

DEVELOPING ENERGY POLICY FOR EUROPE: A FINNISH PERSPECTIVE ON ENERGY COOPERATION IN THE EUROPEAN UNION

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Synopsis: Traditionally, energy policy within the European Union (EU) has fallen within the jurisdiction of individual member states. In the recent years the member states and the European Commission have acknowledged that a joint European Energy Policy is the most effective response to the challenges we are facing today. These challenges include global warming and other environmental issues, energy security, energy efficiency, ways and means to reduce greenhouse gas emissions, and dependence on the fossil fuels. It has become increasingly clear that it is important for the EU in order to reach its goals to speak with one voice towards third world countries in the issues relating to energy and climate. It is not an easy task to formulate a common energy policy approach to the EU. However, we have made positive steps and the further development of common approach in key areas is under way. The EU strives to position itself to be the leader in tackling climate change and developing technologies that will ensure that tomorrow's energy is cleaner and more sustainable.

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I. INTRODUCTION

The Presidency of the Council of the European Union (EU), the main decision making body of the EU, rotates, by agreement, among the member states every six months. Finland held the rotating presidency from July 1 until December 31, 2006, and among its responsibilities was management and development of the EU's energy and environmental policies. The dual and related challenges of combating global warming and reducing member states' dependence of imported fossil fuels¹ were key issues during Finland's presidency² and are likely to be on the EU agenda for the indefinite future. As head of the economic section of Finland's embassy in Washington D.C. during that period, I was involved in the dialogue on climate and energy between the European Union and the United States and also had the opportunity to chair a local EU working group of experts dealing with energy and environment. It is from this vantage point that I offer a look back at EU environmental and energy policy during the Finnish Presidency of the EU and some comments on recent developments and the likely future direction of EU energy and environmental policy.³

II. THE CONCEPT OF AN EU ENERGY POLICY

Traditionally, energy policy within the EU has fallen within the jurisdiction of individual member states.⁴ The resulting lack of a common approach regarding energy is strikingly evident in the varying approaches displayed by individual member states. For example, among the EU countries, Finland is a heavy user of energy because of our climate, our long distances, and our energy-intensive industry. The total energy use of the U.S. and Finland are per capita roughly at the same level. Finland uses more electricity per capita than the U.S. Nevertheless, per capita Finland produces less CO₂ emissions than the U.S.

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1. See, e.g., INFORMAL MEETING OF ENVIRONMENT MINISTERS, GOING GLOBAL ON ECO-EFFICIENCY – TOWARDS A NEW GENERATION OF ENVIRONMENTAL POLICY (2006), http://eu2006.fi/news_and_documents/other_documents/vko28/en_GB/1152971004421/.

2. Key among the EU's goals has been the development of a joint EU-wide energy policy. See FINLAND'S EU PRESIDENCY, FINLAND HAS MET ITS MAIN PRESIDENCY OBJECTIVES (2007), <http://eu2006.fi>. "The primary focus of the Finnish EU Presidency was on enlargement, energy policy, the strengthening of competition, combating climate change, the Middle East and cooperation between the EU and Russia. Finland is satisfied with the results achieved." *Id.*

3. See e.g., FINLAND'S EU PRESIDENCY, TRANSPORTATION, TELECOMMUNICATIONS AND ENERGY (2006), http://eu2006.fi/eu_and_policy_areas/policy_areas/en_GB/transport/. See also, Press Release, Council of the European Union, 2773rd Council Meeting, Environment (Dec. 18, 2006), http://eu2006.fi/news_and_documents/conclusions/vko52/en_GB/1167152449976/.

4. EUROPA, SUMMARIES OF LEGISLATION: ENERGY, <http://www.europa.eu.int/scadplus/leg/fi/s14000.htm> (last visited Feb. 18, 2008). For additional European Union legal materials, consult EUR-Lex. EUR-Lex, The Access to European Union law, <http://europa.eu.int/eur-lex/fi/index.html> (last visited Feb. 7, 2008).

In recent years, the role of the EU in steering energy policy has increased despite the fact that *implementation* of EU policy decisions remains largely in the national competence of individual member states. The EU faces serious energy challenges concerning sustainability and greenhouse gas emissions, as well as security of supply, import dependence, and the competitiveness and effective implementation of the internal energy market. This has generated a demand for a more united approach to energy challenges. Member states have acknowledged that a European Energy Policy is the most effective response to these challenges, which are faced by all member states. It will not be an easy task, but work towards a European Energy Policy is well on its way.⁵ The areas of the EU's recent common focus are discussed below.⁶

A. *Towards a low-energy economy*

Both to reduce greenhouse gas emissions and dependence on imported fossil fuel, EU policy is to create a high-efficiency energy economy with low CO₂ emissions. To do so, it has set for itself several challenging energy objectives. Development of these objectives began in earnest several years ago and continued through Finland's presidency of the EU.

The 2007 draft of a new European Union energy policy should be seen as a first step toward EU agreement on becoming a low-energy economy, while making the energy Europeans do consume more secure, competitive, and sustainable. Interestingly, by putting development of a common energy policy back at the heart of EU action, the importance of energy policy has actually been restored to the position it occupied when the move toward a European Union first got under way with the European Coal and Steel Community (ECSC Treaty, 1951) and the European Atomic Energy Community (Euratom Treaty, 1957).⁷ The aims of the policy are supported by market-based tools (mainly taxes, subsidies, and the CO₂ emissions trading scheme), by developing energy technologies (especially technologies for energy efficiency and renewable or low-carbon energy), and by different financial instruments. While the aims of the policy are widely shared, however, there are many variables that complicate its common implementation, particularly for a diverse group of countries like the members of the EU. The key issues on which an implementation strategy must be developed will include: renewable energy, climate change, energy security, and competition law. Different pieces of the puzzle must all fall into place to produce a workable action plan. These are discussed next.

