EU Climate and Energy Policies – Which Path Ahead?

Herbert Reul*

Energy is a central part of our daily life. Our heating is done with electricity, gas, oil or some other form of energy, all production processes depend on energy. Our entire way of life is built on the abundant availability of affordable energy. After the vast destructions caused during the Word War II, energy policy has been at the heart of European integration in the early 1950s. The European Community for Coal and Steel was the first of the three European Communities to be set up. The European Atomic Energy Community followed in 1957 together with the European Economic Community at a time of high expectations for nuclear energy. However, true European energy policy in the framework of the European Economic Community can only be discerned from the 1990s onwards even though most instruments existed long before. In analysing European energy policy in the early 1990s, Padgett came to the conclusion that "there is a general agreement that energy policy must be ranked as one of the Community's major failures" (Padgett 1992, 55). Does this analysis still hold today?

The focus of energy policy in the European Union today is threefold. First the completion of the internal market for energy, especially for gas and electricity, lies at the centre of the third liberalisation package presented by the European Commission in September 2007. The second pillar of the current energy policy builds on the competence of the EU in the field of environment. Here, the major legislative package was the climate and energy package of 2008. The third pillar concerns security of supply and has come back into focus when the gas dispute between Ukraine and Russia resulted in the closing down of the Bratstvo Gas Pipeline, the main transit pipeline for Russian gas to Central and Western Europe. Only a month before the escalation of this dispute, the Commission published several documents on security of supply, *inter alia* the second strategic energy review.

These three large packages cover to a large extent the three main goals of energy policy: security of supply, sustainability and competitiveness. These goals must be treated equally at any time in order to achieve a truly sustainable energy policy. This article critically evaluates the most recent developments in European energy policy and explores ways to consolidate the three basic objectives.

The internal market for energy

The establishment of a common market is the key objective set out by Art. 2 of the Treaty Establishing the European Community. Art. 3c then follows the lead by giving the European Community the assignment to set up "an internal market characterised by the abolition (...) of obstacles to the free movement of goods, persons, services and capital". Only later, in the Treaty of Maastricht, Art. 3u was added, inserting the word "energy". However, this insertion was mainly meant as a clarification. Thus, the objective of creating an internal market did also encompass the market for energy – and the same is true for the instruments set up by the Treaty, especially for Art. 28, 29, 30, 82, 86 and 100. Thus, as Grunwald, a former member of the Commission rightly observes, "only an explicit mandate for a common energy policy was missing" (Grunwald 2003, 18).

Despite this often forgotten fact, the first concrete measures were only adopted from 1988 onwards in three important sectors. The first concerned price transparency (European Council 1990), the second the transit of energy through large networks (European Council 1991) and the third access to resources (European Parliament and European Council). This first step, however, did prove insufficient to eliminate the many structural market barriers that existed in the energy sectors of all Member

* Member of the European Parliament.

States. Roger Fauroux, the then French Minister for Industry, summarised the situation in 1989 by deploring that France was exporting electricity to Switzerland, Italy and the United Kingdom, but not to Germany – and this despite an export potential worth around DM 2 billion and another twelve nuclear power plants still under construction.[1] This explains why France was initially such an ardent supporter of liberalisation. Today the situation has changed profoundly. Not only is France often seen as a chock block when it comes to liberalisation in the energy market, it also exported an impressive 16 billion KW/h of electricity to Germany in 2005. The root of this change was the liberalisation process on European energy markets.

In 1992 the European Commission proposed two parallel directives on common rules for the internal market in electricity and gas (European Commission 1992a; European Commission 1992b). The central topic of the discussions at the time was the issue of grid access. As with railways, electricity and gas grids represent natural monopolies. Thus non-discriminatory access to the existing infrastructure is of central importance for the development of competition. A compromise was reached in 1996 and 1998, respectively. Third party access (TPA) to the grids was to be granted either on a negotiated or a regulated basis, with the decision on which principle to adopt left to each Member State. Moreover, several unbundling provisions for vertically integrated companies were set up in order to further increase transparency.

It soon became clear, however, that these provisions were insufficient once again. A study carried out for the European Commission found that markets remained very much closed and that TPA had remained problematic, especially in France and Germany (DRI-WEFA 2001). Thus the Commission presented two parallel acceleration directives in 2001 (European Commission 2001). The double purpose of these directives was to open markets to full competition and to harmonise national regulation. Both directives were adopted in 2003.

