



# EUROPÄISCHE AKADEMIE

zur Erforschung von Folgen wissenschaftlich-technischer Entwicklungen  
Bad Neuenahr-Ahrweiler GmbH

Direktor: Professor Dr. Dr.h.c. Carl Friedrich Gethmann

## NEWSLETTER

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### EDITORIAL

■ Twice a year the Europäische Akademie organises conferences to render the scientific work of the academy fully transparent and accessible. Since the first meeting in 1996 on “Information and Remote Sensing for Environmental Protection” in Bad Neuenahr-Ahrweiler further 20 conferences have taken place on the academy’s issues such as medical ethics, technology assessment and environmental challenges. Cooperations are always welcome, as for example with the Chair of Ethics of the University of Łódź in Poland on “Bioethics in Poland and Germany. Tradition and Controversies” at the University of Łódź in 2004. Also the upcoming symposium on “New Applications of Livestock Genetic Engineering” from 21<sup>st</sup> to 22<sup>nd</sup> September 2007 will be jointly coordinated – both by the Europäische Akademie and the Berlin-Brandenburgische Akademie der Wissenschaften (BBAW). The topics of the last conferences were:

- “Digital Publishing and the Humanities”, Bad Neuenahr-Ahrweiler, 2007
- “The Future of Space Travel. Use and Value”, Bad Neuenahr-Ahrweiler, 2006
- “Business Ethics of Innovation”, Neuwied, 2005
- “Living with Noise?”, Bad Neuenahr-Ahrweiler, 2005
- “The Interdisciplinary Function of Philosophy”, Bad Neuenahr-Ahrweiler, 2004
- “Human Nature and the Sciences. Current Challenges from a Franco-German Perspective”, Koblenz, 2003

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*A complete survey of conferences of the academy is given at: [www.ea-aw.de](http://www.ea-aw.de)*  
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### FOCUS

#### Regulatory Management of Electricity Grid Companies – A European Comparison of Germany, France and the United Kingdom

Christoph Adamczyk

**The energy sector is currently facing substantial challenges. In addition to the discussion on reducing CO<sub>2</sub>-emissions, primary energy supply, the phasing out of nuclear power or the promotion of renewable energy, a rethinking by the traditional energy companies is required by regulation demands. Due to the latter’s monopoly position respecting electricity grid ownership, regulation now demands that new electricity suppliers are given access to their grid. But how do traditional energy companies react to these public guidelines?**

■ Network industries play a significant role in the global economy and represent 6% of the European gross domestic product. Transportation and distribution are inherently connected to the network infrastructure of these industries. The aim of regulation is to lower prices and to raise the quality of products and services. Thus, the former public companies which have enjoyed a monopoly hold over the network infrastructures first need to be transferred to a competitive environment, to be privatised and the market opened for alternative, privately owned companies. It is especially the access to the networks that requires regulation, since these cannot additionally be constructed due to disproportionately high investment. Therefore, they constitute a natural monopoly. Network industries in the European Union mostly face a national or European regulator and cartel offices. The traditional energy companies were legally obliged to separate their value chain in electricity production, transmission, distribution and sales as well as to ensure other suppliers with access to their networks (EU Directive 2003/54/EC). This directive led to the establishment of electrici-

ty grid companies that, while legally separated, are largely still owned by the traditional energy companies. This action is called “unbundling”. More recent discussions at the European Commission have gone one step further by demanding the ownership unbundling of the electricity grid companies. Another alternative would be the establishment of an independent system operator of the grids, potentially on a European level, whose role would be the operation of the network without owning them.

The national implementation of the European Directives is diverse (NeuRegG in Germany; BETTA in United Kingdom; Loi n°2005-781 in France). While the United Kingdom started opening up its market in the early 1990s, developments in other European countries have been far more recent. After a successful liberalisation of the telecommunications sector that brought about new providers, low prices and improved standards of service, expectations in the electricity sector are characterised with the same demands. This places a high level of public and regulatory pressure on the electricity sector.

## New Challenges for Electricity Grid Companies

Formerly network operators were a division within a traditional electricity company, thereby being responsible for providing optimal network infrastructures for the transportation of electricity from power plant to end-user. Electricity was generated at the owner's site. As a result of market liberalisation, the transportation of electricity is more complex and unpredictable nowadays. Numerous suppliers offer electricity to a geographically widespread customer basis. Furthermore, an increase in transportation due to decentralised electricity generation and wind energy is anticipated. The grids must be in a position of adequately responding to this increase as well as to the general renewal. Consequently, this means higher investments for new traces as well as interconnection capacity between European countries, without jeopardising security of supply.

