



Review of the Regulatory Framework for Power Generation and Distribution in Southern Africa

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1 Introduction

This review of the regulatory framework for power generation and distribution in Southern Africa principally covers four countries - Botswana, the Democratic Republic of Congo, South Africa and Zambia. Whilst the Southern African region of course comprises of more countries, these four were chosen as ones where the potential for investment and development in the power generation and associated sectors were most promising over the short to medium term.

The Southern African Region, led by South Africa, is developing at a rapid pace. Over the past ten years South Africa has experienced significant economic growth in a stable political and social environment. South Africa has had a GDP growth of in excess of five per cent in 2006, and the objective is to reach and surpass six per cent in the coming years.

Eskom, South Africa's national utility, has installed capacity of more than 39 000 MW. It is the seventh largest utility in the world and overshadows all the other regional utilities. In fact, it produces in excess of 95% of South Africa's electricity and almost half of all the electricity produced on the African continent.

For many years Eskom has had surplus capacity with the result that since the 1980's no significant new generation has been commissioned in South Africa or the region. However, this is set to change with South Africa rapidly running out of capacity.

This also has a spill-over effect on other countries in the region. Not only have these economies been growing with a resultant increase in demand, but some of these countries for historical reasons will still depend on continued electricity supplies from Eskom over the short to medium term. Hence as the need for power in South Africa increases, the likelihood for regional deficits also expands.

The net effect is that for the considerable future the whole region desperately needs a considerable increase in generation capacity to meet the growth in demand. Whilst the key market for such power will probably remain South Africa, regional countries will also need to address much increased local demand and attract new investors. Regional countries are becoming increasingly more attractive to power-hungry investors as surplus capacity in South Africa disappears. The potential for sales in and to regional countries (either in the form of in-country sales, power sales via the Southern African Power Pool (SAPP), or direct sales between neighbouring regional countries) are becoming increasingly attractive.

Governments are looking more and more towards Independent Power Producers (IPPs), or combinations of IPPs and state owned utilities, to meet the demand for new electricity generation. In South Africa, for example, Government policy dictates that 30% of all new generation capacity must come from Independent Power Producers. In Botswana, a big IPP Project (2 phases of 2400 MW each) is on the point of being implemented, aiming to sell the majority of its power to Eskom.

Hence it is clear that the private sector will be relied upon to play a significant role in investing in new generation, transmission and distribution infrastructure if demand is to be met. However, this is not always as easy as it sounds. Whilst all the countries reviewed have one or other form of regulatory framework for the electricity supply industry, in all of them (despite recent changes in legislation in the majority of cases) the framework is still focussed on a single integrated state entity as the major generator and/or supplier of electricity with no clear boundaries regarding generation, transmission and distribution activities. Where dedicated regulatory bodies are in place, these are still hindered by issues such as a lack of clear government policy around responsibility for new generation capacity, conditions upon which electricity may be imported or exported, jurisdictional problems, simplistic and incomplete licensing regimes, cross-border technical and tariff issues and no clarity on compulsory third party access to existing infrastructure. Furthermore, the political will to

commit to private sector versus public sector development, a resilient belief in the efficiency and need for government owned utilities, the relative position of power most incumbents have compared to that of the regulators and issues such as regulatory capture, lack of capacity and continuing question marks around independence, all impact on whether significant private investment becomes a reality or remains an elusive target.

The primary focus of this report is to look at the electricity generation, transmission and distribution regulatory frameworks of the four identified countries in order to ascertain what these are, where legal constraints in these frameworks exist, and what could be done to ensure that the frameworks are conducive to new generation and distribution investment. This can be viewed from both a short-term perspective and a longer term one. Over the longer term, the report looks at the regulatory constraints and what needs to be done to align regulatory frameworks, to amend or replace outdated legislation and to co-ordinate the regional electricity dispensations. Over the shorter term, a more pragmatic approach is followed in trying to identify trends and opportunities where interventions over the short term can make a real difference in ensuring that these materialise. In addition, a short overview of the legal and regulatory dispensations of other countries that may prove of interest, namely Mozambique, Namibia and Zimbabwe, is also provided.

The information in the report is drawn from the consultant's personal experiences and involvement in the regulatory dispensations in the region, previous reports prepared by the consultant¹ for various institutions, interactions with government officials and regulator personnel, as well as discussions with present and potential investors in regional electricity generation and associated infrastructure. The report was commissioned by the Southern African Global Competitiveness Hub in Gaborone.

¹ Either independently or as part of groups of consultants, e.g. as SAD-ELEC associate.

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2 BOTSWANA (Republic of Botswana)

2.1 Legal system, public administration and court system at a glance²

Formerly the British protectorate of Bechuanaland, Botswana (the new name adopted) achieved independence from Britain in 1966.

Government type	Parliamentary republic
Administration	9 districts and four town councils
Constitution	Approved in 1965, effective on 30 September 1966
Legal system	Based on Roman Dutch law, English common law and local customary law. Judicial review of administrative and executive action is possible. Commercial and administrative law very similar to South African law.
Executive Branch	Executive President is both Chief of State and Head of Government. President elected by National Assembly. Vice President is appointed by the President.
Cabinet	Appointed by President
Legislative Branch	Bicameral Parliament consists of a House of Chiefs (largely advisory 15 member body consisting of chiefs of the eight principal tribes, four elected sub-chiefs, and three members selected by the other 12) and a National Assembly (44 seats, 40 members are elected by popular vote; four are appointed by the majority party). Attorney General is an ex-officio member of Parliament as he sits in Cabinet
Judicial Branch	Court of Appeal, High Court, and Magistrates Courts (one in each district). Judges appointed by President

2.2 General procedures for the development and amendment of legislation

Laws are enacted by Parliament. Sub-ordinate legislation (regulations, directives, notices) are normally issued by the responsible Minister.

Electricity supply industry (ESI) legislation follows Government policy developed by the Minister of Minerals, Energy and Water Resources (through the Ministry of Minerals, Energy and Water Resources (MMEWR) and are approved by Cabinet/Parliament. Amendment of laws follows the same procedure.

2.3 Summary of existing ESI related legislation

Electricity Supply Act, 1973 (Chapter 73:01) (Electricity Supply Act)	Provides for licences to be issued by the Minister for the generation and supply of electricity. No provision for a regulator. No provision for other types of licences.
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² Some of the background information in this report builds on in previous involvement of the consultant with other projects in the region, of which a report prepared under the auspices of SAD-ELEC for the Norwegian Water Resources and Energy Directorate in 2005 entitled "Legal And Regulatory Framework of the Electricity Supply Industry (ESI) in Southern And East Africa" was quite useful. Needless to say information has been updated and changed to take latest developments into account.

Botswana Power Corporation Act, 1970 (Chapter 74:01) (BPC Act)	Establishes the Botswana Power Corporation (BPC) (state-owned power corporation) and defines its constitution, rights and internal organization. Vertically integrated state-owned utility.
Electricity Supply Regulations	Issued under Electricity Supply Act by responsible Minister. Deal with the form of licences and conditions to be contained therein, technical and quality of supply standards, and safety aspects.

2.4 Description of ESI authorities

The Minister has executive responsibility for the ESI. MMEWR is the policy recommendation body. There is no independent regulator, although MMEWR performs certain regulatory functions. An Energy Affairs Division (EAD) was established in 1984 within MMEWR to coordinate activities and to manage power and coal developments and energy planning. ESI regulations are issued by the Minister in terms of the Electricity Supply Act.

The Electricity Supply Act provides that the Minister is obliged to consult with BPC before issuing a licence to any other applicant and must take into consideration BPC's future plans. Effectively this means that precedence to BPC's interests is given. BPC in terms of its founding legislation sets its own electricity tariffs, but consumers have a right of appeal to the Minister in certain circumstances. In practice consumer tariffs are sensitive and normally follow a process of Ministerial/Cabinet approval.

2.5 ESI Legislation

The Electricity Supply Act dates from the 1970's and is typical of legislation of the period. Whilst competition is not ruled out *per se*, the legislation is not sufficiently developed to cater for large-scale IPP's or a de-regulated ESI. In particular, the legislation is deficient in the following areas:

- No properly defined licensing regime with different licences. Only generation and supply licences are provided for. Transmission and distribution licences, or subcategories thereof such as bulk- and retail supply and imports and exports do not feature at all.³
- No defined set of licence conditions, but regulations set certain guidelines.
- Preference to the incumbent, i.e. the Minister has to consult with BPC prior to issuing a licence.
- Simplistic dispute resolution/expropriation regimes not well suited to Independent Power Producer (IPP) development.
- Not sufficient technical/operational guidelines and codes, e.g. no transmission grid code.
- No dedicated regulatory oversight mechanism.

The legislation, by regional standards, is outdated. The BPC Act governs the activities of the Botswana Power Corporation (BPC). BPC is a fully state-owned utility responsible for the generation, transmission, supply and distribution of electricity in Botswana.

Currently some 51% of electricity is imported, with BPC responsible for imports, mostly from South Africa. An expansion of the Marupule coal-fired power plant is on the cards, which

³ Although the regulations do provide for different voltages it is aimed at end consumers, and not, for example, towards the establishment of IPP's or the bulk supply of power.

should add some 600MW of new capacity to Botswana's needs. This plant is expected to come on line sometime in 2012/2013.⁴

2.6 Independent regulator

There is no independent regulator for the ESI. MMEWR currently performs certain regulatory functions, including licensing and ensuring compliance with quality of supply and service standards. In practice BPC to a large extent regulates itself.

The Public Enterprises Evaluation and Privatisation Agency (PEEPA) (part of the Ministry of Finance and Development Planning (MFDP)) which has the responsibility to monitor the performance of public enterprises (including BPC) has developed an initiative to harmonize and consolidate regulatory arrangements in the country. In 1995 it commissioned a study into the establishment of a multi-sector regulator suitable for infrastructure and utility regulation, with the recommendation that a multi-sectoral (water and electricity) regulator be established. No regulator has been established thus far. PEEPA and BPC are also in the process of concluding a performance compact between BPC and Government (represented by MMEWR). Not much progress has been made on it for some time, and no agreement has been concluded yet.

2.7 General procedures for handling of appeals, disputes and complaints

Botswana reportedly has a well functioning system of (lower and higher) courts, and litigants are served by qualified and experienced private legal practitioners. Decisions of the lower courts can be taken on appeal or review to the Court of Appeal.

Formally a licensee may appeal to the President for resolution of complaints. However, normally complaints are referred to BPC (as the incumbent vertically integrated utility with the relevant industry knowledge and supply obligation) for advice and resolution. Where BPC is unable to resolve the complaint, or where other disputes arise, they usually end up with the Minister, MMEWR or EAD. Botswana has also established a Consumer Protection Office (within the Department of Trade and Consumer Affairs, which is part of the Ministry of Trade and Industry) and this office increasingly is expected to increasingly deal with ESI complaints.

2.8 Formal influences by other bodies on ESI

MFDP and PEEPA are key institutional stakeholders because of the formers oversight role and the latter's possible role in BPC's potential privatisation.

Botswana has a comprehensive set of laws dealing with labour matters (including the Employment Act CAP 47:01) and occupational health and safety (Factories Act CAP 44:01), which together regulate the safety, health and welfare of persons, and the safety and inspection of plant and machinery.

The Minister responsible for environment, wildlife and tourism oversees the Environmental Planning Programme, and has established the National Conservation Strategy (Coordinating) Agency (NCSA) to administer environmental planning and coordination.

Botswana does not currently have competition legislation, and there is no competition authority. However, competition law and policy is currently being finalized.

BPC is an operating member of the Southern African Power Pool (SAPP). Botswana till recently pursued a policy of avoiding expensive internal power supply projects in favour of using available regional resources to the benefit of its consumers. SAPP can therefore be expected to play an increasingly important role in Botswana's ESI, as the country looks to

⁴ Whilst SAPP lists the date as 2011, industry experts doubt if this target can be reached. Of course, the further this date shifts out, the more precarious Botswana's position becomes if no alternative solutions are found.

the region to satisfy its power demands. During 2006/2007 BPC imported via SAPP. Botswana is not a member of the Regional Electricity Regulators Association (RERA)⁵.

Individuals can hold land on a freehold basis with full ownership rights. Expropriation of property and rights to access land and use of premises for electricity supply purposes is permitted under the Electricity Supply Act, in cases where the landowner refuses permission. Approval responsibility vests in the minister responsible for lands, in consultation with the Minister.

2.9 Treatment of private investors

Botswana has one of the healthiest economies in Africa. GDP growth during 2004/5 was 9.2% per year. It has no exchange controls and Government actively seeks to improve levels of foreign direct investment into the country. To this end, it provides the investor with access to general incentive schemes. Investment of foreign capital in job creating industrial sectors is encouraged. Foreign firms are treated in the same manner as domestic ones. Nationalization of privately owned property is against the Constitution. The International Monetary Fund has classified Botswana as a 'market friendly' country. Botswana has ratified the World Bank convention which in 1985 established MIGA, and this offers investors additional protection against risk.

Botswana is a signatory to the New York Convention, 1958 (Recognition and Enforcement of Foreign Arbitral Awards) (Date of entry: 20 December 1971) and UNCITRAL Rules are often included in contracts entered into by parties in Botswana.

2.10 Legal and Regulatory Constraints

Botswana is generally not geared towards private sector development of IPPs, for the simple reason that Botswana until very recently did not have any real interest in the establishment of major new generation capacity. This is rapidly changing with the establishment of the Mmamabula Energy Project (MEP), and the expansion of the Morupule power station by BPC.

In general, legal and regulatory constraints for the establishment of IPP's exist in the following areas:

- a. Legislative deficiencies;
- b. Capacity constraints;
- c. Institutional constraints.

The legal framework relating to the electricity supply industry (ESI) in Botswana is primarily set out in the Electricity Supply Act, 1973 (Cap 73:01) and the Botswana Power Corporation Act, 1974 (Cap 74:01). In addition a number of by-laws and regulations exist which relate to the ESI. These include the Electricity (Supply) Regulations (SI 66: 1977) and the Electricity Supply (Licensing) Regulations (SI 116: 1993). The SAPP rules⁶ could also play a role, depending on how the transactions are structured.

2.10.1 Botswana policy

Botswana has for some time been in the process of restructuring its electricity supply industry. In particular, the Botswana Power Corporation (BPC) has been involved in a process of commercialising its activities and following regional best practices. This process has just been completed, and the next logical step would be for the different BPC components (generation, transmission and distribution) to be structured into separate ring-fenced entities.

⁵ And will only be entitled to become one upon a regulator for the ESI being established.

⁶ Botswana is an active member of SAPP

The Botswana Government has also been considering the establishment of a regulator for the electricity and water sectors. Whilst not a lot of progress has been made on this front to date, it can be expected that the Marupule extension and MEP will give new impetus to the need to establish an industry regulator as soon as possible.

For purposes of the MEP, Government has established both a dedicated steering committee consisting of key government officials and project sponsors, as well as a technical committee under the guidance of the permanent secretary of the Ministry of Minerals, Energy and Water Resources. This gives some indication of the importance of the Mmamabula Energy Project for Botswana, but is also a clear indication of Botswana's willingness to entertain private sector development.

2.10.2 *The Botswana Electricity Act*

The Electricity Supply Act (ESA) makes provision for the licensing and control of undertakings involved in the generation and supply of electricity in Botswana.

The ESA is typical of the "older" regional legislation that used to be in force in most Southern African countries until quite recently. In essence the incumbent (BPC) enjoys a protected position⁷ whilst the nature of the licenses issued are relatively simplistic in the sense that no real provision for market-related conditions are made⁸.

The principle provisions of the ESA *inter alia* provide for:

- a prohibition on the operation of plant for the supply⁹ or use of electricity and on the supply to another person of electricity, other than where authorised by a licence.¹⁰ Exemptions exist in relation to a supply provided by plant operated by a 'government department' and also in relation to small generation plant operated for the self-supply purposes;
- the issue of generation and supply licences by the Minister.¹¹ However, the Minister is required to consult with the BPC prior to the issue of the licence and the Minister is required to give precedence to the BPC's existing and future generation and supply plans;¹²

⁷ As a vertically integrated monopoly.

⁸ For the obvious reason, competition is not foreseen. It also does not deal with exports of electricity.

⁹ The concept "supply" normally also includes all the non-technical aspects of the EDI. What may be worrisome in terms of the present legislation is the actual ability to issue detail licence conditions for activities foreign to such a dispensation. A generation licence for an IPP as a separate entity would need at least a PPA with its client(s). Access to the transmission system (where another party owns/is the transmission licensee also needs to be dealt with, either in the generation licence or, preferably, in the transmission licence. Aspects such as TUOS charges, grid code compliance, access points etc. also need to be addressed. These issues are "by-products" of an IPP but need serious attention as soon as somebody other than BPC is going to be the owner/operator of new generation capacity. It may, depending on the approach taken, need the amendment of legislation or subordinate legislation, where such activities are undertaken by somebody other than BPC.

¹⁰ This is typical to the ESI in the region, i.e. a permission based approach to the regulation of ESI "supply" activities.

¹¹ The applicable Minister is the minister responsible for Minerals, Energy and Water Resources. Interestingly the whole of the regulatory function falls under a political figure-head rather than the more "developed" options found in countries neighbouring Botswana, e.g. NERSA, as it is now called, in South Africa, the energy regulator in Zambia and ZERC in Zimbabwe. In these jurisdictions an independent regulator oversees the ESI, issues licences, monitor compliance etc.

¹² This is typical of "older" dispensations where the vertically State-owned utility effectively has a monopoly on especially generation and transmission. The decision maker, in this case the Minister, has to consult with BPC on the issuing of any new licence, *and give preference to its generation and supply plans*. Thus BPC would

- the granting of powers to licensees relating to way leaves, street works, rights of entry etc;
- the compulsory acquisition of land by the President of Botswana for purposes associated with the generation and supply of electricity and the payment of compensation due under the Acquisition of Land Act to the landowner by the licensee; and
- the granting to the Minister of powers of inspection and rights of entry to licensee's premises and powers to make regulations in consultation with the BPC for the purposes of the ESA.

From this it is quite clear that BPC has a powerful role, not only from a policy perspective but indeed legally. Whilst the role of the Minister is equally important, it should be noted that the discretion of the Minister could effectively be bound by the future plans and attitude of BPC.

Whilst it can be expected that BPC will not go against the wishes of Government, this further illustrates that it is imperative that Government agree up front on the rights of any new IPP with regard to the development of any new power station. In this context the most important consideration is probably the in-principle agreement on compulsory 3rd party access and the rules that would govern the access and use of the BPC transmission system.

As demonstrated, Botswana's electricity legislation is not particularly conducive to IPP development. It is especially deficient in the following areas:

- a. It is aimed at regulating a vertically integrated utility (BPC) with no real provision for competition, especially in generation;
- b. BPC has preferential rights above any other new potential IPP;
- c. the licensing regime is simplistic and does not provide for an evolving ESI;
- d. tariffs and regulations are set by the Minister and there is no independent regulator;
- e. licences are aimed at generation and supply and does not deal with distribution, trading, imports and exports;
- f. technical regulations are deficient, e.g. there is no transmission or distribution grid code, not provision for compulsory third party access and no transmission use of system charges.

2.10.3 ***Electricity Supply Regulations***

The Electricity Supply Regulations (ESR) apply to all undertakings involved in the generation and supply of electricity. The ESR are broadly technical in nature. The ESR include regulations relating to metering, earthing, electrical lines, overhead lines, the specification for the construction of electrical equipment and the determination of disputes between a consumer and an electrical undertaking by inspectors appointed by the Minister.

2.10.4 ***Electricity Supply Licensing Regulations***

The Electricity Supply Licensing Regulations (ESLR) set out requirements relating to licenses for the generation and supply of electricity. Licenses are granted by the Minister in such from as the Minister may determine. The charges payable by a consumer are those specified in a license. Any agreement between the licensee and the consumer to amend the charges payable must be approved by the Minister. The Minister may 'cancel' a license if the

effectively have a "first bite" at the cherry or, viewed from another perspective, a veto on new developmental plans if it did not suit its own line of thinking.

licensee is in breach of the requirements of the licence and the licensee fails to remedy the breach within one month of a notice from the Minister requesting the breach be remedied. The Act is not clear on exports of electricity and to what extent the ESLR can be used to ensure co-ordination between the activities of a licensee in Botswana and activities across the border.

2.10.5 **Botswana Power Corporation Act**

The Botswana Power Corporation Act (BPCA) establishes the Botswana Power Corporation (BPC) as a body corporate. The functions of the BPC are stated to include the generation, transmission, supply and distribution of electricity in areas approved by the Minister. It should be noted that the BPCA does not appear to confer on the BPC an *exclusive right* in relation to the generation, transmission, supply and distribution of electricity in Botswana¹³.

Hence competition to BPC is possible¹⁴The BPCA is also silent on the subject of the ownership of the share capital of BPC and any restriction on the transfer of shares.

The principle provisions of the BPCA provide for, *inter alia*—

- the establishment of the BPC as a body corporate, its constitution and membership, the conduct of meetings and proceedings of the BPC and the appointment of office-holders;
- the function of the BPC being the generation, transmission, supply and distribution of electricity;
- the conferring of appropriate powers on the BPC for the purposes of the performance of its functions;
- the identification of a number of duties of the BPC to be considered when exercising its various powers. These duties include, *inter alia*, co-operation with other public authorities, the conduct of its business on sound commercial lines and a duty to maintain records of its operations; and
- the vesting of property, assets, debts and liabilities belonging to the Government relating to Government electricity undertakings in the BPC.

The Minister may give the BPC general or specific directions regarding the exercise of BPC's powers which, subject to the provisions of the BPCA and contractual or other legal obligations, the BPC is required to give effect to.¹⁵ The fixing of customer tariffs by the BPC, in respect of which there must be no unreasonable discrimination or preference, is also subject to the approval of the Minister.¹⁶

2.10.6 **Capacity and institutional constraints**

Generally speaking, whilst Botswana is conducive to private sector investments, it has certain capacity constraints. This is especially relevant in the following areas¹⁷:

- Absence of know how and experience in Government. New, large IPPs are something new for Botswana and hence the experience to deal with this animal simply does not exist. This is especially relevant in areas of:
 - ESI reform and restructuring enabling the establishment of IPPs

¹³ However, given the fact that the Minister is bound to consult with them in terms of the Electricity Supply Act it could *de facto* amount to exclusiveness if BPC so wished.

¹⁴ But unlikely without their agreement.

¹⁵ In such a way thus not only politically but also directly influencing the BPC's direction. Note the caveats regarding the Act and the business – the Minister would not be able to “order” BPC to do something that materially affects its viability, for example.

¹⁶ In practice this is referred to Cabinet for approval.

¹⁷ Based on the unfolding Mmamabula Energy Project and constraints experienced there.

- Legal and regulatory know-how conducive to the establishment of IPP's and the licensing framework underpinning that.
- Banking and insurance constraints
- General legislative constraints over a wide spectrum of areas, for example labour, immigration, water, mining
- Reliance by Government on BPC for its information and advice.
- The absence of a dedicated regulator for the energy sector with Government expected to play the role of shareholder, regulator and policy formulator.
- Absence of in-house knowledge and expertise on ESI matters
- Limited resources and a small pool of local expertise

Nevertheless, if recent past experiences are anything to go by, Government is willing to dedicate time and effort to make projects work.

