Europe's Energy Policy
Creating Change

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In October 2005, the European Council[1] decided that it must articulate a long-term energy policy for Europe and that Europe would use its collective weight to make its voice heard on the evolving global energy scene. This decision by Europe's leaders implied significant change in European energy policy. Until then, European policy had focused mainly on the creation of pan-European competitive energy markets, on common interests in safety, security, and crisis prevention, and on environmentally inspired promotion of energy efficiency and renewable energies. Many energy policy choices were left to the discretion of individual member states, reflecting substantial national differences in energy resources, geography, and energy infrastructures. Debates on nuclear energy, for example, were national debates, with the European dimension limited to safety and security aspects.

The reality was that energy markets across Europe were still far from integrated; "national champion" energy companies were still in place in many member states and were very influential in domestic and international energy dealings. Thus a common long-term energy policy for Europe—responding to global challenges—represented a distinct break from the past. It was not obvious that this strategic and structural shift could be realized.

An important factor leading to the shift was the certainty of impending major developments in the global energy economy. Europe's reliance on fossil fuel imports was rapidly increasing.[2] Domestic oil and gas production was peaking, and demand continued to rise. These conditions fostered Europe's dependence on global and regional energy markets. As it was far from clear

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that the major investment needed to meet the increase in global energy demand over the next decades would be forthcoming, there were distinct concerns about future prices and security of supply. In this context, many felt that clear European action could influence global and regional market developments more effectively than action by individual member states.

A second factor was the growing energy interdependence within Europe. Energy market integration was progressing slowly but steadily. New member states in central and eastern Europe were reorienting their energy infrastructures towards their new EU partners. Many member states were becoming more dependent on gas imports, which were likely in the future to come by long-distance pipeline across Europe from suppliers outside the EU.

A third and powerful factor driving a European approach was the global challenge of climate change, which clearly called for long-term and broad-ranging thinking on energy policy to bring about a transition to an energy-efficient, low-carbon economy in Europe and worldwide.

MOVING FORWARD

The idea that Europe needed to combine its forces on energy to better address the long-term challenges of climate and energy supply security—as well as its own competitiveness—had been gaining ground for some time. Playing its intended role in the EU system, the European Commission had put forward analyses and concrete proposals for greater and more effective cooperation on energy.[3] The October 2005 European Council, bringing together the heads of state or government of all 27 member states and the president of the European Commission, provided clear political impetus.

The Commission followed up quickly with proposals in a discussion document that was examined in depth by the European Parliament, the member states, stakeholders, and the public.[4] This public debate brought to the fore the wide range of views in Europe on energy policy questions. At the same time, on the climate front, the EU had decided to take the lead in reinvigorating international discussions on a global post-2012 climate agreement.[5] Options for a global agreement were being examined and the EU's own medium- to long-term climate strategy was being developed. In January 2007, the Commission put forward an integrated climate and energy package.[6] In March, the European Council endorsed the main lines of the Commission's proposals, setting out at the highest political level an integrated climate and energy policy for Europe.[7]

This was an important move forward. Integrated climate and energy

policies clearly make sense in today's world. Concrete commitments need to be made now if the global climate challenge is to be tackled in any serious way. Mutual encouragement is crucial. As reductions in emissions in greenhouse gases will come to a large degree from changes in how we produce and consume energy, our energy policies are now the main means by which we can demonstrate the credibility of emission reduction promises.

The objective of limiting the global average temperature increase to not more than 2°C above pre-industrial levels underpins the EU's strategy. This implies very substantial global emissions reductions. The EU line is that developed countries should take the lead to collectively reduce their emissions to 30 percent below 1990 levels by 2020, with a view to achieving reductions to 60 to 80 percent below by 2050. The EU will now take 30 percent as its 2020 objective as part of a global and comprehensive climate agreement for the period beyond 2012, provided that other developed countries commit to comparable emissions reductions and that economically more advanced developing countries commit to a contribution in line with their responsibilities and capabilities. In a concrete demonstration of Europe's determination to achieve results, the new policy includes a firm EU commitment to reduce its greenhouse gas emissions, independent of any global climate agreement, to at least 20 percent below 1990 levels by 2020.

Fundamental to the European Council's decision is the argument that remaining within the 2°C limit is both technically feasible and economically affordable if the international community acts swiftly.[8] On energy specifically, it is argued that Europe's climate and energy policies can be mutually supportive. Security of supply and maintaining, indeed improving, the competitiveness of European economies can be achieved in a carbon-constrained, growing world. A transition to a high-efficiency, low-carbon economy is essential and offers a new range of opportunities. It has to be said that while Europe has certainly made some advances in the energy technologies and systems of the future, as well as the policies needed to get them into widespread use, it was nevertheless a leap of faith for many to commit to the new integrated climate and energy policy.

