

ECONOMIC COMMUNITY OF
WEST AFRICAN STATES



COMMUNAUTE ECONOMIQUE
DES ETATS DE L'AFRIQUE
DE L'OUEST

West African Power Sector Regional Regulation Project

POWER SECTOR REGIONAL REGULATION MECHANISMS

OCTOBER 2006



CABINET
**SERRES &
ASSOCIATES**

LIST OF ABBREVIATIONS

AFUR	African Forum for Utility Regulators
BPC	Botswana Power Corporation
CAE	Communauté de l'Afrique de l'Est
CEER	Council of European Energy Regulators
CRIE	Regional Electric Interconnection Commission
DOE	Department of Energy Organization
ECB	Electricity Control Board of Namibia
EDM	Electricity of Mozambique
EOR	Spanish acronym of the Regional Operating Agency
ERB	Energy Regulation Board of Zambia
ERGEG	European Regulators Group for Electricity and Gas
ERRA	Energy Regulators Regional Association
ESKOM	Electricity Supply Commission of South Africa
EWURA	Energy and Water Utilities Regulatory Authority of Tanzania
FERC	Federal Energy Regulation Commission
FPA	Federal Power Act
FPC	Federal Power Commission
IRSE	Institute for Power Regulation in Angola
KPC	Kenya Power Company
LEA	Lesotho Electricity Authority of Lesotho;
NARUC	National Association of Regulatory Utility Commissioners
NECO	National Electricity Council of Malawi
NERSA	National Electricity Regulator of South Africa
NORAD/NVE:	Norwegian Agency for Development Cooperation/Norwegian Water Resources and Energy Directorate

NRC	Nuclear Regulatory Commission of USA
PJM	Pennsylvania New Jersey Maryland
PURPA	Public Utility Regulatory Policy Act
RERA	Regional Electricity Regulators Association of Southern Africa
SADC	Southern African Development Community
SAPP	South Africa Power Pool
SIEPAC	Spanish Acronym of Electricity Interconnection System for the Central American Countries
SINELAC	International Company of Energy of the Great Lakes Countries
STEM	Short Term Energy Market
TANESCO	Tanzania Electric Supply Company, Ltd
UEB	Uganda Electricity Board
USAID	United States Agency for International Development
ZESA	Zimbabwe Electricity Supply Authority
ZERA	Zimbabwe Electricity Regulatory Authority

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I Introduction

Within the framework of establishing a regional electricity market within the ECOWAS region, various electricity companies united to create the West African Power Pool (WAPP). In order to promote cross-border power exchanges between Member States and particularly to ensure harmonization of practices within the regional market, the principle of creating a Power Sector Regional Regulatory Body (RRB) was adopted. Its creation could not be done without evaluating existing models of regional regulation in the energy sector in general and the power sector in particular.

Indeed, two types of organizations emerge from the examination of regional regulation practices throughout the world: bodies instituted at the governmental or intergovernmental levels which have real authority in the regulated areas (in terms of decision making, monitoring and control) and the bodies coming from agreements of association between national regulators which, generally, have only a consultative power.

The establishment of a regulatory body on a regional scale requires the analysis of the institutional structure of the concerned region in order to determine the interactions of the various stakeholders and their impact on the operation of the power sector. This requires an examination of the context and environment of each regulation model, to highlight the missions and powers assigned to the regulator while analyzing, if necessary, the relationship with not only the national regulators, but also the other regional institutions whose activities have implications on cross-border power exchanges. The analysis will enable the identification of models which would be used as samples for the elaboration of rules for the creation and operation of the Regional Regulatory Body in the ECOWAS power sector.

Despite the fact that ECOWAS opted for the creation of an inter-state body, the analysis will focus on the two types of regional mechanisms existing throughout the world (regional/ federal body or associations of regulators).

II Governmental or inter-state regional regulation authority

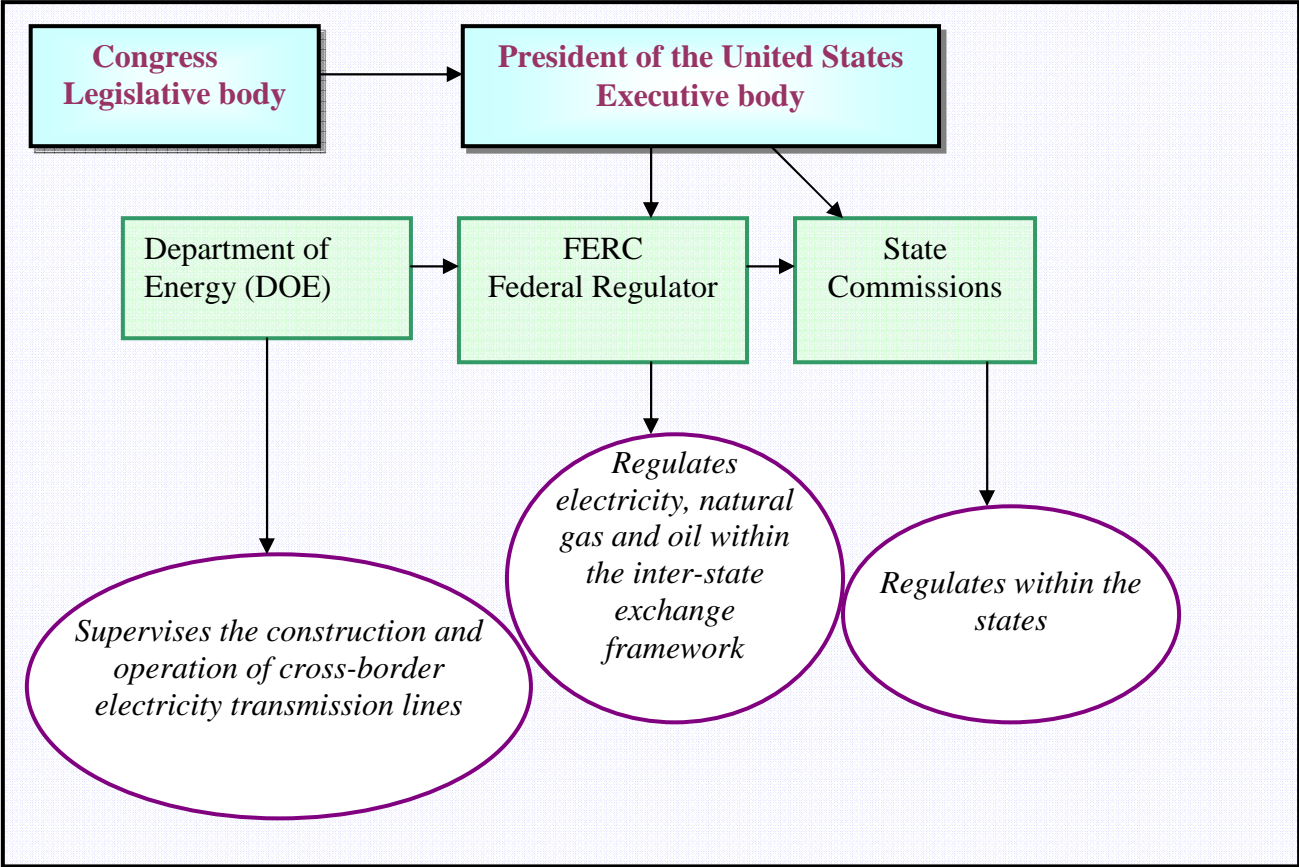
II.1 The Federal Energy Regulation Commission (FERC)

II.1.1 The organic institutional framework of the American power sector

The institutional framework of the power sector in the United States of America is distinguished by interactions between the President of the United States who is the executive body, the Congress which ensures legislative power, the Department of Energy (DOE), the Energy Secretariat which intervenes in the authorization of construction and exploitation at the borders of the United States, the Federal Energy Regulatory Commission (FERC) which ensures regulation of the power, natural gas and oil sectors, and States Commissions (regulators of the federate States) which are particularly associated with the geographical distribution of exchanges.

The President of the United States, in agreement with Congress, nominates the members of FERC and its president. While the Department of Energy is solely in charge of the construction of cross-border electricity transmission lines and exportation, the Energy Secretariat is responsible for authorization of construction, operation, maintenance or connection of electricity transmission lines to the borders of the United States.

Figure 1 : Organic Institutional diagram of the power sector in the United States



II.2 Context and environment of the Regulation Model

The American power system is parcelled out insofar as the Federal State has only a limited capacity in this field. The degree of opening up to competition in the power sector varies greatly depending on the States. Those with the highest prices were the first to initiate a reform movement, often in an impulsive manner and without always establishing the most adequate instruments.

The principal characteristics of the American system are market fragmentation and regulation on two levels:

- Market fragmentation: there are approximately 3500 companies of unequal sizes operating the market of which some are vertically integrated (Generation-Transmission-Distribution). This fragmentation is the result of a legislation which aimed at avoiding a strong concentration in the industry. Public Utilities Holding Company Act- PUHC- of 1935 which limits the constitution on dominant position, the Public Utilities Regulation Policy Act- PURPA- of 1978 which commences the first stage of deregulation at the federal level by the development of independent power generation, Energy Policy Act- EPA- of 1992 which gives a legal statute with free network access for wholesale.
- Regulation on two levels: at the States level (through the Public Utilities Commissions) and at the Federal level (through FERC). At the level of each State, the Public Utilities Commissions (PUCs) are the main organizations which regulate retail sale and have inter alia the prerogatives of fixing tariffs for electricity sold to final consumers. At the federal level, the Federal Energy Regulatory Commission (FERC) has all prerogatives for the inter-state network (whole sale market and electricity transmission between States). The law explicitly prohibits FERC to impose transmission destined to a final consumer (retail wheeling)

However the situation evolved very quickly and the States, as is the case with California for example, did not hesitate to draw valuable lessons from the crisis they had to face and implement necessary corrections.

Globally, several problems exist in the American market: multiplicity of applicable rules according to the legislation adopted by each State, limited powers of the American federal regulator, FERC, which moreover, does not have authority on all the federated States [opening up of the market to competition was too fast by certain States, without considering the electric transmission system, and in the case of California, the market power of the largest producers], insufficiently integrated network due to poor co-operation between States, but also to the size of the country. On the other hand natural gas, electricity, by its nature, is not a product which is easily and economically transported over long distances and to the great diversity of consumption density in certain regions (organizations around the three regional poles are not connected to each other: East, West and Texas), lack of independence of electricity transmission system operators, low investments in the transmission network infrastructures due to low tariffs, etc.

Only Texas and PJM¹ Interconnection (the most important regional electricity transmission operator in the United States) are the exception to the lack of independence and insufficient integration: Texas, because the Texan system functions in autarky and is almost not connected to the other States, and PJM which is the biggest electricity network connected to North-Eastern American links 7 states as well as interconnection with Canada ensuring to facilitate the importation of significant quantities of electricity from hydroelectric sources in Quebec and gathering all the market operators.

It is in this context that a federal regulatory authority was created to ensure the opening up of the electricity exchange market to competition and market equilibrium.

Its creation was ordered by the need on the one hand to reform the institutions which participate in the correct operation of the energy sector and on the other hand to supervise proper regulation of the sector, in a Federal State composed of 50 federated States, the majority of which have a regulatory authority in the energy sector (States Commissions).

II.3 Legal creation instrument

The United States of America is a Federal State composed of federated States, which explains FERC's creation by a law, rather than by a treaty or agreement between States.

According to the American Constitution, only Congress has the power to legislate on trade between the various States comprising the Federal State ("Trade Clause").

To this effect, the institution of a regulatory authority at the federal level, on exchanges between federated States must be adopted by Congress in the form of a federal law. This is the reason the Federal Energy Regulation Commission (FERC), the federal energy regulatory authority in the United States, was created by law on the 1st of October 1977, the « Department of Energy Organization Act » (DOE Act), and its missions were extended by the « Energy Policy Act » of 2005.