5. *Communication from the Commission to the European Council and the European Parliament: An Energy Policy for Europe*, COM (2007) 1 final (Oct. 1, 2007).

6. EUROPEAN ENV'T AGENCY, EN26 TOTAL ENERGY CONSUMPTION BY FUEL (2007), http://themes.eea.europa.eu/Sectors_and_activities/energy/indicators/EN26%2C2007.04/EN26_EU25_Total_energy_consumption_2006.pdf.

7. EUROPA, SUMMARIES OF LEGISLATION: TREATY ESTABLISHING THE EUROPEAN COAL AND STEEL COMMUNITY, ECSC TREATY, http://europa.eu/scadplus/treaties/ecsc_en.htm (last visited Feb. 7, 2008); *see also*, EUROPA, SUMMARIES OF LEGISLATION: TREATY ESTABLISHING THE EUROPEAN ATOMIC ENERGY COMMUNITY (EURATOM), http://europa.eu/scadplus/treaties/euratom_en.htm (last visited Feb. 7, 2008).

B. Creating a Functioning Internal Energy Market

An internal energy market has been developed on a community level to ensure that consumers will have the opportunity to choose a supplier at a fair and competitive price.⁸ Often this allows consumers to opt for “green energy,” i.e. electricity that has been produced in an environmentally sound manner. Nevertheless, the prospects for an internal energy market, and increasing competition in the gas and electricity sectors, face obstacles that continue to prevent consumers from fully benefiting from the advantages of opening up the gas and electricity markets. Ensuring effective implementation of an internal energy market thus remains crucial. That implementation will involve development of common laws, rules, and regulations in EU member states regarding technical standards, conditions of access, supply security arrangements, greenhouse gas reduction, energy efficiency, use of renewable energy sources, and development of new, efficient energy technologies.

C. Goal: An Integrated and Interconnected Market

An internal European energy market is, by definition, essentially dependent on cross-border trade in energy. However, such trade is often difficult in practice because of the disparity between national technical standards and network capacity among the member states.

Effective regulation and implementation on an EU level is therefore required.⁹ I know from observation that it is a difficult task to harmonize regulations for individual national energy regulators. Each must be willing to define the common regulatory and technical rules and security standards required for cross-border trade on an EU level.

One of the challenges faced during Finland’s EU Presidency was that, to create a functioning European energy network, each EU member must garner the financial and political support of its citizenry for implementing regulations and updating infrastructure where necessary. There are not going to be any shortcuts, and many challenges in priority areas remain.

Key among these are in the areas of competition and market access issues, as well as transfer pricing.¹⁰ In the short run, there will be winners and losers among constituencies in the member states. Some states, for example, have more renewable energy resources and may have to sacrifice short term gains for the long range benefits of adhering to the EU’s overarching policy goals.

D. Supply Security

Minimizing the EU’s vulnerability to energy supply shortfalls is a major priority for member states. As discussed in more detail in Section II, nearly all EU members are heavily dependent on imports of fossil fuels, particularly oil

8. “Internal energy market” in this article means an EU-wide market, i.e. a domestic market.

9. This is the widely accepted view in Europe.

10. By “competition and access issues” I mean issues relating to policies to support competition among electric suppliers in both the electric and gas industries and access to the transmission networks necessary to permit such competition to exist. As to “transfer pricing,” there I refer to pricing from one grid owner to another. Without adequate regulation in place, the grid owners could overcharge creating obstacles for competition. In the past for example two companies from the same country agreed between themselves to charge each other less than any third company using the grid of either company.

and natural gas. Shortfalls in supply, whether politically motivated or the result of the economic tactics of dominant suppliers, can lead to possible energy crises, so reducing uncertainty with respect to future supply is a clear priority. This uncertainty is all the more problematic for some member states dependent on a single gas supplier.

The EU's new energy policy emphasizes the importance of measures that ensure solidarity between member states and of the diversification of supply sources and transportation routes. As a community, the EU supports reinforcement of measures supporting strategic oil stocks as well as exploration of improvements to the security of gas and electricity supply.

E. Reduction of Greenhouse Gases

EU members are in agreement that greenhouse gas emissions from burning fossil fuel make a significant contribution to climate change and that changes in the way Europeans consume energy are necessary to combat climate change. Energy consumption, including transportation, accounts for 80% of all greenhouse gas emissions in the EU.

The EU is committed unilaterally to reducing its own emissions by at least 20% by 2020.¹¹ The EU's goal is to get other nations around the negotiating table to create a binding international agreement that will require developed countries to reduce their greenhouse gas emissions by 30% by 2020. This objective is a key component of the EU's strategy for limiting climate change.¹²

F. Energy Efficiency

Reducing its energy consumption by 20% by 2020 is the goal the EU has outlined for itself in its Action Plan for Energy Efficiency.¹³ This goal comports not only with the EU's objective of reducing reliance on energy imports, but, in combination with efforts to promote alternative forms of energy,¹⁴ serves to reduce greenhouse gas emissions as well. The key sectors that need attention in order to achieve this objective are transportation, building, and home appliances. Specific actions include: developing minimum efficiency requirements for energy-using appliances; awareness-raising amongst consumers regarding sensible and economic energy use; improving the efficiency of the production, transport, and distribution of heating and electricity; and developing energy technologies and improving the energy performance of buildings.

The EU also intends to achieve a common approach on a global scale for saving energy through the creation of an international agreement on energy

11. Press Release, Council of the European Union, 2785th Council Meeting: Environment (Feb. 20, 2007), http://www.consilium.europa.eu/ueDocs/cms_Data/docs/pressdata/en/envir/92864.pdf.

