

European Energy Security: Balancing Priorities

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Energy security is only one of three goals stated in the European Commission's Communication on energy policy issued last January. The Communication called for "sustainable, secure and competitive energy".² The Communication proposed a series of actions to advance each of these three goals, but was silent on the extent to which the pursuit of one goal may actually frustrate the achievement of another.

Indeed, Europe has even broader goals than the delivery of "sustainable, secure and competitive energy". Those who focus some of their professional time on questions of energy security may be excused for imagining that security takes precedence over other social requirements. In the real world of democratic politics, of course, priorities are set not by specialists but by the political process.

Specialists can contribute to this process by observing and drawing attention to political trends that may influence the chances for achieving consensus around any combination of policies. Specialists can also help by pointing out the inevitable costs and trade-offs inherent in each proposed policy, so the democratic process can be based on informed consent.

This essay recalls some of the political trends, policy costs and trade-offs that will influence the balancing of EU energy policy priorities.

POLITICAL TRENDS

Attention to climate change and related environmental concerns is on the upswing in Europe. The *Fourth Assessment Report* of the Intergovernmental Panel on Climate Change, being published in phases throughout 2007, is keeping the climate issue in the public spotlight and, indeed, raising it to a higher level. One of the warmest winters on record in Europe has further enhanced public awareness and concern. Politicians of all persuasions are feeling constituent pressures to "do something" about climate change.

In spite of resurgent resource nationalism and the publicity given to "peak oil" theories, there is no comparable crescendo of public concern about energy security. Brief interruptions of natural gas supplies transiting Ukraine or Belarus capture news headlines for a day or so, but only some EU citizens feel personally threatened. Resurgent resource nationalism in Russia as well as in many other energy-exporting countries is perceived as a distant and perhaps temporary phenomenon. Public discontent over rising energy prices does not translate into a clear political mandate for an energy security policy.

Perhaps one reason for this is the greater ease of quantifying environmental goals. The Commission's January Communication is memorable for its 2020 targets of reducing primary energy use by 20%, increasing renewables in the energy mix to 20%, and

¹ The views expressed here are personal.

² Commission of the European Communities, "An Energy Policy for Europe" COM(2007) 1 final

reducing greenhouse gas emissions by 20% (30% if other nations agree).³ In comparison, such energy security targets as “diversity with regard to source, supplier, transport route and transport method” and “dialogue . . . with key energy producers and transit countries” are difficult to quantify and consequently less attention-grabbing.⁴

Other countries’ experiences also suggest that energy security is not a subject on which a political consensus is easily built. Neither the United States -- the principal target of the 1973 oil embargo -- nor Japan -- more dependent on imported oil and gas today than the EU will be in 2020 -- has managed to pursue, over the long term, a consistent energy security policy going much beyond the maintenance of oil stockpiles and participation in International Energy Agency emergency oil sharing programs.

The best prospect for enhancing European energy security, therefore, may be to carry energy security on the shoulders of climate change, “piggy-back”-fashion, by focusing on policies that enhance both goals simultaneously. Strong public support for “sustainability” can possibly be mobilised into a consensus behind policies that achieve “sustainability *and* security”. Such an approach requires considerable care, however, because not all environmental policies necessarily contribute to energy security.

TRADE-OFFS

At first glance, it may appear that most policies aimed at reducing greenhouse gas emissions will improve energy security. After all, fossil fuel production and use contributes the bulk of greenhouse emissions, and expanding fossil fuel imports also constitute the most obvious challenge to energy security.

Yet some policies aimed at improving the environment can actually reduce energy security. Perhaps the most obvious example would be a policy aimed selectively at reducing or eliminating coal- or lignite-fired electric power generation, if these fuels were replaced by natural gas. The resulting increased import dependence on natural gas would represent a move in the wrong direction from an energy security perspective.

Across-the-board improvements in end-use energy efficiency, by definition, would correspondingly reduce fossil fuel imports and hence enhance security, but designing a policy to achieve this may not be easy. Policies aimed primarily at reducing coincident peak electricity demand, such as increased use of time-of-day metering, probably would have a positive impact on energy security, since peak electricity load is often met with gas-fired turbine generators. A policy of mandatory improvements in vehicle fuel use efficiency, such as CAFÉ standards, almost certainly yield an energy security benefit by diminishing demand for imported oil. On the other hand, an environmental policy encouraging the use of vehicles powered by compressed natural gas (CNG) may not improve energy security, since at the margin imported natural gas would replace imported petroleum.

These few examples illustrate the need to examine carefully the impact of environmental policies before assuming that they yield energy security benefits as a bi-product. “Piggy-backing” energy security on more widespread and urgent environmental concerns can only be assured through the vetting of environmental policies.