3 DRC

3.1 Legal system, public administration and court system at a glance

Established as a Belgian colony in 1908, the Republic of the Congo gained its independence in 1960. Col. Joseph Mobutu was declared president in November 1965 and subsequently retained his position for 32 years. Ethnic strife and civil war continued until quite recently, although the DRC is presently relatively stable with Joseph Kabila as president. Provincial assemblies were constituted in early 2007, and elected governors and national senators early in 2007.

Government type	Republic
Administration	Presently 10 provinces, will be expanded to 25 provinces under the new Constitution
Constitution	A new constitution was adopted by referendum 18 December 2005; and came into effect in February 2006. DRC accepts compulsory ICJ jurisdiction, with reservations
Legal system	The legal system is based on both Belgian and tribal law. The courts include courts of first instance, appellate courts, a Constitutional Court (replacing the Supreme Court). Many disputes are adjudicated at the local level by administrative officials or traditional authorities. A national system of land law exists. However, it is based on a legal dichotomy, and its system of land registration is reported to be highly ineffective and insecure.
Executive Branch	Since the July 2006 elections, the country is led by a semi-presidential, strongly-decentralized state. The executive at the central level, is divided between the President and the Prime Minister. The President appoints the Government members (Ministers) at the proposal of the Prime Minister. In coordination, the President and the Government have the charge of the executive. The Prime minister and the Government are responsible to the lower-house of Parliament, the National Assembly. At the provincial the Provincial Assembly elects a Governor, and the governor, with his Government of up to 10 ministers, is in charge of the provincial executive. Some domains of government power are of the exclusive provision of the Province, and some are held concurrently with the Central Government. This is not a Federal state however, simply a decentralized one, as the majority of the domains of power are still vested in the Central Government. The governor is responsible to the Provincial Assembly
Cabinet	Appointed by President on proposal by the Prime Minister.
Legislative Branch	Bicameral legislature consists of a National Assembly and a Senate. Elections for the National Assembly were last held 30 July 2006 (next to be held in 2011) and for the Senate on 19 January 2007 (next to be held by 2012)
Judicial Branch	See above. Although the constitution guarantees an independent judiciary, in practice the president and the government have in the past been able to influence court decisions.

3.2 Summary of existing ESI related legislation

Ordonnance-Loi 70-033, May 16, 1970	Government Decree establishing SNEL, the national utility
Ordonnance-Loi 78-176, May 5 1978	Decree setting out charter, basis and objectives of SNEL
Ordonnance-Loi 78-002, January 6 1978	Power of President to appoint members to SNEL

3.3 Description of ESI authorities

The Minister responsible for Energy has executive responsibility for policy formulation for the ESI. By far the largest role-player in the ESI in the DRC is SNEL, the state-owned vertically integrated electricity supply utility. SNEL falls under the joint supervision of the Ministries of Portefeuille and Energy. The former ministry supervises administrative and financial aspects of SNEL's activities, including all actions that affect SNEL's financial position (such as external loans), budget and financial plans and real estate transactions.

The latter ministry exercises technical supervision across the energy sector, with competency to oversee the organization of SNEL's internal services, staff remuneration and the annual report.

There are also areas where supervision overlaps between the two ministries, including when SNEL establishes external partnerships.

The supervisory ministries exercise their authority over SNEL via three means, namely:

- Ex-ante authorization, required for certain acquisitions, Works or goods that exceed a certain threshold, loans with a tenor exceeding one year and the acquisition or sale of external financial interests.
- 'Passive approval', where approval is deemed to have been granted when the relevant ministry does not intervene within the space of a month; these activities include the internal organization of SNEL's departments, personnel issues, budgets and financial forecasts, and year-end activity and financial reports.
- 'Opposition', whereby the supervisory ministry can block any decision of the SNEL Board within five days of the notification having been received (which implies that any Board decisions are not deemed to have been executed until five days after their receipt at the relevant ministry)

3.4 Independent regulator

There is no independent regulator for the ESI. However, an investigation into the establishment of an energy regulator is on the cards.¹⁸

3.5 SNEL

SNEL manages all the main components of the generation, transmission and distribution networks in the DRC, including the isolated mini-grids that power some outlying towns, delivering 95% of all electricity produced in DRC. The company currently employs 6,500 staff.

The electricity sector in DRC has only been managed in an integrated fashion since the establishment of SNEL in 1970 from six private regional companies. As a result, the electricity system that SNEL inherited had not been built to consistent technical standards, being instead composed of different technical, equipment and planning standards (such as

¹⁸ According to a recent World Bank report.

differing specifications for transformers or varying voltage levels in transmission lines). The lack of inter-operability between components represents an engineering challenge and entails higher maintenance cost.

During the war, SNEL was divided into three distinct entities, with very limited links between them. While the company has since been re-unified, management remains weak. The majority of decisions are made at the corporate level, but because reporting lines to the regional divisions remain weak, implementation is patchy. A chronic lack of institutional support — such as vehicles, equipment and up-to-date IT resources — also weakens management capacity.

The company was recently re-organized into three main divisions. The corporate division runs the strategic functions that define long-term objectives, plans implementation and monitors performance. The operations division undertakes the principal activities of the company, including generation, transmission, and distribution and marketing functions. The support division provides the human and financial resources for the activities of the other two divisions. SNEL has recently adopted a corporate restructuring plan.

SNEL faces significant challenges in running the commercial aspects of its business. Collection of revenue for power provided is weak, with Government agencies and parastatals the least likely to pay. These weaknesses and failures have helped to severely weaken SNEL's financial position, and have helped to constrain the utility's ability to deliver key power services. The Government has recognized that making progress on any of these fronts will require thorough reform at SNEL. Improving billing and collection is vital, as is improving internal financial control systems.

There are no clear performance indicators against which management effectiveness can be evaluated and very little by way of substantive controls imposed on SNEL.

3.6 Private Sector Involvement

Private sector involvement in the electricity sector in DRC is currently limited to private generation plants at several extractive industry concerns in the Katanga region. These plants do not sell power into SNEL's grid. However, efforts are underway to redefine the role of the private sector in DRC's energy sector, including a review of the regulatory framework with a view to encouraging private sector participation, consideration of strategic public-private partnerships and a restructuring of public enterprises in order to encourage competition.

In the short and medium term, the Government is exploring partnerships with the private sector in the rehabilitation of Inga I and II, and in the development of Inga III, a new hydroelectric plant at the same site with a generation capacity of about 3,500 MW. The Project — dubbed the Western Power Corridor Project, or 'WESTCOR'¹⁹ — was launched in 2004 as a collaborative effort between the electricity supply companies of DRC, Angola, Botswana, South Africa and Namibia. Total costs are estimated at about US\$ 5 billion, including well over US\$1 billion in related transmission investments to connect to SADC customers, and will require extensive private sector financing to be financially viable.²⁰

The World Bank has provided some US\$90 million equivalent in support for a range of upgrading projects that are currently under implementation:

¹⁹ As it is linked into a transmission grid option called "WESTCOR".

²⁰ Which, according to some sources, is not very likely in the foreseeable future.

- About US\$15 million for limited repair and maintenance works at the Inga 1 and 2 facilities.
- Strengthening the reliability of the existing 220KV line from Inga to the capital.
- Upgrading the distribution network in Kinshasa and other main towns.
- Rehabilitating the transmission line from Inga to the Zambian border to facilitate increased exports.
- Rehabilitation of small thermal and hydro facilities in Katanga and other towns.
- An integrated set of interventions that will strengthen the capacity of the Coordination Center of SAPP to manage electricity trade in the sub-region, to remove existing transmission bottlenecks and connect members. The first phase of the Project will, inter alia, make available to the SAPP a significant block of hydro energy from Inga Plans that directly involve DRC include the planned increase in capacity of the very high voltage transmission system in the DRC that connects Inga to SAPP via the Katanga region, as well as increasing the capacity of the transmission corridor from the DRC/Zambia border to Zambia.

3.7 Legal and Regulatory Constraints²¹

3.7.1 General

The Government of the DRC has sought to prioritize reliable power provision as a driver of economic development. While allowing for private participation in the sector, SNEL will remain a key operator. Improvements in the sector for the time being are focussed on improving SNEL's efficacy. SNEL, however, has historically faced significant governance weaknesses and failures. These have undermined the utility's ability to operate efficiently, pushing the utility to the edge of bankruptcy and preventing it from delivering key power services to the people of DRC.

At the same time, there is a need to improve governance within the sector beyond SNEL, notably by reducing non-payment by power consumers and establishing a transparent, equitable and sound framework for attracting private sector partners to the sector who are viewed by the authorities as vital to the further development of the sector. The governance failings in the sector encompass SNEL's internal operations, as well as external parties, including the Government, contractors, joint venture partners and customers.

These failings are typically as set out below:

3.7.2 Strategic Decision-Making

Historically, decision-making within SNEL has been driven at times by privileged stakeholders, rather than corporate objectives. While recognizing that any power company, and in particular a state-owned company, must respond to a variety of constituencies and drivers in making strategic decisions, there was excessive influence that led the company to largely ignore a large portion of its customer base, especially non-industrial customers.

3.7.3 Joint-Venture Contracting

There is currently a lack of clarity regarding the joint venture contracting practices of SNEL and other Government entities, which appear to be handled excessively in an ad hoc and uncontrolled manner.

²¹ This section is based on a recent sector report by the World Bank on the DRC.

3.7.4 **Financial Operating Issues**

The major governance issues facing SNEL and the ESI in the DRC relate to financial weaknesses, including misappropriation of corporate funds, inappropriate selection of suppliers/contractors and uncertain receipt and fraudulent invoicing of goods.

3.7.5 **“Failure to Pay” for Power by Consumers**

An important financial drain for SNEL are the consumers who tap into the power lines illegally or refuse to pay bills, consuming power without ever paying for the electricity they consume. It is currently estimated that these forms of theft of power represent an important part of SNEL's non-technical and collection losses. In addition, various individuals and companies have been exempted from payment. The Government also recently ended the practice of providing exemptions to companies owned or controlled by it.

3.8 **Inga and WESTCOR**

No discussion on the DRC can be complete without reference to Inga and WESTCOR. Inga is the main site for hydropower generation in the DRC, with a potential combined generation capacity more than 40 000MW. WESTCOR is the project initiated by the SADC as one of the flagship Nepad projects to develop a portion of Inga (Inga III) as well as the necessary infrastructure to evacuate power to Southern Africa via Angola and Namibia.

3.8.1 **Inga**

The development of hydroelectric power generation projects in the DRC, together with the development of a western corridor to transport power to Southern Africa has been in the news quite a lot recently and continues to receive a lot of political and press attention. The hydroelectric resources of the DRC is estimated at approximately 100 000MW, which is huge and much more than the DRC will need for many years. Hence the export of electricity could turn into a major foreign currency earner for the DRC and be instrumental in turning the country around.

Nearly 44%, that is to say ±44.000 MW, of possible hydroelectric projects are concentrated at Inga, where, over a distance of some 15 km in a straight line, the river has a natural fall of 102 meters. Power available to Inga is practically guaranteed all year round because of the huge and regular flow of the river Congo (42.000 m³ /s).

The first studies for the installation of hydropower generation units at Inga were completed between 1937 and 1960. The first objectives were to meet the demands of DRC at the time. This led to two installations –

- The power station Inga1, with a maximum capacity of 351 MW, which started operations in 1972;
- Inga II, with a capacity of 1424 MW, which started operating in 1982²²;

A further power station Inga III, is presently being “developed” under SADC guise and will deliver between 1700 and 3500 MW.²³ These three power stations comprise the so-called first Phase of the Inga Project.

²²Presently being refurbished.

²³ The \$5-billion Inga III hydropower project was officially launched in October 2004 with the signing of a memorandum of understanding (MoU) by five Southern African Development Community (SADC) countries. (Angola, South Africa, the DRC, Namibia and Botswana, which under the auspices of WESTCOR will develop, own, manage, maintain, operate and promote the Inga III project. This remains to be seen.

An ambitious further phase, code-named Grand Inga, is also being investigated. This project will imply stopping the river and diverting its flow through a narrow valley, making it possible to produce some 39000MW of electricity by 52 turbines of 750MW each.

Needless to say the development of Inga 3 (and of course Grand Inga if and when it materialises) largely exceeds the needs of the DRC alone, and the power would need to be exported for the projects to make any sense²⁴. Two export avenues are being considered:

DRC - SOUTHERN AFRICA

- Inga 1 and 2 is presently inter-connected to the networks of Southern African countries through the axis: Inga-Kolwezi-Karavia (DRC) - northern Luano-Kariba (Zambia) - Kariba south-Insukamini (Zimbabwe) - Phokoje (Botswana) - Matimba (South Africa).
- A study for re-enforcing the network was carried out by a team from ZESCO, SNEL and ESKOM during the 90's, which made the following recommendations:
 - In the short run, to build a second 220 Kv line from the DRC to Zambia via Karavia and Luano in order to transit some 500 MW;
 - In the medium-term, to reinforce the line from Inga-Kolwezi and to build a 330 Kv line between Kolwezi and Luano, while passing by Solwezi to Zambia, in order to allow the flow of another 1 000 MW.
- Another concurrent project study under way is the so-called Western Corridor (WESTCOR), a proposed combined AC/DC line from DRC via Angola and Namibia to Botswana and South Africa. (See separate section on WESTCOR).

CENTRAL DRC - CENTRAL AFRICA/WEST AFRICA

- Brazzaville in the Republic of the Congo has been inter-connected with the Western network of the DRC since 1957.
- There is a construction project a HT line which would run from Kwilu, in the Western network of SNEL, to feed certain cities in the north of Angola, such as Mbanza-Congo, Maquella C Zombo, Soyo and Tomboko.

3.8.2 WESTCOR

WESTCOR is a joint-venture project of the countries (via SADC) and the national power utilities of the DRC, Angola, Namibia, Botswana, and South Africa, which plan to build a third power plant at Inga (Inga III), on the Congo river, to supply a new power "highway", stretching south through Angola and Namibia to link with the existing Southern African power grid in Namibia, Botswana and South Africa.

The African Development Bank has provided a grant of some \$14-million for a greater Inga power-generation feasibility study, from which some \$12-million was allocated to WESTCOR.

The feasibility study will include the run-of-river power-generation design and HVDC transmission technology for bulk power transfer. The feasibility study should be completed over the next three years. The scope of the feasibility study includes an environmental-impact assessment, power-generation and power-transmission layout and design, economic viability and sustainability studies and customer power-purchase agreements.

Numerous studies and events have been arranged over the last three decades focusing on the Grand Inga project, involving a large number of players from all over the world. However, no major breakthroughs have been achieved thus far because investors balked at the high

²⁴ Local consumption by a large smelter, for example, is of course also a possibility. Should this realize, it is doubtful if WESTCOR will take off soon as SNEL would probably want to rather sell power internally to such large off-taker as a much simpler solution.

political and country risks involved. It is envisaged that the Inga III and related transmission corridors would largely be project financed, and it remains to be seen if country risks, different legal and regulatory regimes and political drivers over five diverse Southern African countries would be attractive to potential investors, despite the fact that it is a flagship NEPAD project.

In addition, there are serious doubts in some knowledgeable sectors about both the technical and economic feasibility of the WESTCOR project.²⁵ Whilst no doubt Inga III (or some combination of projects like Inga) will in future realise²⁶, some sources canvassed on this were not convinced that this will happen over the shorter term. Needless to say they can also not see a Grand Inga on the horizon.

²⁵ Which includes aspects such as a spinning reserve equal to some 3000 -3500MW by off-takers in the event that the dedicated transmission system for whatever reason malfunctions (which is impossible in the present regional shortage environment – no utility has that to spare), the sheer cost of the project which will make it not very viable compared to other possible regional projects (especially if the cost of transmission lines are added), the complexities of converting DC into AC in the countries along the way to ensure matching with internal AC systems, and the loss of some 500MW along the way by way of technical losses.

²⁶ As drivers for clean forms of energy become more and more important and the political situation stabilizes.

4 MOZAMBIQUE (Republic of Mozambique)

4.1 Overview of legal system, public administration and court system

Almost five centuries of Portuguese rule came to a close with independence in 1975. The ruling party formally abandoned Marxism in 1989, and a new constitution the following year provided for multiparty elections and a free market economy.

Government type	Republic
Administration	10 provinces
Constitution	Approved in 1990
Legal system	Based on Portuguese and customary law. Judicial review of administrative and executive action is possible. Has accepted compulsory ICJ jurisdiction, with reservations (Hierarchy of laws is: Constitution, Laws (passed by Assembly), Decrees (passed by Council of Ministers))
Executive Branch	President is both Chief of State and Head of Government. President elected by Assembly. Prime Minister appointed by President
Cabinet	Council of Ministers appointed by President
Legislative Branch	Unicameral Assembly of the Republic (Assembleia da Republica). 250 seats, members are directly elected by popular vote on a secret ballot
Judicial Branch	Supreme Court (the court of final appeal). Some professional judges are appointed by the President; others are elected by the Assembly. Other courts include an Administrative Court system, Customs Court; Maritime Courts; Courts Marshal; and Labour Courts. Note that the Constitution provides for the establishment of a Constitutional Court, but this is yet to be established. The Supreme Court currently reviews constitutional cases

4.2 General procedures for the development and amendment of legislation

Laws are enacted by the Assembly. The Council of Ministers issues Decrees. Ministers issue 'Diplomas' (regulations/directives). Electricity Supply Industry (ESI) legislation follows Government policy developed by the Minister of Mineral Resources and Energy (Minister) (through the Ministry of Mineral Resources and Energy (MIREME – Ministerio dos Recursos Minerais e Energia)).

MIREME's National Directorate of Energy (DNE – Direcção Nacional de Energia) has the overall responsibility for sector development, including policy formulation and implementation; project definition and promotion; initiation and formulation of regulations; and energy planning, management and conservation. The DNE also has certain functions in areas such as rural electrification, and the supervision and control of sector entities. Amendment of legislation follows the same procedure.

4.3 Summary of existing ESI legislation

Electricity Act, 1997	Defines the general policy for the organization of the power sector and the administration of the supply of electrical energy. It provides the legal framework for electrical energy generation, transmission, distribution and
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	sales within Mozambique, as well as its exportation and importation, and the granting of concessions for such activities. It also provides for mandatory, third party non-discriminatory access to the transmission system, and permits cross-border electricity trade, subject to the approval of Government.
Local Government Regulations, 1997	Gives municipalities certain functions in terms of investment and operation of electricity distribution in local council areas. Deal with local government affairs and the relationship between local governments and concessionaires.
Electricity Regulations	Colonial-era regulations still exist for technical issues such as equipment and supply standards, qualification requirements of electricians.

4.4 Description of ESI authorities

The Minister has executive responsibility for the ESI. MIREME is the policy recommendation body. No independent regulator for the ESI has been established. ESI regulations are issued by the Minister.

4.5 Independent regulator

There is currently no independent regulator. A National Electricity Council (CNELEC) was created (in 2003) to serve as a forum for consultation and protection of the public interest in the ESI, as well as the vehicle for public hearings on relevant matters related to national electricity policy, and on the application of the provisions of the Electricity Act and its regulations. The evolution of CNELEC into a fully fledged regulator is a Government priority, and is expected to be realised during 2007/8.

CNELEC is a legal entity with administrative and financial autonomy, comprising of five to seven permanent members selected from persons with recognized experience and expertise in respect of tariffs, economics and other legal and technical aspects of power systems. Although it is mainly an advisory body and not strictly a regulator in the normal sense, it does undertake regulatory responsibilities, such as dispute resolution, protection of the customer interests and tariff reviews and recommendations.

4.6 General procedures for handling of appeals, disputes and complaints

Mozambique has a functioning system of courts and litigants are served by qualified and experienced private legal practitioners. Government has embarked on a program of improving the efficacy of the judiciary, including rolling out new courts. It is unclear whether the courts have been involved in hearing ESI disputes in the past. An unsuccessful claimant has the right to take a decision of the Administrative Court on appeal to the Supreme Court.

Complaints are first addressed to Electricidade de Mozambique (EDM – the state-owned utility). When they are not satisfactory addressed, complaints and disputes are often referred to the Minister directly, or to MIREME. CNELEC does play a role in addressing complaints of a general nature, and gives customers an opportunity to be heard on key issues facing the ESI. There are no established consumer complaints bodies.

4.7 Formal influences by other bodies on ESI

Local governments are expected to play an increasingly important role in the ESI, as they have the right to issue concessions to distributors and suppliers. Some private sector concessions have been allocated, notably in the Inhambane- area.

Another entity of relevance to the ESI is the Technical Unit for Implementation of Hydropower Projects (UTIP). UTIP was created with the main objective of executing the required technical studies and to follow up the implementation of projects for the development of hydropower potential. UTIP is a state institution under MIREME, with legal authority, administrative and financial autonomy, and is required to have adequate human, financial and material resources to independently execute its mandate. UTIP's structure comprises a Directorate, a Management Board and a Technical Board.

Environmental matters are the responsibility of the Ministry of Environmental Coordination (MEC). It is responsible for the formulation and implementation of environmental policies and practices.

An Occupational Health and Safety Act (Decreto num 31 of 1989) regulates health and safety matters, and various labour codes set out conditions of employment (Lei num 8 of 1998). The Ministry of Health is responsible for health and safety in the workplace.

Mozambique does not have competition legislation, and there is no competition authority.

EDM is an operating member of the Southern African Power Pool (SAPP), while Hidroelectrica de Cahora Bassa (HCB) is a member of SAPP's Operating Sub-Committee. It can be expected that HCB will become a member of SAPP as the SAPP rules have been amended to allow for IPP participation. CNELEC is not a member of the Regional Electricity Regulator's Association (RERA).

Ownership of land vests in the state, with a leasehold system conferring occupation and usage rights on individuals. The Minister is obliged to authorize access to private land and buildings for purposes of electricity supply, in cases where the land user refuses permission.

4.8 Treatment of private investors

Mozambique's economy was crippled by the 1975-1992 civil war, which severely disrupted electricity production and supply. Investment in the ESI was not possible in such circumstances. Mozambique is today one of the more stable and well-performing countries in Africa despite wide-spread poverty. Although still a centrally planned economy, Government is instituting free market reforms. The potential for foreign investment is high and Government has adopted 'investor friendly' policies and actively encourages foreign direct investment into the country. Government has issued a long-term concession to a private company for the generation and distribution of electricity in the Northern Inhambane Province. A concession for a coal fired IPP at Moatize is presently under consideration by the Government and the possibility for gas generation also exist.

There is provision for the enforcement of certain foreign judgments. Mozambique is a signatory to the New York Convention, 1958 (Recognition and Enforcement of Foreign Arbitral Awards) (Date of entry: 11 June 1998) and most of the UNCITRAL Rules are currently included in contracts entered into by parties in Mozambique. There is also recourse to international arbitration of the ICC or the ICSD.

4.9 Major legislative challenges in the ESI

The legal and regulatory frameworks necessary to support ESI reform are largely in place. However, it needs to be operationalised with due cognisance of political and implementation difficulties.

5 NAMIBIA

5.1 Overview of legal system, public administration and court system

South Africa occupied the German colony of South West Africa during World War I, and administered it as a mandate until after World War II, when it annexed the territory. Independence (and a new name) came in 1990, following multiparty elections and the establishment of a constitution.