As a principle, the acceleration directives provided for a regulated TPA to the grid of transmission system operators (TSO). Distribution system operators (DSO) remained outside of the scope of the directives. Furthermore, for gas storage negotiated access was still allowed. Exemptions could further be granted for major new investments such as interconnectors between Member States, liquefied natural gas (LNG) facilities or gas storage sites. TSOs were further to be granted access to the grids of TSOs by Member States. One of the most important steps, however, was the creation of independent regulatory bodies in all Member States. Furthermore, transparency was to be increased by more rigorous unbundling provisions that encompassed legal, operational and informational unbundling.

These complex provisions took several years to be transposed into national law. In Germany, for example, the directives were only transposed in 2005, and thus in the same year in which the Commission started a further inquiry into the energy markets. The Commission's finding of continued market concentration was therefore hardly surprising. Marietje Nauschütz already warned in 2005 that the Commission would not be satisfied with the acceleration directives and could go even further by demanding full ownership unbundling of vertically integrated companies (Nauschütz 2005, 292). Indeed, ownership unbundling was by far the most important and controversial topic of the third liberalisation package that is to be adopted in the summer of 2009. Already, the impact assessment presented by the European Commission raised more questions than answers. Despite the many open questions and the fact that nobody could possibly expect liberalisation to come into effect within a few years, negotiations have continued.

In its first reading, the European Parliament opted for different approaches for gas, for which the so-called third option was introduced into the proposal, and electricity, for which the two Commission alternatives, full ownership unbundling and Independent System Operator were not complemented. The situation in the Council was different, however: a blocking minority around France and Germany was able to insert a third option for both sectors. This very detailed third option, the efficient unbundling of transmission system operators, foresaw very strict unbundling provisions stopping short of ownership unbundling in order to ensure the independence of the grid operators. The outcome of the negotiations remains to be seen. All relevant actors are united in their commitment to reach a compromise by April 2009 at the latest in order to adopt the act before the next European elections.

The main purpose, it is worth recalling, of the entire third liberalisation package is to foster competition

[1] See *Frankfurter Allemeine Zeitung* of 20 May 1989.

and through competition to lower energy prices for consumers. This purpose was entirely lost sight in the course of the negotiations. In the German gas market, for example, only 4.4 percent of the final price for consumers is due to fees paid to TSOs for grid access. Half the costs cover the purchase of gas itself and nearly another 25 percent are accounted by taxes. About 20 percent cover the costs of the distribution system operators (DSO) themselves. The figures for electricity are similar.

Thus, the argument of the Commission that by strengthening competition prices would automatically come down, must be questioned. No data can be found which clearly shows a correlation between ownership unbundling and lower energy prices. Furthermore, the Commission itself announced in a staff working document that "the objective of ownership unbundling is not necessarily to bring prices down but to achieve a price setting which reflects the real cost of efficient operation and which gives the right signals for the future investments needs, for example in renewable energy" (European Commission 2007, 37).

This seems to be the most honest statement on the true objectives pursued by the Commission. What is more, security of supply, even though it is mentioned in the justification of the directives, never played a role in the debate. The impact of full ownership unbundling on security of supply is still unclear, but the first experiences in Britain suggest that negative effects of liberalisation might also exist. Gas storage capacity in that country is one of the lowest in the EU, for example.

From this experience with the liberalisation trilogy the following can be deduced. First, we should accept the fact that changes to structures that have grown over decades cannot be made within a few years. Second, we have to realise that the Commission, once it has been given an incentive to regulate, will never stop to pursue even further goals at ever shorter intervals. And third, the European Parliament must finally stand up to its role as legislator and subject Commission proposals to in-depth scrutiny.

Environmental policy and its impact on energy policy

With the Single European Act (SEA) new competencies on environmental policy were introduced into the EC Treaty. While Member States had often used environmental policies to set up national barriers to free trade and thus to safeguard their own markets against foreign competition, the first harmonisation measures at Community level were, as Klaus Eckrich rightly points out, "rather aimed at restoring free trade – and not necessarily to safeguard the environment" (Eckrich 1994, 5).

The central modification that led to a surge in environmental legislation came only with the Treaty of Amsterdam, in which the co-decision procedure was extended to the field of environment. However, a few exceptions remain even today, e.g. for provisions primarily of a fiscal nature and measures significantly affecting a Member State's choice between different sources and the general structure of its energy supply.

