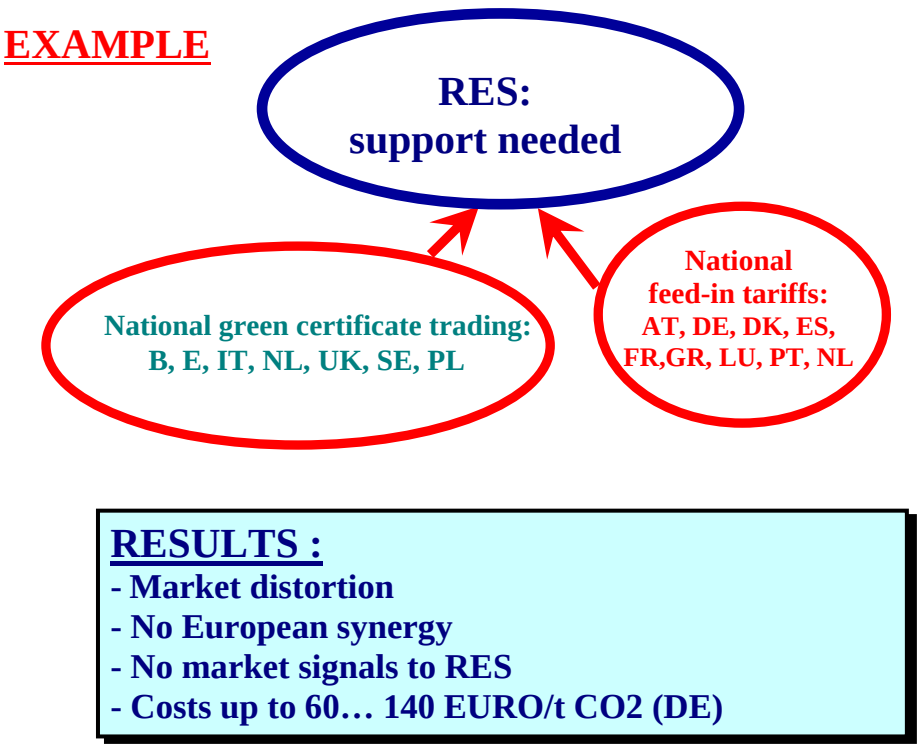
The development of RES in Europe is boosted by various national support mechanisms, often non-market-oriented and leading to a considerable increase in electricity prices. Most of the RES development in Europe is based on wind energy, unfortunately a source with irregular availability. Such intermittent generation replaces production from conventional sources but makes only a minimal contribution to reliable capacity and security of

electricity supply.

An economically efficient approach to the development of RES in the European energy-mix should be based on EU-wide systems. The fact that the Member States enjoy national - sometimes even federally-devolved - jurisdictional competence in this field, unaccompanied by any EU-harmonising measures, has clearly led to an inconsistent patchwork of national and regional support schemes which has apparently lost sight of the basic goal of an efficient increase in the RES-share in the energy mix. This trend can only be reversed by means of a clear emphasis on efficiency criteria.

FIGURE 10

Variation in approaches RES-support



The European Commission is due to make official reports by end-2005 on progress under the 2001 Renewables Directive and results achieved by the

various support schemes. EURELECTRIC believes the aim should be to phase out the highly-distortive feed-in tariff approach used in some countries (fig 10) and create a market-based, transparent, EU-wide trading system based on RES-certificates.

6. Improving the Regulatory Framework

6.1. Conflict of Goals

All in all, we observe that in applying the legally mandated targets, the electricity sector finds itself increasingly confronted with a manifest conflict of goals between on the one hand the basic concept of market-opening and the requirements of efficiency that are linked to it and on the other hand the supposedly ecological goals. These conflicts come about as a result of inconsistencies in the legislation or implementation of EU directives and rules, inadequate market-integration, and neglect of efficiency criteria in the application of the mandated objectives.

In summary, a coherent approach to energy-and-environment legislation, which is consistent with the market-rules set out under the liberalisation of the sector, must be guaranteed. Electricity companies' successful efforts to reduce costs and prices are being brought to nothing as regards the customer's bill by the surcharges arising from the subsidisation of RES, CHP, energy efficiency measures, public service obligations, energy taxes *et al.*

The current regulatory framework within which these legitimate environmental goals must be achieved is jeopardising the attainment of the original objective of providing competitive energy prices. This is because, in this framework consistency market-integration, and least-cost approach are currently nowhere to be seen.