Government type	Republic
Administration	13 regions
Constitution	Ratified on 21 March 1990, effective 12 March 1990
Legal system	Based on Roman Dutch law, English common law and the Constitution. Judicial review of administrative and executive action is possible. ²⁷ Has accepted ICJ jurisdiction, with reservations
Executive Branch	Chief of State is the President. President is elected by popular vote. The Prime Minister is Head of Government
Cabinet	Appointed by President from among the members of the National Assembly
Legislative Branch	Bicameral legislature consists of the National Council (26 seats: two from each region) and the National Assembly (72 seats: members are elected by popular vote). Elections for regional councils are held to determine the members of the National Council
Judicial Branch	Supreme Court and High Court (judges are appointed by the President on the recommendation of the Judicial Services Commission) and a system of lower courts (Magistrates Courts)

5.2 General procedures for the development and amendment of legislation

Laws are enacted by Parliament. ESI legislation follows Government policy developed by the Minister of Mines and Energy (through the Ministry of Mines and Energy (MME)), and approved by Cabinet. Amendment of laws follows the same procedure. Current policy for the ESI is contained in the White Paper on Energy, published (by MME) in 1998. This spells out Government's key policy objectives, namely: to increase sector efficiency; improve access to electricity among the population; broaden sources of supply; promote private sector investment into the ESI, and introduce competition over time.

5.3 Summary of existing ESI related legislation

Electricity Act, 2000 (Electricity Act)	Establishes the ECB as the independent regulator
Powers of the S.W.A. Water and Electricity Corporation Act No. 14 of 1980	Deal with establishment & issues relating to NamPower, the state owned vertically integrated utility. Government is the sole shareholder

²⁷ In terms of Article 79 of the Constitution, the Supreme Court adjudicates appeals from the High Court on interpretation, implementation and upholding of the Constitution and the fundamental rights and freedoms guaranteed therein (including administrative acts i.e. acts of the executive).

(NamPower Act)	
Local Authorities Act, 1992 Regional Councils Act, 1992	Deal with local and regional council matters respectively, and give local and regional councils the right to supply electricity within their municipal boundaries. The sale and supply of electricity within the area of jurisdiction of a local authority is under the control of that authority
Model Electricity Supply Regulations No. 71 of 1996	Issued by MRLGH for use by municipal councils
Administrative Regulations, 2000	Functioning of the Board of ECB, applications for licences, fees and appeals
Technical and Economic Regulations, 2004	Framework for technical and economic regulation
ECB Standards, 2004	National Quality of Supply and Service Standards.

5.4 Relevant ESI authorities

The Minister has executive responsibility for the ESI. MME is the policy recommendation body. ECB is the independent regulator. It has statutory responsibility to advise the Minister on electricity matters. ESI regulations are issued by the Minister.

5.5 Independent regulator

The ECB is established under the Electricity Act, and is a body corporate with perpetual succession. The objects of the ECB are to exercise control over the ESI and to regulate the generation, transmission, distribution, use, import and export of electricity in accordance with prevailing Government policy. It is also assisting the MME with implementation and monitoring of certain ESI reform initiatives, e.g. the establishment of a single-buyer market and the distribution industry restructuring process. Key functions include making recommendations to the Minister to:

- Issue and cancel licences for the generation, transmission, distribution, import and export of electricity; and
- Approve the prices at, and the conditions on which electricity may be supplied to end-users of electricity by a licensee in a transparent manner as provided for in the regulations.

In respect of licensing and tariff setting, ECB makes recommendations and the Minister takes the final decision. The Minister has not always followed ECB's advice. Hence the "independence" of the ECB at this level can effectively be challenged.

The ECB is funded by appropriations made from Parliament, licence application fees and through a levy imposed on electricity consumers. The ECB Board consists of five members. They must have appropriate experience and expertise in the electricity industry, law, economics and environmental issues. The Chief Executive Officer (CEO) is not a member of the Board. Board Members are appointed by the Minister. The CEO is appointed by the Board. The ECB is an industry-specific regulator. The Board of the ECB performs and exercises all powers and duties of the ECB. Namibia has therefore followed the 'executive board' model, where regulatory responsibility is vested in the regulatory board, as opposed to the 'Director General' approach followed in some other jurisdictions.

ECB regulates through the issue, modification and revocation of licences. The Electricity Act provides that no person may undertake a regulated activity without being in possession of a licence issued by the ECB (after approval by the Minister). It is an offence to conduct a regulated activity without a licence, or to fail to carry out a decision of the ECB, or to contravene a licensing condition. There is a constitutional obligation for administrative justice and fairness.

ECB has extensive powers to sanction licensees for breach of its licensing conditions, once set-down procedures have been exhausted. The penalty is a fine (not exceeding N\$4,000 or imprisonment for a period not exceeding one year).

At the end of every year, the ECB Board must submit a report to the Minister of its activities during the year, which must place it before Parliament for information. In practice, ECB appears to be adopting a more 'informal' approach to regulation, as distinct from reliance on formalized rules and procedures. ECB acknowledges that its role is to implement Government policy through regulatory decision-making. It also acknowledges that the boundary between policy and implementation is often not clear, and that it expects Government to give it clear policy directives, which are often not forthcoming.

5.6 General procedures for handling of appeals, disputes and complaints

Namibia has a well-functioning system of (lower and higher) courts and litigants are well served by qualified and experienced private legal practitioners. An unsuccessful claimant has the right to take a decision of the High Court on appeal or review to the Supreme Court.

Complaints are referred to NamPower (the state-owned utility) or the municipal distributors for advice and/or resolution. Where the licensee is unable to resolve the complaint, it is referred to ECB. ECB now has the legislative responsibility to settle (ESI) disputes through mediation. Prior to this, most complaints and disputes were referred to the Minister directly, or to MME. In addition, many (ESI) complaints are dealt with by local municipal councils or elected local representatives. There is a Namibian Consumer Body (which is affiliated to Consumer's International) but it does not have any real capacity to entertain customer complaints.

Decisions of the ECB are subject to appeal to the Minister in terms of the Electricity Act. This appeal process is designed to protect the interests of licensees against capricious rulings. In addition, all decisions of the ECB are subject to judicial review by the Supreme Court of Namibia.

5.7 Formal influences by other bodies on ESI

Government's ESI restructuring programme has been increasingly influenced by the Ministry of Regional and Local Government and Housing (MRLGH) because municipal councils are involved in electricity distribution. The Constitution gives certain rights to these councils over the distribution of electricity, and MRLGH is playing a key role in the restructuring of the distribution sector into regional distributors.

Environmental matters are the responsibility of the Ministry of Environment and Tourism (through its Directorate of Environmental Affairs). It has recently undertaken an extensive review of environmental legislation, but not all the legislation has been put into operation. This includes the Draft Environmental Management Act and the Draft Pollution Control and Waste Management Act.

Occupational Health and Safety Regulations (Government Notice No. 156 of 1997) are in operation which deals with the health and safety of persons. A Labour Act No. 6 of 1992 regulates conditions of employment.

NamPower is an operating member of the Southern African Power Pool (SAPP). SAPP can also be expected to play an increasing important role in Namibia's ESI, as the country looks

to the region for power in future. ECB is a member of the Regional Electricity Regulator's Association (RERA), and RERA is presently hosted at the ECB's offices.

Land ownership in Namibia follows the freehold system. In terms of the Electricity Act, where a landowner has refused permission, a licensee may, with the approval of the Cabinet, by expropriation acquire land or rights in land, in the public interest, for electricity supply purposes. The Cabinet considers a report from the Board of ECB, compiled after the Board has held a public hearing. Expropriations (including compensation) are effected in accordance with the Expropriation Ordinance, No. 13 of 1978.

5.8 Treatment of private investors

A Foreign Investment Act affords protection to foreign investors in Namibia. Various investment incentives have been created. Namibia's attempts to attract private sector investment into the ESI have met with mixed results. NamPower has been studying the desirability of partial privatisation, or alternatively, concluding a strategic partnership with an international utility for some time.

Namibia is not a signatory to the New York Convention, 1958 (Recognition and Enforcement of Foreign Arbitral Awards). However most of the UNCITRAL Rules are currently included in contracts entered into by parties in Namibia.

5.9 Major legislative challenges in the ESI

New legislation will be needed to facilitate the IPP's, and allow for the privatisation of NamPower if this approach is followed.

6 SOUTH AFRICA

6.1 Overview of legal system, public administration and court system

South Africa achieved its independence from Britain in 1910, and declared a republic in 1961 following a referendum. The 1990s brought an end to apartheid and ushered in black majority rule from 1994.

Government type	Republic
Administration	9 provinces
Constitution	Effective 10 December 1996
Legal system	Based on Roman Dutch law and English common law. Constitution is the supreme law with embedded modern Charter on Human Rights. Constitutionally-based review of legislation is possible. Judicial review/appeal of administrative and executive action is possible. Has accepted ICJ jurisdiction, with reservations
Executive Branch	President is Chief of State and Head of Government. President is elected by National Assembly. Executive Deputy-President appointed by President
Cabinet	Appointed by President from among the members of the National Assembly
Legislative Branch	Bicameral Parliament consisting of a National Assembly (400 seats: members elected by popular vote under a system of proportional representation) and National Council of Provinces (NCOP) (90 seats: 10 members elected by each of the nine provincial legislatures). The NCOP has special powers to protect regional (provincial) interests
Judicial Branch	Constitutional Court; Supreme Court of Appeal; High Courts (in each province: in some provinces, there is more than one High Court); and extensive system of Magistrates Courts. Judges are appointed to superior courts by the President, on recommendations by the Judicial Services Commission

6.2 General procedures for development and amendment of legislation

Laws are enacted by Parliament. In certain cases, legislation also has to be passed by the National Council of Provinces (NCOP)²⁸. ESI legislation follows Government policy developed by the Minister of Minerals and Energy (Minister) (through the Department of Minerals and Energy (DME)). Current policy for the ESI is contained in the White Paper on Energy, published (by DME) in 1998. Key elements of the White Paper include: restructuring of the electricity distribution sector; encouraging competition within electricity markets; encouraging diversity of supply sources and energy carriers; permitting access to the transmission system; and encouraging private sector participation into the electricity sector²⁹. Policy development usually follows an extensive consultative stakeholder process (which is unusual in the region). Amendment of laws follows the same procedure.

²⁸ Where it involves a provincial or local authority issue. Electricity reticulation, for example, is a local matter hence leads to many jurisdictional issues for the National energy regulator.

²⁹ Of which very little has realised so far.

6.3 Summary of relevant ESI legislation

Constitution of the Republic of South Africa Act No. of 1996	Supreme law. Gives municipalities rights to reticulate electricity in their municipal areas & oversee/regulate service providers
Electricity Regulation Act No. 4 of 2006 (Electricity Regulation Act)	Sets out regulatory and licensing framework for ESI in South Africa, and provides for specific powers for electricity licensees to conduct business. Amendment in 2006 – NERSA now regulates distribution as well ³⁰ . Act administered by NERSA.
Eskom Conversion Act, 2002	Corporatises Eskom (the state owned vertically integrated utility) as a company, grants powers to conduct business and establish subsidiaries
Municipal Systems Act No. 32 of 2000 Municipal Finance Management Act No. 56 of 2003	Establishes the municipal council legislative framework. Municipal distributors operate under these Acts Sets out the municipal council financial framework, which impacts on issues such as tariff setting, cross-subsidies etc.
Electricity Regulations No. R506 of 1988	Technical supply standards
NRS Standards	National standards relating to quality of supply, quality of service, minimum equipment standards, grid codes etc.
National energy regulator Act No. 40 of 2004	Replaces NER with National energy regulator of South Africa (NERSA), combines natural gas, petroleum pipelines and electricity in one regulator.

6.4 Relevant ESI authorities

The Minister has executive responsibility for the ESI. DME is the policy recommendation body. NER is the independent regulator. Municipal councils have certain rights over electricity reticulation in terms of the Constitution. ESI regulations are issued by the Minister under the Electricity Act.

6.5 Independent regulator

The NER was established and operated under the Electricity Act of 1987. It has continued under the new name of NERSA and the country has recently adopted new legislation regulating the ESI, i.e. the Electricity Regulation Act of 2006. This Act provides for a licensing-based system of regulation as opposed to a regulation-based approach³¹. The NER is funded through a levy imposed on electricity consumers (collected at the generation level) in terms of specialised legislation enacted for this purpose.

NERSA regulates through the issue, modification and revocation of licences. The Electricity Regulation Act provides that no person may engage in any manner in any undertaking for the generation, transmission, supply, distribution, import or export of except under the authority of a licence. Licences are issued on such conditions as determined by the regulator in the licence. However, the discretion of the regulator is bound to parameters set out in the

³⁰ Debatably. The constitution is quite clear that “reticulation” falls under the ambit of local Government not national Government. In the absence of a clear definition of “reticulation” it is dubious whether NERSA can regulate local authorities other than submission to NERSA on a voluntary basis.

³¹ In the context that a regulation approach would apply uniformly to all parties, whilst a licence approach could be made applicant specific.

Act. Significant monetary penalties can be imposed under the Electricity Act for non-compliance to licences or regulations.³².

In practice, NERSA has adopted a more 'informal' approach to regulation, as distinct from reliance on formalized rules and procedures. For example, it has on more than one occasion 'negotiated' Eskom's annual price increase.³³ NERSA has found it especially difficult to interpret Government's ESI policy. This has often led to NERSA allegedly 'straying' into DME's policy making territory. NERSA took a 'pro-competition' policy position, and committed a lot of resources to designing an appropriate regulatory framework in the absence of DME confirming that this was indeed Government's position, with Government recently going completely the opposite direction with its recent declaration that Eskom is to be a single buyer.³⁴ In practice, NERSA has found that the boundary between policy and implementation is often blurred, and it contends that it is acceptable for it to be making or implementing 'regulatory policy' to make progress in the absence of clear direction from Government.

It is hence generally acknowledged by most stakeholders that NERSA is relatively independent, and that the Minister does not unduly interfere in its regulatory decisions. At the end of every year, the Board must submit a report to the Minister of its activities during the year, who must place it before Parliament for information. NERSA of course not only deals with electricity, but also took over the functions of the Gas Regulator (established in terms of the Gas Act No. 48 of 2001) and the Petroleum Pipelines Regulatory Authority (established in terms of the Petroleum Pipelines Authority Act No. 60 of 2003).

NERSA consists of seven members (four full time Board members (one member representing each of the electricity, gas and petroleum pipelines industries, and the CEO) and three part-time members).

6.6 General procedures for handling appeals, disputes and complaints

South Africa has a well-functioning system of lower, higher and appeal courts (magistrates' courts, High Courts and Supreme Court of Appeal, respectively). The Constitutional Court is the highest court in all constitutional issues. Litigants are well served by qualified and experienced private legal practitioners. Many South African legal firms are associated with international law firms, and most of the big international firms have local South African offices.

Complaints are often initially referred to licensees, i.e. Eskom (the state-owned utility) and the municipal suppliers (distribution licensees). Where these remain unresolved, NERSA has the legislative responsibility to mediate or arbitrate. In municipal areas, where municipal councils supply electricity, complaints are often referred to the local authorities for finalization. Various statutory Consumer Councils and other consumer interest bodies also get involved in electricity related disputes and complaints. South Africans (particularly businesses) are fairly litigious, and the courts are often called on to rule in ESI related disputes. Court cases usually relate to claims (instituted in the High Courts) for compensation against suppliers for personal injury or damage to property. An unsuccessful claimant has the right to take a decision of the High Court on appeal to the Supreme Court of Appeal, and to the Constitutional Court if the issue has constitutional implications.

NERSA has also set up a number of customer forums in different provinces to assist it with customer service related issues. These forums are intended to deal with 'first line' consumer complaints. NERSA regularly visits these forums to make presentations on customer

³² The maximum fine is currently R2 000 000 (\$277 000) *per day* that non-compliance continues – significant in South African terms.

³³ Undeniably contributing to suspicions about regulatory capture.

³⁴ Despite being confirmed in Government's White Paper on Energy.

service, customer rights and responsibilities, health and safety aspects of electricity supply etc. It has also successfully used radio programmes to get its message out to customers.

6.7 Formal influences by other bodies on ESI

The Department of Provincial and Local Government (DPLG) and the National Treasury (NT) has increasingly steered policy on restructuring the distribution sector, where Eskom and 187 municipal councils distribute electricity.

Government has now agreed to merge the distribution industry into six regional electricity distributors (REDS). This process is driven by EDIH – a Government owned company. The Municipal Systems Act, 2000, the Municipal Structures Act, 1998 and the Municipal Finance Management Act, 2003 (MFMA) primarily govern municipal electricity distributors. Likewise, the Department of Public Enterprises (DPE), Eskom's line ministry, drove the corporatization of Eskom (i.e. conversion into a company with all issued shares held by the national Government).

National Treasury (NT - effectively part of the Department and Ministry of Finance) is also very influential, and the municipal councils are obliged to comply with its (annual) financial directives. NT is expected to play an increasingly important role in the ESI as it moves to set financial parameters for both municipal and state-owned enterprises. The financial regulation of municipal Government bodies takes place under the MFMA whilst national Government bodies such as Eskom is governed in terms of the Public Finance Management Act No. 1 of 1999. Both are particularly onerous and prescriptive pieces of legislation.

Environmental matters are the responsibility of the Department of Environment and Tourism (DEAT). Various national policies have been developed, and environmental compliance is an increasingly important issue for suppliers in the ESI.

Occupational health and safety matters are the responsibility of the Department of Labour (DOL). An Occupational Health and Safety Inspectorate within the DOL is responsible for compliance monitoring and prosecutions, while the DME has an inspectorate focussed on mines. The current Acts are the Occupational Health and Safety Act and the Mine Health and Safety Act which deals with the health and safety of persons at work and of those connected with the use of plant and machinery. General Administrative Regulations for health and safety are also in place.

South Africa has a very efficient Competition Commission (Commission), established under the Competition Act 89 of 1998. Other than most jurisdictions, the Commission has *concurrent* jurisdiction over competition issues with sector specific regulators such as NERSA. In order to promote the handling of concurrent jurisdiction, the Commission has concluded a memorandum of understanding (MOU) with NERSA (and other regulators). The MOU provides that where mergers require the approval of both regulators, separate and concurrent applications must be made with each for their respective consideration. The regulators must make independent assessments and where their decisions differ, they may consult each other to ascertain the reasons for these differences. With regard to the handling of complaints, where concurrent jurisdiction exists, both the Commission and NERSA keep each other apprised of such complaints if they had been lodged with the other. They have also agreed to consult with each other and to provide a decision within 60 days to complainants. Importantly, the MOU does not exclude the independent decision making of either body with the result that what may be acceptable to the one is not acceptable to the other.

Eskom is an operating member of the Southern African Power Pool (SAPP). NERSA is a (founder) member of RERA, as well as the African Forum of Utility Regulators (AFUR). In fact, the AFUR secretariat is presently vested at NERSA.

Land ownership in South Africa follows the freehold principles, with a positive registration system, giving certainty as to land ownership issues. The Electricity Regulation Act gives

licensees the right, under certain conditions, to acquire land or rights in, over or in respect of land for the purposes of supplying electricity, in cases where the landowner has refused permission. Determinations about compensation are dealt with in terms of the Expropriation Act No. 63 of 1975.

6.8 Treatment of private investors

The country welcomes foreign investment. Incentive packages for investors in strategic industrial projects are available entailing tax allowances for approved investments. A number of private companies have been licensed by NERSA to build generation plant, although only a few has proceeded to the construction phase³⁵. KELVIN, the former city of Johannesburg Power Station with a maximum potential capacity of some 600MW, is now privately owned and is the first real IPP, but only supplies to City Power³⁶.

Government has recently undertaken to allow the entry of independent power producers into the market to meet new demand from 2008 onwards. Hence (on paper at least) Government actively encourages foreign direct investment, but this has been slow in coming forth. It can be expected that a recent cabinet decision on formally declaring Eskom as the single buyer of all electricity produced in the country will also have a significant influence on this. New IPP's would only become a reality if successful PPAs with Eskom can be concluded.³⁷

South Africa is a signatory to the New York Convention, 1958 (Recognition and Enforcement of Foreign Arbitral Awards) (Date of entry: 3 May 1976). UNCITRAL Rules or similar are currently included in contracts entered into by parties in South Africa.

6.9 Planned laws and regulations in the ESI

National Energy Act	Establishment of National Energy Advisory Committee; establishment of national energy database; provides for integrated energy planning, renewable energy and energy efficiency
Electricity Regulation Amendment Act	Amendment Act that deals specifically with local authorities, blurring the line of accountability
EDI Restructuring Act	An Act to facilitate the establishment of regional electricity distributors (REDS) has been on the cards for some time

6.10 Legal and regulatory constraints

Developers of generation and associated infrastructure projects face a number of barriers. These concern several factors, some of which do not relate to legal issues at all but rather to the underlying technology and associated cost structures, or to the structure and nature of the power market. However, holistically these from a 'package' and they are perhaps worthwhile summarizing the more important of these factors:

- Cost competitiveness;

³⁵ A demonstration wind farm being developed near Darling in the Western Cape. Also a recent small IPP near Newcastle. Given the recent decision on Eskom being a single buyer, significant IPP development is doubtful unless Eskom is involved.

³⁶ The former Johannesburg electricity utility which was set up as a private company fully owned by the City of Johannesburg.

³⁷ Selling to Eskom or selling to a private buyer of course has vastly different implications. A private buyer may for example be willing for security of supply purposes to pay a higher price than Eskom is prepared to pay, or may have needs that an IPP can meet but Eskom can't. It should be noted that the Cabinet decision does not *force* Eskom to buy from IPP's. Hence it can be expected that IPP's will only realize if Eskom's requirements can be met, of which perhaps the most important would be to be able to meet Eskom generation prices. See footnote 40.

- Scale;
- Legal and regulatory framework;
- Environmental and planning approvals;³⁸
- Implementation capacity;
- Public awareness and entrepreneurship;
- Government commitment;
- Incumbent dominance.

This project is primarily aimed at legal and regulatory constraints, but by its very nature some of the other issues are also closely interwoven with the framework, and this is also touched upon.

6.10.1 **Policy**

Important ESI role-players such as the EIUG³⁹, and especially Eskom and NERSA, takes its lead from Government policy in planning its activities and implementing legislation such as the Electricity Regulation Act.

Government in a sense seems to be in two minds on new generation capacity. On the one hand there is a formulated policy that applies internally for new generation capacity, but in the same breath there does not seem to be a clearly formulated policy for external new power generation.

Government's policy with regard to internal new generation can be deduced from the Request for Qualification issued on 11 April 2005 for new peaking plant in South Africa.⁴⁰ In short, the policy determines as follows:

- Eskom is responsible for meeting the countries' capacity requirements up to the end of 2008. This essentially may entail anything they wish to do.⁴¹
- DME will be responsible for procuring about 1000MW of new peaking generation capacity, to be commissioned by end 2008, as a contribution towards the capacity requirements for 2009 and 2010.

³⁸ Of course most other legislation will also have an impact, ranging from residence permits through to labour issues and water legislation. However, generally speaking, environmental concerns are some of the biggest issues, especially with the likely type of IPP's that will be applicable in the region, namely coal and hydro.