Thus it was surprising that the Commission based its legislative proposals within the climate and energy package on Art. 175 I EC but not on Art. 175 II EC. Defining specific targets for renewable energies, for example, clearly affects the choice between different sources and the general structure of the energy supply of the Member States. At the same time, the proposal altered the existing emissions trading system (ETS) of the EU in such a way that it arguably imposes a tax on CO_2 emissions. Here again, European Parliament and European Council failed to apply the necessary scrutiny. As it turned out during the negotiations, only the least controversial part of the package, the one setting up common rules for carbon capture and storage (CCS) for the demonstration plants, would clearly fall under Art. 175 I EC.

Given the complexity of the matter and limited space, only the ETS will be dealt with in more detail here. The proposals were to serve a threefold aim: to reduce emissions by 20 percent, to help improve energy efficiency by 20 percent and to raise the share of renewable energies to 20 percent by the year 2020. With the ETS, a price tag is introduced for carbon emissions. Thus the main idea is that the worst polluters should pay the highest prices. The Commission proposal draws a distinction between electricity generation and CO_2 intensive industries. Electricity generators were to be subjected to full auctioning from 2013 onwards. Industry, however, was to be given more time to adjust through a phasing in – starting at 20 percent auctioning in 2013 and resulting in full auctioning in 2020.

However, the proposal does not in any way account for the enormous differences in the energy mix of the now 27 Member States. Poland, for example, generates close to 80 percent of its electricity using solid fuels. France, on the other hand, uses close to 80 percent CO_2 free nuclear energy. As a result of this approach, the largest French energy company, EdF, is likely to make additional profits in the range of 50 billion euros between 2013 and 2020 compared to German power producers, simply by selling its cheap electricity on the German market – at market prices determined by the oldest German coal power plant. Thus, full auctioning in the power sector leads to severe distortions of competition.

This example demonstrates once more how schizophrenic current EU energy policy is. On the one hand, liberalisation is supposed to foster competition and thus to lower prices for consumers and, on the other hand, EU environmental policy leads to massive price increases. The Institute of Energy Economics at the University of Cologne came to the conclusion that the Commission proposal on ETS would lead to a 50 percent increase in electricity prices in Germany by 2020.

From here it does not take much to calculate the amount of purchasing power that will be quashed. Much more difficult to calculate, however, are the indirect costs caused by higher electricity prices. Electricity is the fundamental basis of all production processes. Thus, a sharp increase in prices will inevitably lead to higher product prices. Transport and industrial companies will try to pass their addition costs on to the consumers. A real impact assessment, taking into account those indirect costs, has never been published. One central reason for this omission was the enormous time pressure that bore on both Parliament and Council. This self-imposed pressure served those in the Commission, Parliament and the Council who wanted the fundamental characteristics of the Commission proposal to remain unchanged. A large minority favoured a different approach that would not have endangered the main political goals of reducing emissions by 20 percent but would save consumers across the EU billions of euros each year.

Their idea was to introduce a benchmark system that would have rewarded the most efficient installations. Hence, both electricity producers and the remaining industry sectors covered by the directive would have been issued free certificates up to an ambitious and dynamic benchmark. Should the monitored installation fall short of the benchmark, the remaining certificates would have had to be purchased on the market. In order to avoid windfall profits, unused certificates would have had to be returned. Such a system would have given strong investment incentives while minimising costs. Minimising costs it would, however, have reduced revenues for the Member States. It is precisely this reasoning that unmasks the fiscal nature of the Commission proposal. By increasing the number of certificates to be purchased to 100 percent, the measure takes on the character of a CO_2 tax.

In order to speed up negotiations, Parliament even agreed to a proper co-decision procedure. This was done through a relatively recent invention: the trialogue. In a *joint declaration on practical arrangements for the co-decision procedure* (European Parliament, Council, Commission 2007), the institutions agree to cooperate in good faith with a view to reconciling their positions in order to reach a first reading agreement whenever possible. The EP *code of conduct for negotiating codecision files* (European Parliament 2008) clearly states that the decision to enter into trialogue must be politically justified, for example, on grounds of the uncontroversial or technical nature of the proposal or because of an urgent situation. Even though the file was surely to be qualified as a political priority, it is questionable whether the conditions set out by the code of conduct were met in this case.