The European Emissions Trading Scheme (ETS) has both fuel substitution and energy conservation impacts. This author has not found a comprehensive study of the current or

³ “An Energy Policy for Europe”, pp 5, 11, 13, 20

⁴ *ibid.*, pp 10, 23

potential net impact of ETS on European energy security. However, the International Energy Agency (IEA) has published a framework for evaluating the interactions between climate change and security policies, including analyses of policy-induced changes in the electricity and road transport sectors in five European countries.⁵ Someone will need to build on this framework to achieve a comprehensive analysis of the impacts of ETS under plausible scenarios.

COSTS

Among the three energy policy goals specified in the Commission's January Communication, *market liberalisation* ("competitive energy") has the advantage that it has always been presented as leading to lower energy prices for consumers. This same promise cannot be made for *sustainability* or *security*, whether "piggy-backed" or treated separately. Neither is costless.

The Commission stated that "the EU is committed to addressing [climate change] by reducing EU and worldwide greenhouse gas emissions at a global level to a level that would limit the global temperature increase to 2°C compared to pre-industrial levels."⁶ According to the recent report of Working Group III of the Intergovernmental Panel on Climate Change (IPCC), such a goal would imply stabilising global greenhouse gas concentrations near the lower end of the range of 450-550 parts per million (ppm) CO₂-equivalent.⁷

The same IPCC report estimates that stabilisation in this range could be achieved at an economic cost of less than 3% of 2030 global GDP⁸, and a separate study estimates the cost at not more than €40 per metric ton of CO₂-equivalent abated.⁹

Greenhouse gas abatement costs at these levels may seem moderate, but the estimates have not included any assessment of the possible consequences for energy security. To the extent that greenhouse gas abatement policies involve fuel switching from coal or oil to natural gas, or from domestic to imported fuels more generally, a security premium must be added to the above estimated costs.

As alternative goals and policies are proposed, the public needs to know the likely benefits, costs and risks of each proposal. Without this information, no meaningful debate can hope to arrive at the appropriate balance among various goals, or to build a consensus about which policies will most efficiently achieve that balance.

⁵ IEA, *Energy Security and Climate Policy: Assessing Interactions*, April 2007

⁶ "An Energy Policy for Europe", p 3

⁷ Intergovernmental Panel on Climate Change (IPCC), *Fourth Assessment Report*, WG III, Summary for Policy Makers, 5 April 2007, Table SPM.5, p. 22

⁸ *ibid.*, p. 15

⁹ Per-Anders Enkvist, Tomas Naclér, and Jeerker Rosander, "A Cost Curve for Greenhouse Gas Reduction", *The McKinsey Quarterly*, 2007 Number 1, p. 38. Studies agree that approximately the first 6 Gigatons (Gt) CO₂-equivalent could be abated at a negative economic cost, assuming sufficient public awareness and appropriate government policies, but stabilizing concentrations at the 450-550 ppm requires abatement of between 18 and 26 Gt CO₂-equivalent. In addition to the two preceding citations, see also International Energy Agency, *World Energy Outlook 2006*, Part II, Chapters 7 & 8.

RELATIONSHIPS WITH ENERGY EXPORTERS

While “piggy-backing” energy security policy on environmental policy may help to build this consensus over the long run, it will not solve all pressing security issues. Whether sustainability and security are pursued jointly or separately, relationships between the EU and its energy-exporting partners will remain at the heart of security policy.

There are at least three specific ways in which producer-consumer relationships can affect EU security policy:

1. During the 1980s and 1990s, oil-importing countries benefited from the price-moderating effects of ample idle production capacity then existing in oil exporting countries, especially in the Middle East Gulf. On several occasions – for example, during the Iran-Iraq War and during Desert Storm – this idle capacity was called upon to dampen price upswings and assure continued global oil supplies.

In the current decade, we have observed what happens to prices when idle capacity dwindles. Oil importing countries – motivated by energy security concerns -- are now in the position of urging exporters to invest in adequate additional production capacity in advance of anticipated growth in world demand.

To this request, oil exporting countries quite reasonably reply: What assurance can you oil importers give me that the growth in demand will materialise? Are you asking me to invest in capacity that may never be used?

Such exporters’ questions are not unreasonable in light of oil importers’ domestic debates about new environmental and security policies designed to reduce dependence on imported oil. Speaking at a conference of oil producers and consumers in Riyadh on 2 May, Saudi Oil Minister Ali Al-Naimi said: “Our feeling now with the first push for conservation, for efficiency of use, or use of alternative sources of energy, we would probably not go beyond 12.5 million b/d” of production capacity.¹⁰

Thus, a tension arises between oil-importers’ desire for ample idle production capacity as an energy security guarantee, and oil-exporters’ desire to avoid investment in facilities that may never be fully employed. The tension could be reduced if oil-importing countries were to agree to share in the cost of the upstream investment, thereby incurring an explicit energy security premium.

Short of such a cost- and risk-sharing agreement, oil-importing countries can reduce the tension by ensuring transparency of their energy policies and by establishing these policies as far in advance as possible, thereby helping oil-exporters to avoid unnecessary expenditures.