## Regulation from a Company's Perspective

Research on regulation and its design is a key subject of science (Baumol et al., 1998; Brunekreeft, 2003; Coen and Heritier, 2002; Knieps and Brunekreeft, 2000) and its applications. More especially, it concerns incentive-based regulation (Littlechild, 1993; Kutschke et al., 2004) supposed to urge companies to undertake improvements to their efficiency in order to provide high quality at lower costs to the end user.

From a company's perspective, regulation poses a challenge to investment, image and risk management. As a result, companies are creating new divisions for the purposes of managing regulatory issues at an operative and strategic level – the so-called regulatory management. Operative regulatory management is executed by electricity grid companies due to short response times and high demands. These are, for example, short-term obligations to publish or to document and report to the regulator. Strategic requirements for regulatory management that can be deduced from the group center strategy are often effected by the integrated energy company. Examples of these are the concerted exercise of influence on the regulatory framework by lobbying or, in some cases, by taking legal action. Within the scope of the research project "Societal Implications of Electrical Power Grids" carried out by the Europäische Akademie and a survey of the IMD International (International Institute for Management Development, Lausanne), electricity grid operators as well as telecommunication companies will be examined regarding their realisation by a regulatory management.

The quantitative research will analyse how companies implement their regulatory management against the background of former, traditional public companies as well as the

regulatory regime. The regulatory framework of the industries will therefore be examined. Since market structure and national implementation differ in European countries, a comparative study of the situation in Germany, France and the United Kingdom is projected. With the EDF SA (électricité de France), France has one big electricity company that dominates the market. The electricity grid operator has been hived off, although there are very close relations between EDF SA, Electricity Grid Operator and the government; there is no incentive regulation.

In the United Kingdom, the National Grid Company plc operates the whole grid independently of the owners of assets. The liberalisation of the market as well as the implementation of an incentive regulation was initiated earlier than in other European countries. The German market is dominated by four energy companies that all hived off their electricity grid operator: E.ON AG, RWE AG, Vattenfall AG and the EnBW AG. The design of the regulatory framework is still in progress.

Due to advanced regulation and longer experience with the regulatory regime, the telecommunications sector will be examined as a comparison. Despite the similar attributes due to the network structure of the sector, a comparative analysis must be carefully executed. This is because, in some respects, the telecommunications sector differs from the electricity sector. It includes product quality, non-existing production, easy connection between other networks, no unbundling, a high demand for telecommunication services as well as improved technology and numerous parallel innovations. The most important aspect of difference from the electricity sector, however, is the competition within the network division as a result of alternative transmission through mobile networks and the internet.

At the moment, a quantitative survey is being conducted which has been distributed to the regulatory management in electricity and telecommunication companies.

## Maturity Model of the Regulatory Management

For a comparative analysis of the implementation of regulatory management, a maturity model will be developed that describes individual realisation on a company level. This maturity model will presumably comprise five stages ranging from a reactive operational to a strategic proactive level. The degree of maturity will provide information on the capability of the organisation as to how to realise regulatory issues and even how to design the regulatory regime. These are, for example, the constant number of employees over time, documented processes, specified communication channels, integration of regulatory management in strategic decision making processes, reactive versus proactive behaviour and the relationship between regulator and company. The similarities and differences

of the business model will be examined as well as the organisation of the regulatory management. Especially the implementation against the background of traditional, integrated energy companies will be analysed and described explicitly.

Company expenses for regulatory management, the type of network industry, country-specific cultural differences, the realisation of the EU-directives and the ownership structure are also subjects of the scope of the study.

The research expects to identify similarities between countries as well as between sectors which originate in cultural and regulatory conditions. In the telecommunications sector a higher level of maturity is expected because, in all three countries under examination, liberalisation and regulation began earlier than it did in the electricity sector.

On the basis of the first interviews it may be assumed that the operative regulatory management is effected by the electricity grid operators, whereas the strategic level has an overlapping function within the integrated energy company.

In spite of the still existing high level integration within the energy companies, a "mental" unbundling can be observed owing to the fact that the management of electricity grid companies is an autonomous body in the public arena and, no less importantly, are not forced by regulation to treat every market participant equally.