12. *Communication from the Commission to the Council, The European Parliament, The European Economic and Social Committee and the Committee of the Regions: Limiting Global Climate Change to 2 Degrees Celsius – The Way Ahead for 2020 and Beyond*, COM (2007) 2 final (Jan. 10, 2007).

13. *Communication from the Commission, Action Plan for Energy Efficiency: Realising the Potential*, COM (2006) 545 final (Oct. 19, 2006).

14. See *infra* Part II.G.

efficiency. The EU and the U.S. signed an agreement on Energy Star appliances during the Finnish EU presidency in December 2006.¹⁵

G. Renewable energy

The use of renewable energy (wind power, solar and photovoltaic energy, biomass and biofuels, geothermal energy, and heat-pump systems) is of paramount importance in mitigating the impact of climate change. As has the U.S., Europe has also concluded that greater use of renewable energy sources plays an integral part in ensuring security of supply, and it provides new local economic opportunities, particularly in rural areas. I have observed considerable enthusiasm by developers of renewable energy both in Finland and in other EU member states, but traditional energy sources will remain at the forefront of the European energy mix for many years. This is true even assuming the EU surpasses its goals for development of renewable energy resources.

As is outlined in its Renewable Energies Roadmap,¹⁶ the EU has identified the objective of increasing the proportion of renewable energies in its energy mix by 20% by 2020. So, by definition, this means that the vast majority of energy used in the EU will continue to come from traditional sources. But even to achieve the 20% benchmark by 2020, much has to change.

This objective requires progress be made in the three main sectors where renewable energies are used: electricity (increasing the production of electricity from renewable sources¹⁷ and allowing the sustainable production of electricity from fossil fuels, principally through the implementation of CO₂ capture and storage systems), expanding use of biofuels,¹⁸ which should represent 10% of fuels transported by pipeline, rail, or truck by 2020, and finally, modifying or developing new heating and cooling systems that can run on renewable fuels.

H. Technological Advancement is Critical

I mentioned earlier that achieving increases in renewable resources and improving the efficiency of energy consumption will depend on advances in technology. In recent years we have witnessed an increase in R&D and venture capital dollars and euros being allocated to energy sector research. New technologies play a central role and are crucial to attaining energy objectives.

The EU, today a global leader in the renewable energy sector, intends to consolidate its position and play an equally important role in the rapidly growing market of low carbon energy technologies.

The EU must therefore develop existing energy-efficient technologies as well as new technologies, in particular those devoted to energy efficiency and renewable energies. Finally, as I noted previously, even if the EU considerably diversifies its energy mix, it will remain highly dependent on oil and coal to

15. Press Release, European Union, Delegation of the European Comm'n to the USA, EU and USA Sign New Agreement on Energy Efficiency of Office Equipment (Dec. 21, 2006), <http://www.eurunion.org/news/press/2006/20060117.htm>.

16. *Communication from the Commission to the Council and the European Parliament: Renewable Energy Road Map - Renewable Energies in the 21st Century: Building a More Sustainable Future*, COM (2006) 848 final (Oct. 1, 2007).

17. Council Directive 2001/77, 2001 O.J. (L 283) 33 (EC).

18. Council Directive 2003/30, 2003 O.J. (L 123) 42 (EC).

meet the needs of consumers and industry. Thus, the EU must also pay particular attention to low carbon-output fossil fuel technologies, especially carbon capture and storage systems. This will involve advances in technology, as carbon capture and sequestration is a nascent industry. While the EU's focus on new technologies will involve the commitment of new capital, investment in these emerging technologies will also directly contribute to the EU Community's strategy for increasing employment.

III. WHAT SHOULD A COMMON ENERGY POLICY LOOK LIKE?

The development of a European energy policy has long been at the heart of the earliest pan-European projects, as was evidenced with the creation of the ECSC Treaty (establishing the European Coal and Steel Community) in 1951 and the Euratom Treaty (establishing the European Atomic Energy Community) in 1957. Despite economic and geopolitical changes since, those treaties remain essential today.

It is vital for the EU to put in place an integrated energy policy that combines the actions of both Europe and the member states. With the creation of the Energy Policy for Europe (EPE) adopted in March 2007¹⁹ by the European Council at the European summit meeting, a comprehensive action plan for 2007-2009 has been put into place.

There are three core objectives the European energy policy will be built on:

- **sustainability** - to actively combat climate change by promoting renewable energy sources and energy efficiency
- **competitiveness** - to improve the efficiency of the European energy grid by creating a truly competitive internal energy market
- **security of supply** - to better coordinate between the member states and other relevant players the EU's supply of, and demand for, energy²⁰

The EU will not be able to achieve the objectives of secure, competitive, and sustainable energy alone. To do so will require the involvement and cooperation of developed and developing countries, energy consumers and producers, and countries of transit.²¹ To ensure efficiency and coherence, it is crucial that member states and the EU are able to speak with a single voice on international energy issues.

The EU is determined to be a driving force in the development of international energy agreements, in particular by strengthening the European

19. *Communication from the Commission to the European Council and the European Parliament: An Energy Policy for Europe*, COM (2007) 1 final (Jan. 10, 2007).

20. *Commission Green Paper on a European Strategy for Sustainable, Competitive and Secure Energy*, COM (2006) 105 final (Aug. 3, 2006).

21. A country's energy (i.e., crude oil, gas, natural gas, etc.) is transported through either pipeline, truck, rail, ship, or other mode of transport.

