

BRUEGEL
POLICY
CONTRIBUTION

ISSUE 2009/16
DECEMBER 2009

MEMO TO THE NEW COMMISSIONER FOR ENERGY

GEORG ZACHMANN

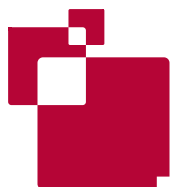
Highlights

- European energy policy has had mixed fortunes in recent years: complex but ambitious compromises (greenhouse gas reduction targets), clear and feasible compromises (renewables), unhurried but steady progress in some areas (internal electricity market), no breakthrough in other important fields (internal gas market) and a dangerously passive stance in crucial subjects (research and development).
- While liberalising energy markets and combating climate change will remain top priorities, securing energy supplies and energy price issues might temporarily lose some appeal due to the crisis-induced energy demand dip.
- The Commission should not spend valuable financial and human resources on: investments in generation, attempting to control energy price levels, changing the settlement currency for oil imports or securing foreign energy resources. Functioning markets will get all of these right.
- However, in some key energy policy areas, markets alone will fail. Thus, mitigating climate change, directing investments in network infrastructure and creating a single energy market should be the three interlinked priorities for your term of office.

This policy contribution is a supplement to 'Bruegel memos to the new Commission: Europe's economic priorities 2010-2015' (ISBN: 978-9-078910-14-5), published 27 August 2009 and available at <http://www.bruegel.org/>

Telephone
+32 2 227 4210
info@bruegel.org

www.bruegel.org



MEMO TO THE NEW COMMISSIONER FOR ENERGY

GEORG ZACHMANN, DECEMBER 2009

STATE OF AFFAIRS

Energy was one of the key economic policy issues before the financial and economic crisis hit the world economy. In particular, **(1) securing the fossil fuel supply** in the near future, **(2) reducing energy-related greenhouse gas emissions**, and **(3) containing the level and volatility of energy prices** were high on the agenda of all European energy policymakers. The means to achieve these common goals were often controversial, with differing conflict lines between the actors involved (27 member states, at least four EU departments, companies, NGOs). As well as these three major shared goals, one important issue, where not only the approach but also the general aim is controversial, has been high on the European energy policy agenda for years: **(4) liberalising and building the single market**. The European focus on this issue is partly due to the explicit EU powers in this field that serve as a lever to shape a common EU energy policy, even in fields initially not intended to be dealt with by the Commission, eg super-European pipelines such as Nabucco.

In the following we would like to brief you on these four energy policy issues, the challenges that await you in your term of office and how you should deal with them. Your predecessor as commissioner in charge of energy policy was, despite having limited powers and overlapping areas of responsibility with other services (eg DG Competition, DG Environment, DG RELEX) initially able to significantly shape energy policy in the EU. This success was based on a series of strategic documents that defined the Commission's broad aims and helped to maintain the focus on these goals throughout the legislative period. This forward-looking strategic spirit was, however, less present in the second half of your predecessor's term of office. The Second Strategic European Energy

Review of late 2008 is seen by many observers as an unoriginal and unimpressive political compromise. In particular the supply-side approach, indicated by the absence of mandatory objectives for energy efficiency and the lack of acknowledgment of the role of big energy-consuming sectors (transport and industry), has been criticised for again missing some of the most important energy and climate-related challenges.

Security of supply

Securing energy supply is a key objective of energy politics. During your predecessor's term of office, three factors reinforced this focus.

First, the repeated gas conflicts between gas-producing Russia and the transit countries Ukraine and Belarus raised the question of European vulnerability to attempts at political or economic blackmail by its biggest gas supplier. Consequently, individual member states and groups of countries tried to secure the support of the EU for their respective infrastructure projects. Germany was able to obtain the status of priority infrastructure for the German-Russian Baltic natural gas pipeline, which avoids all transit countries. Currently, the EU strongly supports the 'Southern Corridor' – the Nabucco pipeline that is intended to bring Central Asian gas through Turkey to Europe (thus avoiding Russia). In addition the EU is pushing for binding storage requirements and obligatory emergency plans to mitigate the short-run effects of supply disruptions.