## Outlook

Subjecting a company to regulation should not be understood solely as a state-controlled restriction. Nevertheless, the regulation of the energy and telecommunications sector is an excellent platform for politicians to distinguish themselves in public on a European or national level. Public expectations are high and the image of energy and telecommunications companies is low. Electricity prices do not only depend on network regulation, they are rather influenced by primary energy prices. But regulation of the networks still is the basis for a fair competitive electricity market that allows the customer to choose an alternative supplier. For companies throughout the network industries, regulation is a considerably high risk. However, a company's cooperative approach to regulation also signifies a chance for the company to advance, to open new market opportunities and to actively participate in the creation of a reasonable regulation.

*Dipl.-Kfm. Christoph Adamczyk studied Business and Management at the Eberhard-Karls-Universität Tübingen, the IECS Strasbourg, France, and the CSULB Long Beach, USA. He is doctoral student of Professor Dr. rer. pol. Ulrich Steger, IMD International. Adamczyk contributes to the academy's project group "Societal Implications of Electrical Power Grids". A literature list can be requested from the author: christoph.adamczyk@imd.ch*

## WORKING GROUPS

■ Project Group **“Pharming. Genetically Modified Plants and Animals as Future Production Site of Pharmaceuticals?”**: 8./9.3. in Bad Neuenahr-Ahrweiler

■ Project Group **“Responsibility for Future Generations. Implementation of Sustainability in Schooling”**: 16.4. in Bad Neuenahr-Ahrweiler

■ Project Group **“Fuel Cells and Virtual Power Plants as Elements for a Sustainable Development Innovation Barriers and Implementation Strategies”**: 2.3. and 3.5. in Bad Neuenahr-Ahrweiler

■ Project Group **“Societal Implications of Electrical Power Grids”**: 4.5. in Düsseldorf

**Project Group “Fuel Cells”**

■ The fourth and fifth project meeting of the project group “Fuel Cells and Virtual Power Plants as Elements for a Sustainable Development. Innovation Barriers and Implementation Strategies” took place on 2<sup>nd</sup> March and 3<sup>rd</sup> May in Bad Neuenahr-Ahrweiler. Further inputs in the areas of technical aspects, technology comparison with respect to sustainability, innovation determinants and market imperfections and legal aspects as well as innovation barriers and strategies were discussed. Furthermore, results from interviews with representatives of production and sale companies in the area of fuel cell facilities were presented.

**Book Presentation “Intervening in the Brain”**

■ On May 2<sup>nd</sup> the newly published book “Intervening in the Brain. Changing Psyche and Society” was presented to the public in the Berlin-Brandenburgische Akademie der Wissenschaften. The study is the result of the academy’s interdisciplinary project “Intervening in the Psyche. Novel Possibilities as Social Challenges”. The project group consisted of experts from the medical, philosophical and legal field. They worked together for two-and-a-half years on a wide range of questions associated with new methods of acting directly on the brain. The study offers extensive state-of-the-art accounts of interventions by means of psychopharmaceutical drugs, neurotransplantation, central neural prostheses, and electrical stimulation techniques. They are complemented by an in-depth philosophical analysis of the problems of personal identity and a comprehensive discussion of legal and ethical questions related to the usage of brain interventions for purposes of neuroenhancement. The authors give recommendations addressing clinical practitioners and

researchers as well as politicians, legislators, philosophers and lawyers. After presenting the main results of their study the authors led a fruitful discussion with journalists, scientists and politicians.

*Publication:*

R. Merkel, G. Boer, J. Fegert, T. Galert, D. Hartmann, B. Nuttin, S. Rosabl: *Intervening in the Brain. Changing Psyche and Society*. Springer-Verlag, Berlin 2007, 3-540-46476-X (Series: *Ethics of Science and Technology Assessment*, Vol. 29)

## NEWS

**Spring Conference “Digital Publishing and the Humanities”**

■ Which opportunities and risks are the humanities facing due to the growing availability of digitalised texts? In March the Europäische Akademie had invited to Bad Neuenahr-Ahrweiler to its spring conference “Digitales Publizieren in den Geisteswissenschaften” (Digital Publishing and the Humanities) to discuss this question. The participants focused the changing conditions for communication and publication among scholars on the one hand side and the opportunities of access to their objects on the other. Meanwhile new ways of communication, newsgroups, discussion platforms and new publishing methods have been established; electronic journals are replacing traditional print versions, and texts disposable via the Internet might be a useful alternative to expensive journals and books. Due to digitalisation and the provision of new options, e.g. full text search or indexing, especially for the hermeneutic disciplines there are new possibilities to analyse and interpret texts, pictures and sounds.