Energy Charter, taking the initiative in an agreement on energy efficiency, and participating actively in an ambitious post-Kyoto climate change scheme.²²

A. *Strategic goals*

In March 2007 the EU Council outlined the following strategic goals for the EU's energy policy:

- Improving energy efficiency by 20% by 2020
- Increasing the share of renewable energy sources to 20% and that of liquid biofuels for transport to at least 10% by 2020
- Enhancing the performance of the internal market for electricity and gas, e.g., by unbundling transmission operations more effectively
- Preparing a strategic energy-technology action plan, involving investment in carbon dioxide capture and storage (CCS), biofuels, and nuclear energy (fission and fusion)²³

B. *Priority Areas*

In its Green Paper (Green Paper on a European Strategy for Sustainable, Competitive and Secure Energy),²⁴ the European Commission put forward concrete proposals in priority areas for implementing a European energy policy. Ranging from the completion of the internal market to the implementation of a common external energy policy, these proposals are intended to provide Europe with a means to ensure a supply of energy that is secure, competitive, and sustainable for decades to come.

The first challenge facing Europe is the need to complete the transformation to competition in internal gas and electricity markets. Many national energy markets are still beleaguered by protectionism and dominated by a few companies. These national reflexes are bad for consumers because they keep prices high and infrastructure uncompetitive. Opening up these markets will create fair competition between companies at the European level and improve the security and competitiveness of the energy supply in Europe. As of July 2007, consumers have the *legal* right (as opposed to the practical ability) to purchase gas²⁵ and electricity²⁶ from any supplier in the EU. In order to make a truly competitive internal energy market a reality, however, the following core areas need particular attention:

22. EUROPA, SUMMARIES OF LEGISLATION: EUROPEAN ENERGY CHARTER, <http://europa.eu/scadplus/leg/en/lvb/127028.htm> (last visited Feb. 12, 2008). "The Energy Charter Treaty establishes a framework for international cooperation between European countries and other industrialised countries with the aim of developing the energy potential of [C]entral and Eastern European countries and of ensuring security of energy supply for the European Union." *Id.*

23. *An Energy Policy for Europe*, *supra* note 19.

24. *Comm'n Green Paper on a European Strategy for Sustainable, Competitive and Secure Energy*, *supra* note 20; *Communication from the Commission to the Spring European Council, Implementing the Renewed Lisbon Strategy for Growth and Jobs*, COM (2006) 816 final (Dec. 12, 2006).

25. Council Directive 2003/55, 2003 O.J. (L 176) (EC).

26. Council Directive 2003/54, 2003 O.J. (L 176) (EC).

- a European grid (in both electricity and gas) with common rules and standards for cross-border trade is needed to give suppliers harmonized access to national grids. These common rules will be drawn up in cooperation with grid operators and, if necessary, with a possible new European energy regulator
- a priority interconnection plan to stimulate investment in infrastructure linking the various national grids, most of which are still not adequately interconnected;
- investment in generation capacity to meet peaks in demand can be encouraged by opening up markets that are truly competitive;
- a more clear-cut unbundling of activities to distinguish between those that generate and those that transmit and distribute gas and electricity. The confusion that is being created in certain countries can be seen as a form of protectionism for which further measures at a community level should be considered, boosting the competitiveness of European industry by securing the availability of energy at affordable prices.

As aforementioned, each member state is responsible for its own energy policy. However, internal EU cooperation and energy-related objectives have both increased in recent years. The objectives of the EU energy policy are congruent with Finnish national objectives. In other words, the common energy policy, too, aims to achieve competitive energy pricing, ensure a sufficient and secure energy supply, and reduce environmental impact.

As a first country to do so and as part of Finland's climate and energy strategy, Finland changed passenger car taxation in the beginning of 2008 to be based on carbon-dioxide emissions. The car tax is levied on passenger cars upon registration and the annual vehicle tax levied on all registered vehicles depend on the vehicle's carbon dioxide emissions. The tax rate will vary between ten and 40% of the consumer price. In practice this meant that cars with low CO₂-levels became significantly cheaper (like a hybrid car could cost ten dollars less than in 2007; some models of sports cars and SUVs became even thirty to forty dollars more expensive, depending on CO₂-emissions).

The EU's internal market directives for electricity and gas promote efficient markets and thus the competitiveness of pricing. Energy pricing is extremely important for the competitiveness of European industry. The electricity market directive strengthens competition, and it supports the realization of the common market. The same applies to the gas market; the aim there is to gradually open national gas markets to competition.

The EU strives to devise energy policy that is aligned with sustainable development targets. Climate change is an example of an environmental issue that has emerged in the spotlight. The purpose of EU emissions trading is to align emission reductions to targets where their realization is most cost-effective and to ensure that emissions do not exceed specified levels. The EU has set objectives for the proportion of renewable energy sources in electricity consumption and for that of biofuels in transport fuel use. The CHP (Combined Heat and Power) directive aims to promote joint production of electricity and heat since this is the most economical form of production from an energy

efficiency point of view. The Directive on the Energy Performance of Buildings is another example of attempts to improve energy efficiency.

The improvement of the security of the energy supply has been given major attention in EU energy policy. This aim is supported by, e.g., the security of supply directives for electricity and natural gas and the directive for minimum stocks of oil. The TEN-E (Trans-European Energy Networks) program finances research associated with the development of Europe-wide energy networks, thus aiming to improve the acquisition of energy. The energy-related dialogue between the EU and Russia is extremely important for security of supply. In addition, measures for improving energy efficiency and renewable energy also impact the availability of energy.²⁷

The Euratom Treaty is critically important for the nuclear energy sector. One of the original reasons for it was to coordinate the research conducted by member states on the peaceful use of nuclear energy. Euratom regulations have been issued concerning, for example, the radiation protection sector. The EU does not have actual legislation on nuclear safety, as this has traditionally been regarded as an activity within the jurisdiction of the member states and one also regulated via broader international agreements.

IV. INTEGRATING CLIMATE AND ENERGY POLICIES - REDUCING GREENHOUSE GAS EMISSIONS

The EU is at the forefront of tackling climate change. EU member states share the widely held conclusion that increased worldwide energy consumption and greenhouse gas emissions are direct causes of global warming and its alarming consequences. Climate and energy policies, as a consequence, are closely interlinked.