II.4 Analysis of relations between FERC and other institutions

Firstly, it is important to note that it is the President of the United States who appoints the President of FERC which maintains relations with Congress to whom it submits its annual report. FERC can also propose a text or a law on the sectors it regulates to Congress.

On the operational level, FERC has interactions with DOE and the States Commissions.

¹ Pennsylvania, New Jersey, Maryland.

1) Department of Energy (DOE)

Within United States Government, the Department of Energy (DOE) supervises the construction of cross-border electricity transmission lines and electricity exportation. The Federal Government does not regulate electricity importation. According to decree 10485, modified by decree 12038, the presidential license of DOE is necessary to construct, operate, maintain and connect a transmission line at the United States' borders. In decree 10485 and 1953, this authority was delegated to the president of the Federal Power Commission, and was subsequently delegated to the Secretary of Energy by decree 12038 in 1978.

The Federal Power Commission had been instituted in 1920 by the American Congress to coordinate hydroelectric projects which were under the control of the American Federal Government. But lack of its own staff (it did not have a budget or its own staff and borrowed staff from other departments) and conflict of authority between the Commission and other Federal Government institutions led Congress, in 1928, to vote a budget and allow the recruitment of its own staff.

In 1935 (Federal Power Act) and 1938 (Natural Gas Act), Congress entrusted the power to regulate the sale and transmission of electricity and natural gas to the Commission.

In 1954, jurisprudence recognized its capacity to intervene in litigations arising between operators on electric equipments interconnected between the Federated States.

But the energy crisis, the long wait for application of natural gas exploitation license and the embargo in oil-producing countries in the 1970's necessitated the reorganization of the Federal Power Commission. Thus in 1977, during the adoption of the Department of Energy Act (DOE Act), Congress transformed FPC to FERC and increased its missions and powers.

2) States Commissions

- Tariffs: State Commissions fix electricity retail sale prices and transmission and distribution prices of public utilities in the States;
- Regulation of final electricity use as well as distribution and delivery (establishment/approval of rules governing the public utility, regulation of resellers and other intermediaries who sell electricity directly to final users.);
- Attribution of certificates and selection of transmission, distribution and generation development sites;
- Approval of expansion plans for the transmission network and layout of future transmission lines. FERC (Order 2000) stipulates that the Regional Transmission Organizations (RTO) will draw up transmission network expansion plans for each region under its responsibility. However, RTO whose expansion projects are approved must obtain the State commission certificate and (or) a site license in order to determine on which ground the transmission lines will pass.

There is an effective co-operation between FERC and States Commissions in particular within the framework of geographical distribution of exchanges, costs, practices, expenses, regulation of the sectors on the state level, etc. FERC supports them and they collaborate in researches, investigations and resolution of litigations when the litigation involves them in one way or another. It also receives observations, comments and recommendations by State regulators on a certain number of subjects on which it can be questioned upon.

FERC can be requested by the regulators of Federate States. It can in turn question States Commissions on tariff structures, costs and loads, practices and public utility payments of the Federate State concerned. It can question any State Commission in relation to a file or an affair. In return, it provides information and reports necessary for regulation of the sector in the federate State to State Commissions.

II.5 Status

According to § 7171 (a) of the DOE Act 1977, FERC is an independent governmental agency officially instituted as an organ of the Department of Energy. It supervises the regulation of cross-border exchanges between Federate States in the energy sector (especially electricity, natural gas and crude oil).

Regarding its composition, FERC is composed of 5 commissioners nominated by the President of the United States, based on proposal and agreement of the Senate (§ 7171 of the DOE Act 1977) for a mandate of 5 years which can not be revoked by the President except for reasons of incompetence, negligence or bad behavior. Their appointment carries a discretionary power and requires neither adherence to any provision nor geographical origin or specialization etc. In reality, the commissioners originate from different geographical regions. But it is surprising to note that with regard to fields of specialization, 3 of the 5 commissioners currently serving at FERC are lawyers.

To ensure their independence and prevent all undue influence or political pressure on the commissioners, the law expressly prohibits no more than 3 commissioners belonging to a political party.

The President of FERC is appointed by the President of the United States among nominated commissioners. At the end of their mandates, the commissioners continue to work as long as their successors are not appointed. The commissioner's office is incompatible with any other salaried or commercial obligation.

The mandate of the first commissioners expire one after the other with a year's interval in between and not simultaneously. In the case where a commissioner replaces another whose mandate has not expired, the new commissioner terminates the prior mandate.

Financing of FERC is met by annual contributions of companies in the regulated sectors.

FERC's decisions are directly executory. They are not controlled by the President of the United States or Congress, but can be subjected to appeal at the « US Court of Appeals ».

II.6 Missions and Powers

II.6.1 Missions

The missions of FERC have been expanded by the Energy Policy Act of 2005.

It has the mission of regulating and supervising the energy sector from an economic, environmental and safety point of view for the American public, to promote the development of robust energy infrastructures. It also promotes inter-connected exchanges between the various Federate States and regions of the United States. It is within this framework that FERC approves physical infrastructure construction projects, gas pipelines and oil pipelines, through its involvement in the electricity, oil and natural gas sectors.

It also ensures transparency of the sectors by controlling and approving the prices of cross-border exchanges (especially transmission prices).

It also oversees compliance to market rules by arbitrating litigations and sanctioning those who violate these rules, ensures the quality of service supplied to the public and supports any initiative related to its objectives.

II.6.2 The Powers

FERC is the regulatory body responsible for electricity wholesale and transmission between the States. It controls transmission which constitutes a natural monopoly and uses market forces to regulate activities which do not constitute a natural monopoly in themselves (for example generation and marketing). It also supervises the markets in order to locate abuses of power therein.

Finally, it is important to note that FERC has limited powers especially on certain Federated States which opened the sector to competition too quickly.

Although **electricity generation** segment of activities remains under the jurisdiction of each State, FERC possesses powers of investigation over the State Commissions and operators concerning maintenance or inefficiency of generation stations. It is empowered to conclude on the grant or refusal of exploitation authorizations if it is shown that this would influence the market negatively. But FERC does not have the right to decide on the physical location of stations, except those of hydroelectric projects.

Regarding the special field of **hydroelectric generation**, the United States started regulating hydroelectricity after Congress adopted the Federal Water Power Act in 1920. The laws which followed, such as FPA, PURPA, Electric Consumers Protection Act and the EP Act, entitle FERC to regulate non-federal hydroelectric projects which touch navigable waters, occupy federal lands, use water or hydroelectricity from a government dam or which affect inter-States trade interests. The Commission has the task to deliver preliminary licenses, projects licenses and license exemptions; to ensure safety of dams; to ensure project conformity; to check and evaluate allowances paid to upstream operators (headwater benefits) and to coordinate activities with other organizations.

For transmission and wholesale, FERC approves electricity wholesale and transmission prices for inter-State trade by producers, distributors and companies which exchange electricity and operate independent private sector networks. It draws its powers from the Federal Power Act (FPA), the Public Utilities Regulatory Policies Act (PURPA) and the Energy Policy Act of 1992 (EP Act).

Finally, the Commission examines tariffs fixed by federal electricity commercialization administrations, such as the Bonneville Power Administration, confers large scale producer status by virtue of the EP Act and delivers certificates to micro-production and cogeneration stations which fulfill certain conditions. Thus, these powers allow it to control tariffs charged by operators which supply it with all necessary documents for its comprehension of tariff rates.

It is evident that FERC's powers on regional exchanges are very wide and encompass the authorization, approval, control, power to ensure compliance with competition rules, powers of investigation and injunction, powers of sanction and resolution of litigations. It has also advisory capacities.

1) Power of authorisation

As stated previously, FERC is qualified to deliver operation authorizations or grant operation licenses.

FERC also received from the Federal Power Commission the transfer of powers regarding the grant, transfer, renewal of construction licenses and permits, fixing of electricity and natural gas transmission or purchase tariffs, regulation of mergers and acquisitions in the concerned sectors (powers equivalent to a competition regulatory authority) and only on regional exchanges.

FERC has the power to authorize any station or work on interconnections and construction of interconnected infrastructures.

Any operator which produces energy for sale or resale must request for a FERC authorization. If it estimates that this authorization might create disequilibrium in the sector, FERC can refuse its grant.

It also monitors adherence of projects to environmental requirements.

2) Approval and supervisory powers

It approves tariffs proposed by federal or regional operators by ensuring that they are fair and reasonable.

FERC has approval powers over the sale, location and provision of interconnection power stations, especially those with network congestion problems. It must approve these operations by taking general public interest into account.

FERC also intervenes on exchange contracts, particularly the terms and conditions on which these contracts must be signed. It must give a deadline to future co-contractors for their negotiations, in order to avoid that delays endanger the stations. If the Commission does not approve the contract terms or if the parties do not reach

an agreement, the Commission can prescribe the terms and conditions of the contract.

It supervises transportation of crude oil and natural gas through pipelines in the inter-State markets.

3) Powers of rules development and proposal of sector texts.

The law also accords FERC proposition powers. On one hand, it can propose laws reinforcing its powers to Congress. And on the other hand, it can prescribe rules and prepare reports on the concerned sectors.

4) Powers of ensuring compliance to competition rules

An important aspect of market surveillance is related to governance and cross interests of the power companies. Therefore the Commission supervises the issuance of certain portfolio securities and evidence of indebtedness, the assumption of responsibility for obligations and responsibilities and industrial mergers of enterprises. It supervises the award of administrative and directorship posts to senior executives in public utilities and other companies with which they have business connections.

The powers of FERC enable it to oversee and control compliance to market competition rules on which operators are obliged to supply it with all necessary documents for its comprehension of tariff rates.

5) Powers of investigation and injunction

At the request of an electricity company, a commercial electricity agency, an independent producer etc, FERC can enjoin an operator to explain itself regarding its physical generation stations either due to generation inefficiency or maintenance reasons.

In a more general manner, FERC also possesses investigatory powers. The powers mainly consists of the power to convene people, place them under oath, interview them and receive testimonies, carry out investigations on aspects relating to importation or exportation of electricity or natural gas between Federated States. It can also approach the Supreme Court concerning a request.

FERC can also be approached by regulators of Federated States. On its part it can interrogate State Commission on tariff structures, load costs, public utility practices and rules of the Federal State concerned. It can also interview any State Commission in relation to a file or an affair. In return it supplies the State Commissions with information and reports that may be required for regulation of the sector in the Federated State.

It can request the operator(s) to modify terms and contractual clauses or to end a certain behavior on the market. It can equally suspend or end any operation noticed by itself or a third party which is judged as illegal.

It also enjoys exceptional powers in the event of war. During a war in which the United States is committed, or in the event of an emergency or energy crisis, FERC

can impose generation, exchange or transmission of energy to serve public interest. On this assumption, FERC holds the widest powers. However, the operators concerned will be able to profit from fair payment of the price of their actions.

Lastly, it can divide the country into several zones or geographical sectors to facilitate the generation, transmission and distribution of electric power. On this point, it must inform official regulators who can give an opinion or make recommendations that it must take into consideration.

6) Consultative power

Regarding activities done as a consultative body, the Department of Energy and the State Commissions can solicit an opinion from FERC in case of difficulties or where violation of rules governing the energy sector is observed.

7) Powers of sanction and dispute resolution

FERC enjoys sanction powers which enables it to sanction operators who violate market rules through civil fines as well as other sanctions: electricity companies and other actors in the sector.

FERC intervenes in the dispute resolution which arises from energy exchanges between States. This mission takes the form of mediation, conciliation, facilitation, or arbitration. To conclude it, FERC sets up specialized services within itself on each one of these resolution methods and in control of administrative procedures. FERC has the power to interview any State Commission on an affair, if it judges it useful and necessary to collect information on it.