6.2. Cumulative Burdens

The European electricity industry has been bombarded in recent years with a never-ending stream of legislation. This includes:

2000 Water Framework Directive
2001 Renewables Directive
2001 Large Combustion Plant Directive
2003 Energy Taxation Directive
2003 Emissions Trading Directive

2003 2nd Electricity Market Directive
2003 Regulation on Transmission Access
2004 CHP Directive
2004 Flexible Mechanisms Linking Directive

Meanwhile we still have in the EU pipeline:
A "package" of proposed Directives in the nuclear field; a proposed Energy Services Directive; and a proposal for a Directive on Electricity Security of Supply and Infrastructure Investments.

These considerable items of legislation have been drafted or enacted with little regard for their hierarchy of objectives, consistency, coherence, or cumulative effects on our industry.

6.3. Towards a More Coherent Approach to Energy Sector Regulation

It is now vital that policymakers and legislators end the trend towards the ever-increasing and incoherent regulatory and financial burdens on electricity companies, which are cancelling out efficiency and productivity gains achieved by the industry, and that they recognise that the electricity industry - a sector of vital importance for society and for the competitiveness of European industry - should be regulated in an appropriate manner that is better able to encourage the huge investments in plant and infrastructure required in the next few decades.

EURELECTRIC welcomes the new emphasis from the EU legislative institutions on revitalising the Lisbon Agenda through a "Growth and Jobs" strategy and - as expressed by Commission President Barroso - on making the economy "first priority" in a policy approach requiring "business-friendly policies, not rhetoric". We agree that "competitiveness" should now return to the top of the policy agenda.

One tool in the drive towards better regulation is *economic impact assessment* for any new envisaged piece of legislation. EURELECTRIC believes such assessments should be undertaken with the necessary quality and stakeholder-involvement, backed also by solid administrative support and appropriate decision-making procedures.

7. A Road Map

EURELECTRIC has proposed a "road-map" towards better legislation in the energy field, the aim being to ensure a sustainable balance between market-driven competition, environmental goals and industrial competitiveness.

Sound foundations have been laid to foster competing and competitive electricity markets. But a correction is urgently needed in order to integrate legitimate environmental and public service concerns in a way that, on the one hand, allows an investor friendly climate to develop and, on the other hand, brings competitive electricity prices to the European economy.

A roadmap towards improved energy regulation should be based on:

7.1. The introduction of thorough economic impact assessment for any new Directive or possible review of legislation and regulation.

Such assessments are indeed already foreseen in future EU policy-making; care should be taken to undertake them with the necessary quality and stakeholder involvement, and backed by solid administrative support and decision-making procedures.

7.2. The launch of a comprehensive assessment of the role of electricity in the development of Europe's society and in achieving Europe's objectives of economic development, energy security and environmental sustainability.

Such an initiative would allow for a better understanding of the positive role that electricity can and should play in relation to energy efficiency and economic competitiveness. It would allow correcting a situation whereby too often only the electricity consumption reductions potential is at the source of policy-making, ignoring the benefits of a higher penetration of energy-efficient electro-technologies; it can also serve as a bridge to sustainable development.

7.3. The launch of a major assessment and reorientation of the existing European and national policy-making framework in the sphere of energy efficiency and climate change policies

(emissions trading, RES, CHP, energy services, taxation, energy options, ...) by duly integrating the competitiveness dimension.

Such an initiative would allow for critical assessment of the current trend of inconsistent and costly accumulation of different policies; it would allow identification of a simplified and consistent regulatory framework based on the identification of key objectives and on the use of market-based and least-cost instruments to reach them.

7.4. The launch of a major assessment of possibilities for a "beyond Kyoto" approach to climate change which would allow a joint engagement of both the Western world and of more advanced developing nations, and with a focus on technology and energy-efficiency development.

Such an initiative would appear to be the only way to break the current deadlock, whereby too small a fraction of the world is committing itself to climate change policies, and to find an approach that can be effective in the long-term, and based on worldwide burden-sharing and avoidance of industry delocalisation as a device to meet regional targets.

It must also be stressed however that this road-map can lead us towards the desired goals only through a comprehensive EU-approach in which policymakers, regulators, the energy sector, plus wider industry and other stakeholders work together on joint solutions. It is now time for the imperative of ensuring sustainable competitiveness to be given a higher place on the EU energy-policy agenda.