Energy efficiency is the first area in which the EU must continue to lead by example on the world stage. The goal is to decouple economic growth from energy consumption, i.e., by consuming less while remaining, if not becoming more competitive. The 2005 Green Paper on energy security showed that up to 20% of the energy currently used by Europeans could be saved by 2020.²⁸ This target is a key element of the Action Plan on Energy Efficiency. The Action Plan calls mainly on the member states to mobilize all political forces in the fight against excessive energy consumption. The European Commission also emphasizes the role of renewable energy sources, a sector in which the EU already occupies half of the world market. The Commission has put forward a Renewable Energy Road Map to create a stable environment in which to develop renewable energy sources.²⁹ This Road Map must review the EU's general and specific objectives for 2020 and draw up a list of measures to promote the development of clean and renewable energy sources. It will also incorporate biomass initiatives and aid for electricity generated from renewable energy sources. Carbon capture and clean fossil fuel technologies must be encouraged

27. This has been witnessed in the past with threats by Russia to cut supply of natural gas to certain countries.

28. *Commission Green Paper on Energy Efficiency, Energy Efficiency, Doing More With Less* (June 22, 2005), available at http://ec.europa.eu/energy/efficiency/doc/2005_06_green_paper_book_en.pdf (last visited Feb. 19, 2008).

29. *Renewable Energy Road Map*, *supra* note 16.

so that countries that choose to can keep carbon-based sources in their energy mix.

The urgency for the EU to develop a sound energy policy is self-evident. Europe accounts for around one-seventh of energy consumption in the world—a large share, but falling, in relative terms. We are dependent on imports for over one-half of our energy use. The role of developing countries in global markets is increasing as their energy demand rises far more quickly than ours. This is particularly true for oil. Future oil supplies, which are more and more concentrated in a handful of countries, and often exposed to high geopolitical risks, may not be sufficient enough to meet the quickly rising demand. As a result, the risk of oil supply disruptions is increasing, especially if large developing countries do not adopt appropriate emergency response policies.

The provision of energy to the populations is becoming more complex for governments and companies alike. The EU's challenge is to turn our economic weight into political muscle in the global arena. If we fail, someone else will define the rules for us. The first thing that the EU must do is develop a common energy agenda. This is why the new EU energy policy, endorsed by heads of state and government in March, and the new Energy Article that the new Reform Treaty contains, once ratified, are so important.³⁰

The new EU energy policy is a significant step forward. Member states are committed to common strategic energy and climate targets, an integrated European energy market, and to speaking with a common voice in international relations. The latter—a common voice—is absolutely essential if the EU is to rise to the challenges of oil and gas geopolitics. We now need to find actions to match the words.

The starting point of the new strategy is a firm commitment to reduce greenhouse gas emissions by 20% by 2020, or by 30% if our international partners follow suit.³¹ This is a massive challenge, not only for the EU, but it also lays down the gauntlet for the international community to deliver on an international agreement to tackle climate change. Our message is simple. We will not deal with climate change on our own. But together, we have a chance. And the way to do so is through an integrated energy and environment strategy.

Another key element of the new EU energy agenda, as noted earlier, is the need for a functioning internal electricity and natural gas market. In this context, one of the actions the EU has taken is the adoption on September 19, 2007, of the legislative package concerning Europe's internal energy market. The measures contained therein will create the right conditions for a flourishing and competitive energy market—one that is attractive for gas suppliers.

A secure and sustainable energy market will also require new investment in infrastructure, in my view. This will mean working towards a European gas network and a European electricity grid. Therefore, one of the crucial structural changes needed is to truly and effectively separate network operation from

30. Treaty of Lisbon Amending the Treaty on European Union and the Treaty Establishing the European Community, Dec. 13, 2007, 2007 O.J. (C 306) [hereinafter Reform Treaty]. The Reform Treaty has additional agreements regarding climate change and the fight against global warming, which have been added as targets for the European Union. In addition, several provisions of the treaties have been amended to include solidarity in matters of energy supply and changes to the energy policy within the European Union. *Id.*

31. *An Energy Policy for Europe*, *supra* note 5.

supply and production of gas and electricity. This so-called unbundling has a dimension regarding non-EU investors as well as it applies equally to all players in the EU area.

Because of the strategic importance of the competitiveness of the EU economy, and for the well-being of the citizens of the European Community, safeguards have been proposed to ensure that third-country individuals and countries cannot acquire control over Community networks unless permitted by an agreement between the EU and the third country. The aim is of course not to discriminate against companies from third countries, but to guarantee that they respect the same rules that apply to our own undertakings. Put simply, as with our primary trade partners, we have to act decisively to ensure that the interests of EU citizens are fully protected.

On 23 January 2008 the European Commission put forth an integrated proposal for Climate Action.³² This includes a directive that sets an overall binding target for the European Union of 20% renewable energy by 2020 and a 10% minimum target for the market share of biofuels by 2020, to be observed by all Member States. Key components of the proposal:

- 20% reduction in CO₂ emissions by 2020 (30% if an international agreement is reached): (1) new single EU-wide rules for the Emission Trading System (ETS) & (2) country-by-country targets for non-ETS sectors, to achieve the 20% EU target;
- 20% renewable energy by 2020 (from 8.5%): (1) Country-by-country targets for renewables overall but (2) 10% share of **sustainable** biofuels in transport (diesel + gas) by 2020 applicable to all;
- 20% improvement in energy efficiency by 2020.

V. ASPECTS ON THE SECURITY OF SUPPLY

Given Europe's dependence on imported energy and fluctuations in demand, it is important to ensure that there is an uninterrupted energy supply. The EU needs adequate energy reserves to cope with potential supply disruptions. The EU is in the process of establishing mechanisms to create emergency stocks and foster solidarity to avoid energy supply crises.