It is approached when one of the regional energy market rules is violated by one of the sector operators. Thus it examines the case and carries out hearings if necessary. It also collaborates with the parties in order to reach a private arrangement of the conflict, either through mediation, conciliation or arbitration.

II.7 Support to national regulation

Under terms a and b of §824 of the Federal Power Act, there exists an effective co-operation between FERC and state regulators (States Commissions) in particular within the framework of geographical exchanges zone distribution, costs, practices, expenses, regulation of the sectors at the state level, information exchange between FERC and these commissions, etc. It supports them and they collaborate on researches, investigations and dispute resolution when the litigation concerned involves them in one way or another. It receives observations, comments and recommendations from state regulators on a certain number of issues on which it can be questioned upon. FERC requires that a spirit of co-operation exists between them in order to achieve the stated missions as the objective is to arrive at solutions advantageous to all parties.

It can interrogate State Commissions on tariff structures, load charges, practices, and public utilities payments for the Federated State concerned. It can also interview any State Commission in relation to a file or an affair.

FERC has the obligation to supply State Commissions with information and report which may be necessary for the regulation of the sector in the Federated State.

II.8 Scope of regulation

FERC is a federal energy regulation authority. It participates in the electricity, natural gas and oil sectors. In the oil sector, it intervenes on interconnected exchanges via pipelines between the States, on the equitable access to the oil market and on fixing of oil tariffs. The choice to cover the whole energy sector is justified by the strong interdependence of the transformation process between the electricity and gas/oil sub-sectors.

II.9 Concrete actions realized

Since its creation, FERC has already implemented several actions in relation with its missions. Only some of its actions especially the most recent and recognized ones are mentioned below:

- On market structuring, in order to put an end to discriminatory practices, FERC adopted special exchange rules. By Order 888, FERC removed rules on transmission network access tariffs which favored members of certain similar power pools or organizations and created discrimination to the detriment of non-members. Similarly, it ordered that operators remove provisions which granted preferential treatments to co-contractors to the detriment of other network operators from their bilateral contracts. At the same time it allowed the companies affected by this procedure to recover their "failed costs".
- On open access to the information system, by Order 889, FERC ordered all public utility operators possessing, controlling or operating on interconnected power installations to create or contribute to the creation of an Open Access Information system (OASIS) in order to provide customers and potential customers of the transmission network with the same access to transmission information likely to enable them have access to nondiscriminatory transmission service.
- On transparent transmission network organization, the Commission adopted Order 2000 in which it encouraged the creation of independent regional transmission operators (RTO) in order to promote efficiency of the wholesale electricity market and ensure that electricity consumers pay the lowest tariff possible.
- On tariffs, FERC approved tariffs proposed by operators and contributed to the reorganization of electricity industry by approving mergers and acquisitions between sector operators.
- It also updated regional network access tariff and proposed a guide to tariff calculation.

- On principles, FERC announced certain principles related to sector operation, formulated models of standard organizational development, reinforced exchanges with other commissions such as the Nuclear Regulatory Commission and thus established an internal work group. The principal objective of this workgroup is to carry out studies on methods of improving the electric system (annual report 2004).

FERC enacted rules on energy transmission and organized several conferences and seminars. It provided information on more than 100 cases and applied recommendations that it made on power failures (example of the Californian black out of 2001).

It established standard procedures on the interconnections of producers and proposed standard contracts between transmission companies and producers on the interconnected networks.

During 2004, FERC created and launched a guide on the methodology and vulnerability risk of coordination with other federal agencies such as the Nuclear Regulatory Commission. More than 191 companies and organizations have already applied this methodology guide.

In September 2004, it circulated a questionnaire to regional power sector stakeholders to know whether the new management principles of transmission companies had enabled better market control and promoted transparency.

FERC authorized the construction of several hydro-electric power stations. In 2004, it received 46 requests including 44 requests for grant of licenses.

- On investigations, according to its 2004 annual report addressed to Congress, FERC had to carry out investigations on illicit practices and behaviors between 4 operators on the Californian energy markets and condemned 3 of these operators to pay fines.
- On dispute resolution, FERC successfully intervened to ensure mediation and conciliation between the parties involved in litigations concerning the environment and gas pipelines construction, hydroelectric installations, electric certification process, electricity, gas and oil tariffs, and other contractual litigations.

It approved several decisions taken by its trial staff, some of which opposed companies such as Enron Power Marketing Incorporation, Valley Electric Association of Nevada, the City of Santa Clara, California and Metropolitan Water District of Southern California.

It also decided on a dispute between Snohomish Public Utility District of Everett and Enron that the first did not have to pay the latter which claimed it was entitled to an end of contract allowance.

FERC thus modified certain contract clauses between the two companies which excluded access rights of Snohomish to the regional network or obliged it to use Enron's infrastructures to access the network. FERC convicted Enron to pay several millions as a civil fine.

III Regional electricity interconnection commission (SIEPAC-Central America)

The purpose of the SIEPAC project (Sistema de Interconexión Eléctrica de los Países de América Central) is to set up a regional electricity market and a regional transmission network. It was the subject of a specific treaty between the 6 States concerned (Costa Rica, El Salvador, Honduras, Guatemala, Nicaragua and Panama). This treaty created two entities, one to handle the operation and management of exchanges (EOR) and the other to regulate these exchanges (CRIE).

III.1 Organic institutional framework of Central America

SIEPAC is the Spanish acronym for the Electricity Interconnection System of Central American Countries. Composed of 6 signatory countries, its objectives concentrate on the construction of an interconnection line.

Created by a treaty between the States which was signed in December 1996, ratified by national parliaments in 1998 and came into effect in 1999, SIEPAC aims to create a regional electricity market, oversee the promotion of a regional electricity exchange system, facilitate the construction of large power stations, make the region more attractive to private investors and promote quality of service at the best price.

It mainly aims at constructing a 230KV interconnection line from Guatemala to Panama which passes through all the 6 countries (Costa Rica, Panama, Nicaragua, Honduras, El Salvador, and Guatemala).

This treaty aimed at creating a regional electricity market based on the rules of objectivity, free competition, transparency and non discrimination.

A regional institutional framework in the power sector did not exist in Central America before the signing of the SIEPAC line treaty. Indeed, before this treaty, there was only a regional institution and no economic community between the SIEPAC treaty signatories States.

This treaty gives rise to the Regional Operating Agency and the Regional Electric Interconnection Commission.

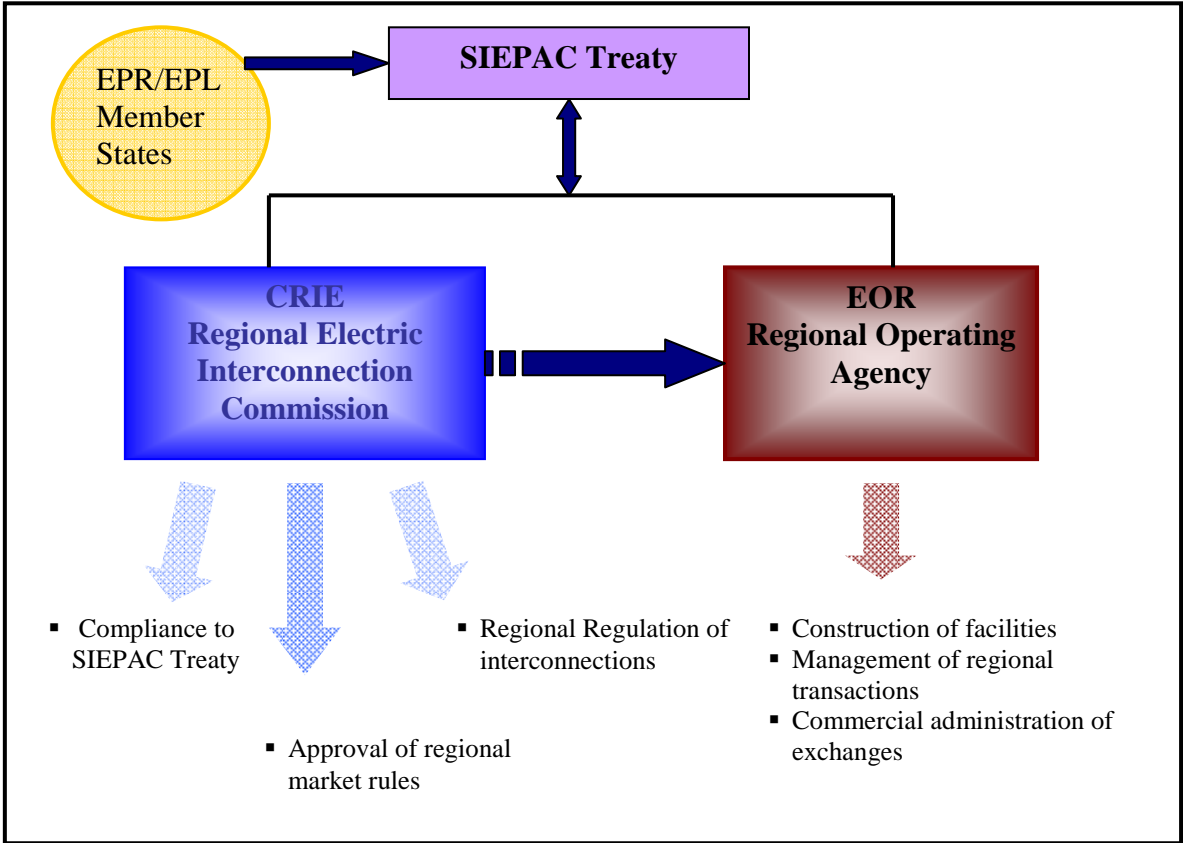
Responsible for the effective implementation of the regional electricity transmission system and the commercial administration of exchanges, the EOR is in charge of the construction of facilities and the management of regional electric power transactions.

CRIE is responsible for the implementation of the SIEPAC treaty and implementation of regional regulation. It also approves all regional market rules.

At least in the beginning, the entity owner of the SIEPAC line was a mixed consortium composed of entities from the public and private sectors including, electricity companies such as CEL of El Salvador, ENEE of Honduras, INDE of Guatemala, ETESA of Panama, Grupo ICE of Costa Rica and ENEL of Nicaragua. In more than these 6 operators, Spanish operator ENDESA provides capital on the SIEPAC line with a financing of 20% of the total investment amount (it is already

present in the region where it occupies 10% of the market shares of the electricity sector), the newly built sections or those to be built will be under the management and supervision of EOR.

Figure 2 : Institutional and regional organic diagram of the SIEPAC electric interconnection



CRIE : Comision Regional de Interconnexion Electrique ;

EOR : Ente Operador Regional

III.2 Context and environment of the regulation model

Interconnections in Central America commenced in 1976 when Honduras and Nicaragua were connected by a 230KV line. In 1982, the Costa Rica and Nicaragua interconnection followed, and similarly that of Costa Rica and Panama in 1986 and El Salvador and Guatemala. While being beneficial for these countries, these exchanges did not completely solve existing problems being experienced in the power sector, which justified the creation of the SIEPAC line whose objective was to develop power capacities of the Member States.

The construction of 1830km and a 230kv line between the South of Mexico City and Panama was also agreed upon.

The structure of the power industry in Central America reflects very thorough vertical and horizontal integration. Indeed, AES alone holds 50% of power generation in Panama and 80% of distribution in El Salvador, and plans to build a power generation station in Honduras, with a direct transmission line in El Salvador (vertical rehabilitation).

In Guatemala, Iberdrola controls 70% of distribution and initiated a construction project of a large power station.

Whereas some of the Central American countries completely privatized their power companies and separated generation segments from distribution segments, others like Honduras and Costa Rica still have vertically integrated companies. It is evident that total uniformity of power sector reforms does not exist in all the SIEPAC Treaty Member States.