Second, the mid-2008 record-high oil price has given apparent support to the 'peak oil theory', according to which we are close to a point in time at which oil production will start to decline. Consequently, under this scenario, both the supply of natural gas and oil are considered to be at risk.

'There have been blackouts and declining investment in network and generation assets, but neither member states nor the EU have been able to assure the optimal level of investment.'

Coupled with the narrative that the availability of these finite resources is a key driver for future economic prosperity, it has been argued that securing foreign fuel resources is a political priority to which other targets should be secondary. Due to its limited external affairs responsibilities, the EU has so far been rather inactive in this 'resource rush', while some member states have taken national foreign policy decisions that could be interpreted as opportunistic (eg France's and Italy's courting of Libyan leader Gaddafi).

And **third**, major electricity blackouts in various European countries (Germany, Italy), as well as declining investment in network and generation assets, have raised a question mark over the ability of existing regulations and markets to create the necessary infrastructure. Here neither the member states nor the EU have so far been able to come up with a solution that assures the optimal level of investment. In particular, national policies such as the disputed German nuclear phase-out, the scale-back in Spanish renewables subsidies or the UK government's pending plan to build nuclear plants have created uncertainty detrimental to long-run private investment. This problem has been exacerbated by the credit crunch, which, together with the economic crisis, has caused a dip in energy demand and in turn a severe decrease in energy sector investments.

These concerns about short-run disruptions to the natural-gas and electricity supply and about the long-run availability of energy sources are likely to remain. But the interests of EU member countries do not necessarily converge. The Commission has the difficult task of finding compromises that bring together individual member states' interests around secure and cheap supplies and a common stance towards supply security.

Energy prices

Oil prices per barrel increased from below US\$60

in early 2007 to more than US\$140 in July 2008, only to fall to less than US\$40 at the end of 2008. A comparable price pattern was observable for other fuels (coal, natural gas). The record high has been blamed either on decreasing prospective oil production (the 'peak-oil' theory, as noted above), increasing demand from emerging economies, liquidity-driven speculation, or a combination of these factors. In the short term, the price hike had a negative impact on a number of economic sectors (eg airlines), final consumers and inflation in energy-importing countries. The subsequent price decline, by contrast, has hit all investment projects in energy exploration and production. However, for good reasons, both governments and the International Energy Agency (IEA) have largely refrained from attempting to influence this much-discussed price pattern.

In the short term, excessively low energy prices seem to be more of an issue than too-high price, because the consequent low levels of investment in fossil fuel production and exploration will lead to steeply rising prices. But low prices also endanger the development of biofuels and electricity production based on renewable energy sources (RES) that are necessary to decarbonise the transport and power sectors. The challenge is thus to maintain investment at an appropriate level and channel funds towards building the low-carbon, high supply-security energy system we would like to see in the future despite the credit crunch and low energy prices in the short term.

Climate change

Severe climate events (eg Hurricane Katrina in 2005) have focused public attention on man-made climate-change issues. In the political sphere, the implementation of the Kyoto Protocol has provided much valuable experience concerning the technical, economic and legal challenges that will (it is hoped) be taken into account in a future global arrangement to mitigate and adapt

to climate change. From the European perspective, the results of the European Emissions Trading System (ETS), which began operations in 2005, have been especially interesting. Significant wind-fall profits to the power sector, high volatility of carbon prices, full pass-through of the carbon price to consumers as well as low investments in carbon-saving R&D and RES in some member countries came somewhat unexpectedly for many observers.