Neither was the file uncontroversial, as the large number of amendments demonstrated, nor was it merely of a technical nature. Only the European Council was able to reach a compromise at the end of December 2008. This compromise allowed many exceptions to the general rules for different groups of countries and industries and foresaw a phasing-in for power producers in the new Member States.

This course of action resulted in Parliament being able to negotiate about exceptions for hospitals with the French Presidency but not about the main controversies of the file. These were left to the Heads of State. Parliament was thus only able to accept or to reject the compromise reached by the Presidency. After having struggled for more power over many decades, the co-decision procedure was unhinged by a trialogue procedure that so far not even appears in the rules of procedure of Parliament. This result is to be deplored, not only for democratic reasons.

The power of the European Commission is extremely large. Once it had suggested full auctioning, it was hardly possible to introduce an alternative that would have saved consumers around 70 billion euros every year. Parliament should not light-heartedly engage in trialogue procedures on highly controversial files, as it will only lose power to the Council. A proper first reading would further have enabled Parliament to present the Council with a position carried by the entire house – instead of entering into negotiations with the position of just one Committee. But ideology once more prevailed over rationality when it came to environmental files.

Security of supply

The winter of 2008/2009 demonstrated again the overwhelming importance of supply security. For the fourth time already, a gas dispute between Russia and Ukraine caused disruptions of gas supplies to the EU. With 80 percent of Russian gas exports to the West transiting Ukraine, the consequences of blocking the pipeline were felt almost immediately in many Member States. Bulgaria closed more than 50 schools due to gas shortages, Romania declared a state of emergency, Poland, Slovakia, Hungary, Germany and France reported sharp drops of supply, as Russian gas could only be transported through Belarus and demand was soaring due to temperatures well below zero in most parts of Europe.

Only in November 2008 had the Commission presented its Second Strategic Energy Review (European Commission 2008). This communication focuses on five major points: (1) infrastructure needs and the diversification of energy supplies, (2) external energy relations, (3) oil and gas stocks and crisis response mechanisms, (4) energy efficiency and (5) making the best use of indigenous sources of energy.

Despite gains in efficiency, energy demand and especially the demand for gas will increase in the future. The share of gas in gross domestic consumption has already increased from 17.9 percent in 1990 to 24.6 percent in 2005. Thereafter it is presumed to increase to 25.7 percent in 2020. At the same time, the share of solid fuels is predicted to decline further to less than 17 percent in 2030. According to the European Commission (2007b), declining indigenous gas and oil production in the EU means that import dependency will continue to rise, reaching 84 percent for gas in 2030 (from 46 percent in 1990) and even 95 percent for oil (up from 80 percent in 1990). These figures do not yet reflect the shift in primary energy demand that will be caused by the ETS reform.

Diversification of transport routes is the traditional answer that was already promoted by Winston Churchill before World War I: "safety and certainty in oil lie in variety and variety alone". Therefore it is of paramount importance to define priority infrastructure projects and to actively promote their realisation. Two of these priority projects that figure dominantly in the list of projects of European interest within the framework of Trans European Energy Networks (TEN-E), are the North Stream Pipeline through the Baltic Sea and the Nabucco pipeline linking the Caspian Sea to South Eastern Europe (European Parliament and European Council 2006).

It is unclear how such projects can successfully be promoted by the EU with a budget of just 25 million euros a year for TEN-E priority projects that not only cover gas but also electricity. Even though it is evident that those multi-billion euro investments have to be accomplished by private investors, at least the political support must be strong. But even this support is lacking.

The North Stream Pipeline with a total length of close to 1200 kms will cost over 7.4 billion euros and was supposed to carry 24 to 27.5 billion m^3 of gas to the EU each year starting from 2010. The doubling of the pipeline would then later have allowed the import of up to 55 billion m^3 of gas each year. By comparison, Britain produced just 80 billion m^3 of gas in 2006. The feasibility studies were carried out from 1997 to 1999, thus ten years ago. But still the pipeline does not exist. Mainly Poland and the Baltic countries, but also Finland and Sweden have at one point or the other in the process slowed down negotiations due to security concerns. Only now, with the renewed gas dispute, the perception is finally changing.