Only operators authorized by the State or national regulators on respective national markets can operate on the regional market. It is the national operators already operating the public utility who are entitled to operate on the regional market.

By creating the power exchange system, the Treaty also created two bodies: one of which was the Regional Operating Agency (EOR); it comprises of two representatives from each country; it is in charge of the construction of facilities and ensures the management of regional power transactions; and the other is the Regional Electric Interconnection Commission (CRIE), made up of a representative of each country, it is the regional regulation body of inter-connection created by exchanges within the SIEPAC framework.

Thus, while EOR is the body responsible for the effective implementation of the regional power transmission system and the commercial administration of exchanges which will be effective in 2008, CRIE is responsible for the application of the treaty and the implementation of regional regulation.

III.3 Legal instrument creating CRIE

As mentioned previously, CRIE was created by a treaty signed in December 1996 between the SIEPAC Line Member States. In addition to CRIE, this SIEPAC treaty created the EOR.

It came into effect 3 years after its signing, and following its ratification by the 6 national parliaments.

It is important to recognize that the 6 SIEPAC Member States had not united into an economic community before the adoption of the treaty.

III.4 Analysis of relations between CRIE and EOR, owner of the SIEPAC line and national regulators

CRIE signed a mutual cooperation agreement with the entity owner of the SIEPAC line (EPR/EPL) in January 2001 and in 2005 with the EOR (the body in charge of operating the regional network). But it was not possible to access these agreements.

III.5 Status

CRIE is instituted in the form of an independent intergovernmental Commission. It is animated by commissioners nominated by each country and is derived from a regional project of which a part of the resources comes from public operators of the respective countries.

CRIE has its headquarters in Costa Rica. This headquarters was selected after a call for applications. It is made up of 6 commissioners including one per country, the President being appointed on a rotational basis. This formula is likely to restrict CRIE's independence insofar as not only the commissioners are designated by their respective governments, but especially, where they must account to and receive instructions from them. There is thus a risk that each commissioner defends his country's interest rather than adopt a regional approach for the benefit of SIEPAC.

Neither the duration of the commissioners' mandate nor possibilities of renewal have been specified anywhere.

CRIE's financing comes from the sector. Each MWh sold on the regional market generates a tax which makes it possible to cover regional regulation expenditures.

III.6 Missions and Powers

The missions of CRIE consist of developing regional market rules, modifying them when necessary, preventing abuses on this same regional market, and regulating litigations which arising from the exchanges.

Also included in its missions is the promotion of the abilities of SIEPAC members, monitoring and evaluation of the project.

Regarding its powers, CRIE oversees the existence of free competition in the power sector, establishment of common rules to facilitate transactions, facilitate energy transmission/wheeling through several countries, supervise regional market operations and facilitate their development, enable the private sector to compete with public companies in power generation and distribution, progressive creation of a regional power market and promote reciprocity between SIEPAC Member States on the power market.

CRIE must ensure that the SIEPAC line (or its owner - manager) is financially independent and that there are no subsidies between countries.

It determines the technical and commercial rules for transmission on the regional market.

It also has the power to modify the transitory rules existing between the time of signing the treaty SIEPAC and the effective installation of CRIE, as well as their application.

At the request of EOR, CRIE therefore prepares rules for the operation and maintenance of the regional transmission system. It also approves and applies all the rules establishing the governing principles of the control system, spot market, bilateral contracts and rules governing the technical aspects.

CRIE equally approves rules establishing the basis and procedures for remuneration on the regional transmission network and the way in which they will be applied on the operators, the procedures of calculation of interconnection expenses and system operations, including in cases where operators of the same country are concerned.

Besides, CREI has authority to fix, control and adjust generation output, demand and distribution of electricity each year.

CRIE has full legal capacity, it approves access to the regional network, approves market laws, tariffs, grant of licenses and authorizations and has a capacity of sanction.

CRIE also has the power made decisions, sanction, and can take legal actions in the form of protocols, payments or resolution.

CRIE oversees the compliance of SIEPAC treaty provisions and intervenes in the disputes resolutions which arise between States and operators as a result of interconnection exchanges.

It carries out researches, investigations, and hearings. It can also order audits on the inter-connected sector.

Its decisions are executory and opposable by all, and nothing made it possible to ascertain whether they can be appealed before a higher jurisdiction.

III.7 Support to national regulation

Co-operation and support of CRIE with national regulation authorities is not mentioned, even if there is a national component in the choice of generation and distribution operators.

Additionally, national institutions and regulators are proposed to benefit from trainings for better understanding of regional regulation issues.

III.8 Scope of regulation

CRIE intervenes only and exclusively on electric interconnections.

It is not empowered regarding gas exchanges probably due to the fact that Central America does not have natural gas supplies. It imports gas of Mexico, Colombia or Venezuela.

III.9 Concrete actions implemented

CRIE established itself in March 2000.

It signed a cooperation agreement with the SIEPAC line entity owner in 2001. In 2002, it set up a transitory rule. In 2003-2004, it approved operation and commercial rules and set up the information system. In 2005, it signed a cooperation agreement with EOR. Since the interconnection line will only be operational in 2008, CRIE'S actions remain limited to the development and approval of operation rules on the electricity regional market.

It is also important to note the very peculiar geographical nature of Central America: alignment in the country's longitude together forming a "rectangle" with large length and small width. The regional interconnection line is then aligned over the length of the rectangle and international flows are definitely easier to control than a system where the geography allows for a more diversified grid.

IV Regional regulation associations/forums

The strong interdependence between power systems and gradual market liberalization at the regional level disclosed the limits of national regulation bodies. Indeed, the latter are obliged to consider the regional dimension to correctly apprehend saving and technical operation in their national power system. Thus in the absence of a supranational body, the regulators placed the associative mechanisms enabling them to mainly share information and harmonize power market operation rules and their legal practices on the regional level.

There are several regulation models based on associative organizations of which none possesses decision-making powers.

The present study will be limited to the Council of European Energy Regulators of CEER and to the Regional Association of Electricity Regulators of Southern Africa (RERA) which have already carried out concrete actions.

IV.1 Council of European Energy Regulators (CEER) and the European Regulators Group for Electricity and Gas (ERGEG)

IV.1.1 The organic and institutional framework of the European power sector

The European institutional electricity structure is distinguished by the European Union Commission which is the body responsible for development and implementation of the energy policy in the European market, in collaboration with the European Parliament which represents European citizens and the European Council which brings together Heads of States or government of European Union Member States. Its role is to define common sector rules releasing directives and regulations and to ensuring their transposition and effective application in the various Member States.

But the Commission's powers are particularly limited to draft directives and regulations which cannot be adopted except where they receive majority support from the European Parliament and support of the Council of Energy Ministers.

The Commission proposes draft directives and regulations for adoption by the European Parliament which is the legislative body and is ensures their transposition and application in the Member States.

Regarding these institutional bodies, it is important to note the creation of forums or associations of electricity and gas regulators.

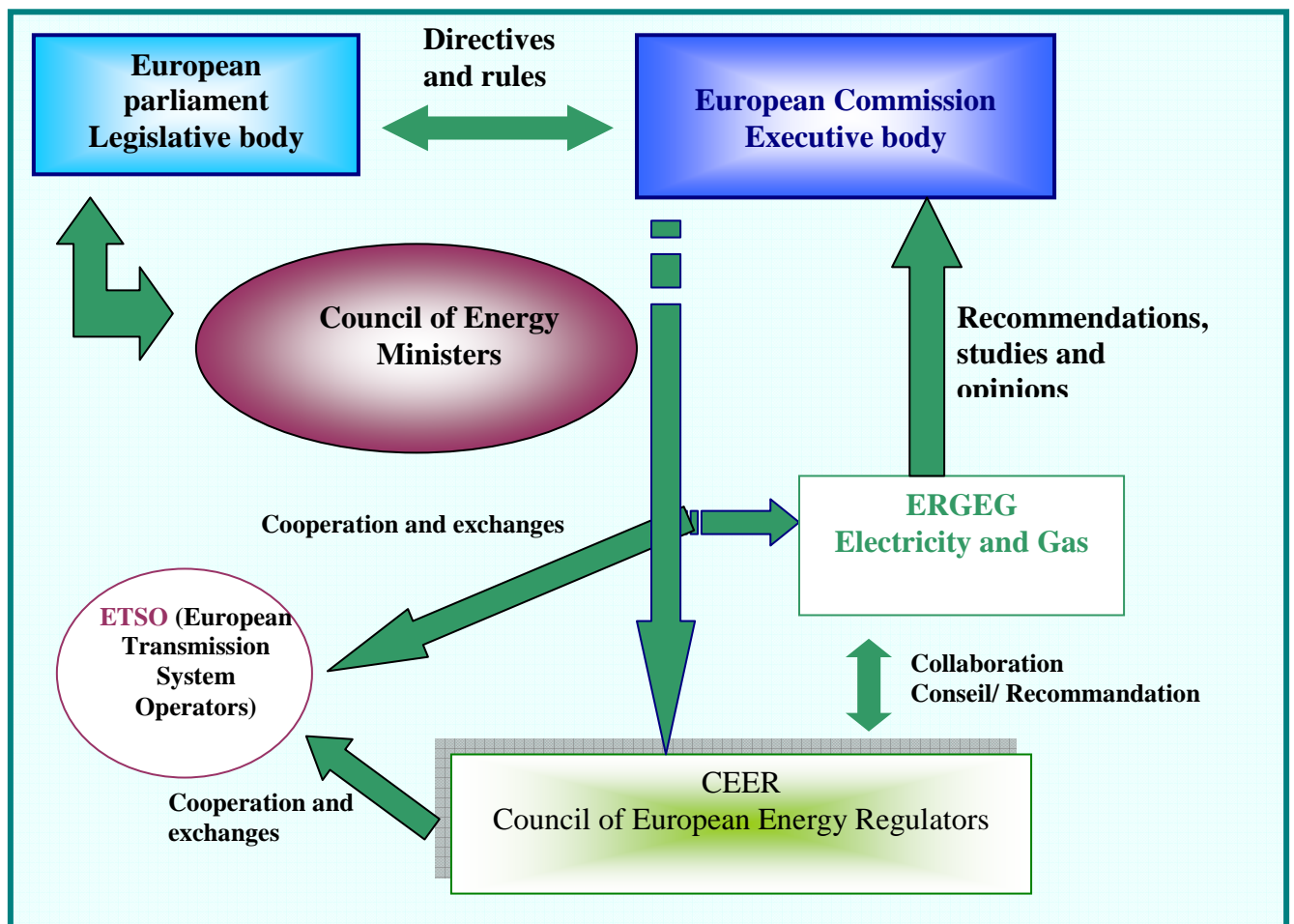
The Council of European Energy Regulators (CEER) was created on March 7, 2000, before Germany, the largest EU country established a federal regulator, following a spontaneous initiative by national European regulators.

Its creation was followed by that of the European Regulators Group of Electricity and Gas (EREG, after Germany decided to create a federal regulator) by a decision of the European Commission on November 11, 2003.

It is necessary to also recognize the existence of other associations of national regulators. These associations have a consultative and advisory capacity to the Commission and contribute to the development of the domestic electricity and gas market and promotion of European regulation of the electricity and gas sector.

Since 1999, along with these bodies also exist the European Transmission System Operators, (ETSO), whose objective is to harmonize regional transmission network access rules.