³⁹ Energy Intensive Users Group, an organisation whose members consume some 50% of South Africa's electricity.

⁴⁰ As amended by the recent Cabinet decision that Eskom will be a single buyer. The decision reads as follows: *"Cabinet resolved that Eskom be designated as the single buyer of power from Independent Power Producers (IPPs) in South Africa. Eskom will be responsible for ensuring that adequate generation capacity is made available and that 30% of the new power generation capacity is derived from IPPs. This policy will ensure that the responsibility and accountability for the construction of power generation capacity is co-ordinated and provide certainty to the private providers. The introduction of the private sector into the power generation sector will also allow production cost benchmarking with the state utility, thereby ensuring that the lowest cost production of electricity is achieved. Over the next 20 years, Eskom will build all nuclear power plants in South Africa and the IPPs will build more than 50% of all non-nuclear power plants. The Department of Minerals and Energy will develop an Integrated Resource Plan that will define the magnitude of power generating capacity needed to meet the country's electricity demands. The National Electricity Regulator of South Africa (Nersa) will regulate the single buyer function and specifically approve all commercial agreements between the single buyer and the private producers. Institutional and regulatory mechanisms will be put in place as per the Electricity Regulation Act."*

⁴¹ Such as the re-commissioning of old mothballed plant. Presumably also imports, although not specifically mentioned.

- Any additional capacity after that will be confirmed with the next revision of the National Integrated Resource Plan, after which Government will put in place the “necessary processes” to meet the requirements identified by NERSA.
- Some 30% of new generation capacity is offered for development by the private sector.

Essentially this means the ball is still very much up in the air for new generation capacity after 2009/2010, as:

- It is not clear at all to what extent Eskom will play a role in both the processes and the establishment of such new capacity. It also seems as if no clear difference is made between peaking plant and base load, with the present Government effort limited to peaking plant.
- Imports are not dealt with at all.
- The percentages of private sector participation allocated for future generation projects are not clear. Whilst the 30% is a guideline, it is apparently neither a minimum nor a maximum. Nor does it spell out in any way how it should occur, e.g. 30% in each of the new generation plant, or 30% of new capacity overall.

The new Electricity Regulation Act also contains a very specific provision regarding new generation capacity. Salient features of this are:

- The confirmation of private sector participation in new generation, however, without percentages.⁴²
- Government/Eskom deciding on when new generation capacity is needed, i.e. it is not left to the market or the regulator. Eskom will stay involved in new generation to a lesser or larger extent.
- Government will prescribe the nature of the energy sources from which power must be generated, with nuclear apparently currently being an important flavour.

The above only apply to new generation capacity within the borders of the country. Outside the country the policy is much less clear, although it does seem as if the South African Government is keen to see the development of alternative sources of electricity being developed.⁴³ Hence it can be expected that Eskom would fulfil a very important role in the purchase of electricity from neighbouring countries, and would in all likelihood be the contractual counterparty or purchaser of most if not all of any electricity thus sold, if the present single buyer concept is extended to countries outside South Africa.⁴⁴

In the absence of a clear regulatory framework⁴⁵ this would ease the task of any potential importer as it would effectively only have to deal with Eskom. However, this also has distinct disadvantages:

- The supplier effectively becomes a price taker, i.e. it would have to take what Eskom is prepared to pay. In the absence of any pressure on Eskom to enter into such agreements, this could be very problematic. One would hope that the present capacity constraints facing Eskom would make it realise that it would need to negotiate realistic prices. However, this is not a given⁴⁶.
- “Forced” marriages seldom makes for the best bed partners.

⁴² Hence Government can change the present ruling of 30% private sector participation.

⁴³ E.g. the MOU’s for the envisaged hydro plant in the Congo and the MOU between Botswana and South Africa regarding Mmabula.

⁴⁴ Whether directly or via the SAPP

⁴⁵ Both in terms of the old Act as well as the new Regulation Bill.

⁴⁶ Making the prospect of other potential clients, inside and outside South Africa attractive.

- A single off-take agreement can be very attractive. On the other hand, it can also be dangerous if not structured carefully as there is no room for mistakes or finding another client.
- IPP's would need to compete with Eskom's own prices and fall within the desirable band of generation needed by Eskom at that point in time.

Hence it might be worthwhile to test Governments strengths and convictions around the single buyer regime. Whilst technically more challenging, the new Electricity Regulation Act also opens the opportunity for other options, for example selling to a few selected clients and using the Eskom transmission network for this purpose.

Government has also accepted that new generation capacity should not only come from traditional energy sources, but also from renewables. To this extent, an ambitious target of 10% by 2012 has been set, but so far not very much has come of that.⁴⁷

The energy policy that impacts on new generation is particularly unclear on the following:

Table 1: Unclear policy issues

Policy Issue	Concern
30% of new generation in South Africa should be from the private sector	In practice this has not really borne fruit, and it seems as if Eskom is planning major new expansions on its own
In theory a competitive market for electricity could still be established	A study to this end has been completed in 2002. To date Government has not indicated whether it will implement it or not. De facto it means that Eskom is the sole buyer and supplier of electricity on a wholesale level.
10% of new generation capacity has to be from renewable sources by 2012	To date, apart from Darling ⁴⁸ , very few new renewable energy projects have seen the light, probably due to issues such as lack of DUOS charges, back-up power etc.
Unbundling of Eskom as a vertically integrated entity	The subject seems to be dead.
Imports of electricity	By default this is done by Eskom. Legally nothing precludes imports by somebody else to a dedicated customer(s), but Government has now formally decided on a single buyer regime for South Africa. This could be extended to purchases from outside South Africa. It is also unclear how (and how much) imports will be allowed into South Africa <i>vis a vis</i> local generation.
Government/Eskom decides on new generation capacity	One of the biggest potential constraints to new generation capacity is the fact that Government, and not the regulator, decides if and when new generation capacity is needed. It goes further – Government also prescribes and adjudicates the tender processes for such new generation capacity.

6.10.2 **Cost competitiveness**

Any developer of a new generation project in South Africa will face the issue of trying to compete against the tariffs offered by Eskom. Due to a variety of reasons, including economies of scale, vertical integration and cross-subsidization, political determination of distribution tariffs, competing against infrastructure that has been paid for and competitive fuel (coal) prices, Eskom can presently still generally offer lower electricity prices than any

⁴⁷ And in light of the present focus on nuclear seems to be getting less attention.

⁴⁸ Experimental wind farm near Darling.

similar competitor can.⁴⁹ However, this is set to change with new generation and transmission infrastructure that Eskom will need to establish, and it is expected that tariffs will increase significantly over the coming years.⁵⁰

Hence potential competitors should (in theory at least) over time be in a more favorable position to compete against Eskom from a cost perspective, especially if niche technologies and markets are exploited.⁵¹

It can also be expected that going forward project-financed solutions will be the order of the day, even for Eskom.⁵² This should facilitate cost comparisons between “own” new Eskom generation and IPP’s, and in turn at least open the possibility that potential competing projects are properly evaluated.⁵³

6.10.3 **Security of Supply**

It is generally acknowledged that the only really significant base-load in South Africa will only come on line at the earliest sometime in 2012/13⁵⁴. This opens the opportunity that interim solutions from a security of supply perspective can be investigated with reasonable chances of success. For example, it is known that the City of Johannesburg (City Power) is actively investigating alternative solutions to its existing suppliers, being primarily Eskom and to a smaller extent Kelvin. This is in no small part due to the municipalities being forced to load shift with resultant consumer unhappiness, and is expected to happen more and more in the short to medium term.

Cape Town is also a good example of a city that should be willing to look at alternative supplies from a security perspective, especially given recent past experiences.

It should also be recognized that the larger cities in terms of the Constitution is responsible for the supply of electricity to its consumers, and generally take this responsibility seriously.⁵⁵ City Power, for example, spent an average of some \$100 million per annum for the last three years in upgrading the Johannesburg transmission infrastructure.

While generally more costly, such initiatives could be linked to environmentally attractive solutions such as gas-fired generation or biomass to make the package more palatable.⁵⁶

⁴⁹ In fact, Eskom still has some of the lowest electricity prices in the world.

⁵⁰ The newest establishment costs for new coal fired generation plant is now around \$3000 per MW, considerably higher than Eskom anticipated. Eskom has asked for a 18% tariff increase for this year, and it is expected that another increase of some 17% will be asked for next year, making it a total of some 35% over two years. This is a significant increase, but it is debatable if it is enough. Some experts believe it needs a 50% increase over the next five years.

⁵¹ For example peaking plants, or renewables where Government has set specific targets (10% of all generation capacity by 2012) that has to be met. For base load the picture looks somewhat different, given that Eskom can mix old and new plant costs into their generation cost mix.

⁵² According to Eskom’s own projections they need \$255 billion dollars for their new generation and transmission infrastructure expansion plans. It is not possible to finance this off balance sheet as they have done in the past.

⁵³ At the moment “true” cost comparisons are very difficult as the point of departure differs completely. Most existing projects are financed off balance sheet and not on an EPC basis. This is not only true for South Africa, but also, for example, for Zambia.

⁵⁴ Depending on who the source is. If Mmamabula is counted in, 2012 would still seem possible, while for Eskom’s own expansion plans, 2013 is more probable.

⁵⁵ It also forms part of the political interplay between national Government and local authorities.

⁵⁶ Indeed, City Power is investigating both biomass and gas fired generation. This is not a small market at all – the greater Johannesburg needs some 3200MW worth of generation. And this is only Johannesburg – the other big regional centers also need significant amounts of power.

6.10.4 **Electricity Regulation Act**

In the first instance, it should be realised that the primary legislation dealing with electricity in South Africa (the Electricity Act, 1987 and its successor, the Electricity Regulation Act, 2006) was and is geared towards regulating an integrated generation, transmission and distribution company and local authority distributors based on traditional modes of power generation. Accordingly it does *not* really provide for IPP's.

In fact, the Electricity Act was initially not concerned with generation and transmission (an Eskom prerogative) at all, but only licensed local authorities. These were given special privileges and, importantly, exclusiveness of supply, with the licensing of the then regulatory authority being limited.

With the advent of the National Electricity Regulator in 1994 the situation changed somewhat in that Eskom generation was also made subject to licensing. However, the amendments that effected these changes were (and are) still bound to the essential philosophy underlying the 1987 Act, with the result that the possibilities with regard to IPP's are relatively simplistic.

Whilst the new Electricity Regulation Act addresses many of the shortcomings and concerns of the old Act, it does not really spell out a regime conducive to private sector participation in any great detail and simply deals with it on a very high level.⁵⁷

The following table indicates some of the shortcomings in the present Electricity Regulation Act:

Table 2: Electricity Regulation Act constraints

Provision in Act	Concern
Electricity Regulation Act that will blur the lines of NERSA jurisdiction over local authorities	Turf wars between national Government and local authorities over jurisdictional issues could be of major concern if access to local distribution networks is needed
Inability to prescribe Distribution Use of System charges	Flows from above, as a result of NERSA's lack of jurisdiction over distribution of local authorities, system charges will not be enforceable
Inability to impact on exclusive area of supply	Constitutionally local authorities have exclusive rights of supply in their geographical areas. Hence any IPP's or wholesalers targeting these customers would need the approval of the local authority.
Licensee may only charge approved tariffs	If the National Electricity Regulator does not have regulatory jurisdiction over distributors these parties can charge exorbitant access and use of system charges to whoever wants to make use of their distribution systems
Constitutional turf war	"Reticulation" (distribution and retail) is a local Government area of executive and legislative competency in terms of the Constitution. Thus the argument that the National Electricity Regulator has no authority over local authorities, with consequent impossibility to enforce access to systems, customers and tariff or charge approvals, still remains, although it is of course made more explicit with the specific exemption

⁵⁷ The Act is enabling and not prescriptive, leaving much to regulations and licence conditions that have not yet been fully developed. For example, even the Transmission Grid Code in use by Eskom has not been formally adopted, let alone a Distribution Grid Code.

	of reticulation in the Electricity Act
ESKOM dominance	Whilst no explicit in the Act, Eskom <i>de facto</i> is the sole purchaser of imported electricity and the owner of the transmission networks -- no competitive market exist at the moment
Act is not forward looking	Whilst provision is made that compulsory access to transmission infrastructure must be given, the Act is for example silent on how this should be done and what TUOS regime will apply. This goes for everything in the Act – whilst it is quite empowering, none of the detail has been implemented.
Absence of regulations	No specific regulations, rules, codes or guidelines have been promulgated that are aimed towards IPP's <i>per se</i> . This will need to be developed in future.
Simplistic approaches	The Act is simplistic and principally aimed at consumer protection. For example, the dispute resolution regime is not suited to IPP's.
No clear policy on imports	Whilst the Act requires import licences, it is not clear a) to what extent exports will be allowed; b) who may import or c) if an importer will be allowed to sell to anybody else than Eskom

As can be seen from the above table, some of the biggest problems relate to splitting regulatory authority down the value chain between local authorities and NERSA, and an absence of clarity on how the new Act will be implemented.

It should also be realised that apart from the above limitations constraints may exist that is not necessarily as a result of the absence of legal authority, or even legal constraints, but simply as a result of the way of doing things in the past and uncertainty or even unwillingness of role-players to actively promote and accommodate change. This seems to be especially true of the South African Government that has changed its focus from being relatively open minded and free-market oriented to being more and more inward looking and defensive. This could perhaps have the biggest impact on successfully introducing true competitive IPP's – if the will is not there any new IPP will face considerable difficulty despite the clear need for new generation capacity in South Africa.

6.10.5 **Local Authorities**

Local authorities are empowered in terms of the Constitution to “reticulate” electricity to their constituents. This has to be seen in the context of service delivery, i.e. local authorities are responsible to provide electricity as a municipal service to their consumers. The new Electricity Regulation Act equates reticulation to distribution, i.e. anything equal to or below 132kV is “reticulation”.

This power or authority has been the subject of much debate. On the one hand it has been argued (by Cape Town, for example) that this means that central regulatory authorities such as NERSA has *no* jurisdiction over municipalities as far as the distribution of electricity is concerned (or sub-categories hereof, such as the setting of tariffs), whilst on the other extreme it has been argued that local authorities are always subject to national legislation. (The power is not exclusive, but in fact shared between central and local Government).

Given the historic political difficulties in convincing local authorities, and in the absence of clear legislative or Court guidance in this regard, it is thus questionable if NERSA would really be able to *force* local authorities to comply with any national Government agenda.

This is especially true for contentious issues such as third party access and the giving up of exclusive areas of supply, as the explicit sanction to do so is largely excluded from the Electricity Regulation Act. Of course this does not mean that local authorities would not perhaps be *willing* to do so in a *voluntary manner*, but difficulties can be expected where there are multiple tiers of transactions and various licensees involved in the process with some parties not coming to the table.

From an IPP perspective it is important that national legislation can indeed impact on the rights of local authorities in order to ensure that unwilling participants may be coerced to adhere to national policies and agendas.⁵⁸

6.10.6 **Regional Electricity Distributors (REDS)**

The impact of the establishment of regional electricity distributors or REDs in South Africa has to be understood in the context of the nature and role of these organizations. Government has determined that the electricity supply presently being undertaken by local authorities and Eskom distribution (both wires and retail) can best be undertaken by six REDs that will take over such supply from the relevant local authorities and Eskom.

However, as illustrated, the reticulation of electricity is a local Government constitutionally mandated issue, and unless the Constitution is changed, it is unlikely that Government would be able to force local authorities into a RED, unless it can clearly be demonstrated that electricity services are not provided in an efficient and sustainable manner. This is easier said than done and necessitates some form of benchmarking.

Hence it can be expected that initial REDs will be created on a *voluntary basis*⁵⁹, which essentially means that whoever goes into a RED has to be convinced that there are advantages in doing so. Thus it can be expected that initial participants would only enter into REDs on conditions that they would find advantageous, with Government possibly exercising its ownership rights over Eskom to facilitate its participation.

REDs will be licensed by NERSA to supply electricity in its licensed areas, and here it can be expected that a similar exclusiveness of supply will be given, at least for smaller or non-contestable customers.⁶⁰

Accordingly an IPP established within a RED area of supply could be faced with exactly the same kind of problem than with local authorities, namely the need to make use of distribution systems owned by the RED and the potential taking away of customers from the RED. On the other hand, IPP's in RED areas of supply may be seen as embedded generation, thus circumventing Eskom as single buyer.⁶¹

However, there is one major advantage, and that is that if REDs are successfully created, by definition it means that there will be less local authorities involved and thus less entities to negotiate or deal with. It is also at the moment envisaged that REDs will be established as public entities, with the result that national imperatives can in principle be forced down on these organizations.

⁵⁸ For example, that access to local networks is given for wheeling purposes.

⁵⁹ City Power Johannesburg for all practical purposes is a RED. Cape Town for political reasons has been touted as one, but is not.

⁶⁰ Which begs the question – what customers will be contestable and could be directly supplied by an IPP?

⁶¹ This is a very likely outcome, especially for IPP's such as Kelvin. If this is not the case, Kelvin may become somewhat of an embarrassment as it does not sell to Eskom and hence already by-passes the single buyer regime. It would also be interesting to see how Darling is dealt with as it is *not* embedded generation.

In other words, Government could through direct shareholding and or indirectly through its owned entities ensure that the RED does comply to national agendas, which in the case of local authorities would not be the case.

At the end of the day it is not sure to what extent local authorities will partake in REDs⁶² and it can perhaps be expected that especially the larger or more successful local authorities may initially opt out if there are no real benefits to join a RED. Thus a situation may arise that there will be six publicly owned REDs, with a number of other larger municipalities or metros still supplying electricity in their areas of jurisdiction, at least in the initial stages of RED creation. Accordingly it is of vital importance that the approaches suggested towards local authorities are pursued, as local authority will remain an important element from a renewable energy perspective. Put another way, it will be short-sighted to build on the premise that REDs are the only way forward and that Government can force its renewable energy agenda through these entities.

6.10.7 *Eskom*⁶³

South Africa's national electricity utility, Eskom, presently has 24 power stations, a total network of some 280 000 kilometres of power lines, capacity of 39 872 MW⁶⁴ and approximately 37 300 employees.

Eskom supplies 95% of the country's electricity, which in turn equates to more than half of all the electricity generated on the African continent. Eskom's capacity is primarily coal-fired (34,532 MW), includes one nuclear power at Koeberg (1,930 MW), two gas turbine facilities (342 MW), six conventional hydroelectric plants (600 MW), and two hydroelectric pumped-storage stations (1,400 MW).

A total of 2053MW will be added by the open cycle gas turbines at Atlantis (Ankerlig power station) and Mossel Bay (Gourikwa power station).⁶⁵

Construction started in May 2007 at Medupi power station, the new coal-fired base-load power station in Lephalale, Limpopo. The station will deliver at least 4500MW to the overall system. The first unit is scheduled to come into service early in 2011⁶⁶.

Work has also begun on the Ingula pumped storage scheme near Ladysmith (a peak-load plant), scheduled for completion by 2012 and adding an additional 1 332MW for peak electricity demand.

Eskom has accelerated its expansion program in line with Government's drive to boost economic growth to 6% by 2010, and investment decisions will be based on this growth target. It is estimated that this will result in average growth in demand of 4,4% per annum,

⁶² Especially where the governing political structure of that RED is not the same as that of the national Government, e.g. a DP (Democratic Party) controlled city vs an ANC led national Government.

⁶³ This section is taken largely from Eskom's own website and 2006 annual report.

⁶⁴ Excluding the two new ones at Atlantis and Mossel Bay.

⁶⁵ Advanced preparatory work is under way for the doubling up of Eskom's 1 050-MW open-cycle gas turbine (OCGT) capacity in the Western Cape to about 2 100 MW by the winter of 2008. The 600MW Ankerlig OCGT plant, in Atlantis, and the 450MW Gourikwa OCGT station, in Mossel Bay, became fully operational by June 2007. The intention is to add an additional five 150MW units at Atlantis and raise the station's capacity to 1 350 MW by the winter of 2008. A smaller expansion plan has also been approved for Mossel Bay, where a 450-MW facility is currently under commissioning. There, an additional two 150MW units will be added, raising the plant's capacity to 750 MW by the winter of 2008.

⁶⁶ According to Eskom. Sources believe this is somewhat doubtful, given present worldwide constraints on equipment and available contractors.

requiring approximately 47 252MW of new capacity⁶⁷ – *more than double the total existing capacity* – to satisfy new demand to be built between 2005 and 2025, or roughly 2 000MW per annum.

Despite the size of its operations, Eskom is not the only participant in the South African electricity industry and a national supply and demand view is required. In developing South Africa's capital expansion program for the energy sector, three plans are used as input:

- The Department of Minerals and Energy's national integrated energy plan
- The National energy regulator's national integrated resource plan; and
- Eskom's own internal planning.

Government has also taken the decision that Eskom will build approximately 70% of the new capacity required in South Africa. The balance is expected to come from independent power producers (IPPs). Eskom will, in the short to medium term, be the counterparty in the power purchase agreements with these IPPs. The first of these is expected to consist of 1 000MW of oilfired gas turbines for peaking use that could be commissioned by the end of 2009. Coal, gas and nuclear options are also being evaluated.⁶⁸

Despite recent cost escalations, the most attractive supply side option remains the return to service of three mothballed power stations – Camden, Grootvlei and Komati – which were placed in reserve storage during a period of high excess capacity on the Eskom system. Work has commenced on this project and the first unit from Camden came into commercial operation in July 2005. When fully operational by 2011, these stations should provide an additional 3 600MW of capacity.

The cost of transmission is playing a crucial role in locating Eskom's new generation capacity. Many new plants are planned for coastal regions to avoid the cost of transporting electricity from inland power stations to the Eastern and Western Cape. Eskom is implementing a number of key transmission projects over the next five years that include:

- Strengthening the corridor to the Western Cape where recent outages illustrated the need to supplement power from Koeberg with inland electricity
- Improving the transmission network to the Eastern Cape
- integrating the peaking power gas turbines in Atlantis and Mossel Bay into the grid
- installing new lines to new mining developments, such as platinum mines in Limpopo and iron ore projects in the Northern Cape
- strengthening of the KwaZuluNatal transmission network

In the long term, potential options such as WESTCOR (3 500MW), Pebble Bed Modular Reactor (PBMR) (165MW units) and conventional nuclear (unit sizes from 700MW to 1 600MW) are being evaluated. A concentrating solar thermal option in the Northern Cape (100MW) could also contribute, but costs are high. Eskom continues to investigate a number of options, including conventional pulverised fuel plants, pumped storage schemes, gasfired plants, nuclear plants (PBMR and conventional), greenfield fluidised bed combustion technologies, renewable energy technologies (mainly wind and solar projects) as well as import options.

Eskom has entered into two joint venture operations. The first was the formation of MOTRACO – comprising Electricidade de Moçambique (EDM), Swaziland Electricity Board (SEB) and Eskom for the construction, ownership and operation of a 400 kV line that

⁶⁷ This puts the other regional countries' demands into perspective.