Based on these outcomes, in April 2009 the EU adopted more ambitious and straightforward RES and climate-change legislation. The EU's new RES rules set clear, mandatory national targets for the share of RES in final energy consumption and a mandatory Union-wide target for the share of RES in the transport sector. In addition, the new climate-change rules set the scene for the ETS as it will apply in the period from 2013 to 2020. Complex rules for burden-sharing between individual member states in the non-ETS sectors and favourable conditions for the power sector in the new member states allowed a compromise to be struck that contains the long-desired full auctioning of emissions allowances for power producers from 2013. The serious disregard of the need for R&D in both rule-sets is, however, a missed opportunity that was not remedied by the EU's subsequent Strategic Energy Technology Plan (SET-Plan), which is anything but 'strategic'. As the SET-Plan neither empowers institutions and allocates new funding, nor contains clear priorities, the Commission is merely pursuing previous policies on renewable, fossil and nuclear technologies. This reluctance to pick winner technologies is understandable given the strong interest groups involved in this subject. But it is precisely for that reason that a determined vision with respect to the future energy system might have helped member states to follow a targeted and thus more cost-effective joint strategy.

According to the IEA, in 2007 global energy-related emissions amounted to 28.8 billion tons of CO₂. These emissions are, after a short-lived, crisis-driven dip, expected to grow unless sustainable measures are imposed. Meanwhile, the EU power

sector alone is still emitting around 1.5 billion tons of CO₂ each year. Consequently this subject, which is in danger of losing political appeal, has to remain a policy priority. Furthermore, a global binding climate agreement will have to be pursued in 2010 and the results of this activity – whatever they will be – put into practice. Probably the biggest challenge for international policy in the next decade will be to ensure that the objective of keeping the global temperature rise to no more than 2°C above pre-industrial levels, as signalled by the Copenhagen Accord, can be kept to, with the burden shared fairly between all partners.

Liberalisation

Antitrust cases against E.on and EdF provided evidence that there are still significant concerns about the market power held (and possibly exercised) by Europe's big energy companies. Furthermore, mergers and acquisitions in the energy sector have resulted in further consolidation of the corporate landscape. In addition to the 'old' national champions, Gazprom has significantly increased its presence on the scene over the last few years by securing assets all over the EU.

The inability to freely shift natural gas volumes to the places where they were most needed during the January 2009 gas crisis, as well as persistent electricity-price differentials among member countries, have shed light on the need for improvements in the single European energy market. Thus, despite a corpus of EU legislation, notably in 1996, 2003 and 2009, Europe still does not have a single energy market.

Owing to gaps in electricity interconnection, an integrated market is unlikely to develop in the near future. This problem is likely to worsen as, besides bottlenecks between the different asynchronous zones of the European high-voltage grid, congestion will increase within these zones and even within certain countries as a result of geographically uneven distribution of the development of RES. The effect of existing holes in the natural-gas network is made worse by the absence of transparent regional price signals that could be used to

'The creation of a European Network for Transmission System Operators and an Agency for the Cooperation of Energy Regulators should favour the development of truly European energy infrastructure. But currently both institutions lack implementing and enforcement powers.'

direct gas flows through a bottleneck-rich network, including in cases of emergency. Finally, as long as 13 years after the first major piece of EU legislation, political pricing of energy still is an issue hampering the development of a level playing field not only in the energy sector but also for energy-intensive industries.

The last Commission addressed some of these challenges in its third liberalisation package. Steps to foster international competition and to unbundle generation and transmission assets were considered key tools. However, the unbundling requirements were very controversial. Some observers argue that the Commission was able to shape a compromise close to what some member states wanted but which in substance implements the position of the Commission by making the 'third-way' option, introduced by some member states, unattractive for integrated companies. The creation of a European Network for Transmission System Operators (ENTSO) and an Agency for the Cooperation of Energy Regulators (ACER) is expected to favour the development of truly European energy infrastructure. But in their current form both institutions lack the necessary implementing and enforcement powers.

Conclusion

With respect to the aims outlined in the EU's Green Paper and the Energy Action Plan the results of European energy policy in the last years have been mixed: complex but ambitious compromises (greenhouse gas reduction targets), clear and feasible compromises (renewables), unhurried but steady progress in some areas (internal electricity market), no breakthrough in other important fields (internal gas market) and a dangerously passive stance in crucial subjects (R&D). In the institutional setting of the EU this account could be seen as fairly successful. In particular the previous Commission was able to ensure that, even

in troubled times, energy remained high on the political agenda of the EU.