Figure 3 : Organic institutional diagram of the European electricity and gas sectors



IV.2 Context and environment of the regulation model

Interconnection of the European power sector emerges from a technical (in particular increased reliability) and economic need (size of manufacturing units, pooling of power reserves, and optimization in the use of generation resources especially hydro and nuclear). However, despite the narrowness of the links joining the various parts of each European adjustment zone, the structure of each one of its parties is marked with real disparities. Indeed, electricity in Europe is heterogeneous both legally and economically and also in terms of technological choices

On the level of generation, the technologies used vary from one country to another according to the availability of resources. Thus, in addition to hydroelectricity which depends on the geography, the unequal allocation of fossil fuel resources (especially gas or coal) also encouraged the countries to choose different strategies. The development of the nuclear network was also very heterogeneous. Certain countries such as France, decided to invest massively in this technology in order to ensure

their energy independence. At the opposite, certain Member States prohibited the use of this technology. This is the case in Austria (very rich in hydroelectric resources) which, since 1978, adopted a law by referendum which prohibits construction of power stations using nuclear fission on its territory. Following the emotion caused by the Chernobyl catastrophe, Italy has also decided to give up this technology, and Enel had to stop four power stations (1987). Germany adopted the same orientation with the participation of ecologists in power at the end of the Nineties, similarly Belgium, Spain and Sweden.

On transmission, the choices in the development of the transmission network were also varied. For example, while France endeavored to build its "most equitable" transmission system, Germany has transmission resources that are rather largely dimensioned.

The interconnections of European networks have nonetheless significantly developed since the Second World War. UCPTE (Union for the Coordination of Production and Transmission of Electricity), was created to coordinate this effort and particularly to define the technical rules necessary for adequate operation of an interconnected system in the dynamics of the Marshall plan in order to develop cross-border power exchanges. Initially comprising Belgium, France, Italy, Luxembourg, the Netherlands, Austria and Switzerland, the UCPTE extended to Spain, Portugal and Yugoslavia in 1987. It is associated with the CENTREL network which comprises of Poland, Czech Republic, Slovakia and Hungary. The UPTCE became UCTE (Union for the coordination of Transmission of Electricity) in 1999 with the vertical disintegration imposed by opening-up of the market to competition and the creation of autonomous transmission operators.

Other regional associations of transmission network operators were also formed in Europe. These include:

- NORDEL which covers the Scandinavian countries (Sweden, Denmark, Norway, Finland and Iceland);
- UKTSOA (United Kingdom TSO Association) which gathers operators of the United Kingdom's transmission network;
- ATSOI (Association of TSOs in Ireland) which gathers Ireland's transmission network operators.

On the European Commission's initiative, a new organization called European Transmission System Operators (ETSO) was created on July 1, 1999. It gathers, in addition to four above mentioned associations which link the members of the European Union, Norway - which belongs to the European economic space- and Switzerland. ETSO was specifically assigned the following tasks: the study and development of common principles for the harmonization and establishment of rules in order to improve operating of the networks and to ensure the safety of transmission system; facilitation of the European power market; search for solution to the scientific and legal questions with which its members are confronted.

In 1996, the first Community directives on energy marked the beginning of the European Commission's intervention in the energy field, which had been purely national during the 1990's.

While opening-up the sector to competition, the December 1, 1996 directive on electricity prescribed general rules on the organization of the sector, generation, operation of the distribution and transmission network systems, countable dissociation and transparency in accounting, organization of network access, etc.

However, it was unequally transposed in the Member States and was repealed by the one of 2003. The inclinations of the EU resulted in supplementing the managerial autonomy of public power companies, followed by their at least partial privatization. New European directives increasingly opening-up the European power and gas markets to competition were adopted in 2003 and consumers can choose their suppliers freely at community level by July 2007 at the latest.

To accelerate this liberalization, these directives establish qualitative measurements in order to ensure a total liberalization like legal separation (and not only accounting separation) of the sales network (separation of generation function from transmission so as to guarantee equitable access to all the actors), third party network access, specific sector regulation functions and reinforcement of public utility obligations thus cohabiting with an entirely free market.

Indeed, directives 2003/54/CE and 2003/55/CE of the European Parliament and Council of June 26, 2003, respectively relate to the common rules for power and gas markets, establish a new legal framework for domestic power and gas markets, as well as common rules on generation, transmission and distribution of power and gas, market access, applicable criteria and procedures with regard to bids and authorizations, as well as network operating.

Under the terms of these directives, Member States must indicate one or more qualified independent bodies charged to exert regulatory functions in the power and gas sectors, and charged to implement new framework rules once they have been passed into national legislation, particularly those relating to daily market control. They stipulate the objectives to be attained and recognize the various European regulation forums for want of a European regulation authority, which is an important role in the sectors with regards to the adoption of common approaches for cross-border transactions issues.

They propose that the creation of a truly domestic electricity market is stimulated by an intensification of electricity exchanges. Equitable rules which reflect costs are introduced to cross-border tariffs and available interconnection capacities are attributed to the transmission networks for purposes of cross-border transactions in order to ensure an effective access. In this respect, according to the European Commission, an adequate long-term transmission system would be necessary and rests on the principle according to which level of network access royalties should reflect the balance between generation and consumption of the region concerned, on the basis of differentiation of network access royalties supported by the producers and/ consumers.

Thus an intensive dialogue caused by the Commission intervened concerning the methods and cost of access and use of the transmission network, effective and optimized use of these networks (procedures preventing the monopolization of cross-border transmission capacities by a dominant operator), specific treatment (even on a purely transitory basis) of energy wheeling through the network of a country (particular tariff, whose product is at least partly intended to finance the reinforcement of cross-border transmission to ensure adequate market operation. It is recommended that the participation of Member States regulation authority is assured on capacity issues, if necessary via their European association. They oblige the States and national regulation authorities (section 10 of directive 1228 of 2003) to provide appropriate information to the European Commission which should have the possibility of asking for this information directly from the companies involved, in so far as the national regulation authorities are informed.

However, the European Commission criticized national governments for not implementing these directives. In its evaluation, the Commission stresses that the transposition of European directives remains disappointing. In October 2004, letters of formal notice for the non notification by the Commission of legislative transposition measures of the latest directives were sent to 18 Member States. Such a delay is alarming.

The Commission moreover recommends that the Member States invest more in interconnections and infrastructures to ensure secure energy supply. It approved a priority program of new transmission lines whose construction is anticipated. It also recommends that necessary human and financial resources are placed at the disposal of regulation agencies

It particularly highlights that many obstacles to competition remain present on the domestic power market. If the overall security of EU power supply is satisfactory, then the surplus output observed in the 1990s is disappearing. This situation is especially reflected in the general increase of electricity prices observed in the last 2 to 3 years, which had commenced before the rise of petroleum products prices. Opening of the domestic energy market by July 2007, must give all customers the possibility of choosing the most attractive power suppliers. But a considerable number of new operators (especially traders) that appeared between the end of the 1990s and the beginning of 2000 were already renounced, which means that market concentration market remains strong and that the risk of market power is always alarming.

It seems thus that certain operators are reluctant to exchange energy with others which are potentially their competitors.

Promotion of the use of renewable energy sources is necessary (and is strongly encouraged financially in order to reduce gas emissions leading to greenhouse effect as well as energy dependency). Lastly, the debate on the "fair" profitability rate is a permanent subject of discussion, (especially between Eurelectric – operators' association - and regulators and the Commission, as well as concerning (free) generation as "natural monopolies" which are transmission and distribution (where the tariffs are controlled).

On the whole, obstacles are related to the phenomena of market concentration, market integration, transparency issues, price system and acquired rights.

Thus the image which currently persists in the European power sector is still one of a juxtaposition of national regulations, still more oriented towards national priorities than a harmonized process within a single market in which all Member States would advance at the same rate. Often one or more historical national operators are still largely prevalent in their respective countries. However, a cross-border acquisition - mergers process is clearly in progress; an increased concentration is likely to result from it, (and therefore the risk of market monopolization can also increase) but it could induce an important step toward a single market or in any case less limited by countries.

Also, in the absence of a specific regulation authority at the European level, national regulators felt the need to create a co-operation space between them for the introduction of an effective market opened up to competition.

The objective of Europe is to develop an integrated European electricity market. To achieve this goal freedom of access to transmission networks is essential.

We can observe here that:

- the geographical spread of the 25 European countries is definitely smaller than that of the United States;
- Despite the two favorable conditions above, ERGEG just recommended the creation of several power markets in Europe, which is not contrary to the principle of a large European market.

In such context, regulation of exchanges has become imperative.

In the absence of a European regulation body not desired by majority of the member countries, national regulators felt the need to create a Council of European Energy Regulators among themselves.

The creation of a European Energy regulator would probable mark the suppression of many institutional obstacles (or fact, due to dominant positions) to competition, but it hardly seems feasible with the current state of legislation and regulation. It would necessitate a renouncement of certain national sovereignty, especially to direct the organization of a strategic energy sector, but also the fragmentation of the European Energy commission's powers. In the current situation it does not seem as though the Commission desires this dissolution. This is the reason it encouraged and implemented the setting up of a reinforced coordination of network and national operators at the European level, particularly by the creation of ERGEG in November 2003.

However, it is true that the Commission fulfills its essential role (political) by firstly and mostly being worried of the major energy issues at the Union level (supply and operational security, diversification of energy sources, increase in energy independence, cross-border lines reinforcement programs ...).

Yet, CEER's initiative would not be enough in itself to eliminate trade barriers and accelerate the realization of an effective domestic electricity and gas market, as long as the legislations are essentially national as far as they result variously from the transposition of the European directives of 2003. Now, if Member States accept the principle that networks exchanges should be regulated, they want that this regulation to be the means of coordination of national authorities. In sum, EU Member States are not ready for a real European regulation culture (in their contribution during the March 23 and 24 2006 European Summit the European energy ministers, were **chilly** on March 14, 2006 with "a European regulator" an idea supported by Belgium), even if this appears to be a better solution to the problems of internal domestic market equilibrium as well as supply security within the framework of cross-border exchanges. The results of the reinforced co-operation which should appear with the regional markets proposed by ERGEG should be observed.

IV.3 Legal instrument of creation

CEER was created on March 7, 2000 on the initiative of 10 national regulators on the basis on a memorandum of understanding governed by Belgian law. It gathers the regulation authorities of the energy sector of European Union countries.

In June 2003, members of CEER signed new statutes establishing CEER as a non-profit association.

The type of legal instruments chosen (memorandum of understanding and statutes) is justified by the fact that CEER is an association and not a regulation body.

Regarding ERGEG, it is a decision of the Commission on November 11, 2003 which instituted it as an independent consultative group.

IV.4 Relationship between CEER, ERGEG and the European Union

CEER has set up a series of cooperation with several regional organizations such as Regional Association of Energy Regulators (ERRA) which is made up of the 15 European regulators, and 10 others newly integrated into the EU

CEER is also consulted by the European Commission before the adoption of any decision having an impact on the energy sector.

It also maintains cooperation, exchange and work relations with the European Regulators Group of Electricity and Gas (ERGEG), whose objective is to facilitate consultation, coordination, cooperation of national regulators, to provide a more formal framework for this cooperation as well as to contribute to the effective application of the provisions of directives 2003/54/EC, 2003/55/EC and of Payment (EC.) n°1228/2003 in all member countries.

CEER and ERGEG therefore share the same objectives, and they maintain regular relation between themselves. CEER is a kind of arm of ERGEG which prepares drafts and documents that the latter proposes to the European Commission.

Finally, CEER maintain relations with the Energy Regulators Regional Association (ERRA) which is voluntary organization of independent regulation bodies in the energy sector of newly independent Central and Eastern European countries.

ERRA was created on 15 December 2000 and has the objectives of developing exchange of information and experiences among its members, facilitating energy access through out the world and promoting training opportunities for its members.

Similar to CEER, ERRA developed work relations with the European Union Commission and with American regulators.

It also created two internal work committees, one for tariffs and competition, and the other for benchmarking and accession at the European Union.

IV.5 Status

CEER is an associative organization of national regulators, created in 2000 on the initiative of 10 national regulation authorities. A non profit association governed by Belgian law it gathers independent national regulators in the European Union energy sector. It currently has 26 members.