What else can the EU do to reduce the geopolitical risks to oil and gas?

The EU can increase effectiveness and reduce risks if it works together. For the most part, EU concerns coincide with the national concerns of individual member states. Action on the EU level can help governments achieve national objectives.

In June 2007, the European Council emphasized the need to achieve solidarity regarding energy; that is to say a crisis for one member state is a crisis for the EU.³³ It is in the best interest of each member state for the EU to speak with a common voice to its international partners regarding energy policy. This sentiment has also been translated into the new reform treaty for the EU, in

32. *Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee on the Regions*, COM (2008) 13 final (Jan. 23, 2008).

33. Germany 2007 – Presidency of the European Union, http://www.eu2007.de/en/Meetings_Calendar/Dates/June/0621-ER.html.

which energy security and interconnection have become basic elements of European solidarity.

To do this means moving away from the traditional perception that energy is a national security issue—it is a European security issue.

Enhanced cooperation is also part of recent legislative proposals. Individual member states are expected to cooperate in order to cover situations that could potentially result in severe disruptions of gas supply. There is already an emergency stock mechanism regarding oil supply disruptions.

The International Energy Agency predicts that global oil demand could increase over the coming years by 1.9 percent per annum. This means thirty-three million more barrels of oil per day moving around the world by 2030.

Current record high oil prices are a predictable indicator of difficult times ahead. A particular challenge for the EU is natural gas supply. In the ten-year span from 1995 to 2005, EU natural gas consumption increased from 369 billion bcu to 510 billion bcu per year. The EU's own production peaked in 2000 with the proven reserves hitting their highest point in the same year. As a result, the EU produced 212 billion m³ of natural gas in 2005. Growing consumption and decreasing production increased imports from 161 billion m³ in 1995 to 298 billion m³ in 2005.

Over the last 10 years, there have been remarkable changes in the global gas market: the amount of proven reserves has increased by 20%; there are more and more countries producing natural gas; and LNG technology allows Europe to bring natural gas to the EU market from such places as Trinidad and Tobago and Malaysia.

Need for more gas in the EU will grow significantly in the years to come and the EU cannot assume that today's suppliers will satisfy tomorrow's demand.

Renewable energy offers a lot of promise. However, it appears likely that even with policies to increase the use of renewable energy, to reduce carbon emissions and save a significant share of energy consumption, the EU will still require higher gas and oil imports in the future. Diversifying supplies towards renewable energy nonetheless will increase, not decrease, global energy market security.

Opening up the markets is one way of guaranteeing a secure energy supply because it creates a stable, competitive environment in which companies are likely to invest. The European Commission has proposed the creation of a European Energy Supply Observatory to monitor the energy market and to identify potential shortfalls. A mechanism for rapid solidarity could be put in place for cases where a country's supply is in crisis following damage to its infrastructure. Perhaps it would be necessary to revisit the relevant regulations with the perspective of security of supply, particularly with regard to the EU's oil and gas stocks.³⁴

There is another side to security of supply that is important, not least to existing suppliers, and that is security of demand. It can be argued that a shift to renewables undermines traditional oil and gas markets.

34. Council Directive 2004/67, 2004 O.J. (L 127/92) (EC).

But security of supply also depends on management of demand. The argument is simple: the more stable and predictable the demand, the less risk of market—and geopolitical—tension. This is why dialogue with consuming countries is becoming more important to external energy relations. Energy has become an integral part of the EU's relations with China, India, the U.S., and Japan. The EU hopes to complete work on its international energy efficiency initiative next year.

The goals of the EU's energy collaboration are clear: greater stability for investors; greater predictability in supply and demand; recognition of mutual interests among suppliers and consumers; and the reduction of risk to energy supplies. But we also see energy cooperation as a prerequisite for dealing with some of the most complex political issues of our time—climate change, geopolitical threats, and terrorism.

EU Gas and Oil Consumption in 2004 by Source³⁵

	GAS	OIL
Import from Russia	24%	27%
Import from Norway	13%	16%
Import from the Middle East		19%
Import from Algeria	10%	
Import from North Africa		12%
Indigenous production	46%	21%
Other Regions	7%	5%

VI. TOWARDS EXTERNAL ENERGY POLICY

International dialogue with the EU's energy partners is essential to ensuring security of supply, competitiveness, and sustainability of energy in Europe. The EU is a complicated system. Very often it cannot negotiate as one block unless it has a negotiating mandate from the member states. When the mandate is finally approved, it may take away some of the flexibilities that would be necessary in normal negotiations, where you have to give something to gain something else.³⁶ I can fully understand the frustration that you occasionally experience from your negotiating partners.

However, before looking abroad, the EU must formulate a common position with regard to its energy mix, new infrastructure, and energy partnerships with third countries. On the basis of the Strategic EU Energy

35. *Paper from Commission/SG/HR for the European Council An External Policy to Serve Europe's Energy Interests*, available at http://www.consilium.europa.eu/ueDocs/cms_Data/docs/pressdata/EN/reports/90082.pdf (last visited Feb. 20, 2007).

36. Without a mandate in many areas, the EU as a block can only have exploratory discussions. When the member states give a mandate to EU negotiators, the terms of the mandate may be so narrow that some counterparts have felt that there is not enough flexibility on the EU side to have real negotiations.

Review,³⁷ the EU will be able to increase dialogue with producer countries and to respond more effectively to energy supply crises. Moreover, energy is bound to become an important element of international dialogue on issues such as climate change and sustainable development.

The generation and transit of energy also plays an important role in the EU's relations with its neighbors. The European Commission has proposed that the EU's energy markets, and those of its neighbors, be integrated by creating a pan-European energy community.

