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Key Strategic Decisions for Europe in Energy and Climate Change (ARI)

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Theme[1]**:** Europe's goal is to design a coherent energy policy, supported by all of its member states, that allows it to blend the international leadership it has already exercised and demonstrated on climate change.

Summary: The three-pronged challenge of energy policy is to improve energy security, guarantee environmental sustainability and enhance economic competitiveness. The countries of Europe, however, do not, on their own, possess the energy resources sufficient to easily attain all three of these goals simultaneously over the short-term. Therefore, Europe's goal is to design a coherent energy policy, supported by all of its member states, that allows it to blend the international leadership it has already exercised and demonstrated on climate change with the development of cutting-edge energy sectors that will enhance the competitiveness of European economies through the stimulation of technological innovation, the creation of global sectoral leaders, and the long-term reduction of energy and other input costs. At the same time, the EU should develop more fully a short-term strategy to manage more skilfully the EU's relations with the countries supplying the bulk of its hydrocarbon imports – particularly natural gas – in order to maximise security of supply. To achieve this triple objective will require strengthening the EU's single voice within a shifting international geopolitical landscape and taking tough but strategic decisions that will have major long-term implications for individual European countries, the future of the EU, and the stability of the world. The broad outlines of Europe's energy challenges are well-known: the current fossil fuel-dominated economy contributes to global warming, allows fears of energy security to grow and threatens the competitiveness of European economies in the future. This analysis, therefore, does not seek to be an exhaustive study, but rather to highlight some key aspects of the energy issue that we perceive as the most decisive and strategic.

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[1] This ARI was originally written as a chapter of the book 'Think Global - Act European II' devoted to the Spanish, Belgian and Hungarian Trio Presidency and focused on the changing role of the rotating Presidency and the trio itself. It was published by Notre Europe, Egmont, GKI and the Elcano Royal Institute.

Analysis:

The 'market-technology-regulation nexus' versus energy nationalism and geopolitical competition

The optimal European energy policy would rely on a well-regulated and supervised market that allows technological advances to emerge rapidly, particularly if they enjoy strategic support from the state, and even more so if other countries aggressively support such a strategic orientation. This nexus between the market, technology and regulation obviously functions better in times of political stability and international cooperation, but the market-technology-regulation nexus can also contribute to international security.

However in the future, greater state intervention will be necessary to drive energy transformation fast enough to avoid the worst features of fossil fuel-induced climate change. It is essential to gradually stiffen the economic penalty for using fossil fuels and give priority to investment in clean energies. In order to do this, market-based mechanisms should be employed, within a regulatory framework coordinated at the EU level, with balanced, even handed state intervention that causes as few market distortions as possible.

However, if Europe is the only major world player to embrace such a strategy, it will be difficult to sustain. Europe would be at a constant disadvantage because it would be playing under different rules than those followed by others powers with clear tendencies toward energy nationalism. In fact, if the United States and the emerging powers fail to reach agreement on how to advance a new post-Kyoto regime with at least a minimum of credibility, the EU – which would no longer be able to lead the fight against climate change – would have to consider an alternative, more 'realist', long-term energy strategy.

Such an alternative approach might involve replacing the 'fight against climate change' as the EU's principal rallying cry for its new energy policies with the growing threats to energy security, leading the EU to be less inclined to international cooperation than it has been until now. If priority were given to the (more narrow) goal of energy security, more aggressive and nationalist policies might prevail, stemming from the growing concerns in the EU over security of supply. In this case, it would be necessary to design a new EU strategy for the battle against global warming, focused more on adaptation measures, and less on mitigation, given that the lack of an international agreement would make it very difficult to halt global warming and its many impacts. At the same time, such an approach would also facilitate the fulfilment of the goals of the Lisbon agenda, since the large-scale deployment of renewable energy should enhance EU productivity and competitiveness.

Climate change versus energy security as the driving force behind European energy policy

In the past few years, the EU has made the battle against global warming the main rallying cr y of its energy policy. However, even though the European consensus on climate change might survive, the fact that there has not been significant progress at the Copenhagen Summit means that Europe will have to consider altering its strategy and put more policy emphasis on energy-security issues. In a world in which there is insufficient consensus on how to fight climate change – and in which most countries perceive energy security in strictly national terms – it makes little sense for the EU to stick with a strategy based on international cooperation, one that depends largely on the commitments and behaviour of other countries which to date have been relatively uncooperative. In this context, it would be better for the EU to highlight threats to energy security: a strategy

which is in line with the dominant policy orientation in other countries, to say nothing of public opinion.

However, if the EU replaces the climate change cause with a discourse stressing the growing scarcity of fossil fuels, then the public electorates – faced over the mid-term with the possibility of high prices and potential supply cuts – might be more willing to accept a radical change in European energy policies. Supply shortages might end up being more of a motivating threat than the spectre of climate change: for example, in a scenario in which the countries of the world become more and more nationalist, and with geopolitical rivalry gaining momentum, public opinion might become more predisposed to the imposition of a carbon tax. Even with its weaknesses, this policy might be more efficient than the current emission trading system in terms of increasing energy efficiency, reducing consumption of fossil-based energies, stimulating the deployment of renewable energies and other clean technologies, and cutting emissions of greenhouse gases.