CEER as an association consists of a General Assembly and an executive committee.

The General Assembly has the decision-making powers, approves official documents, registers and excludes members, establishes an internal rules of the association, amends statutes and takes any decision it has been conferred the power to take by the law or statutes.

Management of the association is provided by 5 members: the President and 4 Vice-Presidents, and is organized into 5 work groups, each being responsible for a specific issue.

Each group elects its members and enjoys total independence.

CEER is sponsored by the contribution of its members and the European Union Commission.

CEER does not take decisions on the electricity market because it does not possess any power therein.

CEER therefore exerts a type of consultative capacity since it can submit its opinions and recommendation to ERGEG which is the EU energy adviser and takes care of their conveyance.

To formulate its opinions, CEER created 8 internal work groups based on topics such as electricity, gas, quality of service, comparison of international energy prices, taxation and the environment, electricity regulation in south-east Europe, new member states and security of service.

ERGEG is a consultative group created by the EU which advises the latter on energy issues (electricity and gas). Aiming to be an abstract forum for information exchanges, it is composed of leaders of each national regulation authority or their representatives. However, the administration of Energy and transmission DG TREN and Competition (DG Comp) form part of ERGEG's Board of Directors.

IV.6 Powers and Missions

CEER and ERGEG are composed of the same members and objectives, the only difference is that the creation of CEER is an initiative of national regulators, while that of ERGEG is the initiative of the European commission which ensures its secretariat.

IV.6.1 Powers and missions of CEER

CEER was created in response of needs of the European Electricity Regulators Forum.

Its objective is not stricto sensu to regulate the sector, but to create cooperation between national energy regulators and to facilitate the creation of efficiency competition in the common market of the gas and electricity sector.

CEER has the objective to:

- promote development of efficient and competitive internal electricity and gas markets in Europe by establishing the appropriate mechanisms ;
- support cooperation by ensuring transparency and non-discrimination;
- support information exchange and mutual support;
- contribute to the advancement of research on regulation of the sectors concerned;
- supply a framework for discussions on regulation issue and exchange experiences;
- supply necessary elements in view to developing regulation in the gas and electricity sectors;
- develop joint approaches with regarding transnational energy companies in order to exert an effective influence on the markets;
- promote staff training, cultivate relationships with similar associations outside the EU and cooperate, as far as possible, in order to establish common policies among members on agreed matters;
- elaborate common rules applicable in the Member States during the opening-up of the sector to competition (1996-1998);

- develop an comprehensive and transparent framework for the internal energy market in accordance with the principles and procedures established by legislation;
- cooperate with the European Commission and competition authorities in order to ensure effective application of competition laws in the energy sector;

To attain these objectives, the mode of action at CEER's disposal are : development of a comprehensive and transparent regulation for the common energy market according to principles and procedures established by legislation and cooperation with the European Commission and competition authorities in order to ensure the application of competition laws in the energy sector.

CEER has neither decision making or sanction powers. It is simply consulted by the European Commission in the process of adoption of energy related decisions. It can also formulate opinions with the EU.

IV.6.2 Powers and missions of ERGEG

ERGEG advises and assists the Commission in the consolidation of the internal energy market, especially in the preparation of draft implementing measures in the electricity and gas sectors and any issue related to the internal gas and electricity market.

It has the task of facilitating consultation between regional national authorities and coordination and cooperation between authorities by contributing to the uniform implementing of the provisions of directives 2003/54/CE and 2003/55/CE and regulation (CE) n°1228/2003 in all member states, as well as possible community legislative provision in the electricity and gas sector.

IV.7 Support to national regulation

As can be seen, CEER is not a regulation body. Although electricity exchanges are likely to fall naturally within the field of application of regional regulation and a specific law, for the moment the European approach seems centered on a committee of regulators and not a regulation body especially due to the fact that the EU Member States are hardly favorable.

Nevertheless, it is important to clarify that CEER's support to national regulation is limited to the reinforcement of actions by independent national regulators in member countries, but also to their training especially during their seminars or forums.

On the reinforcement of action, the development of a common approach of transposing directives at the national level and in the regulation of exchanges can be observed.

On capacity building, conferences and seminars of specific topics are noted.

Similar to CEER, ERGEG set up a transparent cooperation and coordination platform with national energy regulation authorities and between these national authorities and the European Commission.

IV.8 Scope of regulation

CEER is an association which intervenes both in the power and gas sectors like ERGEG.

IV.9 Concrete actions realized

Since its creation, CEER has been the focal point of contacts between national regulators and the European Commission and has actively participated in the Florence and Madrid forums.

It also maintains permanent work relations with regulation authorities in North America and countries newly joining the European Union.

It organized the Florence and Madrid forums in coordination with other associations such as ERRA. Likewise it organized a training programme in October 2004 where 29 participants representing 16 European countries were trained by 19 specialists from 14 European universities.

It also organized conferences on specific topics, such as Energy and the environment, energy market approach (November 2004) and a workshop on the quality of electricity regulation (April 2005).

CEER was very active in the amendment of Directives 96/92/EC (repealed by directive 2003/0054) and 98/30/EC (repealed by 2003/0055) concerning common rules of generation, transmission, distribution, electricity supply and gas storage, and defines modes of organization and operation of the electricity and gas sector, market access, criteria and procedures applicable to bids and grants of authorization as well as network operation.

The first directive establishes competition and non discrimination rules, public utility obligation, environmental protection, security of supply, authorization procedures for new capacities which must meet objective, transparent and non-discriminatory criteria, method of tender invitation, appointment of network transmission and distribution managers, as well as legal and accounting separation, objective organization of network access without discrimination and electricity importation etc.

The second directive sets public utility obligations, consumer protection, and objective conditions for the authorization of construction or operation of natural gas, supply security, technical prescription, transmission and storage of natural gas, tasks of transmission and distribution network operators, their legal and accounting separation, organization of system access (third party access based in published tariffs, objectivity and non discrimination), conditions for new gas interconnections, etc.

Furthermore, CEER developed cooperation and coordination between national regulators in member countries, especially new EU countries, by promoting the sharing of experiences between its members. In 2005 for example, it published a report on investment in the gas sector, two road maps highlighting strategies for regulators on the development of national electricity (availability of transmission capacity, availability of wholesale market arrangements, gradual development of a regional market in the structure of groups of countries, harmonization of tariffs based on physical, institutional and political links, etc) and gas markets (cooperation of regulators, separation of functions, transparency and information, availability of gas, effective access to network capacity and gas quality), considered as ERGEG's consultation paper, made recommendations for the development of exchange programmes and support mechanisms for market penetration (identification of priorities in view of national market integration, creation of 7 regional initiatives per group of countries, cooperation between national regulators and network managers, governments and other sector stakeholders in order to propose and implement solutions, etc).

CEER proposed two road maps recommending a pragmatic regional approach for the single market that was submitted to ERGEG and the European Commission.

However, CEER being as association has very limited capacities efficiently contribute to effective electricity exchange regulation between 26 countries. This is the reason why the European Commission recently expressed its anxiety over the inefficiency of regulation in Europe.

Besides the advisory and supportive action to the European Commission, ERGEG provides commentaries on documents proposed by the Commission, especially on power sector congestion rules, harmonization of transmission tariffs.

It is also committed to open consultation on the major aspects of proposals and recommendations that it makes to the Commission before submission.

In the gas sector, besides the publication of a report on tariffs, ERGEG made recommendations for the harmonization of cross-border exchange tariffs to the Commission and the monitoring of entry and exit tariffs by opening the subject to wider consultation.

V Regional Electricity Regulators Association of South Africa (RERA SAPP)

V.1 Organic institutional framework of Southern African

The organic institutional framework of the region can not be analyzed without reference to SADC, SAPP and RERA.

V.1.1 SADC

- The Summit of Heads of State and Government is the supreme body of the Community and is in charge of the general management and supervision of SADC operations and institutions;
- The Council of Ministers in charge of economic and financial affairs of Member States: it is responsible for the operating and development of SADC and ensures the adequate implementing of the Community's policy, and particularly the regional energy policy which the Energy Ministers of Member States in charge of; it advises Heads of State and Governments on the whole policy and approves SADC's strategies and work programmes.
- The Secretariat which is the main executive institution of SADC is responsible for strategic plans and management of SADC programmes.

SADC also comprises of several sectoral commissions in which the energy commission participates in the preparation of sector policy strategies and formulates draft proposals.

V.1.2 SAPP

Created by SADC Member State operators under the auspices of SADC, SAPP has the objective of creating a regional electricity market within the SADC region. It currently gathers 12 operators.

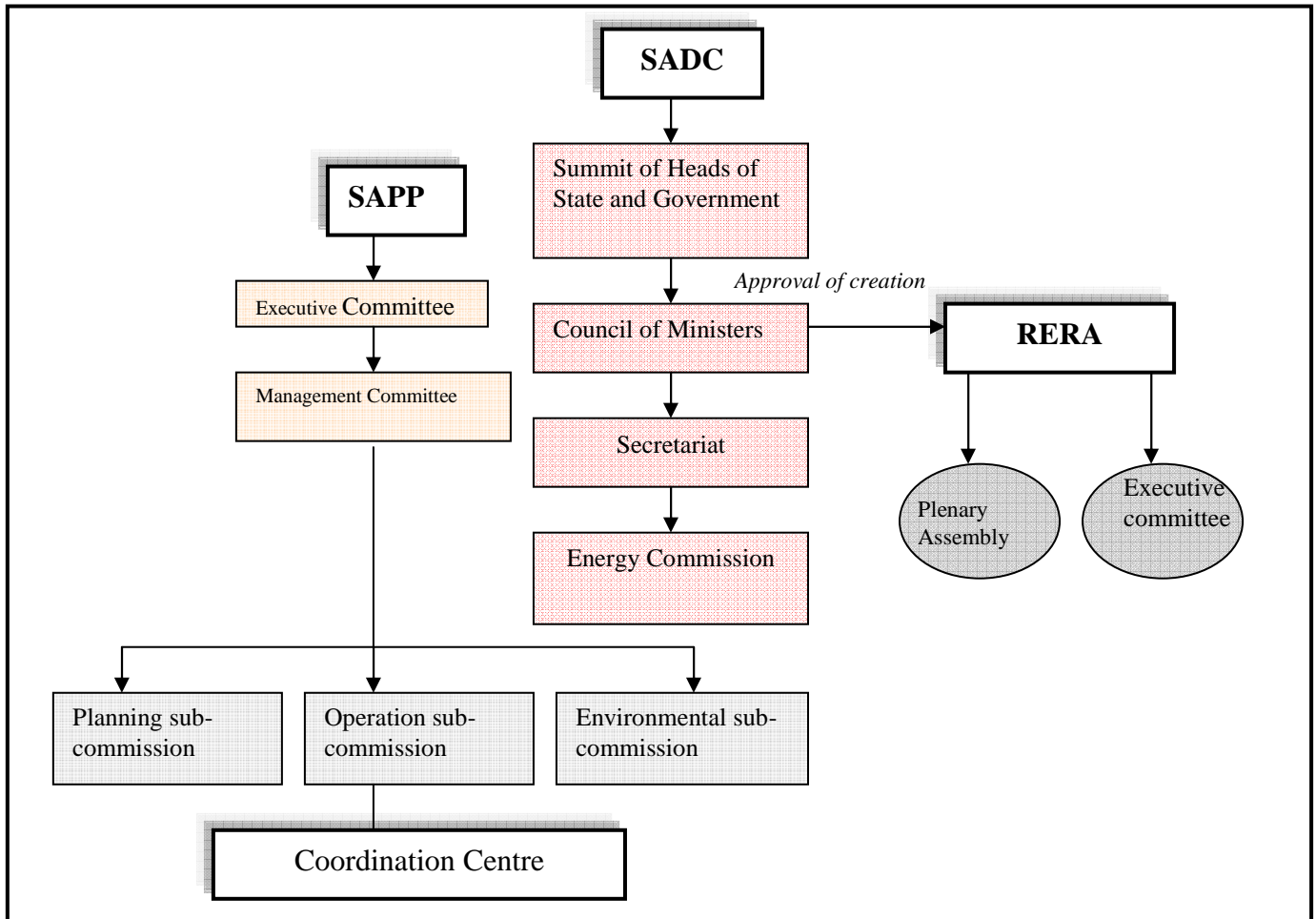
SAPP structures include the Executive Committee, Management Committee, Planning, Operation and Environmental Sub-committees, and the Coordination Centre.