VII. EXAMPLES OF EXISTING DIALOGUES

EU relations with consumer countries (such as the United States, India, Brazil, or China), producer countries (Russia, Norway, OPEC countries, and Algeria, for example) and countries of transit (such as the Ukraine) are of prime importance from the perspective of geopolitical security and economic stability. The EU will thus strive to develop energy partnerships with these countries that are transparent, predictable, and reciprocal, and in particular with its neighboring countries. The EU also proposes a new partnership with Africa³⁸ that will deal with a large variety of energy issues.

The EU is committed to helping developing countries implement decentralized energy services that are low-cost, reliable, and sustainable. The EU encourages these countries, in Africa in particular, to invest immediately in renewable energies and the new generation of clean energy technologies.

Building on this cooperation requires a different approach depending who the partner is.

Energy dialogue with Russia is fundamental to both the EU and Russia. Energy products represent more than 60% of Russia's overall exports to the EU. Sixty percent of Russia's oil exports go to the EU, representing over 25% of total EU oil consumption. In addition, 50% of Russia's natural gas exports arrive in the EU, representing around one quarter of total EU natural gas consumption. This is why we must give priority to developing a post-partnership and cooperation agreement with Russia that contains an important energy element. It is also why we should continue to pursue the principles of the energy charter in the EU's energy relations with Russia and continue to argue for the charter's ratification by Russia.³⁹

In general, experiences with OPEC have been positive. The dialogue has consisted of regular collaboration on subjects as diverse as technology, climate change, and financial markets.

A key test for the EU's future security will also be how to tackle geopolitics in Central Asia. Work is proceeding to implement new agreements with Kazakhstan and Azerbaijan as alternative energy suppliers, and we are exploring the possibilities of enhancing energy cooperation to achieve a more formalized bilateral energy dialogue with Turkmenistan. The guiding principles—as ever—

37. Press Release, European Comm'n, Fueling our Future: The European Commission Sets Out Its Vision for an Energy Strategy for Europe (Mar. 8, 2006), <http://europa.eu/rapid/pressReleasesAction.do?reference=IP/06/282>.

38. EU-Africa Relationships, http://ec.europa.eu/development/Geographical/RegionsCountries/EUAfrica_en.cfm (last visited Feb. 7, 2008).

39. Energy Charter, <http://www.encharter.org/> (last visited Feb. 7, 2008).

as transparency, reciprocity, and rule of law.⁴⁰ Enhancing cooperation in energy issues with Algeria is expected before the end of 2008.⁴¹

Regarding transit countries, in addition to the implementation of the EU Ukraine Memorandum of Understanding on energy, a launch of a technical cooperation and an early warning mechanism with Belarus is expected.

Oil and gas geopolitics could have a dramatic impact on Africa, which could take on a strategically important role in global—and EU—energy markets.

VIII. COOPERATION BETWEEN THE EUROPEAN UNION AND THE UNITED STATES

Based on a decision at the EU-U.S. Summit in Vienna in June 2006, the EU and the U.S. agreed to establish a dialogue in recognition of the serious and linked challenges of tackling climate change, promoting clean energy, and achieving sustainable development globally. After almost five years of no official dialogue regarding environmental issues, the EU and the U.S. met on the ministerial level in Helsinki in October 2006 to discuss climate change, clean energy, and sustainable development.⁴² The meeting highlighted the substantial and growing level of U.S.-European collaboration and explored areas that need further development. The parties discussed policies and measures concerning the promotion of low greenhouse gas emission technologies, cleaner energy, cleaner and more efficient vehicles, and biodiversity loss. The two sides recognized their common objectives of reducing greenhouse gas emissions, improving the global environment, enhancing energy security, and cutting air pollution. The participants also agreed to strengthen bilateral cooperation in a number of areas.

The EU's objective, both during the Finnish presidency of the EU and continuing today, is to build on existing transatlantic initiatives and further advance the 2005 G8 Gleneagles Plan of Action for Climate Change, Clean Energy and Sustainable Development.⁴³ The talks are guided by the ultimate objective of the multilateral efforts based on the UN Framework Convention on Climate Change.

Both sides underlined the importance of creating the right mix of supply and demand policies, including a variety of market-based mechanisms to accelerate commercial use of clean technologies.

EU and U.S. delegations agreed to strengthen bilateral cooperation, which includes:

40. A complicated political situation in the region creates challenges. The involvement of the Central Asian region is important to ensure as broad of a supply base as possible.

41. Presidency Conclusions, Brussels European Council (May 2, 2007), http://www.consilium.europa.eu/ueDocs/cms_Data/docs/pressData/en/ec/93135.pdf

42. Press Release, Ministry of the Environment, EU – United States climate, energy, and development dialogue (Oct. 11, 2006), <http://www.ymparisto.fi/default.asp?contentid=205602&lan=EN>; Press Release, The United States Mission to the European Union, EU, U.S. to Continue Climate, Energy and Sustainable Development Dialogue (Oct. 25, 2006), http://useu.usmission.gov/Dossiers/Energy/Oct2506_High_Level_Dialogue.asp; Press Release, Office of the Press Secretary, 2007 U.S.-EU Summit Economic Progress Report (Apr. 30, 2007), <http://www.whitehouse.gov/news/releases/2007/04/20070430-12.html>.

43. G8 GLENEAGLES 2005, SUMMIT DOCUMENTS, <http://www.g8.gov.uk/servlet/Front?pagename=OpenMarket/Xcelerate/ShowPage&c=Page&cid=111951869846> (last visited Feb. 7, 2008).