As part of the new policy, the European Council endorsed an Energy Action Plan. This is more than a set of aspirations unconnected to political and economic realities. It is a comprehensive approach to Europe's energy policy, drawn up after intensive public and stakeholder debate and discussions in the member states and European institutions.

CONCRETE OBJECTIVES

The plan fixes highly ambitious and quantified targets for energy supply and use. One is a 2020 target of 20 percent for the share of renewable energy in Europe's primary energy consumption, very different from today's seven percent. National targets will now be worked out for each member state, contributing to the 20 percent target for the EU as a whole, and they will be legally binding on member states. (Much the same approach has been used for the EU's commitment under the Kyoto Protocol.[9]) In addition, each member state will be bound to achieve at least a 10 percent share of biofuels in gasoline and diesel consumption, subject to sustainable production considerations.

There is an energy efficiency objective of a 20 percent reduction in final energy consumption compared to the 2020 business as usual projection. An Energy Efficiency Action Plan[10] is being implemented across the board in transport, buildings, appliances, and energy services, using regulatory and other instruments.

The basic idea is that all sectors of the economy need to contribute to Europe's energy and climate strategy, some by increased efficiency and reduction of demand, some by substitution of low-carbon energy. This is important. With large changes necessary, it is evident that all sectors must be seen to contribute.

The EU's Emissions Trading Scheme[11] is already in operation. Launched in 2005, this company-level "cap and trade" system encompasses some 11,000 large energy-intensive installations (power generation, manufacturing plants, etc.), accounting for nearly half of the EU's CO_2 emissions. The trading scheme establishes a price on carbon emissions by capping the allowable CO_2 emissions of these sites, allowing trade in emissions allowances between installations, and permitting a limited linkage to the emissions credits generated in developing countries through the Kyoto Protocol's Clean Development Mechanism.[12] Experience with this carbon market is developing. In the new policy, greenhouse gas emissions capping and trading is intended to play an important role in bringing about a transition to high efficiency and low-carbon technologies and systems. The medium-term emissions reductions commitments now agreed upon should lay the essential foundation for solidly based carbon prices, providing credible signals to investors.

In public debates, some have argued that limits on greenhouse gas emissions make separate targets redundant, especially for the use of renewable energies. Others claim that renewables are important not only for emissions

reduction purposes but also for security of energy supply and new industrial opportunities for Europe, and that market barriers are not sufficiently addressed by carbon pricing. In this context, the binding national targets agreed for renewables in primary energy supply in 2020 can be seen as a measure of the political importance of the renewables issue in Europe. At the same time, member states retain flexibility in how they will meet their overall targets (e.g., in electricity, heating and cooling, or other areas).

Investor demand for predictability and stability in policies over the crucial coming years is an important factor behind the agreement on energy targets. In the U.S., too, investors are increasingly calling for clear definition. Policies and regulations are vital in encouraging early markets for high-efficiency and low-carbon systems and technologies and are likely to be so for some time. Europe is already a lead market for some energy efficiency and low-carbon technologies. The new policy consolidates this role and should provide, with binding 2020 targets, the indications sought by investors, industry, and researchers.

It is clear that Europe cannot address global climate or long-term energy security challenges acting on its own.

In Europe, there will be in any case much investment in energy over the next years, notably in the replacement of aging infrastructure. If these investments are not made in the best technologies and systems, the long life cycles of large-scale energy systems (such as centralized electricity generation) will mean "lock-out" of available improvements for decades to come. Thus, a clear policy line is essential now. Regarding technologies which are not yet available—notably, environmentally safe carbon capture and sequestration—the Energy Action Plan indicates a timeline for work on the necessary technical, economic, and regulatory framework, which should help in investment planning. Throughout the new policy there is a strong focus on encouraging investments in general and in high-efficiency, low-carbon technologies and systems in particular.

INCENTIVES FOR GLOBAL CHANGE

It is clear that Europe cannot address global climate or long-term energy security challenges acting on its own. In terms of global energy consumption, for example, Europe is projected to account for only 12 percent in 2030, down from 16 percent today. In terms of global CO_2 emissions, it is projected to account for only 10 percent in 2030, down from 15

percent today.[13] However, Europe is relatively far advanced and has many strengths and much to contribute in terms of the policy developments, public support, markets, and technologies needed to achieve a transition to a highly efficient, low-carbon economy. For Europe, it is important that global partnerships and frameworks for cooperation be established now, to effectively tackle global climate and energy security challenges and to maximize the benefits of its contribution and leadership. Europe's new climate and energy policy creates a number of new incentives for partners that need to be seen and exploited.