V.1.3 RERA

Created on the initiative of the SADC Energy Commission and approved by the Community Council of Ministers, RERA exists in the form of an association of national regulators and intervenes in the building of institutional capacities, the promotion of cross-border regulation policies and mechanisms and regional cooperation within SADC.

Composed of 6 national regulators members of SADC, RERA does not enjoy any decision making powers; its attributions are only limited to making recommendation to the SAPP Energy Commission.

Figure 4 : Organic institutional and regional diagram of SADC



V.2 Context and environment of the regulation model

SAPP had been created with the primary objective of supplying regular electrical energy to consumers in each of the member countries, while ensuring reasonable use of national resources and their effects on the environment.

Indeed, cooperation in the power sector is not a new phenomenon in the SAPP countries. It had already attained an important position both in the legislations and planning policies of governments, operators etc for several decades.

SAPP was therefore created to formalize interactions between sector stakeholders on a regional level as well as the numerous regional operators found under the aegis of SADC.

Created in August 1995, SAPP is an association of 12 Member States represented by their national power companies and organized in the framework of SADC. It is founded more on cooperation agreements than on a law or treaty.

It is organized around 4 agreements which are:

- the Inter-governmental memorandum of understanding (MOU), signed on August 28, 1995, which allows the creation of SAPP ;
- the Memorandum signed between public utility operators which defined the basic principles for basic management and operating of SAPP;
- the Agreements between operators participating in the market which fix specific operating and tariff rules ; and
- the operating directives, which define operating standards and rules.

SAPP is considered as the first international pool to be created outside North America and Western Europe.

SAPP's statutes define the pool as having the aim of making it possible for its members to coordinate planning and operation of their systems while maintaining reliability, autonomy and self-sufficiency and sharing the benefits.

The objectives are also to reduce investments and operating costs and increase supply reliability by offering opportunities to coordinate the facilities and operating of facilities, generation and transmission facilities.

Within SAPP, cross-border trade of regional electricity is governed by bilateral and generally long-term.

The Short Term Energy Market (STEM) has been introduced into SAPP since April 2001.

As a spot market of electricity contracts, STEM uses the internet to lead the electricity market. It is a commercial mechanism established by SAPP. It was conceived to work above long term bilateral contracts. For the time being it represents 10% of the electricity market within SAPP, the 90% still reverting to the bilateral market between operators.

The principal characteristic of STEM regarding power sharing is that the available resources are shared into equal shares between all the qualified energy applicants. This distribution of energy was based on request but will be replaced later on by a cost-based system. The STEM market is opened to all SAPP operators and to independent power producers (IPP) in the SADC region. But until 2005, only 7 operators (Eskom, ZESA, Nampower, BPC, EDM, SEB, ZESCO) and an independent producer (HCB-Mozambique) were active on the market. The volume of transactions was 448Gwh in 2004 against 713 Gwh in 2003, corresponding to costs of 3.4 million dollars and 3.6 million dollars respectively.

Transmission charges are payable by the electricity purchaser. A provisional transmission tariff of 7.5% of the price of energy was fixed by the SAPP Executive

Commission and allowed remarkable cross-border electricity exchanges within the framework of bilateral agreements in the region. This provisional tariff must be replaced by transmission charges based on the MW.km power-distance method.

Application of the provisional tariff often led to litigations on the methods of sharing transmission revenues.

This was the case in the dispute, which would have been solved by the Executive Commission of SAPP (SAPP's directive body which fulfills the role of a board of directors), between Botswana Power Corporation (BPC) and Zimbabwe's power company (ZESA), relating to the adequate division of transmission revenues for electricity circulating between ZESA and Eskom, where a portion passes through BPC's 220/132kV system. It was agreed that approximately 8% of the current passing between ZESA and Eskom would be subjected to a transmission tax received by BPC.

However, the pool contains certain weaknesses related to the different languages used (English, French, Portuguese) and the difference in legislations of member countries.

A regional regulation authority should thus be created urgently to handle problems such as transmission network access rules, transmission tariffs, to support competition, stimulate the regional trade and incentives for the development of the regional transmission system.

Some specificities of SAPP:

- the extremely prevalent weight of South Africa (36000 MW installed, against approximately 300 for the neighboring country, DRC);
- the slightly biased role played by Eskom over the years: to distort short term marginal cost in its power stations to obtain abnormally low purchase prices in DRC (SNEL - INGA) and in Mozambique Cabora - Bassa - HVC)
- undoubtedly, interesting features regarding payment of wheeling royalties: for example, Eskom buys electricity from SNEL (DRC), and in theory this energy crosses Zambia and Zimbabwe before reaching South Africa. In practice, these transactions reduce Zimbabwe's purchases from South Africa and thus total system losses;
- Botswana's exemplary decision following the implementation and adequate operation of the pool: Botswana, which has limited energy resources made the political decision to limit its national electricity generation to 30 or 40 % of its needs and to import the balance through the SAPP system.

It is in this context that the creation of the Regional Electricity Regulation Association (RERA) was approved in Maseru, Lesotho by the SADC Energy Ministers on July 12, 2002. Similar to CEER, RERA is only a regulators' association and does not have any power over Member States or national operators.

The experience of other countries shows that even though a pool can function where there are different legal/regulatory structures, such as within the SAPP countries, the opportunities to benefit from the situation due to the differing legal systems can sap away members' desire to participate.

Although SAPP's coordination centre played a key-role in technical regulation and carried out several studies on operation systems, especially transmission loads and other network access problems, the need for regional regulation organization to handle energy tariff issues and resolve disputes still exists.

In fact, regulation authorities are at different levels of development in majority of SAPP member countries.

V.3 Legal instrument of creation

RERA's statutes were approved by the SADC Energy Ministers on July 12, 2002 and it has its headquarters in Windhoek, Namibia. It started operating since 26 September 2002.

V.4 Relations between RERA, SADC and SAPP

RERA signed a partnership and cooperation agreement with SAPP and the SADC Secretariat in which it stipulates common regular fields of concern.

It collaborates with SAPP, the University Of Cape Town School Of Business and PURC (University of Florida), and other institutions for capacity reinforcement.

It is supported and collaborates with NORAD/NVE, USAID, NARUC, AFUR as well as regulation bodies and associations around the world.

It signed a cooperation agreement with AFUR, NARUC and UCT, co-organized 5 course seminars with a total of 240 participants.

V.5 Status

The Regional Electricity Regulators Association of South Africa is an association comprising of 6 independent electricity regulators whose creation was approved by Energy Ministers of the South African Development Community (SADC) at Maseru, Lesotho on July 12, 2002.

RERA does not have decision making powers: it makes recommendations.

Its members (6 national regulators) are:

- Electricity Control Board of Namibia (ECB);
- National Electricity Regulator of South Africa (NERSA);
- National Electricity Council of Malawi (NECO);

- Energy Regulation Board of Zambia (ERB);
- Lesotho Electricity Authority (LEA) of Lesotho;
- Zimbabwe Electricity Regulatory Authority of Zimbabwe.

The Institute for Power Regulation in Angola (IRSE) and Energy and Water Utilities Regulatory Authority of Tanzania (EWURA) are in discussions with RERA for their adhesion.

Lastly, it should be highlighted that till today several Member States do not have a national regulator.

RERA organs are the General Assembly (the Plenary) made up of all the members and a representative of SADC Energy Commission's technical unit, the Executive Committee, and the Secretariat.

Financing of RERA comes from the annual contributions of its members, special contributions and other sources of financing approved by the Plenary.

V.6 Powers and Missions

RERA has 3 main objectives:

- reinforcement of institutional capacities and information sharing: to reinforce skills of the Association's national regulators members at the national as well as regional level, in particular through information sharing and training;
- promotion of policies, legislation and regulation mechanisms in the power sector: harmonization of legislations and resolutions of cross-border exchanges, and especially for transmission network access conditions and cross-border exchanges tariffs;
- regional co-operation on regulation: to deliberate and make recommendations on the economic regulation of electricity interconnections and trade between SADC members in accordance with the SADC Energy Protocol.

Its guiding principles are:

- to create integrated electricity markets, according to international standards ;
- to support bigger integration of the power systems of Southern Africa in order to benefit the advantages rising from economies of scale and shared resources;
- to create explicit frameworks in order to facilitate cross-border transactions, regional system operations, tariff system for utilization of the regional transmission infrastructure , as well as future investments for the successful regional integration of power systems;

- to develop favorable regulation in order to harmonize and create suitable commercial structures to develop exchanges and attract investment;
- to create a financially autonomous RERA as an institution in charge of the facilitation on issues related to power sector regulation;

V.7 Support to national regulation

RERA supports national regulation by ensuring training for national regulators and sharing sector information with them. Besides this aspect, no further support seems considered for national regulation.

V.8 Scope of regulation

RERA only intervenes on power sector electricity exchanges within the SAPP framework.

V.9 Concrete actions realized

RERA ordered audits of aptitudes and skills, carried out a needs assessment in the Member States, and created a data base and a web site for the sharing of information. It also ensures training.

It has several committees which ensure capacity building and information sharing between the members, implement policies, laws and regulations, and regional co-operation.

It is also interested in rural electrification, harmonization of legal and regulatory frameworks.

The RERA also undertook regional study visits (it already made 5 of them) in order to make its own promotion and organized seminars.

VI Comparative table of regional regulation models

VI.1 Comparative table of different elements of regulation models

Model/points of comparison	FERC	CRIE	CEER/ERGEG	RERA
Legal instrument	Federal law (DOE Act) of 1 st October 1977	SIEPAC Treaty of December 1996 between Member States on the SIEPAC line	Memorandum of understanding of 7 March 2000 and statute between regulators ERGEG: November 11, 2003 decision	Statutes approved on 12 July 2002 by the Ministerial council of SADC
Analysis of relation with other regional institutions	Legal relation with the US President, Congress, Department of Energy and State Commissions	Mutual cooperation agreements with EPR/EPL (line owner) and EOR (body responsible for operation)	Cooperation with European Commission and ERRA	Cooperation agreements with SAPP and SADC
Status	- Independent governmental commission (electricity, gas and crude oil)	- Independent intergovernmental commission	- Non profitable association of independent national regulators (electricity and gas)	Non profitable association of 6 independent national electricity regulators
	- 5 commissioners appointed by the US President	- 6 commissioners each appointed by his country, rotational term of office	- 5 management members	- 6 regulators, other regulators are in discussion with RERA in view of their accession
	- Executory decisions	- Executory decisions	Recommendations and proposals	Recommendations and proposals

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	- Appeal : US Court of Appeals	- Appeal not specified	No appeal	No appeal
	- Financing by sector royalties	- Financing by sector royalties	Financing : Contributions by members and EU	Financing by annual contribution and special contributions by members
Powers	Decision making powers for grant of licenses, fixing tariffs, supervision, rules elaboration, research, investigation, approval and sanction, resolution of litigations, advisory powers	Decision making powers on elaboration of transmission, supervision of market operation rules, powers of hearing, research, investigation, approval of operation rules, calculation of transmission expenses, modification of rules preceding the establishment of CRIE, sanction powers	Advisory powers, recommendation and proposals	Advisory powers, recommendation and proposals

