



**Make Europe the most energy import independent region of the world-  
Renewables for Security of Energy Supply, Competitiveness and Environmental Protection**

EREC and its members, the European renewable energy industry, trade and research associations

- EPIA (European Photovoltaic Industry Association),
- ESHA (European Small Hydropower Association),
- ESTIF (European Solar Thermal Industry Federation),
- EUBIA (European Biomass Industry Association),
- EUREC Agency (European Renewable Energy Research Centres Agency)
- EWEA (European Wind Energy Association)
- AEBIOM (European Biomass Association) and
- EGEC (European Geothermal Energy Council),

representing the European renewable energy industry, trade and research community welcome the discussion on a “European Strategy for Security of Energy Supply Environmental Protection and Competitiveness” and call upon the Institutions to move forward with a real strategy for making Europe the most energy import independent region in the world in a sustainable way.

If the EU wants to guarantee security, stability and prosperity in and around Europe, an ambitious and coherent energy policy is a crucial requirement. Such a policy should rely on a common political will include the necessary means to provide collective answers to the economic, social, environmental and more generally strategic issues which coalesce in the energy equation. In line with the treaties of the Union has to respond to security of energy supply, economic growth, sustainable development, climate change, employment and technological development.

**Only renewable energy technologies in combination with energy conservation and efficiency have a positive effect on all of these goals.**

Since global demand for energy is increasing rapidly a move towards the use of domestic energy sources is overdue. According to the Green paper for a new energy policy for Europe, the World energy demand – and CO<sub>2</sub> emissions – is expected to rise by some 60% by 2030. Global oil consumption has increased by 20% since 1994, and global oil demand is projected to grow by 1.6% per year. A strategic and

coordinated effort by the European Union and the Member States is necessary to tackle the increasing problems caused by the increasing global demand.

Because of the strategic repercussions of the sector, all Member States have developed their own regulatory framework. Due to its transnational implications, and despite an initially limited constitutional responsibility in energy matters, the EU has progressively attempted to address an increasing number of individual issues related to energy, often taking the lead and pushing forward innovative legislation or spreading national best practices between Member States. Such was for instance the case in the areas of electricity and gas market liberalisation, renewable energy sources and some aspects of energy efficiency. In many other cases, such as research policy, the EU programmes have come in support of local or national initiatives and capabilities.

Some of these issues have already been identified both by the EU and in the individual Member States, and the regulatory framework is developing (with legislation having been passed on the internal electricity and gas markets, the environment, taxation, research, etc.) but still lacks practical implementation in its spirit as well as in its words.

Consequently, one of the first contributions made by any European energy policy should be to provide a truly pan-European perspective of these key issues, along with a benchmarking of the projects undertaken and an interconnection of the resources available.

**Since there is no mandate for a completely coherent and independent European energy policy led by the European Union, an EU energy policy must seek to address the issues where there is broad consensus amongst the Member States and a large degree of public acceptance.** Recalling the recent failure to obtain wide public support for the European constitution, the EU should address energy policy areas that can be accepted by a majority of European citizens and for which there is broad Member State consensus. Decisions on EU energy policy against the majority of European citizens and Member States would undermine the effort of establishing energy as an area of European cooperation.<sup>1</sup>

Areas with a clear consensus for priority by all Member States and the general public are:

- Renewable energy
- Energy efficiency
- Distributed generation
- Energy infrastructure
- True Electricity and gas liberalisation and competitive markets
- “Energy diplomacy”

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<sup>1</sup> According to a survey from Eurobarometer published in January 2006, almost 80% of EU citizens prefer renewable energies as alternative to high-priced oil and gas imports, while nuclear is preferred by 12%.  
[http://europa.eu.int/comm/public\\_opinion/archives/ebs/ebs\\_247\\_en.pdf](http://europa.eu.int/comm/public_opinion/archives/ebs/ebs_247_en.pdf)

These issues should form the core of a European energy policy. Nuclear energy might be a priority for certain Member States but European consensus is not achievable. Such controversial issues that do not enjoy broad consensus and acceptance should be left for Member States to decide. Of the eight Member States of the old Member States (EU-15) now operating nuclear power plants, five (Sweden, Spain, the Netherlands, Germany and Belgium) have adopted or announced a moratorium. Italy renounced nuclear power after a referendum in 1987. This leaves three of the old Member States only – Finland, France and the United Kingdom – who have not taken a negative decision yet.

These facts have to be taken into account when the EU defines its future energy strategy. A decision against the majority of European citizens cannot be seen as a solution. These highly controversial issues should be left to the Member States for decision.