⁶⁸ Including purchases from IPP's outside RSA such as Mmamabula.

supplies electricity to MOZAL, a new aluminum smelter in Maputo, Mozambique. Eskom has also entered into a buy and bank agreement with the Zambian Electricity Supply Corporation (ZESCO) and SNEL, to trade electricity at different times of the day. Funds flowing from this venture will be used for the refurbishment of the badly damaged electrical infrastructure in the DRC. Although Eskom presently has little reserves left, it still exports electricity to Swaziland, Namibia, Botswana

Over the next five years Eskom will spend R150⁶⁹ billion on capacity expansion at an unprecedented rate and scale (up from R97 billion), with 70% earmarked for generation, 14% for distribution infrastructure and 14% for the strengthening of the transmission network. Up to R100 billion of the capital expenditure requirements will be funded by raising debt in the financial markets, both locally and internationally.

In the meantime the reserve margin remains precariously low (8% compared with international norms of above 15%)⁷⁰.

In terms of the Eskom Succession Act, Eskom is a company 100% owned by the State. As such its position does not really differ from that of any other company incorporated in terms of the Companies Act and it is free to contract and be bound in its own name, save that its shareholder is Government.

Accordingly it can be expected to adhere to Government policy, or as is often the case with these kinds of institutions, have a disproportionate say on what Government policy should be.

Similar to other organisations it is bound to the provisions of the Electricity Regulation Act and in terms of its distribution activities, much of what has been said for local authorities will also apply to Eskom. Simply put, it is debatable whether NERSA will presently be able to force third party access and infringement on supply areas on Eskom if it was an unwilling partner in the process.⁷¹ The same would to some extent hold true for transmission access, although the grid code would apply and third party access and issues such as wheeling charges would probably be less of a concern in ensuring access.

In itself the Eskom legislation is neither here nor there and neither conducive nor a restraint to private sector involvement in generation. However, as with any company it is the manner in which the company operates that could indeed have major implications for private sector participation, for example:

- a. the need to compete with Eskom tariffs – as a state owned company Eskom should have lower rate of return requirements than can be expected of a private company;
- b. Eskom can play the “public interest” card whenever it suits them – for example that allowing significant generation competition could affect its credit rating⁷²;
- c. it could make it difficult for private players to access its transmission infrastructure, both financially and technically.

⁶⁹ This figure will probably be revised substantially as a result of the latest equipment/contractor costs. Note this is only for the next five years, more will be needed afterwards.

⁷⁰ Eskom’s 2006 annual report. Winter 2007 figures show even less.

⁷¹ Not because its in the same position as a local authority, but because it effectively fulfills a local authority function in terms of distribution (reticulation).

⁷² As far as I know Eskom is the only African electricity utility with a credit rating—one which is actually better than that of the country.

Many more examples are possible, but the above illustrates the point. The situation is not helped by the fact that Eskom has a monopoly on all generation and most transmission activities, and is also heavily involved in distribution.

6.10.8 **Grid Code**

The South African (Eskom) Grid Code applies to the South African transmission system. It also impacts on interconnections, for example on SAPP. Any new IPP⁷³ would have to comply to the requirements thereof. Interestingly, and despite Cabinet's decision that Eskom be a single buyer, the Grid Code provides for third party access. The Code would also apply to issues such as:

- Deep and shallow charges. This is for example of importance to external IPPs such as Mmamabula in where and how it accesses the South African system. If it simply links in with the South African system and gets scheduled the same as other Eskom generators the charges payable may differ than if it links in via SAPP.⁷⁴ Similarly, if it sells directly to customers the costs structure will differ than if it sold to Eskom.
- Technical issues of importance, for example redundancy requirements and the optimum configuration of the network
- Scheduling and access issues.

In essence the code would have a material effect on how the access to and use of the South African transmission system is designed.

6.10.9 **Energy Bill**

An Energy Bill is envisaged by the DME. One of the provisions of the Bill allows the Minister to prescribe certain conditions relating to the uptake of renewable energy, in this way "forcing" suppliers of electricity, for example, to purchase set amounts of electricity from renewable energy sources. While laudable, it should be noted that it could (indirectly) impact on the amount of "traditional" energy that is allowed as electricity imports, and of course on other traditional methods of generation⁷⁵.

6.10.10 **Existing IPP's**

The only really qualifying IPP⁷⁶ in South Africa is Kelvin (Pty) Ltd. Kelvin is the former City of Johannesburg owned coal fired power station.

Kelvin exclusively supplies power to City Power, a 100% Johannesburg-owned power distribution utility.

What is interesting about Kelvin is the manner in which NERSA dealt with its generation licence:

- No new licence was issued, the old Johannesburg generation licence was simply ceded to Kelvin.
- The PPA between City Power and Kelvin is incorporated as part of the licence. However, NERSA simply noted the PPA and did not either approve or disapprove thereof.⁷⁷

⁷³ Supplying in South Africa, of course.

⁷⁴ As deep and shallow charges may apply differently. These aspects should be covered in detail by the transmission advisers.

⁷⁵ For example, the developer of a coal fired power station may be thwarted by the fact that environmentally cleaner technologies are given preference.

⁷⁶ Apart from the experimental wind farm at Darling, and apparently a smaller one in Newcastle.

⁷⁷ This is encouraging in that it indicates that NERSA would not be interested in approving tariffs agreed between two private parties not supplying to the public.

- The licence does not address any access issues. Presumably this is the case because the power station is embedded in the City Power network and only supplies to City Power.
- The parties (licensee and City Power) are obliged to negotiate in good faith on what changes (if any) should be made to the PPA following the introduction of a competitive wholesale electricity market in South Africa⁷⁸
- The incorporation of an economic purchasing obligation is effected in the distribution license held by City Power to the effect that, on each occasion that City Power is faced with a decision in relation to the PPPA, it must take the approach most consistent with the economic purchasing obligation, and the avoidance of stranded costs⁷⁹.
- The licence was issued for 25 years, commencing in November 2001.
- The prices at which electricity are supplied is as determined by the PPA. The PPA however is *not* subject to NERSA approval or revision.
- The licence may be changed by the NER on non-compliance with the conditions thereof, on the application of the licensee or when standards change.

Hence it is also interesting to note what the licence does *not* provide for, as it could provide valuable lessons as to what an IPP licence would provide for:

- Access related issues.
- A clear prohibition on the sale to somebody else. In theory, Kelvin could (if the IPP allowed for this) sell electricity to somebody else (e.g. Eskom).
- Typical quality of supply and standards issues found in most other licences. This is supposedly left up to the PPA.

As a whole the regulatory experience and amount of thinking that went into Kelvin from a regulatory perspective seems somewhat limited. It also means that a lot of engagement would have to be undertaken with NERSA in order to properly determine the regulatory regime that would apply to either the import of electricity or a new IPP in South Africa. Furthermore, Kelvin's position concerning Cabinet's stated position of Eskom being a single buyer is very unclear and unsatisfactory.

6.10.11 ***Environmental issues***

The National Environmental Management Act, 1998 regulates the environmental requirements that have to be complied with by energy generators, transmitters and suppliers. In essence approval is required before certain activities are embarked upon and this is primarily centered on the need by the prospective operator to obtain a screening report or a scoping exercise followed by an environmental impact assessment (Environmental Impact Assessment), and get approval for the activity based on these reports.

The Act itself⁸⁰ provides that responsible Minister or the relevant provincial member of the executive council (MEC) may –

- Identify activities which may not be commenced without prior authorization from the Minister or MEC; or

⁷⁸ Very interesting. At that point in time (2001), a competitive wholesale market was foreseen. It consequently disappeared into a cupboard somewhere.

⁷⁹ Which by default is the approach taken during a recent PPA re-negotiation by City Power – rather than let the agreement potentially lapse, it indirectly provided financial assistance to Kelvin in order to avoid massive stranded costs.

⁸⁰ Section 24(2).

- Identify geographical areas in which specified activities may not be commenced without prior authorization from the Minister or the MEC concerned. .

In essence the Minister or the relevant MEC thus have wide powers both in terms of activities that need to be approved, or areas within which certain activities need to be approved. In itself this is not very helpful, but it does indicate that both these authorities have a wide discretion. It also indicates potential problems for IPP developers, as jurisdictional uncertainty is not helpful in clarifying environmental requirements.

The regulations promulgated in terms of the Act⁸¹ shed more light on these powers, and effectively provides for two categories of activities – those for which a screening report will do, and those that need a scoping report followed by an Environmental Impact Assessment. A screening report is less intensive and complicated than an Environmental Impact Assessment and accordingly the activities for which these are required are also generally speaking less intrusive from an environmental point of view. The following Table lists the activities which could potentially apply to new generation activities, IPPs, transmission and supply. It should be noted that the possibility to get exemption from the requirement to provide such a report may be obtained⁸²:

Table 3: Activities for which a screening report is required

Activity in Act	Impact on Renewable Energy	Possibility to get Exemption
The transmission and distribution of above ground electricity with a capacity of less than 120 kilovolt, but more than 20 kilovolt	Needs permission to erect transmission and distribution lines less than 20kv	Yes, the relevant authority may give exemption
The off-stream storage of water, including dams and reservoirs, with a capacity of 80 000 cubic meters or more	Storage dams for hydro	Yes, the relevant authority may give exemption
The construction of masts and towers higher than 15 meters	Same as for transmission and distribution lines	Yes, the relevant authority may give exemption
The decommissioning and re-commissioning of existing facilities or infrastructure for electricity generation	Needs permission to de-commission	Yes, the relevant authority may give exemption

The second category of activities requires a scoping report as well as an Environmental Impact Assessment. These are listed below:

Table 4: Activities for which an Environmental Impact Assessment is required

Activity in Act	Impact on Renewable Energy	Possibility to get exemption
The construction of new facilities or infrastructure, including associated structures or infrastructure, for the generation of electricity where the electricity output is 10 megawatt or more, or the facility covers an area in	New generation activity that generates more than 10 megawatt needs Environmental Impact Assessment	No

⁸¹ Late 2004.

⁸² Based on criteria such as that the particular area is not ecologically sensitive, or falls within a regional environmental planning framework

excess of 1 hectare		
The transmission and distribution of above ground electricity with a capacity of 120 kilovolt or more	120kV lines and up needs Environmental Impact Assessment	No
The construction of a dam where the highest part of the dam wall, as measured from the outside toe of the wall to the highest part of the wall, is 5 metres or higher or where the high-water mark of the dam covers an area of more than 10 hectares	Big hydro projects need Environmental Impact Assessment	No

It should be noted that the list is not exclusive, and that it does not impact on the authority of the Minister or a relevant MEC to declare a particular area and/or activity for which Environmental Impact Assessment's are needed.

Generally speaking most new IPPs will have to comply to international standards and the South African standards are not more stringent than that⁸³. However, process wise it can be expected that significant delays and problems may arise due to turf wars and simply because no major new IPPs have been built in South Africa since the mid eighties.

⁸³ For example, to World Bank Standards, as it can be assumed that project financing would be required and for lenders these requirements would be paramount.

7 ZAMBIA (Republic of Zambia)

7.1 Overview of legal system, public administration and court system

The administration of Northern Rhodesia was taken over by the British Colonial Office from the British South Africa Company (which was administering the territory under Royal Charter) in 1924. The name was changed to Zambia upon independence in 1964. Elections held in 1991 brought an end to one party rule. Opposition parties currently hold a majority of seats in the National Assembly.

Government type	Republic
Administration	9 provinces
Constitution	Adopted on 24 August 1991
Legal system	Based on English common law and customary law. Judicial review of administrative and executive action is possible. Judicial review of executive acts is also permitted. Has not accepted compulsory ICJ jurisdiction
Executive Branch	President is both Chief of State and Head of Government
Cabinet	Cabinet members are appointed by the President from among the National Assembly
Legislative Branch	Unicameral National Assembly (150 seats; members are elected by popular vote)
Judicial Branch	Supreme Court (the final court of appeal; judges are appointed by the President); High Court (has limited jurisdiction to hear civil and criminal cases); system of lower courts

7.2 General procedures for the development and amendment of legislation

The Constitution is the supreme law of the land – all laws are subject to the Constitution. Laws are enacted by the National Assembly. Electricity Supply Industry (ESI) legislation follows Government policy developed by the Minister of Energy and Water Development (Minister) (through the Ministry of Energy and Water Development (MEWD)). Draft laws are approved by Cabinet. Amendment of laws follows the same procedure. Zambia introduced a new energy policy in 1994 setting out the liberalization of the energy sector and ESI.

7.3 Summary of ESI related legislation

Electricity Act No. 15 of 1995 was passed in 1995 (Chapter 433 of the Laws of Zambia) (Electricity Act)	Legislative framework for ESI reforms, including competition
Energy Regulation Act No. 16 of 1995 (Chapter 436 of the Laws of Zambia) (Energy Regulation Act)	Establishes the Energy Regulation Board (ERB) as the regulator for the country's energy sector, including the ESI. Although published on 28 April 1995, it only came into effect on 17 January 1997. Amendments were introduced in 2003 to strengthen ERB to ensure that it had sufficient authority to

	carry out its mandate by ensuring enforcement capabilities
Electricity Regulations	Technical supply regulations

7.4 Relevant ESI authorities

The Minister has executive responsibility for the ESI. MEWD is the line ministry with oversight of the ESI, and is the policy recommendation body. ESI regulations are issued by the Minister. ERB is the independent regulator.

7.5 Independent regulator

The Energy Regulation Act establishes the ERB as the regulator for the ESI. It is a multi-purpose regulator, with jurisdiction over electricity (including nuclear, solar and wind), petroleum and petroleum products, coal and its derivatives, firewood, charcoal and other wood derivatives, and uranium and other nuclear fuels. ERB is an autonomous statutory body with perpetual succession. The Energy Regulation Act establishes a licensing framework for the ESI. ERB regulates through licensing of generators, transmitters and distributors of electricity. The Electricity Act provides that an undertaking that wishes to increase or decrease its rated generation capacity, or its contractual rights to purchase electricity from outside Zambia, must obtain approval from the Minister. ERB's main functions are to:

- Issue licences;
- Monitor the efficiency and performance of licensees;
- Receive and investigate complaints; and
- Approve the location of energy infrastructure.

Amendments to the Energy Regulation Act in 2003 introduced certain changes to the governance of the ERB. The ERB Board now consists of seven part-time members appointed by the Minister from among eminent persons who have adequate knowledge, experience and qualifications in engineering, finance, law, natural resources management, electricity industry, petroleum industry and administration. Both the Chairperson and Vice-Chairperson are appointed by Board members and not by the Minister as is the norm in the region. An Executive Director (who is not a member of the Board, but has the right to attend and speak at Board meetings) is responsible for the general administration of the ERB. The 2003 amendments also created the post of Board Secretary.

The ERB is funded by licence fees (currently 0.8% of annual turnover of licensees) and some appropriations from Parliament, although allowance is made for receiving grants or donations from outside sources. The ERB is given the power to promote competition and accessibility in the ESI. The ERB is investigating the liberalization of the ESI as part of its mandate to advise Government on electricity sector reforms.

The Electricity Act provides that no person may engage in the generation, transmission, distribution or supply of electricity unless authorized by a licence issued by the ERB. Certain exceptions are permitted. The ERB must also approve the electricity tariffs of licensees. Further it must approve the location and construction of any energy facility.

ERB has the power to impose penalties in terms of the Energy Regulation Act for contravention of licensing conditions. It has developed an Enforcement Procedure, which provides a list of contraventions and the penalties chargeable. The purpose of these guidelines, as stated by ERB, is 'to ensure that the Board's powers are exercised in a manner that is fair, professional and unbiased, and, above all, so that no one is suspected of advancing a personal vendetta or agenda'.

The ERB is seen by some stakeholders as reasonably independent⁸⁴, and the amendments to the Energy Regulation Act were intended to make the ERB even more independent in its operations.

7.6 General procedures for handling of appeals, disputes and complaints

Zambia has a functioning system of courts and litigants are served by qualified and experienced private legal practitioners. The courts have been successfully approached for the hearing of ESI disputes in the past. These usually relate to claims (instituted in the High Court) for compensation against suppliers for personal injury or damage to property. An unsuccessful claimant has the right to take a decision of the High Court on appeal to the Supreme Court.

Complaints which cannot be resolved by ZESCO or other licensed suppliers are referred to ERB for mediation or arbitration. This is one of the regulator's statutory functions. It has set up a system of Consumer Councils to assist it with undertaking its customer service mandate. There are no established consumer complaints bodies.

7.7 Zesco

The electricity supply in Zambia originated in 1906 when a small thermal station was built in Livingstone to serve a section of the town.

In spite of the Victoria Falls potential, it was not until 1938 that hydro-electric power was first generated at a small station in the third gorge below the falls. In the early part of the last century, power development was mainly associated with the Copper mines hence, several independent thermal stations were constructed. This meant that a number of local authorities distributed electricity in their own districts obtaining their supplies in the main from existing power stations. For instance, Livingstone local authorities bought power from the Victoria Falls Electricity Board while Kabwe and the Copperbelt authorities purchased power from the mining companies.

The first initiative to coordinate power generation was taken in the early 1950s when at least four stations with a combined 120MW capacity were connected to a central switching station at Kitwe.

The most significant development in the electricity supply situation took place between 1956 and 1962 when the Kariba dam and consequently the Kariba South Power Station were constructed. The Kariba South power station was owned and operated by Central Africa Power Corporation (CAPCO) which, in turn, was jointly owned by the Governments of Southern and Northern Rhodesia (presently Zimbabwe and Zambia). This station has an installed capacity of some 600MW.

The next major step in making hydro-electric power potential abundant in Central Africa was taken with the construction of Kafue gorge Power Station to be an alternative to the Kariba scheme. Soon after independence in 1964, the Zambian Government revived the project and preliminary work began in July 1967. The first generating unit was commissioned in 1971 and the project was completed in 1973. The project had an initial capacity of 600 MW using four units but this was later increased to six units with an installed capacity of 900 MW.

The Victoria Falls power station was built in three phases. The first was done in 1938 while the second station was built underground giving an additional 60 MW in 1969. The third station was completed in 1972 providing an installed capacity of 108 MW.

⁸⁴ Whilst others dispute this, and believes the Minister influences its decisions significantly or simply overrides it.

In addition to the interconnected transmission system which served the most developed areas in the country ranging from Mongu in the West to Livingstone in the south, Lusaka and Copperbelt in the North, there was need to develop isolated systems in terms of smaller hydro stations at Chishimba falls, Lusiwasi, Lunzua river and Musonda falls.

Isolated diesel power stations were also made in various places. Two hydro stations were developed at Mulungushi and Lunsemfwa river to provide reliable power supply for Broken Hill (Kabwe) Copper Mines.

Installed capacity presently are as follows:

- KAFUE GORGE•900 MW;
- KARIBA NORTH BANK•600 MW;
- VICTORIA FALLS-108MW
- LUNSEMFWA HYDRO -40MW
- SMALL HYDROS-24MW
- DIESEL PLANTS-8MW

This gives a total of some 1670MW of installed capacity.⁸⁵

ZESCO Ltd is a company under the Zambian Companies Act, fully owned by the Government. It was established in 1970, and its governance has evolved over time to (at least on paper) an arms-length relationship with Government.

This relationship is defined in a performance contract that was signed between Government and ZESCO in 1996. The contract defines the commercialization issues and other operational benchmarks for ZESCO over the contract period of three (3) years at a time.

ZESCO estimates load growth at some 3 to 4% per annum, meaning that Zambia will run out of capacity right about now.⁸⁶ In order to meet demand, projects include upgrading existing plant and bringing old plant back to original spec (mainly 900MW Kafue Gorge station upgraded to 990MW and 600MW Kariba North Bank station upgraded to 720MW).

7.8 Formal influences by other bodies on ESI

Environmental matters are dealt with under the Environmental and Pollution Control Act, which establishes an Environmental Council of Zambia (ECZ) to regulate environmental matters. The Energy Regulation Act provides that the ERB must, in conjunction with the ECZ, formulate measures to minimize the environmental impact of the production and supply of energy.

Occupational health and safety matters are addressed in the Factories Act, 1966 (which deals with the general health and safety of workers in factories) and the Factories (Electricity Regulations) Act, 1967 (which sets safety standards for the ESI). The Energy Regulation Act provides that the ERB must, in conjunction with the Zambia Standards Bureau (ZSB), design standards with regard to quality, safety and reliability of supply of energy and fuels.

The Zambia Competition Commission (ZCC) was established by the Competition and Fair Trading Act. ERB must, in conjunction with ZCC, investigate and monitor the levels and structures of competition within the energy sector, and develop appropriate rules to promote competition.

⁸⁵ Whilst available capacity seems to be closer to 1500MW. To put things in perspective, that's about 50% of the City of Johannesburg's requirements.

⁸⁶ Based on a presentation by the CEO of Zesco to SAPP in 2005.

ZESCO is an Operating Member of the Southern African Power Pool (SAPP) with the obligation to utilize its spare transmission capacity to wheel power for other Operating Members. ERB is a (founding) member of the Regional Electricity Regulator's Association (RERA).

Local authorities also enjoy certain rights relating to the supply of electricity within their municipal areas. Their consent is necessary where a third party wishes to supply within the local authority area. Where the consent of the local authority is withheld, the ERB has the power to rule on the matter.

Currently the Electricity Act gives ZESCO and other licensee's powers to access land and use premises for purposes of efficient electricity supply, subject to approval from the minister responsible for lands, in cases where the landowner refuses permission. Under the Electricity Act, the President (of the Republic of Zambia) may order the acquisition by compulsion of land for electricity supply purposes where a licensee has, despite reasonable means, failed to acquire a piece of land that is necessary for the purposes of its operations.

7.9 Treatment of private investors

Zambia is said to have the most liberalized environment for business in southern Africa. All exchange controls have been abolished. Since 1991, an array of liberal laws has been introduced to encourage private sector participation in enterprise. Despite progress in privatisation and budgetary reform, Zambia's general economic outlook remains bleak. The Zambian economy has experienced decline for a number of years; the recently launched National Economic Plan has as its main objective returning the economy to 1964 levels (the year of independence) by 2020. Government has managed to attract private investment into the ESI, such as the purchase by the Copperbelt Energy Corporation of the ZCCM Power Division.⁸⁷

Zambia is not a signatory to the New York Convention, 1958 (Recognition and Enforcement of Foreign Arbitral Awards) (Date of entry: 3 May 1976). UNCITRAL Rules are generally included in contracts entered into by parties in Zambia.

7.10 Office for the Promotion of Private Power Projects

This Office was created in 1999 as a "one stop" window for the encouragement and development of private sector development in the ESI. Whilst this Office seems to try its best, significant new generation projects (both private sector and public) have yet to materialise. For example, in the early 2000's, there was considerable interest in developing the Kafue Gorge Lower by AES (in the guise of Zampower), Spie Batignoles and Statkraft. Due to a combination of factors, *inter alia* the Enron debacle and the resultant withdrawal of AES, nothing came of it.⁸⁸

7.11 Legal and regulatory constraints

The more important legal and regulatory constraints facing Zambia occur in the following areas:

- Legal and regulatory framework;
- Implementation constraints
- Public awareness and entrepreneurship;

⁸⁷ Who, as part of the deal to sweeten the selling of the copper mines by the Government, now buys power from Zesco at tariffs that are not economically viable.