While liberalisation of energy markets and combating climate change will remain top priorities, securing energy supplies and energy-price issues might temporarily lose some appeal due to the crisis-induced dip in energy demand.

RECOMMENDATIONS

Markets are a powerful tool in helping to solve many issues. Thus, the Commission should not spend valuable financial and human resources on: investments in generation, controlling the level and volatility of energy prices, changing the settlement currency for oil imports and securing foreign energy resources. Functioning markets can get all of these right.

But there are energy policy areas where markets alone will fail. Thus, mitigating climate change, directing investments in network infrastructure and creating a single energy market should be the three interlinked priorities for your term of office.

Security of supply

The importance of securing the supply of fossil fuels from abroad was overstated by your predecessor. Securing physical supplies to Europe must not be a political priority of the Commission for several reasons:

First, we would like to note that empirical and modelling evidence concerning the interaction between the supply of substitutable resources and long-term prosperity is mixed. While the oil price shocks of the 1970s led to a severe economic crisis, the reduced share of oil in production, improvements in monetary policy, more flexible labour markets and some concurrent adverse shocks implied that the effects of the oil

price shocks of the 2000s were much milder. Models suggest that, given technological advances and the substitutability of oil as a production factor, crude oil price increases do not necessarily lead to dramatic negative long-term output effects.

Second, the recent discoveries of huge oil and gas fields off the coast of Africa and Brazil, as well as the proven capacity of producers of non-conventional oil to come in as soon as prices are high enough, have demonstrated that overall oil production can still be increased. Furthermore, even though global natural-gas demand will increase at 1.5 percent per year between 2007 and 2030 in the reference scenario of the IEA, sufficient reserves for 60 years are proven (estimated reserves are almost 300 years).

Third, in addition to the general doubts about the advantages of playing the 'great game' in pipeline politics, the pressure to diversify natural gas supply to Europe has diminished significantly recently. As the present increases in the production of cheap shale gas allow the US to reduce its imports significantly, much of the liquid natural gas (LNG) production capacity intended for the American market will be available for providing a much cheaper diversification option to Europe than laboriously hammering out pipeline projects avoiding either Russia or Ukraine and Belarus.

Fourth, oil demand in OECD countries is expected to continue to decline even after the crisis. Accordingly, many pieces of economic literature suggest declining economic dependency on this fuel source.

Consequently, neither the alarming narrative of energy-hungry emerging countries fighting for the last remaining sources of a fuel essential for our economic development nor the story of malicious Russians and unreliable Ukrainians that are able

to switch off European lights prove accurate. Thus, inappropriate measures based on skewed analysis should be avoided. In fact, we believe that the prices we are willing to pay will assure us our fair share of foreign resources.

While there is no need to mobilise political capital to solve the above-mentioned strategic issues, smoothing the functioning of global energy markets by means of targeted measures could nevertheless prove highly beneficial. Concerning oil supplies it would, for example, be essential for the international community to ensure that China does not obtain a competitive advantage by ignoring international standards. As for comparable issues such as intellectual property rights or labour standards the relevant measures from the trade negotiation toolbox should be used to enforce compliance. For natural gas supplies an additional natural-gas pipeline that crosses neither Ukraine nor Belarus would certainly help to discipline these countries that form a non-coordinated duopoly for gas transits from Russia. Alternatively, stronger economic integration with these countries that would provide a lever for enforcing compliance of the transit contracts might do the same job much cheaper.

By avoiding participation in the 'great game' the Commission will have saved political capital for the post-Copenhagen climate negotiations with the US and China, which must succeed. Furthermore, steering clear of geopolitics might free major resources for developing a coherent trans-European network for electricity, natural gas, oil and carbon. Such a meta-network would be the basis for a functioning single energy and carbon market and thus a key component of an efficient solution to all the challenges outlined above. The meta grid should be able to absorb the desired amounts of RES, make switching fuels for cars and power generation easier and thus stimulate intra-fuel competition, use the advances in information

'Neither the alarming narrative of energy-hungry emerging countries fighting for the last remaining sources of a fuel essential for our economic development, nor the story of malicious Russians and unreliable Ukrainians that are able to switch off European lights, are accurate.'