In principle the EU's current situation can be described as follows:

- the demand for energy and energy services is growing constantly and widely above what would be needed;
- dependence on imported energy supplies is rising even faster;
- fossil fuel prices are set to continue rising in the long-term;
- power plants, gas and oil storage facilities and refining capacities will need to be renewed and developed in the years ahead (nuclear is not an option due to its long construction time);
- electricity and gas transmission infrastructures (notably interconnections) are insufficient;
- the energy market is not sufficiently integrated and still hampered by considerable barriers to entry and therefore not competitive enough;
- the effects of climate change are being seen more and more every day;
- the potential for performance improvements in energy technology through R&D is substantial but underexploited and suffers from an unclear allocation of priorities;
- despite some progress in some technologies, the potential for energy savings, energy efficiency and renewable energy sources is not being exploited to the full.
- a vast potential of cost-effective energy savings is being wasted.
- slow decoupling of GDP growth for energy consumption growth;
- prices reflecting costs are not generally applied;
- government intervention is still important on the energy market;

The state of affairs, as outlined above, can be changed if options and possibilities that are currently not being used are given the necessary attention.

**Using the energy efficiency potential, together with a major shift towards renewable energy sources, the European Union could become the most energy import independent region in the world** (apart from those countries that are net-exporters) by reducing the import of fossil fuels by increasing indigenous renewable energy sources and further developing these technologies and with the result of creating new export markets. By that the EU could gain a competitive advantage of paramount outreach. Europe should embrace energy independence as an opportunity

for maintaining and increasing European welfare rather than as a challenge to its economy.

## **Towards a European Energy Policy**

### **1. Geopolitical issues**

Governments' responsibility, together with the EU, is to provide security of supply. This involves promoting indigenous renewable energy sources and efficient energy use, but also, for the short- and medium- term, appropriate measures ensuring a wide spread of external supply options, which in turn means maintaining good relations with all the EU's neighbours.

In its energy diplomacy, the Union should ensure that all its main trading partners and competitors share its choices, particularly in the field of environmental protection, safety standards and the promotion of clean technologies. Therefore, beneath a dialogue with oil and gas supply countries, the EU should also start targeted dialogues on enhancing demand-side policies, e.g. a common approach for standards for global goods such as cars, appliances and office equipment with countries like China and India, but also with progressive regions such as Japan or California. **Diplomatic efforts should also comprise renewable energy sources and their development in countries outside the EU.**

Decentralised and diversified systems for energy generation are less vulnerable to accidents (extreme weather conditions, terrorist attacks, etc.) and reduce transport needs. Renewable energy sources are particularly suitable to be used in decentralised generation systems.

Furthermore, the EU must promote the use of innovative energy solutions based on renewables and energy efficiency in developing countries to enable them to achieve stability and sustainable development, e.g. by helping these countries with institutional capacity building on the demand-side, and decentralised renewables. Technology transfer and knowledge sharing should form part of the set of instruments to use. A European export strategy for renewable energy technologies should be a core foundation for energy diplomacy.

### **2. Economic issues and Competitiveness**

The world faces an economic crisis due to ever growing global demand for energy and by that a sustained rise in fossil fuel prices. The best way of protecting its competitiveness, growth and living standards is by encouraging resource use efficiency and renewables.

For a long time, energy policy was largely being taken for granted, with abundant supplies and relatively stable prices. But the situation has changed, with a much tighter energy market and significantly higher prices.

The increase in oil prices has also had a significant effect on energy prices and in particular on those of gas and electricity. Gas prices, whilst not directly linked to oil, largely follow the same movements. Furthermore as some 30% of EU electricity

generated by fossil fuels comes from natural gas – with an increasing tendency -, this has a significant effect on electricity prices and by that on the competitiveness of the Union.<sup>2</sup>

Although in the short term the EU will rely on the use of oil and gas, a strategy looking to times up to 2030 and further should take the possible economic effects more seriously into account than in the past. We are going to import an ever growing share of our energy at unpredictable (but most likely higher) prices in competition with the rest of the world and at unbelievable environmental cost. **Regardless of whether we are successful in energy diplomacy or not, we have no idea about the future cost of energy we will be paying to maintain current supply**

In 2005 the International Energy Agency forecasted an oil price of \$36 per barrel in 2030. Based on these forecasts a lot of investment decisions are being made. The EU has to take into account that these forecasts might all have to be adapted if the situation is changing. Meaningful electricity cost estimates require unbiased gas and oil price forecasts, but history provides little comfort that today's price projections will prove more reliable than those of the past. No one can predict the stock market performance of over 20 years just as no one can predict the price of oil/gas.

Many renewables, with the advantage of no fuel costs, may generate electricity at well known, clear costs. The only reliable forecast on prices is for renewable sources: The fuel price for wind and sun will be the same as today -namely zero- as in 2030 and the technologies will become cheaper.