A central part of the strategy of diversification will also be the extension and upgrading of the "internal" pipeline system of the EU in order to allow reverse flows. Furthermore, LNG facilities have to be promoted even more vigorously in order to diversify supply routes. Qatar is already preparing itself for the surge in demand, for example, by designing new LNG tankers of Q-Flex and Q-Max size that are able to carry around 80 percent more

gas than current tankers which, in turn, will considerably help reduce costs.

The stronger promotion of LNG will not fail to affect gas markets. As in oil markets, new traders will emerge, spot markets are likely to appear and thus the hitherto regional gas markets around the world will at least in part develop into global markets. This will have consequences for future gas flows. Whereas the EU is currently geographically well located to import gas through pipelines that take years or decades to amortise and thus guarantee supply over long periods of time, tying both parties together, LNG offers more flexibility for both suppliers and buyers. As this is a new situation that Europe will have to face in coming decades, we need clear and open discussions and, even more importantly, decisions in order to prepare ourselves.

The EU will not start building pipelines or LNG facilities itself and will not act as a contract partner of foreign oil or gas companies. However, it can help. For example, through the INOGATE programme the EU conducted many studies on the existing energy infrastructure in Central Asia. It has further helped to train personnel and to finance gas metering stations that were able to enhance mutual confidence in those states.

Nonetheless, the vital question of the status of the Caspian Sea has yet to be resolved. The EU could have acted as a mediator in the conflict or at least put pressure on the parties to find a compromise. Until today this conflict has prevented the construction of a pipeline through the Caspian Sea for over a decade. Instead of exporting gas from Turkmenistan, which holds the second largest gas reserves in the CIS after Russia, towards the West, pipelines are now being planned to run eastwards to China. Turkmen gas, however, would have been of central importance to fill the Nabucco pipeline. Thus the hesitant attitude of the EU now endangers one of its top priority projects.

Not only supply routes but also a wide energy mix is of vital importance for securing energy supply. Such an energy mix must include safe nuclear energy as well as coal, since both provide not only cheap energy, but these primary sources of energy are imported from stable export countries and at relatively stable prices. Indeed, coal prices have seen the largest stability over decades compared to oil and gas prices. Furthermore, even as uranium prices have seen a considerable increase in recent years, price effects remain minimal since fuel prices only account for a small fraction of the operating costs of nuclear power plants.

Renewable energies were most strongly promoted in past decades. The decision to raise the share of renewable energies to 20 percent will lead to further improvement of energy security. However, the main problem with renewable energies consists in the efficient allocation of subsidies. It does not make much sense to pay the highest subsidies to solar energy in Germany, when solar panels operate much more efficiently in Southern Europe. The directive on renewable energies, which was just adopted last December, did nothing to improve such inefficiencies, despite the imminent financial crisis. On the contrary, it protected national systems, most of which are based on national guaranteed feed-in tariffs. This inefficiency only raises costs for all consumers and might also reduce the acceptance of renewable energies if costs become too high.

Energy efficiency is yet another topic in the context of security of supply. The Spring 2007 European Council decided to raise overall energy efficiency within the EU by 20 percent by 2020 (European Council 2007). Ever since, the Commission has presented a whole bunch of proposals on how to attain this target, including the ban of the old light bulb. More bans and further regulation, for example on energy use during stand- by and on energy related products, will soon follow.

It is doubtful, however, whether regulation is indeed the best way to foster efficiency. Car manufacturers would have stepped up their development of low consumption engines and flexy-fuel or hybrid cars even without the penalties that have also been decided last December. The main driver for innovation in this respect was soaring oil prices that led to a change in consumer demand around the world, not the prospect of penalties.

What lessons may be learnt from the past? First of all, security of supply has to be taken seriously both in the internal and the external policies of the European Union. There is no need to discuss energy efficiency and sustainability when no energy can be produced in the first place. The most recent gas dispute showed clearly once more that concrete actions have finally to be taken. Second, we must find a way to allocate our capital much more effi-

ciently in order to ensure a broad energy mix. And third, even though energy efficiency is of central importance to reduce growth in demand, we have to rethink the mechanisms that will ultimately achieve the goal.

Quo vadis?

Energy policy has gained considerable importance over the last two decades. This is due in part to a shift towards greater liberalisation of energy markets in the United States and in Britain in the 1980s, but also to technological developments and to the break-up of the Soviet Union and the enlargement process of the EU itself.