It would nevertheless be a good idea, however, to stress the 'limitations to the supply of hydrocarbons' rather than underline the 'dangers of supply cuts'. This is particularly relevant for the EU in its relationship with Russia. It should avoid direct confrontation with Russia over supply cuts attributable to transit countries, and should aim for cooperation agreements in natural gas and oil while trying to reduce Central and Eastern Europe's dependence on Russian gas. Ties with Russia aside, the EU should combat generalised, unfounded fear among the public by emphasising the possibility of supply limitations over the medium and long-term. This could result either from the possible depletion of hydrocarbon reserves (which would exert upward pressure on prices) or from the fact that in recent years the new energy nationalism has caused many producing and exporting countries to invest less than what is necessary for supply to continue to meet growing world demand.

In the worst case, if the world enters a period of geopolitical competition for energy and other resources, Europe should come to an understanding with Russia to obtain enough gas to allow the EU to remain on the sidelines of these intensifying international rivalries. Once security of supply is assured, Europe should unilaterally pursue the other goals in its energy triangle.

Lending priority to competitiveness within the energy policy triangle
Even if the central guiding reference of European energy policy shifts from fighting climate change to guaranteeing security of supply, from an economic standpoint it would still be essential to boost the competitiveness component of the triangle. This competitiveness objective should be the major goal of EU Energy and Climate Strategy. It is necessary to give political support to new energy R&D investment. There must also be sufficient backing for policies to build new infrastructure (renewable energies, smart grids, international electricity interconnections), to move forward on the electrification of the vehicle fleet and to further develop and deploy systems to capture and sequester carbon dioxide. These investments should be undertaken in any case, but they will be even more necessary if a global scenario emerges that is non-cooperative and conflictual with regard to energy and the environment.

It is quite possible that all the sectors mentioned above will have a promising future, and that the countries that devise the first technological advances will come to dominate them, which would allow the EU at least to partially resolve its problem of insufficient competitiveness. If Europe can avoid major military spending – at least in relation to a

potential arms race between the United States and China – then the EU will have the flexibility and the margin to invest in new technologies that generate high value-added and allow for increased productivity. and if eventually the rest of the world's regions, already behind in development of energy technology, return to cooperative solutions rooted in the "market-technology-regulation nexus," Europe will have developed a solid foundation for energy-technology exports and energy and climate investment in other countries.

Priorities for electricity generation: interconnections, 'smart grids,' and electric cars as we have stated above, the EU should pursue certain investments and strategic goals, regardless of what might happen on the international scene. These include large-scale investment in new electricity infrastructure. a new smart grid would allow for employing solar and wind technology in such a way that all units of the system – residential and office buildings, companies and households, appliances and vehicles, etc. – could be consumers and producers of energy at the same time (drawing energy from the grid when needed and selling it back into the grid during times of the day when there is a surplus). It is also necessary for Europe's various economies to have trans-European and international electricity interconnections to ensure that at least 15% of their national consumption can be imported. These two measures would ease the volatility of the supply and demand of the electricity system, making it possible to manage the system with more and more electricity generated from intermittent, renewable sources. Electrifying vehicles on a large scale would raise the potential of the smart grid while reducing oil consumption and crude imports. The more Europe invests in these three physical components of the electricity system, the more renewable energies could contribute (in percentage terms) to the primary energy mix, reducing the need to rely so heavily on non-intermittent energy sources (like coal or nuclear power) for base load generation.

Nuclear energy versus clean coal

Finally, Europe must make a very concrete strategic decision: a long-term strategic choice between nuclear energy and clean coal (achieved through the deployment of carbon capture and sequestration technology) as the necessary complement to natural gas as a source of base load generation. Clean coal offers several advantages over nuclear energy. First, it does not produce nuclear waste, or anything comparable. Second, and more importantly, a decision to back clean coal strategically would turn many political enemies in the fight against global warming (the coal lobby and many oil and gas companies) into allies, a political advantage which aggressive strategic backing of nuclear energy could never reproduce. For instance, the coal-abundant countries of Eastern Europe might feel more secure and become more cooperative if the EU were to follow a Clean Coal Strategy (CCS). The same might be said of the elected representatives of the 25 or so 'coal states' in the US.

But clean coal's most important advantage over nuclear energy has to do with the global fight against climate change. Coal is still the main source of energy in China, the country which over the medium-term will pose the largest obstacle to a global accord on climate change. Deploying infrastructure and technology to capture and sequester carbon dioxide in China, given the size of its energy sector, could transform the international energy scene, creating new commercial and technological markets which the EU – with the right strategic approach – could come to dominate. If the EU were to develop clean coal technologies in a short span of time, it would be possible to win over China for the climate change cause and at the same time the EU would enhance its technological leadership in an R&D intensive sector. Without this technological and infrastructure alternative, it will be nearly impossible for China to cut its emissions significantly in time to avert the most

devastating effects of global climate change. Not even a major increase in use of nuclear energy will be enough to replace the coal that China will consume in the coming decades.

Conclusion: In sum, although the EU faces many obstacles, a strategy blending market forces together with government encouragement of new technologies – albeit it is under proper regulatory oversight – should be the guiding principle of Europe's long-term energy strategy. Even so, it is important to acknowledge that greater government intervention will be needed to support both the development of renewable energies and technology to capture and store carbon, especially if the international context becomes less and less cooperative in the realm of energy and climate change issues.

In the next two years EU countries should work together to achieve these goals. First, they should agree on some basic principles to build a common energy policy. Second, they should improve electricity interconnections within the EU. And finally, they should devote funds to R&D projects associated with clean energies, especially electric cars, renewable energies, and technology to capture and storage carbon.

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