Professor Dr. Stephan Füssel (Institut für Buchwissenschaft und Gutenberg chair, Johannes-Gutenberg-Universität Mainz) spoke on advantages of the convergence of media and electronic paper; Professor Dr. Gudrun Gersmann (Historisches Seminar, Universität zu Köln) regretted the slow acceptance and lower-ranking of electronic publishing; Professor Dr. Wilhelm Ott (Eberhard-Karls-Universität Tübingen) presented useful tools and products for analysing digitalised texts; Dr. Norbert Lossau (Niedersächsische Staats- und Universitätsbibliothek, Georg-August-Universität Göttingen) explained ways how the university libraries can support and assist the current process of digitalisation; Professor Dr. Wulf-D. von Lucius (publisher, Lucius&Lucius) referred to the publishers’ role and possible higher costs of a digitalisation, e.g. due to demands of quality assurance; Dr. Stefan Gradmann (Regionales Rechenzentrum, Universität Hamburg) and Professor Dr. Jan C. Meister (Department of Language, Literature and Media I,

Universität Hamburg) both introduced intelligent software systems which can give added value to digitalised texts and, finally, Dr. Günter Mey and Dr. Katja Mruck (both Center für Digitale Systeme (CeDiS), Freie Universität Berlin) presented “qualitative research.net”, a peer-reviewed multilingual online journal for qualitative research, based on openaccess and thus articles available for free. The papers of the conference are planned to be published in a printed version in the academy’s journal “Poiesis&Praxis” and will also be available online.

Further information: [www.ea-au.de](http://www.ea-au.de)

**Physician Assisted Suicide**

■ On 19<sup>th</sup> and 20<sup>th</sup> April the Europäische Akademie GmbH, the FernUniversität Hagen and the Ruhr-Universität Bochum organised an expert meeting in Bad Neuenahr-Ahrweiler, focusing on the topic of physician assisted suicide. The meeting was opened with a talk by Priv.-Doz. Dr. jur. Michael Anderheiden (Universität Heidelberg) who aimed at defending the controversial thesis that an adequate development of palliative care minimises wishes of physician assisted suicide. In her presentation Dr. jur. Susanne Beck (LSE, London) discussed the topic of advance directives – amongst other things the directive’s coverage and form, and its adequate interpretation. She argued that legal regulation usually improves legal certainty so that advance directives can be seen as useful tool for protecting the patient’s will. Professor Dr. med. Norbert Paul (Universität Mainz) problematised in his talk the relation between the patient’s autonomy and assisted suicide. In the final lecture Professor Dr. jur. Werner Heun (Universität Göttingen) presented the existing regulation and jurisdiction on physician assisted suicide in the USA: though attempts have been made in several states and on the federal level, Oregon is up to date the only state where physician assisted suicide has been legalised under strict conditions.

**Research Report 2005/2006**

■ The Europäische Akademie has now published its current volume of the Research Report covering the research period from 2005 to 2006. In the period of report the Europäische Akademie has realised five projects which were presented in Berlin, Brussels and Bad Neuenahr-Ahrweiler. Furthermore, the academy started six new projects. The scientific work was rendered accessible by the yearly conferences, book presentations and different lectures and activities.

The report can be downloaded from the homepage [www.ea-au.de](http://www.ea-au.de) or can be ordered at:  
Europäische Akademie GmbH, Wilhelmstr. 56,  
53474 Bad Neuenahr-Ahrweiler, Germany

## Visit

■ In March Dr.-Ing. Bert Droste-Franke and Dr. rer. nat. Stephan Lingner (Europäische Akademie) and Dr.-Ing. Stephan Schmid, head of the research area "Vehicle Systems and Technology Analysis" at the Institute of Vehicle Concepts of the German Aerospace Center (DLR), Stuttgart, came together in Bad Neuenahr-Ahrweiler in order to inform each other about their work and to discuss possibilities for future cooperations.

## Autumn Conference

■ From 21<sup>nd</sup> to 22<sup>nd</sup> September 2007 the Europäische Akademie will jointly cooperate with the Berlin-Brandenburgische Akademie der Wissenschaften (BBAW) for a symposium on "New applications of livestock genetic engineering". It will take place at the BBAW, Berlin. Coordinators are Dr. phil. Margret Engelhard (Europäische Akademie GmbH) and Dr. rer. pol. Mathias Boysen (Berlin-Brandenburgische Akademie der Wissenschaften).