One incentive is the lead market for energy efficiency and low-carbon technologies, now firmly established in the medium term. It is important that this be geared up to encourage development of global markets for these technologies. Reaching emissions targets will depend, for all countries, on the availability of energy-efficient and low-carbon technologies, along with adequate incentives for their use. In this context, the EU wants to promote international trade in environmental and energy-efficient goods and services as well as to encourage sustainable methods of production.[14] There is much potential for cooperation among countries on the infrastructure of international trade and investment, such as standards and testing. Energy efficiency, a field of clear benefit to all countries, will be an obvious early focus for collaboration.

The strong support evident in the new policy for the Emissions Trading Scheme should increase incentives for linkages. The EU has stated its wish to link its Emissions Trading Scheme with other compatible emissions trading schemes with comparable levels of ambition.[15] The EU system is being closely watched by businesses and governments around the world and is serving as a reference for others developing their own schemes, particularly the northeastern U.S. states, California, and states and territories in Australia. Commitments to real, absolute reductions in emissions are the backbone of any cap and trade system, so the EU's unilateral emissions reduction commitment can be seen as a strong signal of its determination to have a powerful carbon market that sends credible signals to investors. The EU sees a well-functioning global carbon market as a valuable tool and an essential part of a global post-2012 climate framework.

Substantial and reasonably predictable demand is being created for emissions reductions and for technology transfer opportunities through the linkage in the EU's Emissions Trading Scheme to the Kyoto Protocol's project-based mechanisms. A strengthening of the Clean Development Mechanism will be sought. The new policy includes provision of additional funds and innovative financing mechanisms for development and adapta-

tion (particularly for the most vulnerable countries) and new action on deforestation. Turning these identified priorities into action could considerably change the existing incentives for developing countries in particular.

Tomorrow's world will undoubtedly see increased production and trade in biofuels. In the EU's Energy Action Plan, the biofuels target is conditional on production being sustainable and second-generation biofuels becoming commercially available. This should encourage new cooperation.

New incentives for cooperation will be created in a world of increasing mutual dependence, in energy as in climate. In the coming decades, as global energy demand grows, security of supply will become an increasingly valuable public good for most participants in global and regional markets. It will be in the interest of most countries to have well-functioning global energy markets delivering security of supply and clear, credible signals for investors worldwide. Today's global energy markets, with non-transparent trading and investment relations, will not be good enough either for producers or consumers, and investments will be correspondingly risky. International rules must be established that provide clear, predictable frameworks that foster the development of trade and energy investment. The EU has long argued for such frameworks, and now, given its intention to speak with a single strong voice in the evolving global energy scene, it can be expected to pursue this line even more strongly.

INTEGRATION, NOT ISOLATION

Despite its focus on efficiency, demand reduction, and low-carbon fuels, the EU's integrated climate and energy policy does not imply an insulation of Europe from global energy markets. In most scenarios, primary energy demand and particularly fossil fuels demand in the EU will be lower in 2030 than today.[16] However, net imports will still be substantial. In most scenarios, while net imports of coal and oil will have decreased from today's levels, net imports of natural gas are projected to increase considerably from today's levels. This reflects not only Europe's diminishing natural gas resources but also the usefulness of gas for various purposes in a carbon-constrained strategy (e.g., substitution of coal in electricity generation). It is in the natural gas market that the interdependence of energy producers, transporters, and consumers is particularly clear. With major investment in pipelines to be made, trust, predictability, and clear frameworks are essential. This reinforces the EU interest in the development of clear international rules.

The Energy Action Plan includes a commitment by member states

to develop a common approach to external energy relations and to speak with one voice in pursuing it. Stronger relations with energy-producing countries are envisaged, including a new, legally binding agreement with Russia.[17] With the Central Asia, Caspian, and Black Sea regions, as well as the Mashrek/Maghreb region, it is agreed that stronger cooperation is needed to support energy market development and diversification of sources and routes. Energy is likely to become a more active focus in Europe's extensive relations with developing countries. There will be a new partnership with Africa on energy.

The energy relations between the EU and its neighbors are particularly important and valuable to both sides. The Energy Community Treaty, for example, now links the EU and countries of southeastern Europe.[18] This transparent, predictable framework uniting markets has attracted substantial investment of interest to both the EU (notably in pipelines) and its neighbors, and high environmental, safety, and security standards have been adopted throughout the region. The further development of such energy relations with neighbors can be expected in the coming years. The Energy Community Treaty could possibly be extended to Norway, Turkey, Ukraine, and Moldova, according to the Action Plan.