⁸⁸ Zesco has entered into an arrangement with Sinohydro (China) in 2003 for the development of Kafue Gorge Lower, as well as for Kariba North Bank Extension. These projects are still not off the ground, apparently partly as a result of the fact that the prices that Zesco can offer does not make it worthwhile.

- Government commitment
- Political intervention.

7.11.1 **Legal and Regulatory Framework**

Whilst the legal and regulatory framework governing the EIS is relatively modern, some deficiencies exist. For instance, the following deficiencies have been identified in the Energy Regulation Act:⁸⁹:

Provision in the Act	Wording	Constraint
Schedule to the Act	“The Board shall....be appointed by the Minister”	The Minister has recently simply disbanded the Board – whilst appointment by politicians are common to most regulators, Ministerial meddling at this level is not
Section 9(3)	“The Board shall first determine whether, in its opinion, there is any reason why the application should, in the public interest, be rejected without further proceedings under this section.”	“Public interest” is not defined in the Act. There should at least be a proviso affording the Applicant the right or reasonable opportunity to be heard prior to rejection of the application
Section 10(4)	“The Board shall furnish the applicant for the license with particulars of any objection made to the grant of the license, and the applicant may, if he or she so desires, reply to the objection in writing addressed to the Board.”	The Applicant's right to reply is not sufficiently strongly worded or entrenched
Section 12	“A license is subject to such conditions as may be imposed by the Board”	The prescribed conditions primarily relate to distribution and supply issues and not to IPPs – insufficient for IPP development
Section 13	“Subject to this Act, a license remains in force for the period specified in the license and may be renewed on its expiry....”	The duration of the license is not prescribed by the Act.
Section 14(1)	“Any purported transfer of a license shall be void and of no effect unless the consent thereto of the Board was first obtained.”	There are neither criteria nor certainty of the Board's approval.
Section 14(2)	“The Board shall consent to any such transfer unless it has reason to believe that the public interest is likely to be prejudiced by the transaction.”	“Public interest” is not defined.
Section 15	“Where a licensee is in default, the Board may, with the consent of the Minister....revoke the license...or ...refuse to renew the license	No cure periods, no guidance as to severity of non-compliance before a license is revoked.

⁸⁹ Courtesy of Adv Ben Ngenda, legislative review on administrative barriers.

Section 16	Appeal to Minister on revocation of license	International IPPs will insist on non-political dispute resolution – appeal to Minister not acceptable.
Section 27	Minister’s powers to make regulations	Regulations on many crucial issues under development, e.g. finalization of the grid code. ⁹⁰ Needs to be developed if private sector participation in ESI is to be taken seriously.

In discussion with knowledgeable parties in Zambia the point was made that although the ESI regime is perhaps reasonably up to date, other legislative and regulatory frameworks that have a more indirect direct impact on the ESI and potential IPP developers needed review on certain aspects, such as⁹¹:

- The Companies Act;
- The Registration of Business Names Act;
- The Investment Act;
- Trades Licensing Act;
- The Zambia Development Agency Act;
- The Mines and Minerals Development Act;
- The Environmental Protection and Pollution Control Act;
- The Local Government Act; and
- The Water Act.

Whilst a complete review of the legislation falls outside the scope of this project, these pieces of legislation (and other legislation) would be the focus of any due diligence exercise by a prospective investor and may need possible attention to enhance private sector participation in the ESI. It can also be expected that investors, like in other regional countries, would insist on an overarching agreement with Government to deal with problematic aspects despite an overall conducive ESI regime.

7.11.2 **Implementation constraints**

In discussions with role-players in Zambia the point was made that while the legislative framework in an overarching sense was conducive to the development of private sector projects, various implementation constraints existed on all levels. This problem is not only found in Zambia, but is common throughout the region⁹². The reasons for this are many, but can perhaps best be ascribed to the following:

- No culture of private sector involvement in the economy;
- Absence of entrepreneurial thinking;
- A low knowledge base to start from;
- Relatively unsophisticated business practices;
- Small financial sector;
- Dominance by the state-owned incumbent;
- Human resource constraints, especially in the public sector;
- Reliance of the public sector on the incumbent for assistance;
- Lack of communication and co-ordination between different authorities;

⁹⁰ Although draft codes have been developed for a wide variety of issues such as a governance code, system operator code, network code. Information exchange code.

⁹¹ Compliments of Adv Ben Ngenda

⁹² It is of course evident not only in Southern African countries, but in any country. It is just that constraints in Southern African countries seem to hamper development, whereas in other places in the world it is overcome.

- Small pool of expertise to draw from.
- Insufficient funding to attract and retain key human resources.

7.11.3 **Government Commitment and political intervention**

As noted, despite a dedicated Office for the Promotion of Private Power Projects, which is perhaps a sign of far greater commitment to the development of private sector power projects than shown by any other regional country, precious little tangible progress has been made in introducing IPPs and similar private sector projects⁹³ in Zambia. Granted, much promise was shown until the Enron debacle and the resultant collapse of the Kafue Lower Gorge initiative with the withdrawal of AES and other interested parties. And the Office for the Promotion of Private Power Projects continues to promote private sector projects. However, the question can be asked if the reasons for the delays are all external or whether there are perhaps internal issues as well.

In particular, the question can be asked if the Government, despite the “on the surface show of commitment”, is really that committed to privatisation. The reasons could be many, but factually it seems as if the following has transpired in the past:

- Government and/or the Minister have apparently in the past overruled the energy regulator⁹⁴. Needless to say this kind of interference is definitely not a sign of commitment.
- ZESCO was given the go-ahead to develop the Kafue Lower Gorge project (albeit with a private partner), whilst the energy regulator apparently was keen to assign it to the private sector.
- Internal conflicts between competing Government departments cannot be ruled out, with vested interests playing a role.

All in all, it is questionable if the political will, or rather genuine commitment, is really there to ensure private sector participation in the ESI

7.11.4 **Independence of the energy regulator**

Whilst the energy regulator fulfils its tasks apparently in an unbiased manner, it would seem that political influence is exercised and that decisions of the regulator are sometimes overturned by politicians. Furthermore regulatory capture remains a possibility as the regulator is funded by ZESCO.

⁹³ Or even combined private/public sector projects.

⁹⁴ Apparently the Regulator was not adverse to allowing the Copperbelt Energy Corporation (CEC), the company supplying power to the copper mines, from expanding the transmission infrastructure into Zaire. However, the decision was taken at political level that it should not be allowed to do so.

8 ZIMBABWE (Republic of Zimbabwe)

8.1 Overview of legal system, public administration and court system

Britain took over Southern Rhodesia control from the British South Africa Company (which was administering the territory under Royal Charter) in September 1923. In 1965 the government made a unilateral declaration of independence. UN sanctions and a guerrilla uprising finally led to free elections in 1979 and independence (and a name change to Zimbabwe) in 1980.

Government type	Republic; parliamentary democracy
Administration	8 provinces and two cities
Constitution	Adopted on 21 December 1979
Legal system	Based on English common law and customary law. Judicial review of administrative and executive action is possible. Has not accepted compulsory ICJ jurisdiction
Executive Branch	President is both Chief of State and Head of Government
Cabinet	Cabinet members are appointed by the President and responsible to House of Assembly
Legislative Branch	Unicameral House of Assembly (150 seats; 120 elected by popular vote; 12 nominated by President; 10 occupied by traditional chiefs nominated by peers; and eight occupied by provincial governors appointed by President)
Judicial Branch	Supreme Court (judges are appointed by the President); High Court (judges appointed by President); system of lower courts

8.2 General procedures for the development and amendment of legislation

Laws are enacted by the House of Assembly. Electricity Supply Industry (ESI) legislation follows Government policy developed by the Minister of Energy and Power Development (Minister) (through the Ministry of Energy and Power Development (MEPD)). Amendment of laws follows the same procedure. Regulations are issued by the Minister.

8.3 Summary of ESI related legislation

Electricity Act, 2002 (Chapter 13:19) (Electricity Act)	Establishes a new structure for the Zimbabwe Electricity Supply Authority (ZESA) (namely: holding company (ZESA Holdings (Pvt) Ltd) and three successor companies for generation, transmission and distribution. Also introduces a new regulator called Zimbabwe Electricity Regulatory Commission (ZERC) (partly operational). Allows participation by IPPs in the generation business
Rural Electrification Fund Act, 2002 (Chapter 13:20)	Planning and funding of rural electrification
Electricity Regulations	Technical supply regulations

8.4 Relevant ESI authorities

The Minister has executive responsibility for the ESI. MEPD is the line ministry with oversight of the ESI, and is the policy recommendation body. ESI regulations are issued by the Minister. ZERC will function as the independent regulator when it becomes operational.

8.5 Independent regulator

The Electricity Act establishes the ZERC as the independent regulator. ZERC's role is to ensure that regulation of the ESI is fair and balanced for licensees, consumers, investors and other stakeholders. Funding is from licence fees and levies from electricity suppliers.

ZERC is a statutory creation with separate legal status. It has the following functions:

- Create and ensure competition;
- Ensure adequate supply of power; and
- Ensure fair and equitable tariff structures.

The Board of ZERC consists of between five and seven members, three of whom must be permanent, and one of whom is the Commissioner General. The Commissioners are appointed on a professional basis, with knowledge and experience in law, accounting, economics and engineering.

8.6 General procedures for handling of appeals, disputes and complaints

Zimbabwe has until recently had a well functioning system of courts⁹⁵ and litigants were served by qualified and experienced private legal practitioners. The independence of the judiciary is questionable given recent political developments. Enquiries at MEPD elicited the response that the courts have been approached for hearing (ESI) disputes successfully in the past, under the old Electricity Act (Chapter 13:05), but not under the new Electricity Act⁹⁶. These usually related to claims (instituted in the High Court) for compensation against suppliers for personal injury or damage to property. An unsuccessful claimant has the right to take a decision of the High Court on appeal to the Supreme Court.

Complaints which cannot be resolved by ZESA or other licensed suppliers will in future be referred to ZERC for mediation or arbitration. This is one of the regulator's statutory functions. There is a Consumer Council of Zimbabwe which deals with all forms of customer complaints, including those on electricity.

8.7 Formal influences by other bodies on ESI

Environmental matters are the responsibility of the Ministry of Environment and Tourism (MET). It is responsible for the formulation and implementation of environmental policies and practices under the Environmental Management Act No. 20:27 of 2002.

Occupational health and safety matters are addressed in the Public Health Act 19/24, which makes provision for public health and safety, and the Factories and Works Act (Chapter 283), which regulates and controls factories, regulates conditions of work and precautions against accidents.

There is a Competition Act which governs monopolies.

ZESA is an Operating Member of the Southern African Power Pool (SAPP) with the obligation to utilize its spare transmission capacity to wheel power for other Operating

⁹⁵ Debatably, given present developments.

⁹⁶ A recent case dealt with ZESA's April 2004 tariff increase. An argument was advanced that the matter should have been dealt with under the new Electricity Act, and not the old Act. Full judgment has not yet been made available.

Members. ZERC intends joining the Regional Electricity Regulator's Association (RERA) when it is operational.

Currently the Electricity Act (section 54, read with the Second Schedule) gives ZESA and other licensee's powers to access land and use premises for purposes of conducting their businesses, in cases where the landowner refuses permission. ZERC will be entitled to include and of the provisions of the Second Schedule in the transmission and distribution licences that it will issue.

SAPP (Southern African Power Pool) has its head office in Zimbabwe.

8.8 Treatment of private investors

The country's land reform programme, characterized by chaos and violence, has led to the collapse of the economy. Exchange controls remain in force. Badly needed support from IMF has been suspended. The investment climate is bleak. The Zimbabwe Investment Center was set up to deal with new projects and investments.

Zimbabwe is a signatory to the New York Convention, 1958 (Recognition and Enforcement of Foreign Arbitral Awards) (Date of entry: 20 September 1994). UNCITRAL Rules are currently included in contracts entered into by parties in Zimbabwe. Alternate dispute resolution is governed by the Arbitration Act and legislation is in place for the reciprocal enforcement of foreign judgments.

9 Regional institutions and initiatives

Various regional bodies and initiatives play an important part in determining regional development of electricity infrastructure, co-ordination of legal and regulatory matters and the trading of electricity between member states. The most significant of these are the SADC, SAPP and RERA.

9.1 SAPP

SAPP was established in 1995 through a SADC treaty to optimise the use of available energy resources amongst the countries in the SADC region and to support each other during emergencies. At the time there was a significant electricity surplus, and one of the ways of dealing with this surplus was by encouraging trade between members. Initially SAPP membership was limited to utilities owned by the respective members, but SAPP has recently opened its membership for IPPs and independent transmission owners.⁹⁷

SAPP is a voluntary market based on the loose-pool principle. It caters for both long- and short-term contracts, providing increased scope for reduction in supply costs to participating members. Underlying successful trade members need to:

- Co-ordinate and co-operate in the planning and operation of their systems to minimise costs while maintaining reliability, autonomy and self-sufficiency to the degree they desire; and
- Fully recover their costs and share equitably in the resulting benefits, including reductions in required generating capacity, reductions in fuel costs and improved use of hydroelectric energy.
- Co-ordinate and co-operate in the planning, development and operation of a regional electricity market based on the requirements of SADC Member States.

The SAPP Coordination Centre (SAPP-CC) was established in Harare, Zimbabwe, at the beginning of the year 2000. This centre co-ordinates short and long term energy sales.

A Short Term Energy Market (STEM) administered by the SAPP – CC staff commenced operation in April 2001 allowing participants to trade energy on a day ahead basis between themselves through bilateral arrangements. Through financial assistance from Norway a competitive market along the same principles as the Nordic power market is presently being established and planned to be officially opened towards the end of 2007. Through this market it is envisaged that a more flexible trading system will be established accommodating trading at the pool with varying demand profiles and varying prices, and provide the necessary basis for the development of subsequent financial markets.

One of the key benefits of the market would be that it could provide more accurate price indicators in a more transparent and predictable manner. SAPP has recently requested Norway and Sweden for continued support covering the following activities:

- Training of SAPP Project Managers in project packaging, formulation of power purchase agreements, and project marketing strategies through workshops and seminars and information sharing;
- Market monitoring and evaluation;
- Completion of the revision of the steering documents of SAPP;
- Capacity Building in pool management and operations;

⁹⁷ To date, only Cahorra Bassa is a non-utility member.

- Development of a regulatory framework for regional trade

Furthermore, the Ministers responsible for the energy sector in the region recently directed the SADC Secretariat, the SAPP and DBSA to facilitate urgently, and in collaboration with other partners, the project development, packaging and feasibility studies for all outstanding SADC regional generation and inter-connector projects.

Whilst SAPP certainly has many benefits for the region, care should be taken that it is not regarded as the sole answer to all of the regions problems. In particular, SAPP faces the following issues:

- It cannot create markets where no markets exist;
- It can only facilitate the trade of electricity between a willing buyer and a willing seller – it is not the purchaser or seller of the electricity;
- Where there are regional shortages and utilities face net deficits, it is doubtful that SAPP will come to its full potential use, as there simply is not a lot of surplus power available to market via SAPP. This would not necessarily apply to off-peak surpluses, but the total electricity thus sold should not be significant;
- SAPP has no regional powers for enforcing standards, new infrastructure development or uniform regional tariff structures;
- Private sector developers have no reason to belong to or sell via SAPP if they can conclude long-term off-take agreements directly with their clients. In fact, SAPP sales could, depending on how transactions are structured, significantly increase financing costs due to the uncertainties involved.

At the moment it would seem as if the ancillary functions of SAPP, such as the development of a regional regulatory framework for regional trade, and assisting in identifying necessary regional generation and inter-connector projects, would be of more immediate use and interest as it opens the door for decreasing access and wheeling barriers. However, it should be recognized that SAPP is not necessarily the only or best placed to deal with issues such as regional regulatory frameworks – that should in principle not be its primary role⁹⁸.

SAPP also keeps a handy list of all regional generation and transmission projects planned by its members. It should be remembered that its members are the utilities, and hence the list does not include private sector development.⁹⁹ Hence the column in the tables that refer to private sector involvement in most cases is a reference to private sector construction, not necessarily private sector equity. Whilst some may seem ambitious, it is nevertheless an insight into what regional prerogatives seem to be:

⁹⁸ As essentially a pool operator, it should stand neutral towards regional policies. It is recognized however that in order to ensure trade, protocols had to be developed and that SAPP has made a huge contribution in this regard.

⁹⁹ Not that there are a lot of major private sector developments. The list does mention Mmamabula, though.

Table 5: SAPP list of Transmission and Generation projects

TRANSMISSION PROJECTS¹⁰⁰

Project Name	Capacity [MW]	Project Description	Expected Date	Estimated Cost USD [M]	Project Status	Private sector involvement
Mozambique - Malawi 220 kV Interconnector	300	Connect Malawi to the SAPP Grid.	Mid 2009	85	PPA no longer requirement. WB approval June 2007	N/A
Zambia-Tanzania-Kenya 330 kV Interconnector	400	Connect Tanzania and Kenya to the SAPP Grid.	2008	330	Feasibility Study complete Transaction Advisors appointed	Yes
WESTCOR	3500	Transmission from Inga 3 the Angola, Namibia, Botswana and South Africa		3500	Project Company setup	Yes
Karavia-Luano 330 kV Interconnector	600	Increase transmission capacity between DRC and Zambia	2009	93	Feasibility Study not complete	Yes
Solwezi – Kolwezi 330kV line (DRC – Zambia)	600	Increase transfer capacity between DRC and Zambia from present capacity of 260MW.	2009	25	Feasibility studies to be revisited	Yes
2 nd 220kV Livingstone-Katima Mulilo (Zambia - Namibia)	260	Increased transmission capacity from Zambia to Namibia	2012	45	Feasibility studies exists	Yes
Zambia –Namibia (350 kV HVDC)	200	Interconnection Namibia - Zambia.	2009	430	Tender stage. Cost approximately N\$ 3 000	Yes
2 nd Alaska-Sherwood 330kV line	650	Project aims to decongest the ZESA system	2009	15.5	Feasibility studies to be done	Yes
Hwange-Livingstone / Kafue 330kV	650	Line to increase transmission capacity to Namibia and Botswana.	2012	42.5	Feasibility studies to be done	Yes

¹⁰⁰ Source of all tables in this section SAPP REPORT: Status of the Generation and Transmission Project in the SAPP April 2007

Project Name	Capacity [MW]	Project Description	Expected Date	Estimated Cost USD [M]	Project Status	Private sector involvement
2 nd ZESA-Eskom 400kV line	650	Alternative transmission supply route between the northern and southern networks	2011	46.1	Feasibility studies done	Yes
Triangle – Orange Grove 330 Kv	650	Project to decongest the ZESA system	2009	49.2	Feasibility studies to be done	Yes
Mozambique – Tanzania Interconnector		Project to enable power exchange between Mozambique and Tanzania			Initial internal studies done by EdM.	Yes
Zeus - Cape 765 Kv transmission line , RSA	850	Decongest connection power to the Cape and for wheeling power to Namibia	2009		Feasibility	RSA
TOTAL				4,665.3		

SHORT TERM GENERATION PROJECTS

Country	Project Name	Capacity [MW]	Project Description	Expected Date	Estimated Cost USD [M]	Project Status	Private sector involvement
Angola	Benguela	83	Gas Turbine	2007		Construction underway	ENE
Angola	Capanda Phae 2	260	Hydro power development at Capanda	2007	344	Construction is underway	Yes
Botswana	Morupule	600	Expansion of existing coal fired plant	2011	600	Feasibility studies completed.	Yes
Malawi	Kaphichira Phase-2	64	New hydro plant with transmission line.	2009	50	RFP documentation ready	Yes
Mozambique	Massingir	28	Brownfield development for base load hydropower Generation	2009	55	Feasibility Studies completed	Yes

Country	Project Name	Capacity [MW]	Project Description	Expected Date	Estimated Cost USD [M]	Project Status	Private sector involvement
Mozambique	Quedas & Ocua	179	Construction of 2 hydro power stations.	2010	29	Feasibility study in progress	Yes
Namibia	Kudu	800	Construction of CCGT "F" class power station including a gas pipeline to bring the gas on shore.	2010	640	Detailed pre - feasibility study updated in 2003. Feasibility Phase started 2005	Yes
South Africa	Camden	1140	De-mothballed coal fired power station.	2005-2008	848	Implementation. On track.	Yes
South Africa	Grootvlei	1140	De-mothballed power station.	2008-2010	777	Implementation. On track.	Yes
South Africa	Komati	900	De-mothballed power station	2008-2010	987	Implementation. On track.	Yes
South Africa	Arnot	120	Upgrading existing station generator	2007	63	Completed	Yes
South Africa	Atlantis OCGT	600	Peaking plant with 10% capacity factor	2007	240	Implementation. On track	Yes
South Africa	Atlantis OCGT	750	Peaking plant with 10% capacity factor	2008	300	Feasibility	Yes
South Africa	OCGT	1050	Peaking plant with 10% capacity factor	2009	400	Feasibility	Yes
Swaziland	Maguga	20	Hydro Power Project	2007		Under construction	SEB
Tanzania	Ubungo	60	Gas fired power station	2007	45	Commissioning June 2006.	Yes
Tanzania	Kinyeredzi	200	Gas fired power plant.	2007-9	190		TANESCO
Zambia	Kariba North Bank Extension	360	2x180 MW hydro extension	2009	192	Detailed engineering	Yes

Country	Project Name	Capacity [MW]	Project Description	Expected Date	Estimated Cost USD [M]	Project Status	Private sector involvement
						design needs to be done	
Zambia	Kafue Gorge Lower	750	New earth rock fill type dam proposed upstream of existing station.	2010	600	Discussions underway with potential investors. Reservoir operation studies done to select dam site location.	Yes
Zambia	Itezhi-Tezhi	120	Hydro Power project	2008	142	Preparatory works commenced	Yes
Zimbabwe	Kariba South Extension	300	Hydro power extension and associated transmission.	2009	200	Feasibility studies completed. Equipment specifications completed. Investment agreement signed with investor.	Yes
Zimbabwe	Hwange Expansion	600	2x300 MW coal fired plant including associated transmission investments	2009	500	Feasibility studies (including EIA) for done. MOU signed with potential investor.	Yes

Country	Project Name	Capacity [MW]	Project Description	Expected Date	Estimated Cost USD [M]	Project Status	Private sector involvement
Zimbabwe	Gairezi	35	Mini hydro to supply local load	2007	35	Pre-feasibility studies done. EIA is in progress.	ZESA
Zimbabwe	Lupane	300	New gas fired power plant	2010	368	Feasibility studies in progress	Yes
TOTAL		11398			8040		

REHABILITATION GENERATION PROJECTS

Country	Project Name	Capacity [MW]	Expected Date	Estimated Cost USD [M]	Project Status	Private sector involvement
Angola	Gove Dam Rehabilitation of dam, new power station and transmission system]	60	2010	180	Feasibility studies complete	Yes
DRC	Inga 2 refurbishment Including the Inga Kolwesi 500 kV DC Line	800	2007	452	Feasibility studies needed	SNEL, World Bank, Financing Gap of USD 200m
DRC	Inga-1 Refurbishment	110	2007	78	Feasibility Studies completed.	SNEL/Public Financing
DRC	Nseke	62	2009	56	Feasibility Studies completed.	Yes
DRC	Koni Refurbishment	42	2008	15	Feasibility Studies completed.	Yes
DRC	Mwadingusha refurbishment	12	2010	30	Feasibility Studies completed.	Yes

