Consultants for Resources Evaluation

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(Technical Assistance Funded by the U.S. Trade and Development Agency, U.S.A.

December 8, 2007

Mr. Siseho Simasiku
Chief Executive Officer
Electricity Control Board of Namibia
8 Bismarck Street
P.O. Box 2923
Windhoek, Namibia

REFERENCE: Inception Report

IPP Investment Market Framework and Technical Assistance Phase II

Dear Mr. Simasiku:

We are pleased to enclose our Inception Report as per the requirements of our contract with USTDA. This Inception Report provides an outline of our initial deliberations as well as a plan of our work over the next year. In addition to this report you will find attached a presentation that I made to ECB and NamPower during the Inception Visit in November 2007.

On behalf of CORE International and the CORE Team I would like to express our very sincere appreciation to you and other ECB officials for supporting us as we progress on this study. We are especially grateful for the support that Mr. Clarke has provided us in getting the project off the ground. We continue to cooperate with NamPower and are thankful to the team assembled by Bertholdt Mbuere.

On behalf of our Team, we wish to assure ECB of our continuing commitment to providing excellent services under this Project in a timely and efficient manner. Please do not hesitate to contact me if you need any additional information.

Yours sincerely,

Donald Ian Hertzmark, Ph.D.
Team Leader
ECB Independent Power Producer Framework Project

cc: Vinod Shrivastava, Corporate Project Director

NAMIBIA IPP AND INVESTMENT FRAMEWORK TECHNICAL ASSISTANCE UNDER A GRANT BY THE U.S. TRADE AND DEVELOPMENT AGENCY

PREPARED FOR

ELECTRICITY CONTROL BOARD, NAMIBIA

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WINDHOEK, NAMIBIA

DECEMBER 8, 2007

1. INCEPTION MISSION

Two Inception Missions were undertaken for this engagement. Dr. Donald Hertzmark, the CORE International Team Leader, visited Namibia in November 2007, and VInod Shrivastava, the CORE International Corporate Director, visited Namibia in early December 2007.

1.1 INCEPTION MISSION SCHEDULE

Meetings were held with ECB, NamPower and other parties on November 7-9, 2007 and December 5-7, 2007 for Hertzmark and Shrivastava, respectively, in Windhoek, Namibia.

1.2 INCEPTION MISSION ACTIVITIES

A mission undertaken by Dr. Hertzmark from CORE International, Inc. held discussions with key officials from the Electricity Control Board (ECB), NamPower, and the Ministry of Mines and Energy (MME) on the current status of independent power projects in the country. The principal objectives of the inception mission meetings were as follows:

1. Discussions with ECB on current (*provisionally*) licensed IPP projects
2. Reaching agreement with the ECB as regards a schedule for initial project activities
3. Discussions with ECB and other stakeholders with regard to the existing state of play for IPPs in Namibia from a regulatory standpoint
4. Discussions with ECB officials regarding next steps for IPP project review
5. Review of key substantive and procedural issues with ECB, MME and NamPower

The mission met with the following Government and private organizations during the Inception Visit:

1. Electricity Control Board
2. NamPower
3. Ministry of Mines and Energy
4. Namcor

A listing of all team meetings, with organizations, persons met and issues discussed is provided in Annex 1.

During these meetings the CORE Team sought the views of Namibian officials on a wide range of topics. We sought to establish the received views of those on the ground in Namibia regarding the nature of the current power sector situation in the country and in the region, its seriousness, potential remedies, and willingness to pay more for electricity. In addition, the CORE Team sought to establish whether and to what extent there was any degree of consensus regarding the prospects for eventual success of any of the IPP projects offered up thus far.