Although liberalisation of electricity and gas markets has shown some benefits much more remains to be done. At present all EU electricity and gas markets, except in Nordic countries, remain national in economic scope. For almost all countries, imports of electricity and gas are not yet sufficiently developed to provide customers with a real alternative to the nationally established suppliers.<sup>3</sup> There is no real competition on more than 90% of the EU electricity market, and unless the current distortions in the emerging Internal Electricity Market are overcome, there will be no effective Internal Renewable Electricity Market for Renewables to compete in.

Creating real competition in the Internal Energy Markets is a vital goal in securing European competitiveness. **We have not yet achieved effective competition in the EU electricity and gas markets.**

In most national markets, customer switching rates are modest, substantial barriers remain for new entrants, market structures are highly concentrated and, last but not least, a single European energy market has not been achieved.

In all but five of the 25 Member States the three largest utilities own above two thirds of the electricity generation capacity. The figures even understate concentration as they do not take into account a very high degree of cross ownership. The level of dominance is even increasing as rules and practices continue to support the incumbent European generators and technologies and are encouraged by some Member States as utilities are built up to become national champions, or are becoming part of a handful of European utility oligopolies.

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<sup>2</sup> In 1997, the EU spent EUR 120 billion on energy imports, representing 6 % of the total value of all imports. Oil alone accounted for 75 % of this sum. In 1997, the Union's oil bill was EUR 94 billion, almost half of which (45 %) was paid to Middle Eastern suppliers (more than EUR 40 billion). In 1999, this bill reached EUR 240 billion. Changes in the EUR/USD rate since January 2000 added a heavy burden to this bill – Green paper on the Security of energy supply

<sup>3</sup> Conclusion of the 2005 Report on the functioning of the electricity and gas market

**Removing subsidies to fossil fuels and nuclear and applying the ‘polluter pays’ principle - established in Article 174 of the Treaty - to the energy markets, would go a long way to level the playing field.**

The externalities of energy production are largely related to health, environmental degradation and social aspects. These are the hidden costs of production not accounted for in energy prices. These costs are real and should be adequately internalised.

Minimum tax levels in the energy sector should be harmonised and reflect the external costs. Distortions, which are biased against ecologically -friendly activities, should be eliminated (e.g. Value Added Tax). The various support systems designed to help new energy sources and efficient use of energy have to be coordinated. They must give clear and stable market incentives to the operators, in order to allow them to make long-term commitments safely and accordingly to policy priorities. **It is high time that the EU sets new targets for renewable energy sources beyond the existing ones until 2010. A clear and ambitious mandatory target for 2020 of at least 20% renewables share must be introduced as soon as possible.<sup>4</sup> This overall target needs to be translated in obligatory sectorial targets for electricity (at least 35% by 2020), heating (at least 25% by 2020) and biofuels (at least 12% by 2020) as already demanded by the European Parliament.**

Moreover, long-term European research should focus on developing efficient, economic and environmentally friendly energy solutions in the six previously identified areas. FP7 (the seventh EU Framework Programme for Research and Technological Development) should be used as the main instrument for setting priorities, orienting research and supporting promising ventures. Its goals should be to concentrate not only on new technologies, but also on improving the delivery of better techniques. The research efforts under this programme need to be pushed further. They need long-term commitments in financial and manpower terms, as well as favourable conditions, and support from the public and private sector (in the form of Public Private Partnerships), such as those available in the existing or proposed technology platforms.

### **3. Social issues**

The public acceptance of different technologies should play a major role in any decision taken by the European Union. Historically and geographically, Member States have developed different energy mixes in their countries. **The EU should focus on cooperation in the areas that enjoy a high level of acceptance by the European citizens and for which there is a consensus among Member States.**

Energy end-use efficiency also has a crucial role to play in ensuring that all European citizens have secure access to their energy needs. Previous initiatives in this area have proved the key influence EU policy can have in spreading energy-efficiency information, as well as in the dissemination of efficient technologies.

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<sup>4</sup> <http://www.europarl.eu.int/omk/sipade3?PUBREF=-//EP//NONSGML+REPORT+A6-2005-0227+0+DOC+WORD+V0//EN&L=EN&LEVEL=0&NAV=S&LSTDOC=Y>

Investments in infrastructures and the diversification of energy sources are also needed, but a real breakthrough would come from a European push towards a new paradigm giving distributed generation a more central role and granting the conditions for its development. A reinforced separation of network operation from production and supply (ownership unbundling) is a crucial requirement for creating a genuine single market.