Country	Project Name	Capacity [MW]	Expected Date	Estimated Cost USD [M]	Project Status	Private sector involvement
DRC	Zongo new hydropower	75	2010	20	Feasibility Studies completed.	Yes
DRC	Nzilo Refurbishment	27	2009	28	Feasibility Studies completed.	Yes
DRC	Sanga Refurbishment	8	2010	6	Feasibility Studies completed.	Yes
Malawi	Tedzani 1&2 Rehabilitation	40	2007	17	Project fully underway,.	Yes
Mozambique	Mavuzi and Chicamba Rehabilitation	34	2009	30	Feasibility study in progress	Yes
Zambia	Kariba North Bank	120	2008		Technical studies completed.	Yes
Zimbabwe	Hwange Rehabilitation	400	2008	40	Technical studies completed. NamPower to finalise PPA and Loan Agreements with ZESA	Yes
TOTAL		1790		952		

LONG TERM GENERATION PROJECTS

Country	Project Name	Capacity [MW]	Project Description	Expected Date	Estimated Project Cost USD [M]	Project Status	Private sector involvement
Angola	Cambambe II	260	Hydro power development	2011	772	Detailed feasibility studies to be done	Yes
Botswana	Mmamabula	4800 (2x 2400)	Coal fired plant, initial stage 2400 MW but can be expanded to 4800 MW.	2013	6000	IGMOU Botswana-RSA signed 18 August 2006. IUMOU BPC- Eskom signed 13 November 2006	Yes
DRC	Inga 3	3500	Inga 3 hydro power development	2012	1730	Pre-feasibility Studies done. Project to be developed under WESTCOR	Yes
DRC	Grand Inga Ph1	6000	8x750 MW units planned for ph 1.	2015	4025	Pre-feasibility Studies done. EIA completed.	Yes
DRC	Busanga	240	Hydro plant and transmission infrastructure	2011	300	Feasibility studies to be updated by 2007 by private partner	Yes
Lesotho	Oxbow	80	New hydro power station	2015	155	Feasibility studies completed.	Yes
Lesotho	Muela Ph2	110	Development ph2 on existing dam	2012		Feasibility Studies are underway	Yes
Lesotho	Musanga	230	New hydro power development			Feasibility Studies to be done	Yes
Malawi	Fufu	100	New hydro power development	2012	141	Feasibility Studies to be done	
Malawi	Kholombizo	240	New hydro power development	2018	391	Feasibility Studies to be done	N/A
Malawi	Mpatamanga	260	New hydro power development	2020	397	Feasibility Studies to be done	N/A

Country	Project Name	Capacity [MW]	Project Description	Expected Date	Estimated Project Cost USD [M]	Project Status	Private sector involvement
Mozambique	Temane	750	Ph1: 750 MW gas fired power plant	2011	370	EdM looking for Strategic Partner	Yes
Mozambique	Mphanda Nkuwa (Ph1)	1300	Hydro power project. (Ph2 total 2400 MW)	2015	2000	Feasibility study completed, Negotiations with Strategic Partner	Yes
Mozambique	Moatize	1500	Greenfield baseload coal plant Ph1: 1000 MW, (Phase II+500 MW)	2011	2700	EIA in progress. Feasibility study completed, Road show to be done by 1st quarter 2007	Yes
Mozambique	Massingir	40	Hydro power	2009	55	Feasibility Studies needs to be done	Yes
Mozambique	Lurio	183	New hydro power plant	2012	340	Feasibility Studies needs to be done	Yes
Mozambique	HCB North Bank	850	Development of north bank at existing dam site.	2015	771		Yes
Namibia	Walvis Bay	400	400 MW coal fired plant and associated transmission lines	2013	700	EOI has been issued and evaluation is underway	N/A
Namibia	Baynes	360	Hydro power project u to 500 MW	2013	640		Yes
South Africa	ESKOM North Coal Option 1	2250	3x750 MW coal fired units	2011	5000	Pre-feasibility Studies done. EIA is in progress.	Eskom
South Africa	ESKOM East Pumped Storage	1332	4x333 MW Pumped storage scheme at Braamhoek	2012 – 13	1400	Implementation	Eskom
South Africa	ESKOM North Coal Plant 2	2250	3x750 MW coal fired units	2013 -15	5749	Implementation	Eskom

Country	Project Name	Capacity [MW]	Project Description	Expected Date	Estimated Project Cost USD [M]	Project Status	Private sector involvement
South Africa	ESKOM North Coal Plant 3	4500	6x750 MW coal fired units	2012 -16	10 200	Pre-Engineering	Eskom
South Africa	ESKOM East Pumped Storage	1520	4 x 380 MW Pump storage scheme for peaking power	2015	1600	Pre-Engineering	Eskom
Swaziland	Lubombo	1000	New 1000 - 2000 MW coal fired plant planned.	2012		Feasibility Studies are underway	Yes
Tanzania	Ruhudji	358	New hydro power station	2015	611	Feasibility studies completed.	Yes
Tanzania	Mchuchuma	400	2 phases of 200 MW each	2022-24		Feasibility Studies to be done	Yes
Zambia	Kalungwishi	220	New hydro power development	2015	210	Feasibility Studies to be done	Yes
Zimbabwe / Zambia	Batoka	1600	Run off the river hydro power plant on the Zambezi River	2015	2500	Feasibility Studies completed. Agreement between Zimbabwe and Zambia to proceed with the project.	Yes, no firm investors yet
Zimbabwe	Gokwe North	1400	Power station to be located close to a green field mine.	2012	1357	Feasibility studies completed. EIA would be required for the transmission lines	Yes/ No firm investors yet
TOTAL		36 833			31814		

9.2 RERA

The Regional Electricity Regulator's Association (RERA) is a voluntary organisation whose members consist solely of regional electricity regulators. RERA has the following three strategic objectives:

- Capacity Building & Information Sharing – to facilitate electricity regulatory capacity building among members at both a national and regional level, for example through information sharing and skills training;
- Facilitation of ESI policy, legislation and regulatory frameworks, harmonize ESI policy, legislation and regulations for cross-border trading, with particular focus on terms and conditions for access to transmission capacity and cross-border tariffs;
- Regional Regulatory Cooperation -- deliberate and make recommendations on issues that affect the economic efficiency of electricity interconnections and electricity trade among members which fall outside national jurisdiction;
- Exercise such powers as may be conferred on RERA through the SADC Energy Protocol.

The following principles guide the operations of RERA:

- the development in the electricity supply industry (ESI) across the region should be in line with broad international trends in which neighbouring countries form integrated electricity markets;
- there are benefits arising from economies of scale and shared resources which are economic imperatives to pursue the development of greater integration of the electricity systems in Southern Africa;
- the successful regional integration of electricity systems requires clear legal and regulatory frameworks to facilitate – cross-border transactions, regional systems operations and a uniform system of tariffs for use of regional transmission infrastructure;
- the development of facilitating regulation is essential to harmonize and create market structures that remove barriers to trade and attract investment in the ESI; and
- to create a financially self-sustaining institution responsible for the facilitation of regional electricity regulatory issues.

RERA strives to be a credible and leading regulatory organisation, and provides a platform for effective cooperation between independent electricity regulators within the SADC region.

Membership to RERA is open to all ESI regulatory bodies in each country within SADC. The current members of RERA are:

- Namibia - Electricity Control Board (ECB);
- Tanzania - Energy & Water Utilities Regulatory Authority (EWURA);
- Zambia -- Energy Regulation Board (ERB);
- Angola - Institute for Electricity Regulation (IRSE);
- Lesotho - Lesotho Electricity Authority (LEA)
- Malawi - National Electricity Council (NECO)
- South Africa - National energy regulator of South Africa (NERSA)
- Zimbabwe – Zimbabwe Electricity Regulatory Commission (ZERC)

It is interesting to note that countries such as Botswana and DRC are absent, because they have no dedicated electricity regulatory bodies. However, it can be expected that they will join it upon electricity regulators being established.

Members share the costs of the operations of RERA as determined by its plenary. The secretariat is housed in Namibia, whilst executive power is vested in its executive committee. The financial resources of RERA consist of:

- Annual subscriptions or and/or special contributions by Members; and
- Other sources as may be approved by the plenary, such as grant funding or donations.

RERA has recently requested Norway and Sweden for support covering three areas:

- Improving the regional investment climate in the power sector;
- Developing an enabling regulatory environment for access to and operation of a viable regional electricity market; and
- Enhancing the capacity, image, credibility and performance of RERA.

9.3 SADC

SADC in 2002 accepted a regional energy protocol. This protocol strives to promote regional co-operation in energy, and its objectives are to:

- Strive to harmonise national and regional energy policies, strategies and programmes on matters of common interest based on equity, balance and mutual benefit.
- Co-operate in the development of energy and energy pooling to ensure security and reliability of energy supply and the minimisation of costs.
- Co-operate in the development and utilisation of energy in the region in the following sub-sectors: wood fuel, petroleum and natural gas, electricity, coal, new and renewable energy sources, energy efficiency and conservation, and other cross-cutting themes of interest to members.
- Strive to ensure the provision of reliable, continued and sustainable energy services in the most efficient and cost-effective manner.
- Promote joint development of human resources and organisational capacity building in the energy sector.
- Co-operate in the research, development, adaptation, dissemination and transfer of low-cost energy technologies.
- Strive to achieve standardisation in appropriate energy development and application including the use of common methods and other techniques

The SADC Energy Protocol establishes a Commission consisting of energy Ministers, senior officials and the technical unit of SADC. The Commission has the following functions:

- co-ordinate regional energy activities;
- formulate a coordinated approach to regional energy policy, strategy and plans;
- facilitate regional energy project conceptualisation, initiation, preparation and implementation, monitoring and evaluation;

- establish and maintain a regional energy data base and facilitate information exchange;
- liaise with other SADC sectors and with national, regional and international organisations;
- formulate and implement strategies for human resources development in the energy sector in the Region;
- establish procedures and criteria for the approval of SADC energy projects;
- mobilise finance for implementing SADC energy programmes and projects;
- promote research and development in the energy sector in the Region;
- identify and formulate common standards and procedures in energy technology development and application, as well as common information and documentation practices; and
- provide upon request and in furtherance of the objectives of the Protocol, technical assistance to member states, organisations and communities.

Whilst SADC has a clearly very important role to play in facilitating private sector involvement in new generation activities, very little real progress has been made over the past few years. This will hopefully change with the assistance of the donor community, and the co-ordination of donor activities under the lead of NORAD.

10 Investor and lender concerns

10.1 Investor concerns

No investor would normally be interested in the development of any new generation plant or associated infrastructure unless he can make a decent return on his investment in one way or another. Strangely enough it seems as if this basic rule is often overlooked by planners who look from the production side but forget about the need to sell electricity at realistic prices. A quick glance through SAPP's list of potential generation projects¹⁰¹ brings one to the realization that it looks like a rosy picture indeed -- there is almost 50 000 MW of new power generation projects on the table over the next 15 years or so. So one should not be really talking about a power deficit – indeed, if these lists are to be believed the regions problems are shortly to be solved. At a glance, in 2007 alone some 2000MW of new generation is coming on line.

Clearly this is not correct, and is partly due to projects being included on the list that are either not economically viable or are technically and politically so challenging that the chances of them being realized in the foreseeable future are slim.¹⁰² Another reason is that given the state of some economies, and perhaps even more importantly, the dire straits that some state owned utilities find themselves in, some of the projects on the list are nothing but a wish list that do not have any resemblance to reality. Some of these projects have been on the list for many years, with the implementation dates being shifted out from time to time.

Transmission upgrades also seem to realize easier than new generation projects. This may be because utilities are normally responsible for transmission, it generally cost less and can mostly be easier managed in-house.

The bottom line is, some of the projects on the list are probably not realistic, and a number of them will either be shifted out in terms of timing or simply never realized.¹⁰³

It is not the purpose of this exercise to try and indicate what projects are viable or not, and investors would need to do their own due diligence in terms of which projects look attractive. Nevertheless the lists are indicative of what is possible and makes for interesting reading.

In trying to identify and categorize legal and regulatory barriers in terms of importance, certain assumptions had to be made¹⁰⁴:

Sale of power:

- Large IPPs would generally need to sell the majority of its power into South Africa, as local demand in other countries is relatively small compared to that of South Africa. In any event, even for smaller IPPs sales to neighboring or other regional countries would probably be helpful, if not necessary. This implies either direct sales via

¹⁰¹ See the tables under section 9.1.

¹⁰² For example, the tables list various projects in the DRC such as Grand Inga Phase I that, with respect, is a long way off. On the other hand, companies such as Eskom generally do perform, although target dates for some new projects are also now shifting out.

¹⁰³ Just on the 2007 projects alone, there is already (again) a time shift.

¹⁰⁴ Some of these are of course debatable. However, in order to get some sort of order of importance to legal and regulatory constraints, assumptions had to be made to narrow down the field.

dedicated infrastructure¹⁰⁵, or making use of the existing infrastructure of the incumbent utility¹⁰⁶

- In order to sell into the South African market, two possibilities exist – either to sell to Eskom, the state utility, or to sell to a large private consumer¹⁰⁷, for example City Power¹⁰⁸ or a big manufacturing plant or smelter.
- The South African Government (by default) have accepted a single buyer regime with Eskom as a single purchaser for supplies from outside the country, however, this is not a given and sales to other clients may still be a possibility.¹⁰⁹ Inside the country IPPs may be possible if islanded within areas of supply, for example Kelvin is an IPP that directly sells to City Power as dedicated off-taker. .
- Another option would be sales via SAPP. Generally speaking, however, for a large base load station uncertain sales via SAPP should be less attractive than long term bilateral sales to a dedicated customer.
- The further away from the South African grid the power station is the more difficult from a technical, economical and political perspective sales becomes. The Inga project is a case in point – it passes through five different countries with different legal and regulatory regimes and different languages and political and cultural diversity. Transmission distances (and losses) become larger, and most of the regional transmission infrastructure needs upgrading.
- Sales across different countries that wheel over national grids need to deal with different legal and regulatory regimes. These regimes are different, some subtly, some vastly, and there is no consistency in terms of tariffs, standards, codes, metering, transmission use of system charges and related issues.
- Smaller IPP's can potentially sell inside the country where it is established (either to the local incumbent state owned utility, or, depending on what local ESI (supply) model has been adopted, possibly to other customers, for example to a large smelter.
- Markets and opportunities within countries would most likely be smaller. However, some possibilities exist for large projects dedicated to a single large off-taker.¹¹⁰

Other factors impacting on private sector investment:

Apart from the need to find a market, the following factors would typically impact on private sector involvement¹¹¹ for IPPs:

- Failure to complete a positive bankable feasibility study on the project;
- Quality of the resource needed for fuel, e.g. the grade, quality and recovery of coal which is mined varying from estimates in the case of a coal fired plant;
- Impact of inflation;

¹⁰⁵ For example, as is the case with Mmamabula that links directly into the Eskom system on the Botswana/RSA border.

¹⁰⁶ Most of the transmission infrastructure belongs to and is the responsibility of the different utilities. The exception would be distribution infrastructure in countries such as South Africa, but for purposes of this project I have assumed that an IPP would normally not sell power to somebody embedded in a distribution framework.

¹⁰⁷ Subject to the caveat that Eskom is a single buyer. However, as per stated policy, only *inside* South Africa, so its position vis a vis imports still needs to be finalized.

¹⁰⁸ Who, by the way, is the second largest regional utility after Eskom – Johannesburg at winter peak in 2007 consumed some 3400 MW. That's the same as Paris, France. It has some 12 000 km of underground cable and some areas of the city experience an annual growth in electricity demand as high as 9%.

¹⁰⁹ Government may not be adverse to allow imports to relieve internal generation constraints and comply to its SADC obligations/NEPAD initiatives..

¹¹⁰ Alusaf in Maputo is a good example. Although supplied from South Africa, if a local power source was available it would have made good IPP.

¹¹¹ Project financed projects, which I assumed most projects would be.

- Changes in exchange rates;
- The ability to raise the required debt financing for the project;
- Constraints under applicable law and/or practice on the amount that a single lender is able to lend to a single borrower;
- Delays in the development of the project caused by unavailability of equipment, labour or supplies, limited capacity among engineering, procurement and construction firms, climatic conditions or insufficient transportation and transmission capacity, geological and mechanical conditions;
- Delays or failures in obtaining regulatory permits and/or licences respecting mining, power generation and/or power transmission and/or power distribution;
- The existence of undetected or unregistered interests or claims, over the properties intended to be developed;
- Availability of water, sorbent (at cost effective prices) or other necessary inputs;
- Inability to enter into power purchase agreements and/or transmission agreements with transporters and off-takers of power;
- Inability to conclude EPC or similar contracts with reputable engineering, procurement and construction firm(s) within the time frames needed at competitive prices;
- Inability to enter into and conclude other agreements required to facilitate the development, operation and financing of the project, including operators of the power plant and/or mines needed to feed the power plant;
- Inability to obtain tax concessions from the relevant Government and/or arrange the transfer of funds in and out of the country ;
- Political risks arising from operating in Africa;
- Legislative risk resulting from incomplete, insufficient or outdated legislation that would apply to the project;
- Legislative risk that would result from legislation adverse to the project, for example environmental, labour and health and safety; and
- Regulatory risk arising from applicable Government policy, lack of clear policy, incumbent dominance or failure to apply rule of law consistently and equitably.

As can be seen, this list is far ranging and covers many areas. For purposes of this report the main focus was on the last three bullet points, i.e. on legal and regulatory constraints from an ESI perspective. In discussion with major role-players involved in infrastructural projects in the countries covered and elsewhere in Africa, the following observations were made:

- Depending on the size of the project and the perceived project risk, the project developer would insist on entering into a direct agreement with the Government¹¹² on the project that deals with most of the aspects listed above and that are problematic, for example a conducive tax regime, suitable Government guarantees and overriding outdated or problematic legislation¹¹³ and policies. The larger the project, the more insistence there would be on such an agreement and the more risk adverse the investors and their financiers become.
- A re-structured ESI and appropriate changes to policy and legislation to facilitate investments was well and good but despite this, investors would still insist on

¹¹² Even in South Africa. This attitude/approach should be an eye opener for the regional regulators in terms of their relative importance in the greater scheme of things.

¹¹³ Legislation of course cannot be overridden by agreement, but where there are different interpretations the agreement would specify which one applies. The agreement could also go as far and get undertakings from Government to change the legislation in a certain manner, or even incorporate the agreement as part of legislation. This in fact happened in the case of the SASOL/RSA Gas Agreement relating to gas from Pande/Temane, Mozambique, which was incorporated in the RSA Gas Act.

entering into direct arrangements with Governments for any sizable project. This is not really as a result of a lack of confidence in the regional regulators, but weariness of African political and policy regimes that change often and suddenly, and inevitably impact on regulatory independence. Investors want surety – and they get that by contractually binding Governments into long-term agreements. That does not mean that there is no place for regulators, but is simply an acknowledgement of the difficulty in dealing with the local regimes over a wide spectrum of issues. It is much simpler to tie everything together in one agreement than trying to navigate the pitfalls of separately dealing with different departments with different agendas that change all the time.

- Where the ESI has been re-structured it is an indication that that Government probably takes private sector involvement seriously (at least on face value) and independent regulators are welcomed as it lessens the chances for *ad hoc* political intervention. It also means that there is some form of control over the local incumbent, for example regarding standards, quality of supply and tariffs. All of this leads to more certainty, which is preferred. However, regulators are perceived as more focused towards the end consumer, and adds little real benefit to large independent power suppliers¹¹⁴

The above inevitably leads to the question whether there is any merit, from an investor perspective, in actually ensuring that regulatory frameworks are in place, independent regulators are appointed, access to infrastructure is facilitated and so on. In other words, as large role-players would in any event simply insist on direct agreements with the Government incorporating these aspects, what's the benefit of a regulator? It was pointed out that this is not the case, and that there were definitive benefits to be had, for example:

- Ensuring third party access to transmission infrastructure of incumbents at market related prices. The transmission networks mostly belong to the state owned utilities, and without access to the wires, markets cannot be supplied. This is especially true for smaller IPPs that would not necessarily have the means nor capacity to negotiate separate agreements with Government.
- Putting standards and norms in place, e.g. an IPP regime and grid codes that apply to both the incumbent and the IPP is necessary in any event, and helps simplify other arrangements.
- Setting of regional norms and standards would be very useful, for example uniform wheeling charges, access requirements, metering issues – regionally there is a great need for getting such norms in place. It is one thing negotiating with one Government, but quite another then still having to negotiate with three more Governments to get your power wheeled over different networks and regimes.¹¹⁵
- Regional development is not only reliant on large IPPs, but hopefully over time a diversified generation mix where there is a definite role for smaller IPPs to play will emerge. Government policies are conducive to environmentally friendly options, and many Governments are signatories to international environmental agreements and protocols. By their very nature these kind of IPPs will be smaller and more localized, and a conducive legal and regulatory regime is necessary to facilitate its establishment and viability.
- Cost reflective tariffs imposed by regulators on supply licensees are of help to investors. It often happens that the tariffs of the incumbent state owned utility is not cost reflective, often for political reasons, and that potential investors consequently cannot offer tariffs to either the incumbent or to a customer that is competitive. This is especially the case where utilities are not ring-fenced, where cross subsidization

¹¹⁴ The legislation of the four countries is indeed slanted this way with little or any provisions specific to generation.

¹¹⁵ Whilst SAPP is working towards that, not all IPP's will sell to SAPP.

occurs, or where the infrastructure of the incumbent is old and no proper provision for replacements have been made.¹¹⁶

Investors demand stability and a conducive legal and regulatory environment that give them the comfort to invest large sums of money. How they achieve that is less of a concern with a clear preference expressed for direct agreements with Government on the larger, more risky projects. IPPs are normally very long term projects, and hence the level of security required to mitigate risks is also big. On shorter, smaller term projects investors have a larger appetite for risk and here conducive legal and regulatory frameworks embedded in the national legislative frameworks, such as an independent regulator and modern ESI legislation that facilitates IPP development, is helpful.

Regionally investors believe that it is very difficult as private players to access markets and sell electricity over networks owned by somebody else, and most would rather contemplate sales to the incumbent, or use the power generated for their own projects, such as mines or smelters¹¹⁷.

10.2 Lender Concerns

Lenders, if anything, are even more demanding than investors and many of the concerns expressed above will equally apply to them.

Most lenders have their own requirements on which they are willing to lend (risk) money and generally it is stricter than if viewed from an investor perspective. In addition, where international donor agencies and organizations such as the World Bank is involved own standards are imposed in terms of social and environmental issues. These are normally much stricter than the countries' own standards, which in itself can be a hurdle for new IPP development.¹¹⁸

¹¹⁶ Apparently this is one of the reasons why the Kafue Gorge Lower project has not taken off – the tariffs offered to ZESCO is too high – not that they are really too high, but ZESCO's own tariffs are far too low and hence the cost becomes exorbitant.

¹¹⁷ Some of the players asked are of course not in the game of electricity sales *per se*, but needs electricity for other purposes. Hence they do not really think about generation in the context of an IPP but more along the lines of embedded generation.