2. Resurgent resource nationalism in oil and gas exporting countries is widely perceived as a challenge to EU energy security. The challenge is often described in terms of national (government-owned) oil companies (NOCs) denying upstream access to exploration, production and transportation services in their home countries while simultaneously demanding direct access to European markets downstream.

In fact, the situation is nowhere quite as black-and-white as that description implies. On the one hand, European oil and gas companies are able to invest upstream in many energy-exporting countries, including countries that supply European markets. On the other hand, some European countries have demonstrated their own “economic patriotism” by resisting foreign investment in their energy sectors.

¹⁰ *International Oil Daily*, 3 May 2007

Energy security is enhanced by mutual, reciprocal upstream and downstream investment by firms based in both importing and exporting countries. Numerous long-term cross-border natural gas trades over many decades have demonstrated the stability resulting from such reciprocal investments. Clearly, energy security policy should seek to open the way for such reciprocal investments.

However, the converse is not true. Denying downstream access to investors from countries that restrict upstream access by EU-based companies would not enhance European energy security. On the contrary, even in the absence of reciprocal upstream investment, downstream investment in Europe by firms from supplier countries enhances European energy security.

First, investment in physical capital downstream entails a greater commitment than does a sale at the border to an intermediary. Any investor will have an interest in ensuring that his infrastructure is fully utilised and that energy flows are uninterrupted. Secondly, as many EU-based companies have discovered in the third world, a physical investment renders the investor more sensitive to actual or potential changes in host-country policies. And thirdly, especially in the case of downstream distribution of energy products directly to consumers, the investor inevitably becomes more closely tied to customer interests and needs, and develops a deeper concern about customer acceptance than occurs at the wholesale level. An interruption of energy deliveries to a direct customer has even greater implications than does an interruption to a wholesale intermediary.

So, if the first choice of EU energy security policy is to pave the way for reciprocal upstream-downstream investments by companies from energy importing as well as energy exporting countries, the second best policy is still to encourage downstream investment and market access in the EU for investors from energy exporting countries.

3. While Europe's growing energy needs will require expanding energy imports, especially of natural gas, many gas-exporting countries are today questioning their ability and willingness to increase gas exports. Qatar has declared a moratorium on new gas export projects beyond those already sanctioned, at least until the country's gas reserve base can be thoroughly re-evaluated. In Egypt and Algeria, announced export expansion plans are being questioned by those who believe the gas should be reserved instead for future domestic needs.

Thus, Europe's access to its future energy requirements will be in direct competition with rapidly growing domestic requirements in energy exporting countries. The growth of energy-exporters' domestic consumption is accelerated by the regulation of domestic energy prices far below international levels. The low domestic energy prices promote inefficient energy use, waste, and a loss of revenue to the exporting country, but often seem necessary for political reasons.

Russia has announced plans to increase domestic natural gas prices to international levels gradually over the coming decade, but other energy exporting countries have been moving even more slowly or not at all. It is extremely difficult for the EU to promote liberalisation of energy markets in non-EU countries due to the sensitivity of this political issue.

This does not, however, mean that the EU is helpless. EU energy security can be enhanced by encouraging investments in renewable energy projects in energy exporting countries, thereby ensuring ample energy for their future domestic needs while freeing up, in the meantime, equivalent energy exports to Europe. A policy of encouraging such investments not only enhances Europe's energy security, but enhances employment both in Europe and in the energy exporter, encourages technology transfer, combats climate change, and replaces a depletable resource with a permanent one.

CONCLUSIONS

- Given the apparent difficulties of finding a consensus for an EU energy security policy, one approach would be to emphasize those environmental policies that also happen to achieve energy security goals simultaneously. Wide public awareness of the challenge of climate change and the likely enhancement of this awareness in years to come suggest this approach could yield a consensus with some durability.
- Environmental policies must be carefully vetted to ensure that they also enhance, and do not diminish, EU energy security. Attention must be paid to minimise possible trade-offs between sustainability and security.
- Whether pursued jointly or separately, policies aimed at achieving meaningful improvements in sustainability and security inevitably incur costs. The benefits, costs and risks of each proposed policy must be calculated and communicated to the public to ensure a meaningful debate and to build a consensus.
- Relationships between the EU and energy exporting countries are at the heart of any energy security policy.
- If the EU wishes energy exporting countries to invest in upstream oil and gas production capacity ahead of demand, and thus to preserve a cushion of idle capacity, the EU must either contribute to this investment or, as a second best solution, provide adequate advance notice of policy changes that will affect energy import requirements.
- The EU should encourage reciprocal upstream-downstream investments in energy projects by companies from the EU and from supplier countries. However, even if access for EU companies to upstream opportunities is restricted or denied, it remains in the EU's energy security interest to encourage downstream integration by companies from energy exporting countries in the EU.
- The EU can further enhance its energy security by encouraging investment in renewable energy projects everywhere, but particularly in energy-exporting countries.

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