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The EU agrees that energy relations must be developed with consumer countries as well. The success of strategies to tackle climate and energy security challenges depends crucially on emerging consumer economies, hence the focus throughout the EU's new policy on incentives for cooperation and sustainable development.

It is clear that Europe intends to lead in the transition to tomorrow's energy world. With its integrated climate and energy policy, backed by its collective weight, the EU has gone ahead with the express intention to catalyze adequate contributions to a post-2012 global climate agreement. Its energy policy gives a concrete indication of how it intends to achieve its climate commitments. Many new incentives and opportunities for international cooperation are now set out, geared to the major investments necessary worldwide, to achieve a sustainable energy future for all in a growing world. Clear, stable international frameworks for investment, trade, and aid must be constructed now to enable real progress. Tomorrow's world will be a world of interdependence, in energy as in climate. ■

ENDNOTES

1 The European Union (EU) is based on the pooling of sovereignty in defined areas by member states and the creation of common institutions. The European Commission, one of the EU institutions, defends the interests of the EU as a whole. It is the executive arm of the EU and has the exclusive right to propose legislation. See Commission website, <ec.europa.eu> (accessed April 16, 2007). The European Council brings together the heads of state or government of all 27 member states and the president of the European Commission. It sets general policy guidelines for the EU and gives political impetus. See Council website, <consilium.europa.eu> (accessed April 16, 2007).

2 EU import dependence in 2000 (at that time 25 member states) was 76 percent for oil, 50 percent for natural gas. Business as usual projections for 2030 are 94 percent for oil, 85 percent for natural gas. See Commission website, <ec.europa.eu/dgs/energy_transport/figures/index_en.htm> (accessed April 3, 2007).

3 Commission Green Paper "Towards a European Strategy for the Security of Energy Supply" (2000). See Commission website, <ec.europa.eu/energy/index_en.html> (accessed April 3, 2007).

4 Commission Green Paper "Secure, Competitive and Sustainable Energy for Europe" March 2006. See Commission website, <ec.europa.eu/energy/index_en.html> (accessed April 3, 2007).

5 Presidency Conclusions from European Council, March 2005. See Council website, <consilium.europa.eu> (accessed April 3, 2007).

6 Package entitled "Energy for a Changing World," January 10, 2007. See Commission website, <ec.europa.eu/energy/energy_policy/index_en.htm> (accessed April 3, 2007).

7 Presidency Conclusions from March 2007 European Council. See Council website, <consilium.europa.eu/ueDocs/cms_Data/docs/pressData/en/ec/93135.pdf> (accessed April 3, 2007).

8 Commission proposal "Limiting Global Climate Change to 2° Celsius: the way ahead for 2020 and beyond." See Commission website, <ec.europa.eu/environment/climat/future_action.htm> (accessed April 3, 2007); see also the Stern Review on the Economics of Climate Change, on the United Kingdom Treasury website, <www.hm-treasury.gov.uk/independent_reviews/stern_review_economics_climate_change/sternreview_index.cfm> (accessed April 3, 2007).

9 Under the Kyoto Protocol, the EU has committed to reduce its greenhouse gas emissions to eight percent below 1990 levels, by the period between 2008 and 2010. See Kyoto Protocol website, <unfccc.int/kyoto_protocol> (accessed April 3, 2007).

10 Energy Efficiency Action Plan. See Commission website <ec.europa.eu/energy/action_plan_energy_efficiency/index_en.htm> (accessed April 3, 2007).

11 See Commission website on Emissions Trading, <ec.europa.eu/environment/climat/emission.htm> (accessed April 3, 2007).

12 Linking Directive. See Commission website, <ec.europa.eu/environment/climat/emission/linking_en.htm> (accessed April 3, 2007); Clean Development Mechanism. See <unfccc.int/kyoto_protocol/mechanisms/clean_development_mechanism/items/2718.php> (accessed April 3, 2007).

13 World Energy Outlook 2004, reference projection for EU-25. See International Energy Agency website, <www.worldenergyoutlook.org> (accessed April 3, 2007).

14 Energy Action Plan op.cit., paragraph 6.

15 E.g., Environment Council conclusions, February 20, 2007, par. 14. See Council website, <consilium.europa.eu> (accessed April 3, 2007).

16 Scenarios. See Commission website, <ec.europa.eu/dgs/energy_transport/figures/index_en.htm> (accessed April 3, 2007).

17 EU-Russia relations. See Commission website, <ec.europa.eu/comm/external_relations/russia/intro/index.htm> (accessed April 3, 2007).

18 Energy Community Treaty. See Commission website, <ec.europa.eu/dgs/energy_transport/international/regional/ect/index_en.htm> (accessed April 3, 2007).