Our world is changing constantly. But one fact remains true for the past centuries if not even millennia: we do need energy. And our need for energy has been growing at an alarming pace ever since the invention of the steam engine and the industrial revolution. Furthermore, the earth's population has risen rapidly in the last 150 years and the United Nations predict a further rise in the next decades. At the same time, countries like China and India are witnessing their own industrial revolutions as they enter a new era. Each one of these developments further increases global demand for energy.

Therefore, energy policy cannot be successful if it is short-sighted. If we want to retain our way of life and to continue being at the forefront of science and production, then we must by all means develop a sustainable energy policy that balances security of supply, sustainability and competitiveness. The EU is moving along a good path but it will be necessary to avoid contradictions like those we have witnessed in recent years. Maybe the restructuring of the European Commission currently under discussion will help develop a more consistent European energy policy in the future.

References

European Commission (1992a), *Proposal for a Directive of the Council Concerning Common Rules for the Internal Market in Electricity*, COM (91) 548 final, No. C 65 of 14.03.1992, Brussels.

European Commission (1992b), *Proposal for a Directive of the Council Concerning Common Rules for the Internal Market in Natural Gas*, COM (91) 548 final, No. C 65 of 14.03.1992, Brussels.

European Commission (2001), *Proposal for a Directive of the European Parliament and of the Council Amending Directives 96/92/EC and 98/30/EC Concerning Common Rules for the Internal Market in Electricity and Natural Gas*, COM (2001) 125 final of 13.3.2001, Brussels.

European Commission (2007a), *Accompanying the Legislative Package on the Internal Market for Electricity and Gas*, Commission Staff Working Document, SEC (2007) 1179, Brussels.

European Commission (2007b), *EU-27 Energy Baseline Scenario to 2030: Energy and Transport Trends to 2030 – Update 2007*, Brussels.

European Commission (2008), *Communication from the Commission to the European Parliament, the Council, the Economic and Social Committee and the Committee of the Regions – Second Strategic Energy Review: An EU Energy Security and Solidarity Action Plan*, http://ec.europa.eu/energy/strategies/2008/doc/2008_11_ser2/strategic_energy_review_communication.pdf.

European Council (1990), *Council Directive 90/377/EEC of 29 June 1990 Concerning a Community Procedure to Improve the Transparency of Gas and Electricity Prices Charged to Industrial End-users* (OJ L 185 of 17.7.1990), Brussels.

European Council (1991), *Council Directive 91/296/EEC of 31 May 1991 on the Transit of Natural Gas through Grids* (OJ L 147 of 12.6.1991), Brussels.

European Council (2007), *Presidency Conclusions, 8/9 March 2007* (7224/1/07 REV 1), Brussels.

DRI-WEFA (2001), *Report for the European Commission Directorate General for Transport and Energy to Determine Changes after Opening of the Gas Market in August 2000, Volume II: Country Reports*, July 2001; http://ec.europa.eu/energy/gas/publications/doc/finalcor-vol2.pdf

Eckrich, K. (1994), *Die Harmonisierung des Umweltschutzes in der Europäischen Union*, Frankfurt am Main et al.: Peter Lang.

European Parliament and European Council (1994), *Directive 94/22/EC of the European Parliament and of the Council of 30 May 1994 on the Conditions for Granting and Using Authorizations for the Prospection, Exploration and Production of Hydrocarbons* (OJ L 164 of 30.05.1994), Brussels.

European Parliament and European Council (2006), *Decision No 1364/2006/EC of the European Parliament and of the Council of 6 September 2006 Laying Down Guidelines for Trans-European Energy Networks and Repealing Decision 96/391/EC and Decision No 1229/2003/EC* (OJ L 262/1 of 22.09. 2006), Brussels.

European Parliament, Council, Commission (2007), *Joint Declaration on Practical Arrangements for the Co-decision Procedure (Article 251 of the EC Treaty)* (OJ C-145/5 of 30.06.2007), Brussels.

Grunwald, J. (2003), *Das Energierecht der Europäischen Gemeinschaften*, EGKS-EURATOM-EG, Berlin and New York: De Gruyter.

Nauschütz, M. (2005), *Das Unbundling Integrierter Erdgasunternehmen – Rechtliche Grenzen europäischer Wirtschaftsregulierung*, Baden-Baden: Nomos.

Padgett, S. (1992), "The Single European Energy Market: The Politics of Realization", *Journal of Common Market Studies* 30, 53–75.