'Creating a single market with transparent price signals that will direct energy flows and investments where they are most needed is pivotal. You might have a last chance to depart from unhealthy policymaking based on the unstable basis of 27 national energy markets.'

and communications technology to satisfy the energy needs of consumers at the lowest cost and minimum emissions (Smart grid) and take the carbon produced by burning fuels to the designated sequestration infrastructure. Through setting unbundling requirements as well as by establishing ACER and ENTSO the previous Commission has already laid the foundations for internationally coordinated development of a truly European energy network. What must follow is a consistent and binding infrastructure development plan.

Energy prices

Manipulating the energy price process by eating into strategic stocks, varying energy taxes or changing the settlement currency for oil will do more harm than good. First, the adverse consequences of intervention in terms of investment incentives (if governments use strategic reserves, the incentives for building commercial stocks would suffer) outweigh the short-run smoothing of prices. Second, the type of price developments (structural or cyclical) and thus the economic impact of intervention (delaying adjustment or smoothing) remain unforeseeable. Third, the price projections available to politicians are both notoriously unreliable and subject to political influence. Thus, the incomplete understanding of markets makes any *ex-ante* evaluation of the costs and benefits of any intervention a gamble. One warning sign for politicians not to interfere in the price process is the recent adjustment of price predictions for 2030. While in 2008 the US Energy Information Administration forecast an oil price of US\$70, the corresponding forecast in 2009 is 80 percent higher (US\$130).

Climate change

Many policymakers, including Commission President Barroso, see climate change as the single

most important long-term challenge for Europe and globally. Consequently, (and as suggested by Bruegel) President Barroso underscored this priority by appointing a dedicated climate-action commissioner. But climate issues will also be high on your own agenda as the energy sector remains one of the largest sources of man-made greenhouse gases. Thus, Europe will be faced with a significant need to replace fossil fuels in the energy sector. In this context, incentives for technological advancement and a requirement to use best-available technology (BAT) in the energy sector should receive more attention.

Technological developments will be the key to solving the conflict of interest between cheap, secure and environmentally friendly energy supplies. Consequently, the Commission should strive to coordinate the national R&D efforts with a clear vision that goes beyond the SET-Plan.

One tool that merits more attention in the climate debate is the BAT requirement. By obliging the users of energy-consuming and -transforming technologies to install the best available equipment, learning and scale effects will lead to a reduction in cost in the mid-term. This will in turn help non-EU countries to benefit from Europe's technological advantage.

Liberalisation

Creating a single market with transparent competitive market-based price signals that will direct energy flows and investments where they are most needed is a pivotal challenge. In fact a functioning single market for energy is the prerequisite for a consistent approach to all of the aforementioned issues. In the absence of a level European playing field, all emissions-reducing, investment and R&D initiatives must be tailored to specific national market situations. This would cause an inconsistent, contradictory and thus

highly inefficient and fragmented set of policies. The resulting piecemeal approach will be difficult to reverse as with every new initiative the complexity of the inconsistent policies will be harder to disentangle. Thus, maybe this new Commission has a last chance to depart from the unhealthy path of policymaking on the weak and unstable basis of 27 disparate national energy markets.

Apart from the required physical meta-network described above, clear rules are needed to ensure transparent and fair access to infrastructure. Only in this way will the desired benefits of functioning markets be attainable. The new Commission should therefore make sure that current legislation is properly implemented and does not betray the compromises fought for by its predecessor. In

particular, you should whole-heartedly support the European regulation and implementation of the unbundling requirements into national law should be carefully monitored.

In brief, our three interlinked recommendations for a coherent energy strategy are: **(1) create a functioning single European market for energy** as a basis for a coherent energy and climate policy; **(2) develop the network infrastructure** necessary to absorb the desired amounts of RES in the grids and to allow for functioning trans-European competition and **(3) design a climate policy** based on the international agreements that is able to deliver the desired emissions reduction targets at minimum cost.