In our meetings with stakeholders we tried to obtain as much documentation as possible regarding the current projects that have received conditional licenses. Also during the

meetings the CORE Team went over the general approach that we will take to this engagement, both in the current, information-gathering and project evaluation phase, and in the later implementation assistance phases. Our approach, as explained in the meetings, is to:

- Meet with stakeholders
- Review relevant documents
- Revisit stakeholders to organize approach
- Provide professional evaluation of current conditional licensees and their proposed projects
- Frame feasible approaches & scenarios to current and future IPP proposals
- Identify key roadblocks & tradeoffs, especially in pricing, documentation, and framework implementation
- Formulate strategy to mitigate problems and provide appropriate documentation for IPPs
- Assist with pricing provisions of PPAs and regulatory oversight of cost pass-throughs
- Provide assistance on Integrated Resource Planning (IRP) for ECB

Wherever feasible, we will seek consultation and consensus on key matters of our approach and recommendations.

2. BACKGROUND AND OBJECTIVES OF CURRENT ENGAGEMENT

In 2006 the US Trade and Development Agency (USTDA) supported a project with Namibia's Electricity Control Board (ECB). This project supported the following key activities:

- Identification of barriers to IPP development in Namibia
- Market Model Recommendations
- Regulatory Recommendations
- Model document preparation for small and medium IPPs
- Policy Recommendations
- Barrier Mitigation

While this project was under way, the only power project under active consideration was the Kudu gas-to-power project in the southern part of the country. Other steps taken to try to address supply-side issues in the power sector included the restructuring of the domestic market to unbundle NamPower's generation, transmission and trading activities.

Since the completion of the earlier project, Namibia has been forced to take concrete steps to address its power supply future. Key challenges facing the country include (i) the reduction in surplus electricity supply from South Africa; (ii) soaring prices for liquid and gas fuels; (iii) continuing increases in demand for mining products, and with that the electricity to process minerals; (iv) the long lead times involved in building new power

plants; and (v) the desire to develop a secure power supply independently of South Africa.

Consequently, Namibia, through the ECB and NamPower, has taken several concrete steps to begin to tackle the electricity supply-side challenges facing the country. These steps include the following key ones:

- Construction of the Caprivi Link with Zambia
- Investment in rehabilitation of coal-fired station in Zimbabwe
- Encouragement of new IPP generators in Namibia

2.1 OBJECTIVES OF CURRENT WORK

Mindful of the rapid pace of change in the regional power picture, the USTDA decided to further support the ECB in its efforts to provide for a transparent, fair and efficient system to incorporate IPPs into the country's electric power system. To that end, the current project features the following broad objectives:

1. Further assistance to ECB on sector planning, market model development, licensing issues, project documentation
2. Coordinate with NamPower and MME on specific issues - e.g., IRP
3. Staff development at ECB to address increasingly complex power sector issues

These objectives are elaborated in the Terms of Reference for this engagement. Annex 2 contains the TOR for this project.

2.2 PROJECT ACTIVITIES

The objectives of this project are to be implemented through a set of project activities, as specified in the TOR. Briefly stated, the TOR provide for the following project activities:

Task 1: Advisory Support for ECB Review and Due Diligence of Current and Potential IPP Projects

Objective: This Task will provide a due diligence review including a review, with the Grantee and its staff, of the licensing process of current IPP projects that are at varying stages of development.

Subtask 1.1 Review and Analyze the IPP Licenses and/or Conditional Licenses Already Issued by the Grantee

Subtask 1.2 Provide Expert Due Diligence for the Issuance of Licenses for Additional IPP Projects

Subtask 1.3 Document All Analysis and Results of Review

Deliverables: As part of this Task, the following documents will be delivered by CORE International, Inc.

1. Model Tender Document
2. Model Small-scale Power Purchase Agreement (SPPA)

3. Negotiation Guidelines

4. Model Organization Documentation

Task 2: Development of IPP Framework Implementation Instruments and Capacity Building of the ECB for IPP Implementation

Objective: This Task will provide ECB with the ability to further develop its expertise in IPP assessment & regulatory analysis

Subtask 2.1 Develop IPP Framework Implementation Instruments for Large and Medium Sized IPP Projects

Subtask 2.2 Provide Capacity Building and Skills Development Support to the ECB

Deliverables: As part of Task 2, CORE will deliver the following:

1. Course Plans and Course Books for Training Courses

2. A CD of Reference Documents on Best Practices in the IPP Industry

Task 3: Technical Assistance to the Grantee in the Development of an Integrated Resource Plan (IRP) and the Distribution Grid Code

Objective: This Task will provide key documentary outputs for ECB to participate in the IRP and to develop a grid code compatible with Open Access for IPPs.