<p>Missions</p>	<ul style="list-style-type: none"> -Regulation and surveillance of sector -promotion of infrastructural development -promotion of interconnection exchanges -Sector transparency -Compliance to market rules and guarantee of quality of service 	<ul style="list-style-type: none"> -Market development -Prevention of abuses on the regional market -Ensures free competition, establishment of common operational rules -Sector audits -Surveillance of regional market operations 	<ul style="list-style-type: none"> -To promote cooperation, information exchange and mutual assistance, - To make transparency prevail over, -To promote regulation in the sectors concerned and professional training, -to develop common operation rules -to provide a discussion framework etc 	<ul style="list-style-type: none"> -To contribute to institutional capacity building and information sharing -To create integration electricity markets, -To facilitate regulation mechanisms in the electricity sector -to promote regional cooperation in regulation
<p>Support to national regulation</p>	<ul style="list-style-type: none"> -cooperation with State Commissions (geographical division, costs, practices, information etc) -interrogation of State Commissions on tariffs, costs, regulations, in surveys, investigations and dispute resolution 	<p>Training assistance and institutional capacity building</p>	<p>Contribute to training of national regulators and institutional and human capacity building in the country</p>	<p>Contribute to training of national regulators, exchange of information with them, Fund national regulators</p>
<p>Scope of regulation</p>	<p>Electricity, gas and crude oil</p>	<p>Electricity</p>	<p>Electricity and gas</p>	<p>Electricity</p>
<p>Actions realized</p>	<ul style="list-style-type: none"> -Adoption of special market structuring rules -adoption of the decision for open access to the information system <ul style="list-style-type: none"> - creation of (RTO) organizations; -Approval and updating of tariffs, development of calculation guide ; - Stating of regional 	<ul style="list-style-type: none"> -Mutual cooperation agreements -development of transitory regulation on rules, -development of commercial and operating rules - setting up an information 	<ul style="list-style-type: none"> -Focal point between national regulators and EU -Active participation in forums on electricity and gas 	<ul style="list-style-type: none"> -order of audits and evaluation of needs, -creation of a database and a website, -regional study visits and organization

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	market principles, proposal for standard models of exchange contracts, mediation and conciliation of several hundreds litigations	system	- contribution, amendment EC directives	of seminars
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VII Regional regulation project models

The interest in the study of these projects is very limited due to the fact that apart from mere intentions, none of them have truly undertaken possible option for the establishment of a regional regulatory body. Neither the Nile Basin Initiative nor the Grand Mekong project has already succeeded in establishing the first elements of a power sector regional regulatory authority.

VII.1 The Nile Basin

VII.1.1 Presentation

The Nile Basin can be divided into two regions : the Eastern region is made up of Egypt, Ethiopia, Eritrea, Sudan and the Equatorial region comprises of DRC, Burundi, Rwanda, Tanzania, Uganda and Kenya. Until recent times, there were almost no cross-border exchanges and there are still only few interconnections between member countries. There was only a very modest level of bilateral contracts (approximately 174 GWh in 1999).

VII.1.2 Regional power system

Existing exchanges are rare. The Ugandan power system was interconnected to that of Kenya, Rwanda and Tanzania. Uganda has supplied electricity to Kenya since 1958, on the basis of a Kenya-Uganda electricity contract signed in 1955 with contract terms in pursuance of which the Uganda Electricity Board (UEB) is supposed to supply 30 MW of electricity to Kenya Power Company (KPC) for 5 years.

In 1993, UEB signed a contact with Tanzania Electric Supply Company Ltd (TANESCO), by which UEB must provide 9 MW of electric power to Bukoba, the northern region of Tanzania for 30 years (without interconnection of the HV transmission networks of the 2 countries).

Additionally, Tanzania was programmed to establish a HV interconnection with Zambia and have access to the SAPP network of which it is a part of. Similarly, DRC, Rwanda and Burundi form part of the EPAC electricity association of 5 Central African countries.

Sub-regional institutions such as SINELAC (Société Internationale d'Electricité des Pays des Grands Lacs: DRC, Rwanda, Burundi) and the Community of the East Africa (CAE) aim at less broad geographical co-operation for energy and electricity. They are involved in regional electricity generation and transmission projects.

Current cumulated power capacity demands are 18 GW and they could reach 39GW in 2010 and 65GW in 2020. The consumption in the Basin is dominated by Egypt which alone accounts for more than 80% of demand.

However, the cross-border energy exchanges in the Nile Basin remain very limited. The World Bank had ordered a study on the possibilities of a regional energy market in the Nile Basin. The conclusion of this study published in 2000 showed that the existence of such a market on a regional scale was distant due to the few cross-border exchanges which exist in this region.

National power operator systems in the Nile Basin member countries are vertically integrated. However, majority of these operators need management reforms, not only to support sector exchanges but also to improve their reliability and access to exchanges.

These reforms are currently in progress in various countries. Restructuring and separation of operator segment have evolved in majority of these countries, but the introduction of competition in generation and distribution and setting up of a regulatory body still remains only at the intentional stage; it is only under this framework that regional trade in electricity could be an effective reality.

VII.1.3 Energy forum

There is technical dialogue authority in the Nile Basin which will culminate in the creation of an Energy Forum in 2006. The project wishes to develop the limited existing energy commerce on which member countries have never shown much enthusiasm.

The Nile Basin region has not yet a regional regulation body. However, the project set up an authority composed of a Council of Ministers, a Technical Committee as well as a Secretariat. This authority is far from being a regulatory authority.

Among the various structures composing the Project, the creation of an Energy Forum is envisaged which will have the roles of facilitating dialogue between States in the region, promoting and encouraging electricity exchange between Member States, ensuring the exchange of information and creating a legal and institutional framework. According to forecasts, this Forum should be effective by the end of 2006.

It will have the missions of creating a culture of use of good practices, facilitating dialogue and co-operation between operators in the region, ordering studies particularly related to the identification of generation and transmission systems projects in order to support the development of regional power markets and institutional and legal framework, facilitate training schemes in all aspects of power system operations, and mobilize the resources necessary for achievement

of these missions. It will coordinate the activities in coordination with the water project. Clearly, the Energy Forum's objective is to create and support a regional power market, create institutional and human capacities, facilitate the creation of institutional and physical infrastructures for trade in electricity, contribute to the development of this regional market, identify projects to be implemented, etc.

The Energy Forum will be instituted by a memorandum of understanding between Member State operators. In the long term, it will have to facilitate the creation of 3 other entities: a regulatory forum, a regional control centre, a power exchange centre, and it will continue to function as a Regional Planning Agency.

At the end of a review of the legal and regulatory regional power framework of the electricity sector in the Nile Basin, it can be concluded that there is no regional regulatory body in the power sector. There is a project to create an Energy Forum whose missions and objectives were cited above, but this Forum will not serve as a regional regulator. It will apply itself only to support the development of a regional power market. It will not act directly on the regional market. According to the project, it will be simply restricted to contributing to capacity building and harmonization of technical practices.

Nevertheless, it envisages the creation of a regulation forum among others. What will be the form of this regulation? Will it be an association or an institutional body possessing authority and legitimacy necessary for regulation of the regional market?

In the current situation, nothing is known and the project has not progressed since the end of 2005.

VII.2 The Grand Mekong

The institutional framework of Mekong revolves around the intergovernmental agreement on regional exchanges (Inter-Governmental Agreement on Regional Power Trade in the Greater Mekong sub-region (IGA)) signed on November 3, 2002 in Phnom-Penh, between the Member States which are Thailand, Vietnam, Cambodia, Laos, Burma and the Chinese province of Yunnan. All the Member States should ratify this agreement at the end of 2006.

The agreement envisages the creation of a Regional Coordination Committee for the electricity market which will be responsible for the establishment of the regional electricity market. The objective of this agreement is to set up the Commission, as an international body which is able to ensure signing of the projects finance contracts with sponsors and the international community.

The Mekong project particularly aims at the development of an integrated electricity market within the Grand-Mekong region (Thailand, Vietnam, Cambodia, Laos, Burma and the Chinese province of Yunnan). It would be significantly more economically and environmentally beneficial than the pursuit of

independent energy policies currently practiced by countries in the region. It would support a more rational utilization of energy resources in the zone (source of savings and reliability) through an interconnection network.

This project should materialize by 2008.

The conditions for success lie mainly in the definition of a regional energy policy as well as the effective installation of a regulatory authority intended to check its correct implementation.

At the present time, the institutional aspects of the regional market, including regulation aspects are not yet defined.

Even though the construction of the regional power market has substantially progressed especially through the execution of export vocation projects, some barriers still remain and the regional regulation project does not seem to have progressed much. Only seminars and workshops have taken place on the regional electricity market project which has also touched aspect of regional regulation. At the present time, the institutional aspects of the regional market including regulation are not yet defined.

VIII Report Summary

This report reviews the major models of regulation in the world. Some of them, such as SIEPAC were created without a pre-established regional economic institution or power pool, other were subsequent to an already structured regional organization (SADC, SAPP and RERA). The institutional configuration of the latter is similar to that of ECOWAS, WAPP and later RRB.

According to the terms of article 1 subparagraph 2 of the WAPP Convention signed in July 2006, the West African Power Pool (WAPP) is a public interest international organization operating in the general interest of the energy transmission system to ensure reliability of energy supply in the whole region. It is an institution made up of the national electricity operators. These operators act within the framework of interconnections and cross-border power exchanges.

WAPP governing bodies are the General Assembly, the Executive Committee, the Committees (Engineering and Operation, Strategic Planning, Finance and Human Resources), the General Secretariat and the Coordination and Information Centre.

WAPP and the power sector regional regulator are two complementary programmes of ECOWAS. Indeed, WAPP has the particular objectives of introducing an exchange framework which aims on one hand to promote the realization of regional investments, in terms of energy generation as well as transmissions and interconnections. On the other hand, it aims at the establishment of a general regulation framework for regional energy exchanges. It is at this stage that the Regional Regulatory Body intervenes to guarantee this regulatory framework by overseeing compliance to necessary regulation rules.

Furthermore, according to the provisions of the Convention on the organization and operation of WAPP, the Regional Regulatory Body has the option of fully participating in all WAPP activities, including General Assembly meetings with the same rights as the operators with the exception of the right to vote. The missions and powers of the two institutions will be analyzed in the next report.

In light of the review of the various models of regulation, both the institutional and formal ones, and the associative and informal ones, it is evident that only the first group, FERC and SIEPAC, truly have powers that are likely to have a direct and imperative impact on market rules. The others (associative and abstract), CEER, ERGEG, RERA, which are far from being useless, have a very limited impact on the direction of the market and its rules.

The Nile Basin and Grand Mekong initiatives are only at the design stage in terms of establishing a regional regulatory body and their projects could not be analyzed from the angle of a regulation model.

The associative models could not be an interesting example of the RRB not only due to the peculiar context and environment of power exchanges within ECOWAS power sector, but also with regards to RRB's terms of reference which propose that it should be a regional regulatory authority.

Ultimately, only FERC and SIEPAC are likely to approach the model which could be set up on an operational level within the framework of the ECOWAS power sector regional regulatory body.

FERC is a governmental commission within Federal State and its attribution on energy matters are peculiar in relation to the federated states. It was created by a federal law and its commissioners are appointed by the President of the United States. Consequently, with the exception of its status and territorial powers it can not truly correspond with the general orientations of the RRB project.

It is therefore evident that concerning the instrument of creation, statute, missions and powers, scope of regulation, SIEPAC seems to approach the main characteristics that RRB should possess, except certain aspects such as the nomination of commissioners by each Member States.

In the absence of a clear and precise definition of the characteristics of RRB especially the powers and missions, which will be discussed in the subsequent report, a summary of the different models will allow to elucidate the various points necessary for the development of the features of RRB.