¹¹⁸ For example, the IPP would need to comply to international environmental standards whilst the incumbent utility would not. Hence the IPP's tariffs, all other things being equal, would need to be higher than that of the incumbent utility.

11 Accessing markets

11.1 Constraints in accessing the South African market

As noted in section 10.1, IPP's that do not sell internally in their own countries¹¹⁹ would need an outside client, and South Africa would from the four countries' perspective be the biggest (and perhaps most attractive) potential market. For this reason South Africa is dealt with in a bit more detail than the other countries considered.

Of the four countries, only Botswana is a direct neighbour to South Africa. Technically speaking transmission is perhaps also less complicated from Botswana, with the possibility to relatively easy connect into the South African grid.¹²⁰ Zambia would need to sell via the regional network, which has some technical constraints, while the DRC has similar constraints necessitating the perusal of a dedicated transmission network (e.g. WESTCOR) and wheeling across four countries.

South Africa sits with modern enabling ESI legislation, an energy regulator and a myriad of policies that ostensibly should be attractive to a power generation investor. However, there are significant constraints to freely selling electricity to and within South Africa, the more important of which are:

- Unclear policy as to what extent external sales will be allowed into South Africa. To date Eskom has imported electricity with little control over its actions. In terms of the new Electricity Regulation Act Government now determines what new generation capacity should be established¹²¹ and what percentages should be sourced from what kind of resources.¹²² This could have an impact on what percentages of external generation are allowed. Government has no clear policy around imports of electricity.
- It is unclear in terms of the new Electricity Regulation Act what the requirements for import licences are. Although these licences are now required in terms of the Act¹²³, the licence conditions pertaining to them still needs to be developed. This also links in to the lack of clear policy around imports.
- Whilst sales to some private sector players in the RSA may be attractive, Eskom has to date assumed the *de facto* position of single buyer of imported electricity. Government has not expressed itself on this. Of course, if Eskom is the customer the legal and regulatory dispensation within South Africa is not problematic – it becomes Eskom's responsibility and as it is already licensed to transmit, distribute and trade electricity, this should not pose any insurmountable problems.¹²⁴
- If a private customer within South Africa is the target market, either the seller or the importer (depending on where sales take place¹²⁵) would need an import licence. These have not been fully developed and it is unclear what the licence conditions would be.¹²⁶

¹¹⁹ E.g. because the local market is too small.

¹²⁰ Which was recognized by the Mmamabula developers

¹²¹ I.e. Government (in theory) now decides if and when new capacity will be built. In practice it seems like business as usual for Eskom.

¹²² E.g. that 10% of new generation capacity should be from renewable energy sources.

¹²³ In the past they were not a prerequisite.

¹²⁴ This is the approach being followed by the Mmamabula developers.

¹²⁵ For example, on the border it would not be "imports".

¹²⁶ Exemption from holding such a licence has (illegally) been granted until the end of this year by the responsible Minister. Hence Eskom at the moment also do not hold such licences.

- If sales are made to somebody else than Eskom, Eskom firstly has to accede to use of its transmission system and secondly needs to determine tariffs for the use of its infrastructure. Given its role as internal single buyer, it is not clear how and if the framework for allowing this will be developed. To date, although the new Electricity Regulation Act provides for compulsory third party access to transmission infrastructure, no detail on how this is supposed to be effected in practice exists. The seller would also need to abide to technical requirements necessary for system stability, e.g. compliance to Eskom dispatch, scheduling and system operator instructions.
- Sales to South Africa from countries other than Botswana would need to wheel over the regional networks. Here there could be issues such as differing standards and codes that apply, different regulatory regimes, the state of repair of the different networks, absence of capacity or preference to wheeling own electricity that could impact IPP sales.¹²⁷ The IPP would also need third party access to the networks of the host and other countries, and such access and the rules relating thereto have not been fully developed.¹²⁸ Whilst SAPP may be an option to overcome some of these problems, privately owned IPP's are not necessarily members of SAPP.
- Sales via SAPP would utilize the SAPP operating principles, which already deal with issues such as access to and use of the networks of third parties. In theory this should also apply within South Africa, but in practice has not materialized.¹²⁹ This would necessitate that the selling IPP becomes a member of SAPP, though, and sales would probably still take place via a bilateral agreement rather than the short-term SAPP market. The mechanisms for allowing private members into SAPP and on what basis they can wheel over the different utilities' networks also needs to be clarified.¹³⁰
- Sales within South Africa (i.e. sales from an IPP established within South Africa to a customer somewhere else in South Africa) would not be possible as Eskom is the single buyer. Only sales to Eskom is possible. Whilst Government has declared that 30% of new generation would be from IPP's, it is not clear how this is supposed to transpire. The policies of Government and the regulator on IPP's within South Africa have not been fully developed.
- Projects within South Africa as embedded generation, or a captive IPP, such as Kelvin¹³¹, should be allowable and actually does not pose any specific problems as it should not really make use of the Eskom transmission system. In fact, co-generation could be encouraged as it takes some load of the national system. Here the challenge would be to agree appropriate power purchase agreements (PPA's) with customers. Where customers are local authorities (distributors), the tariffs at which electricity are sold may need to be approved by NERSA, and hence the PPA may also need to be acceptable to the regulator.¹³²
- The financial and banking sector in South Africa is sophisticated whilst the general climate is conducive to the development of large scale projects. Hence some of the developmental issues that would typically arise with less sophisticated economies

¹²⁷ There is no such thing as a *regional* IPP framework that could facilitate the establishment and operation of IPP's.

¹²⁸ When exports are mentioned in a regional context, it is invariably the utilities talking about it – there is no coherent policy pushing for true IPP exports.

¹²⁹ As Eskom, and not somebody else, presently buys all power sold to South Africa. Hence the question of wheeling does not arise. Also Cahorra Bassa sales to Eskom are done in terms of a direct bi-lateral agreement and not via SAPP.

¹³⁰ Whilst it sounds feasible in theory, there are a lot of unanswered questions around the practicalities.

¹³¹ The privately owned power station supplying to City Power.

¹³² The new Electricity Regulation Act in fact determines that NERSA may (if it so wished) influence the terms on which the PPA is concluded. Whether it will do so is another question. In the case of Kelvin the PPA itself was not approved.

would not necessarily arise.¹³³ However, in terms of Governmental approvals and interaction with bodies such as the energy regulator, investors will be hard pressed to find agreement on special dispensations, unless the particular project forms part of Government's own agenda and within already established incentive regimes. Hence a developer of a renewable energy plant may find it easier to negotiate an agreeable dispensation than, say, a potential competitor to Eskom on coal fired generation. Political and power interplay between different Government departments may also play a role. For example, the Department of Minerals and Energy from a policy perspective may want to promote diversity in fuel sources, whilst the Department of Public Enterprises as shareholder department of Eskom may want to protect the interests of Eskom and would prefer to look at the most cost effective new generation options.

- Human and other resource constraints at all levels of Government and at the regulator remains a concern. This impact on everything from policy right through to the development of regulations and directives which should govern the industry. Whilst the overarching frameworks are in place, the underlying detail is largely missing. And as the saying goes, the devil lies in the detail. Hence a developer of an IPP in South Africa would find himself in a vacuum regarding some very important issues, for example:
 - Absence of a clear policy on IPP's within Government & resultant lack of clear implementation strategy at regulator
 - Lack of clarity between national and local authority jurisdiction
 - Undeveloped licence conditions for IPP's
 - Underdeveloped expropriation criteria and regulations
 - Delays linked to human resource constraints
- Environmental approvals may play a big role as the legislation is not fully developed and a mix of national, provincial and local authority competencies and approvals are needed. Extensive consultation processes with affected parties are also needed. This could lead to all sorts of delays, especially around the establishment of "dirtier" power plants but also with new servitudes and roads of way needed for new upgraded transmission infrastructure.

Whilst the South African environment on the surface is relatively sophisticated especially on the formal banking, business and construction side of things, on the policy, legislative and regulatory side there are many gaps. Accordingly it may be fair to make the statement that non-controversial¹³⁴, non-threatening¹³⁵ and technically simplistic¹³⁶ projects would have a better chance of success than highly complex¹³⁷, politically daunting and technically challenging projects stretching over several countries¹³⁸ with differing legal and regulatory regimes.

11.2 Constraints in other regional countries

In other regional countries, the point of departure would be that IPP's would sell locally and/or to and via other regional countries, either by direct agreement or via SAPP.

¹³³ For example, finding sufficient local specialized labour to construct a new power station should not be insurmountable.

¹³⁴ E.g. embedded generation.

¹³⁵ E.g. non-competing with Eskom, sales to Eskom or projects isolated from the transmission network.

¹³⁶ E.g. no wheeling across different jurisdictions.

¹³⁷ E.g. Grand Inga

¹³⁸ E.g. WESTCOR stretching over five countries, with three different languages and three fundamentally different legal and regulatory regimes.

Here the main problem for larger IPP's would be to find a suitable market, as the internal consumption of countries other than South Africa is relatively speaking small¹³⁹. Hence while opportunities may be interesting¹⁴⁰, real interest by major players in electricity generation would probably be focused more towards projects that can directly sell to a large single off-taker, such as a new smelter or other large industrial project. The alternative would be to market towards South Africa, and along the way, to neighboring countries. And of course the possibility for smaller, more regionalized IPP's would be there, especially for selling to smaller off-takers projects in such countries or to the local utility to meet regional increases in demand. Any of these options would face the following constraints:

- Lack of uniform standards on the type and specification of transmission networks and associated infrastructure. Different countries have different requirements and specifications, some based on the UK (e.g. Botswana and Zambia), some own design (e.g. South Africa).
- Lack of uniform regional standards regarding access to networks, wheeling charges and related technical issues easing wheeling of power over different networks. Whilst SAPP and RERA promises improvements in this area, progress to date seems to have been slow. Also Botswana and the DRC does not belong to RERA.
- Outdated ESI legislation not suited at all to IPP development in some countries, e.g. Botswana and DRC.
- Underdeveloped regulations and lack of detailed specifications in those countries that do have new legislation, for example lack of a completed grid code in Zambia and no dedicated third party access regimes to infrastructure.
- Incomplete legislation and especially subordinate legislation in all countries.¹⁴¹
- Legislation primarily geared towards controlling the incumbent or other end suppliers with little thought given to IPPs. In all countries (including South Africa) the legislation give scant attention to IPPs and focuses on safeguarding the end consumer.
- Position of political power and influence that the incumbent state owned utility has relevant to a new IPP.
- Legally embedded monopoly of incumbent state owned utility on especially transmission and wholesale supply activities¹⁴². Forced negotiation with monopoly on monopoly's terms.
- Resource constraints at regulators and Government, both human resource related as well as infrastructural and funding.¹⁴³ This occurs throughout all levels of Government.
- Lack of knowledge on generation related issues and IPP's in general. Utilities for the last number of years in the Southern African region relied on existing (and ageing) infrastructure, and it is only in the last few years that the need for generation and transmission expansion became a reality.
- Lack of political will to really facilitate private sector development¹⁴⁴. The expression "lack of political will" should be viewed in a broad context, and also includes

¹³⁹ But growing. Zambia is growing by some 4% per year, whilst Botswana

¹⁴⁰ Especially hydropower in Zambia and DRC

¹⁴¹ The legislation itself is generally also lacking. For example, only the South African legislation addresses party access

¹⁴² BPC for example insists that it should have both monopoly rights to transmission as well as have the wholesale selling rights to customers. In effect it means that anyone who wants to generate electricity can only export or sell to the utility itself. If no realistic export market realizes, the seller is subject to the mercy of the utility in terms of what it wants to offer as a price. I believe this is also the reason why Kafue Lower Gorge has not realized in Zambia – the utility was not prepared, for a variety of reasons, to pay a realistic price.

¹⁴³ Especially for example, in the case of the DRC.

¹⁴⁴ With the possible exception of Botswana, where real progress has been made on Mmamabula.

conflicting Governmental policies, fragmented approaches and frequent unsolicited changes to policy.¹⁴⁵

- Political interference in regulatory processes.¹⁴⁶
- Lack of necessary resources and skills in the country¹⁴⁷. This is a fundamental problem cutting across all areas of society. Worst affected are the poorer countries or those with a long history of strife, such as the DRC.
- Unsophisticated banking and financial sector¹⁴⁸.
- Culture of dependence of the State to provide for consumer needs with no real entrepreneurial mindset. The way of viewing the State and the State's responsibilities within Government tends to be socialistic with a "big brother" approach to the delivery of services. This favors the incumbent state-owned monopolies, with no real questioning of the incumbent's competencies and efficiency. It also impacts on issues such as political interference in matters that should be business decisions (such as non-approval of tariffs or the setting of too low tariffs). In fact, this is also true for South Africa¹⁴⁹

¹⁴⁵ In South Africa, for example, the energy policy documentation is quite clear on what direction the ESI should take. And much preparatory work has been undertaken, for example towards establishing a competitive electricity market. As political figureheads change so does the internal policy, often almost overnight, whilst the declared policy documentation remain in place. The result is uncertainty and confusion all round as the stated policy says one thing whilst the reality is a very different picture.

¹⁴⁶ For example the Zambian Minister simply firing and re-appointing the energy regulator. With the possible exception of the South African regulator, all the other countries seem to be subject to undue political interference. Even in South Africa it occurs, albeit in a slightly different guise, i.e. through "policy" directives.

¹⁴⁷ For example, Botswana has a restrictive policy on the use of external labour with quite strict immigration laws. However, specialized local resources for more complicated jobs involved in the construction and maintenance of power plants simply do not exist.

¹⁴⁸ Not only in terms of knowledge and capacity, but also in the way things are done, which often are outdated.

¹⁴⁹ There is a reason why the electricity utilities of the majority of local authorities in South Africa are in trouble.

12 Recommendations

Whilst it is difficult to make recommendations to address legal and regulatory concerns that essentially fits all countries, some cross-cutting issues can be identified that if addressed should over the short –to-medium and medium-to-long term facilitate private sector participation in new generation and transmission activities. Shorter term interventions should be aimed towards creating quicker results and where the need is more immediate, whilst longer term initiatives should be aimed towards those issues that will take longer to address. Detail on issues concerning individual countries are mostly discussed and addressed in the specific chapters dealing with those countries.

12.1 Short to medium term recommendations

Over the shorter term, some benefits could be achieved by addressing the following issues:

12.1.1 *Uniform Policies*

Underlying any legal and regulatory framework is the policy on which it is based. Whilst individual countries all have their own policies, there is a lack of regional co-ordination and synergy between them. Due to the nature of electricity generation and trade it is absolutely essential that these policies are aligned. This can be facilitated in the following manner:

- Ensuring that SADC policies attaches sufficient importance and weight to IPP development and private sector development and that policy makers understand what policies need to be adopted to facilitate the establishment of IPP's. This could be facilitated through the proposed mechanism to co-ordinate donor support to SADC.
- Address gaps in regional ESI policies. Whilst SADC's efforts play a significant role in aligning the ESI policies and resultant planning initiatives being formulated and implemented in the different regional countries, this is of necessity only at a high level and does not really address underlying issues. For example, the individual countries in the region need to take firm decisions on how the role of the different state-owned utilities should be defined in generation, transmission and distribution, and these should then be aligned. It is of little use to have IPP's being able to compete internally in Zambia, but the real market is in South Africa which is not accessible because Eskom does not allow access to its networks¹⁵⁰. Or there is a potential client in Botswana, but BPC retains the right to wholesale supply so that client cannot be accessed. Decisions need to be made on the role of these entities, and then the policies supporting this must be accepted and rolled out *on a regional basis*¹⁵¹. There is no good reason why the underlying ESI market structure and mechanisms of the different countries could or should not be the same.¹⁵² SADC is perhaps best suited for this and the necessary support mechanisms can be created and supported to facilitate this. This could also form part of the support given under the proposed mechanism being established to co-ordinate donor support towards SADC countries. (On an individual basis it is questionable whether isolated countries will have the necessary clout to really make a difference. Within the SADC context the smaller

¹⁵⁰ Very possible.

¹⁵¹ This is a tall order, but a necessity if significant *private sector* involvement is to be realized. Otherwise efforts will remain focused towards perhaps joint ventures with the national utilities (on not necessarily very attractive terms), sales to the national utilities, who are all monopolies, or towards smaller, dedicated IPP's for specific purposes (For example, bio-gas projects to meet the needs of a municipality and but otherwise do not need access to the national grid).

¹⁵² For example, that x percent of all new generation should be private-sector owned, that compulsory third party access must be allowed, that wholesale competition for large customers should be possible, *in all the regional countries*.

countries' voices can perhaps carry more weight to drive changes through, and be assisted through donor support). Whilst this would probably be an effort that will only play out over time, it is crucial that policies be aligned as soon as possible.

- Where facilitating policies have been adopted in a country, but for whatever reason have not been executed or been shelved¹⁵³, the reasons for this need to be given and explained to other SADC countries. Pressure should be put on Governments and officials to keep to their policies, preferably through objective review mechanisms¹⁵⁴. Target dates for policy implementation should be set and kept. Assistance, guidance and pressure could be applied to keep individual Governments true to their stated policies and to not deviate without proper substantiation.

12.1.2 *Policy Implementation*

Once policies are formulated and accepted, they need to be implemented in an orderly and consistent manner. This is more difficult than it sounds, as SADC member countries remain autonomous and no one country can prescribe to the other. Here the following can be considered:

- Organisations such as RERA can play a significant role in the facilitation, implementation and monitoring of policies. SADC on a regional level may not be able to enforce policies, but RERA can play a significant role in assisting with this, especially on issues such as¹⁵⁵:
 - Facilitation and harmonization of ESI policy, legislation and regulatory frameworks, with particular focus on terms and conditions for access to transmission capacity and cross-border tariffs. RERA could provide input to SADC for consideration, and facilitate regional implementation by its members;
 - Co-operation between regional regulators – making recommendations on issues that affect the economic efficiency of electricity interconnections and electricity trade amongst members which fall outside national jurisdiction.

RERA can be assisted in its mandate both financially and by providing RERA with the necessary professional technical, legal and economic back-up that would lead towards the development of the ESI in line with internationally accepted principles.

- SAPP should continue with its present envisaged short and medium term activities, especially around its mandated SADC activities. However, the sometimes overlapping role between SAPP and RERA needs to be clarified¹⁵⁶.

12.1.3 *Assisting viable generation projects*

Probably the most tangible short-term benefits could be had by getting involved in supporting projects that are already on the table or are about to come onto the table:

- Assistance need to be given to Governments, regulators and local utilities to implement short-term projects with a real chance of success. For example, where a particular developer wants to negotiate a special dispensation with a Government¹⁵⁷ or utility, that Government or utility should be in a position to understand the issues and successfully negotiate around it. Serious developers prefer negotiations with well-informed participants rather than uninformed ones. Due to the lack of knowledge around IPP's and what is needed to establish an IPP, as well as the general lack of

¹⁵³ For example the proposed unbundling of Eskom which has miraculously disappeared.

¹⁵⁴ A bit like the country peer-review mechanism under NEPAD, but more focused towards ESI policy issues and implementation.

¹⁵⁵ As per RERA's stated objectives.

¹⁵⁶ For example on setting of regional norms and standards. Simplistically put SAPP's role should be more towards technical and access issues that impacts on wheeling and trade, whilst RERA should focus more on the underlying market structure, quality of supply issues, uniform tariff regimes and good regulatory practice.

¹⁵⁷ Which all of the potential developers of large IPP's indicated they would insist on in all regional countries.

in-country resources, such assistance would most probably have to originate from developed countries, and focus on:

- Assistance with power purchase agreement (PPA) principles and negotiations.
- Assistance on financial, tax, labour, immigration and fuel-related issues.
- Assistance with establishing appropriate regulatory mechanisms, for example developing concession frameworks, IPP licences and licence conditions, determining scheduling and system operator requirements and solving access and transmission issues.

Where dedicated mechanisms have been set up to promote private sector projects, such as in Zambia, assistance could be channeled through such mechanisms. In other cases, assistance would probably follow identified needs and would differ from case to case and country to country. This would necessitate a close watch on any new projects and the flexibility to offer assistance on short notice. It could also involve assistance to Governmental authorities on various levels, for example from national Governments to local authorities, depending on the type and size of project.

12.2 Medium to longer term assistance

Over the medium to longer term, the following would need to be addressed.

12.2.1 *Updating of legal and regulatory frameworks*

- Updating of ESI legal and regulatory frameworks to properly accommodate IPP's and private sector involvement in generation and supply activities. Presently the following deficiencies exist:
 - In two of the countries under discussion, Botswana and the DRC, the ESI legislation is very outdated. These Acts are in need of a serious overhaul, and whilst studies have been done,¹⁵⁸ this did not focus on IPP's and potential private sector involvement *per se*. Via RERA the possibility could be investigated to develop "standard" or *pro forma* electricity legislation that would ensure a uniform *regional* electricity framework. This could apply to technical issues, standards as well as regulatory issues. Whilst individual countries would be free to adopt their own legislation, in reality the *pro forma* acts would hopefully serve as the point of departure.
 - Establishment of independent, arms length regulators in Botswana and the DRC and strengthening of the autonomy of existing regulators. Assistance should be provided to both Botswana and the DRC¹⁵⁹ to establish and operationalise independent regulators as soon as possible. Ongoing assistance and support should be provided to other regional regulators to assert their independence and for Governments to understand the importance of autonomous decision making. Organisations such as RERA could be put to good use as a regional source of best practice and would help enhance regulatory objectivity.¹⁶⁰
 - In all of the countries under discussion, including South Africa, the legislation is primarily aimed towards end user protection and *de facto* assumes that the national utility is a vertically integrated one. Following adoption of regional policies on the ESI market structure and the role of the incumbent utilities, the legislation needs to be adopted to reflect the changing role of the national utility and bring IPP's into the regulatory fold.

¹⁵⁸ For example on the establishment of an energy regulator in Botswana.

¹⁵⁹ And of course Mozambique and Angola, which was not part of the four countries focused on.

¹⁶⁰ For example, by accepting a good of regional best practice a regulator could, if put under pressure by its Government, refer to regional practices to which it is bound and hence deflect criticism.

- In none of the countries under discussion the detailed licensing regimes, licences and codes associated with IPP's and private sector participation have been developed. The legislation is mostly of an enabling nature rather than prescriptive with most of the detail largely absent. This is a huge problem as on the surface the legislation seems conducive to private sector involvement but underneath there is no substance. This would need a dedicated and concerted effort, and could be approached via RERA, SAPP or directly with the different regulators/countries. Once again *pro forma* licences, licence conditions and codes¹⁶¹ can be developed and simply be adopted by individual countries. This would go a long way towards ensuring regional uniformity.

12.2.2 ***Ongoing Institutional Support***

Over the longer term, a concerted and consistent effort should be made to support Governments and regulators to implement policies. In particular, efforts should be focused on assistance (financial assistance and professional support) to those organisations that will probably make the most difference in getting IPP's and other private sector involvement off the ground. Once policies are accepted and in put place by Governments, the task of implementing it will fall on the different Government departments and the regulators. In most of the countries competency and know-how at the implementation level is severely lacking, and it is doubtful if scarce skills can be built up over the short to medium term. Care should be taken that assistance is offered in such a manner that it is sustainable over the longer term.

¹⁶¹ Such as transmission grid codes