The quest for energy savings and the development of new energy services and generation methods are major sources of potential high added-value jobs, for instance in R&D, project development, energy management and energy advice services. The diverse skills and expertise required underline the need for an energy-related education policy. Using renewable energy technology creates employment at much higher rates than many other energy technologies. There are economic opportunities for new industries and new industrial and craft jobs through production, installation and maintenance of renewable energy systems.

#### **4. Environmental issues**

While contributing to boost Europe's competitiveness, the European energy mix must simultaneously respond to environmental concerns and the need to combat climate change. To this end, the EU needs to extend renewable energy technologies as much as it is technically and economically feasible;

Nuclear energy will probably continue to play a role in some European Member States in the future. These countries need to look objectively at the fundamentals and all aspects of nuclear power (true costs including liability costs, unsolved nuclear waste disposals, limited resources, general risk, public acceptance, including scenarios for phasing out nuclear power). **Decisions on new nuclear power plants must be taken at Member State level and should not be part of a future EU energy policy.**

Solutions such as nuclear energy or carbon capture and sequestration are not real options for combating climate change. Carbon capture and sequestration are not exploited and developed and the real impacts are not yet scientifically researched.<sup>5</sup> Every year that is lost in combating climate change will be a huge burden in extra costs to the society. The same applies for nuclear energy. The time from planning to realisation of new nuclear power plants is far too long to offer solutions.

The assessment of nuclear energy and other mitigation options must consider a framework of rapid and significant CO<sub>2</sub> emissions' reduction where the peak of emissions should already be reached for the industrialized countries within the next two decades. Nuclear power and CCS cannot offer this.

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<sup>5</sup> From the economic point of view, the capture of CO<sub>2</sub> is the key for the CCS option. The main challenge is that the capture of CO<sub>2</sub> requires a significant amount of energy, which decreases the electric efficiency of power plants significantly. The capture of CO<sub>2</sub> emissions could lower the electric efficiency by about 10 percentage points and would compensate a lot of the technological progress, which was achieved during the last two decades. In addition, the effective capture rates do not lead to an emission-free plant because the percentage of net CO<sub>2</sub> reduction ranges only between 80 and 90% for the preferred technologies (IPCC 2005).

Investing in nuclear energy carries not only considerable health, financial and security risks, it may also prove to be a dangerous lock-in and dead end in terms of resources.<sup>6</sup> Twenty years after the nuclear disaster of Chernobyl, any attempts to build new nuclear power should also take into account the public.

**Europe's energy future should be seen in the framework of sustainable development and climate change prevention.** Climate change is obviously one of the biggest threats to the global future. It is now clear that global commitment towards reducing greenhouse gases after the period 2012 will be implemented. Europe is already at the forefront of developing environmentally friendly technologies and should keep this leading role, especially in the energy sector. With the latest commitments, environmentally sound technologies will gain more and more attention and by that will create a new export sector for Europe's economy.

The Union's energy policy should also promote the creation of a well functioning market for emission permits. It must seek to expand the use of auctioning for permit distribution to avoid current distortions in the European market for emission permits.

Concerning the development of new infrastructures and especially interconnections between Member States and neighbouring countries, which are increasingly coming up against well-founded ecological arguments, Europe needs to provide a balanced response that takes all the issues involved into account and promotes European interests. Again, a framework setting the right conditions for the development of more distributed generation capacity and of the whole variety of renewable energy sources would simultaneously further environmental aims and the effective fulfilment of energy needs. Public acceptance of energy infrastructures and installations is crucial to maintain a diversified mix of energy sources and technologies.

### **Immediate Recommendations**

To fully explore the potential of renewable energy and energy efficiency the EU should immediately act in the following fields to start with

- Setting of new long-term targets for renewables up to 2020
- A new directive on renewables heating and cooling
- Improving legislation on renewables electricity and the transformation of it in the Member States not only in it's words, but also in it's spirit
- Increased research funding under FP7 with clear budget allocation for renewables
- Development of a renewable energy export strategy

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<sup>6</sup> The world has two and a half million tonnes of known uranium reserves (uranium being the only part of the nuclear fuel cycle in which the Union is not self-sufficient), representing 40 years' demand at present rates of consumption (the current market price is around USD 20 a kilo). Further known resources come to about 850 000 tonnes (corresponding to 15 years' demand) at the same price and are mainly located in Australia, Kazakhstan, Uzbekistan and Canada.

The European Union, for its part, is home to barely 2 % of the world's natural uranium reserves (i.e. 52 000 tonnes) but production will shut down sometime around 2005 in France and Portugal. Europe's uranium mines have closed principally because the deposits have been exhausted and it is expensive to extract relative to the world price, and because world physical stocks of nuclear fuel are very high."