- Promoting the commercial deployment of clean coal and carbon sequestration technologies, including through the Carbon Sequestration Leadership Forum⁴⁴
- Promoting energy efficiency, particularly in the transportation sector and for buildings and appliances
- Enhancing methane recovery, including through the Methane-to-Markets Partnership
- Researching, developing, and deploying second-generation biofuels
- Overcoming barriers to the use of renewable energy sources and biofuels, including through the development of international standards
- Addressing global biodiversity loss through natural resource conservation and other joint efforts, and
- Enhancing energy access for sustainable development⁴⁵

Both sides reaffirmed their commitment to continue joint dialogue and efforts under the UN Framework Convention on Climate Change, including work on long-term cooperative action established in Montreal in December 2005. The next important international meeting took place in Bali, Indonesia, in December 2007.

During the Finnish EU Presidency, the EU and the U.S. signed an agreement on Energy Star appliances, yet another milestone in transatlantic cooperation.⁴⁶

IX. LESSONS LEARNED FROM FINLAND'S EUROPEAN UNION PRESIDENCY

As mentioned before, Finland held the rotating EU presidency during the latter half of 2006.⁴⁷ Even though individual member states share the same ultimate goals, such as reducing greenhouse gas emissions, energy security, competition issues, and increasing energy efficiency, the ways in which individual member states approach energy differs from one country to another. Finland, among the few, is in the process of increasing her nuclear capacity while some other EU countries are in the process of phasing out nuclear energy.

Increasing the share of renewable energy is a key shared goal. In order to meet the ambitious targets of increasing the share of renewable energy in transport fuels, as well as in energy production in general, further inputs in R&D in renewable energy will be necessary. Because of the various ways member states approach energy, it has been a challenge to create a common external approach regarding energy policy. An achievement in this area took place in Lahti, Finland, during the Finnish EU presidency. In the margins of an unofficial EU summit meeting, EU heads of states were able to discuss energy issues with

44. Carbon Sequestration Leadership Forum, What's New, <http://www.cslforum.org/>, (last visited Feb. 7, 2008).

45. Press Release, The United States Mission to the European Union, *supra* note 41.

46. Press Release, Delegation of the European Comm'n to the USA, EU and USA Sign New Agreement on Energy Efficiency of Office Equipment (Dec. 21, 2006), <http://www.eurunion.org/news/press/2006/20060117.htm>.

47. Finland's EU Presidency, <http://eu2006.fi> (last visited Feb. 7, 2008).

Russian president Vladimir Putin using one collaborative voice.⁴⁸ Even with challenges ahead, I am mildly optimistic that the EU will be able to find enough common ground to develop joint approaches.

X. CONCLUSIONS

Increased worldwide energy consumption and greenhouse gas emissions are direct causes of global warming and its alarming consequences. The EU should position itself at the forefront of tackling climate change and developing technologies that will ensure that tomorrow's energy is cleaner and more sustainable.

Energy efficiency is the first area in which the EU must continue to lead by example on the world stage. The goal is to decouple economic growth from energy consumption, i.e., consuming less while remaining more competitive. In its 2005 Green Paper on energy security the Commission showed that up to 20% of the energy currently used could be saved by 2020.⁴⁹ This target is a key element of the Action Plan on Energy Efficiency to be proposed by the Commission. The Action Plan calls mainly on member states to mobilize all political forces in the fight against excessive energy consumption.⁵⁰

The European Commission also emphasizes the role of renewable energy sources, a sector in which the EU already has half the world market. The Commission will put forward a Renewable Energy Road Map to create a stable environment in which to develop renewable energies. This Road Map must review the EU's general and specific objectives for 2020 and draw up a list of measures to promote the development of clean and renewable energy sources. It will also incorporate biomass initiatives⁵¹ and aid for electricity generated from renewable energy sources.⁵²

Carbon capture and clean fossil fuel technologies must be encouraged so that countries who choose to can keep carbon-based sources in their energy mix.

While technological solutions are key in the world of increasing demand for energy, from the European perspective it is evident that binding international commitments are necessary for all in order to create a level playing field on which to tackle greenhouse gas emissions and global warming. It is important to dialogue with all of the key players in both the developed and developing world. It was encouraging that the United States invited key major economies to Washington in September of 2007 to discuss options for fighting global warming.⁵³

48. Press Release, Finland's EU Presidency, Finland's Presidency of the EU – Results (Dec. 22, 2006), http://www.eu2006.fi/news_and_documents/other_documents/vko52/en_GB/1166173795584/.

49. *Commission Green Paper on Energy Efficiency or Doing More With Less*, COM (2005) 265 final (June 22, 2005).

50. *Id.*

51. *Communication from the Commission Biomass Action Plan*, COM (2005) 628 final (Dec. 7 2005).

52. *Communication from the Commission The Support of Electricity from Renewable Energy Sources*, COM (2005) 627 final (Dec. 7, 2005).

53. Press Release, Office of the Press Secretary, President Bush Participates in Major Economies Meeting on Energy Security and Climate Change (Sept. 28, 2007), <http://www.whitehouse.gov/news/releases/2007/09/20070928-2.html>.

If you consider carefully the results from the several international meetings, expectations are building that all countries should move towards internationally binding targets in combination with flexible cap and trade systems and possible differing regional applications to the joint interface. It is a realistic assumption that one solution does not fit everyone. Increasing contacts and dialogue should create an environment that fosters creative solutions everyone can live with. Perhaps the U.S. can play a more active role in developing new innovative financial instruments to create a more functional international marketplace for carbon credits.

The future should be based on international cooperation and coalition building, with efforts aimed at creating a world in which energy consumers and suppliers work together in the spirit of mutual respect, transparency, and shared interests.

Measures against climate change are of course of paramount importance. In the December 2007 summit meeting in Bali, Indonesia, countries had of course differing views of what would be a good or even an acceptable outcome. In the end Finland and the European Union were satisfied with the results. We went there to get an agreement on launching a global and comprehensive negotiation process that would lead to a global and comprehensive agreement on a post-2012 climate regime in 2009. We need to work hard to get results from the Copenhagen climate summit in 2009.