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Please find further information soon at [www.ea-aw.de](http://www.ea-aw.de)

## PUBLICATIONS

### Carl Friedrich Gethmann

*Vom Bewusstsein zum Handeln. Das phänomenologische Projekt und die Wende zur Sprache*, Fink, 2007

(Editor) Together with N. Rohner and K.-U. Schrogl, *Die Zukunft der Raumfahrt. Ihr Nutzen und ihr Wert*, published by the Europäische Akademie, 2007 (Graue Reihe No 40)

(Editor) „Expertengespräch Gesundheitsstandards. Kriterien für die Abgrenzung zwischen Grund- und Zusatzversorgung“, in: Berlin-Brandenburgische Akademie der Wissenschaften (ed.), *Berichte und Abhandlungen*, Bd 10, 2006, 327–394

„Bemannte Raumfahrt als Kulturaufgabe“, in C. F. Gethmann, N. Rohner, K.-U. Schrogl (eds.), *Die Zukunft der Raumfahrt. Ihr Nutzen und Wert*, 2007, 7–22 (Graue Reihe No 40)

„Die Krise des Wissenschaftsethos“, in: *BioSpektrum*, 13 (2007) 96–97

Greeting on the occasion of the granting of an honorary doctor degree to Professor Dr. Marek Siemek, in: W. Hogrebe (ed.), Marek J. Siemek, *Jenseits der Zwänge. Schillers Suche nach dem schönen Spielraum der Freiheit*, 2007, 11–15

### Stephan Lingner/Katharina Mader/ Friederike Wütscher

„10 Jahre Europäische Akademie“, in: *Technikfolgenabschätzung. Theorie und Praxis*, 16(1) (2007) 64–67

## LECTURES

### Thorsten Galert

#### 3.5.07

„Neuroenhancement and Personal Identity“ 8<sup>th</sup> Meeting of the „Nachwuchsgruppe Philosophie des Geistes“, 2.–4.5.2007 Villa Giersch, Frankfurt/Main

### Carl Friedrich Gethmann

#### 27.2.07

„Kann Politik vernünftig sein?“ Lecture on the occasion of the granting of an honorary doctor degree to the former chancellor Helmut Schmidt at the Faculty of Social Sciences and Philosophy, Philipps-Universität Marburg

#### 27.4.07

„Was definiert Europa?“ XXXVI. Congresso Nazionale della Società Filosofica Italiana, Verona

## PERSONALITIES



DIETRICH KETTLER, Professor Dr. med. Dr. h.c. FRCA, was born in 1936 in Waren, Germany. He studied medicine at the Humboldt-Universität zu Berlin, where he graduated in 1960. After his medical internship he specialised in anaesthesiology, emergency and intensive care medicine and in addition in palliative care medicine in later years. In 1962 he obtained a doctoral degree in medicine of the Universität Tübingen and in 1996 he received an honorary doctor degree of the Medical University of Szczecin, Poland. After medical specialisation in anaesthesiology he joined the Department of Physiology at the Universität Göttingen and took part in various studies on cardiovascular physiology with special reference to the impact of anaesthetics on the coronary circulation (subject for his habilitation in 1971). In 1973 he became professor of anaesthesiology and in 1975 full professor and chairman of the Institute of Clinical Anaesthesiology at the Universität Göttingen. He kept this position until his retirement in 2004. His main scientific work dealt with topics from cardiovascular anaesthesia, emergency medicine, palliative care, medical ethics and economics. Kettler was dean of the medical faculty from 1977 to 1979 and medical director of the University Hospital for four years. In 1993 he became Fellow of the Royal College of Anaesthetists (FRCA) by election. He served as president of the Deutsche Gesellschaft für Anästhesiologie und Intensivmedizin (DGAI), the Confederation of European Societies of Anaesthesiology (CENSA) and the boards of the German and the European Resuscitation Councils. He was long-term senator of the European Academy of Anaesthesiology. From 2002 to 2006 he was vice-president of the Deutsche Gesellschaft für Palliativmedizin and is still an active member of the German Akademie für Ethik in der Medizin (Göttingen).

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*Professor Dr. med. Dr. h.c. Dietrich Kettler, FRCA, Professor emeritus of Anaesthesiology, Emergency, Intensive Care and Palliative Care Medicine at the Georg-August-Universität Göttingen, Germany, is member of the Scientific Advisory Board of the Europäische Akademie GmbH.*  
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