Subtask 3.1 Provide Technical Assistance for the Integrated Resource Plan

Subtask 3.2 Provide Technical Assistance for the Development of a Distribution Grid Code

Deliverables: CORE will deliver the following products as part of Task 3:

1. An Action Plan for Developing an IRP

2. A Draft Distribution Grid Code Model Template

3. Course Plan and Course Book for IRP Training

4. A CD of Reference Documents for IRP Training

Task 4: Development of Methodology for Economic and Financial Analysis of IPP Projects

Objective: This Task will provide a standardized and internationally acceptable methodology for ECB for its economic and financial due diligence

Subtask 4.1 Course on Economic & Financial Analysis

Subtask 4.2 Exercises on constructing economic & financial analysis based on current IPP applications

Subtask 4.3 Documentation & templates for models & data

Deliverables: The following will be delivered as part of Task 4:

1. Standard Guidelines for Conducting Economic and Financial Analysis of IPP Projects

2. Standard Guidelines for ECB Review of Economic and Financial Analysis of IPP Projects

Task 5: Development of Guidelines for Environmental Analysis of IPP Projects

Objective: Review the environmental standards applicable in Namibia and those of potential lending agencies, and provide advisory support to the ECB on the standard language to be included in all IPP proposal requirements with respect to environmental impact assessment of the proposed power project.

Subtask 5.1 Description of EIA

Subtask 5.2 Application of EIA to Namibian context

Deliverables: A Report on the Type of Environmental Impacts from IPPs and the Requirements of the IPPs for Conducting Environmental Impact Assessments (EIAs). The Report will include standard guidelines for IPPs for conducting the EIAs.

Task 6: Development Impact Assessment

Objective: This Task will show the effects of IPP development and the framework developed to promote IPPs on overall macro considerations in the Namibian economy and in electricity sector governance

Subtask 6.1 Analysis of Development Impacts on Namibia

Subtask 6.2 Assess impacts of IPPs on Namibia

Deliverables: The following deliverables will be submitted as part of Task 6:

1. A Report on Potential Development Impacts of the Project

2. Development Impact Assessment Guidelines

Task 7: Implementation Plan for the IPPs

Objective: Provide model documentation that can be included in all ECB and NamPower IPP solicitations

Subtask 7.1 Project Financing Details

Subtask 7.2 Fuel Supply arrangements

Subtask 7.3 Project Implementation Schedule

Subtask 7.4 Institutional agreements

Deliverable: The following deliverables will be submitted by CORE as part of Task 7:

1. Model IPP Project Implementation Plan

Task 8: Final Report

2.3 PROJECT SCHEDULE

The complete Plan of Work for carrying out these activities is shown in Annex 3. The plan of work calls for the project to be completed by the end of 2008. As shown in Exhibit 1, the project schedule will require several of the project tasks to be carried out in tandem. The end dates are approximate and should be considered "on or about" not "at or before". As the project proceeds the schedule may change somewhat according to the priorities of the ECB.

Exhibit 1: Project Task Schedule and Deliverables

Task	Start	End	Deliverable
1	11/07	2/08	Model Documents for Tenders & PPAs, Doc Organization, Negotiation Guide
2	2/08	4/08	Model Documents for Large & Med IPPs, Course Materials, including project-specific exercises
3	4/08	6/08	IRP Action Plan, course plans for IRP training, Dist. Grid Code & training course plans
4	2/08	5/08	Documentation of models, techniques & data templates for ECB
5	5/08	8/08	Environmental Impact Assessment
6	5/08	8/08	Development Impact Assessment
7	9/08	11/08	Model Documents Provided to ECB in Report & presentation formats
8	11/08	12/08	Final Report

3. KEY FINDINGS AND CONCLUSIONS

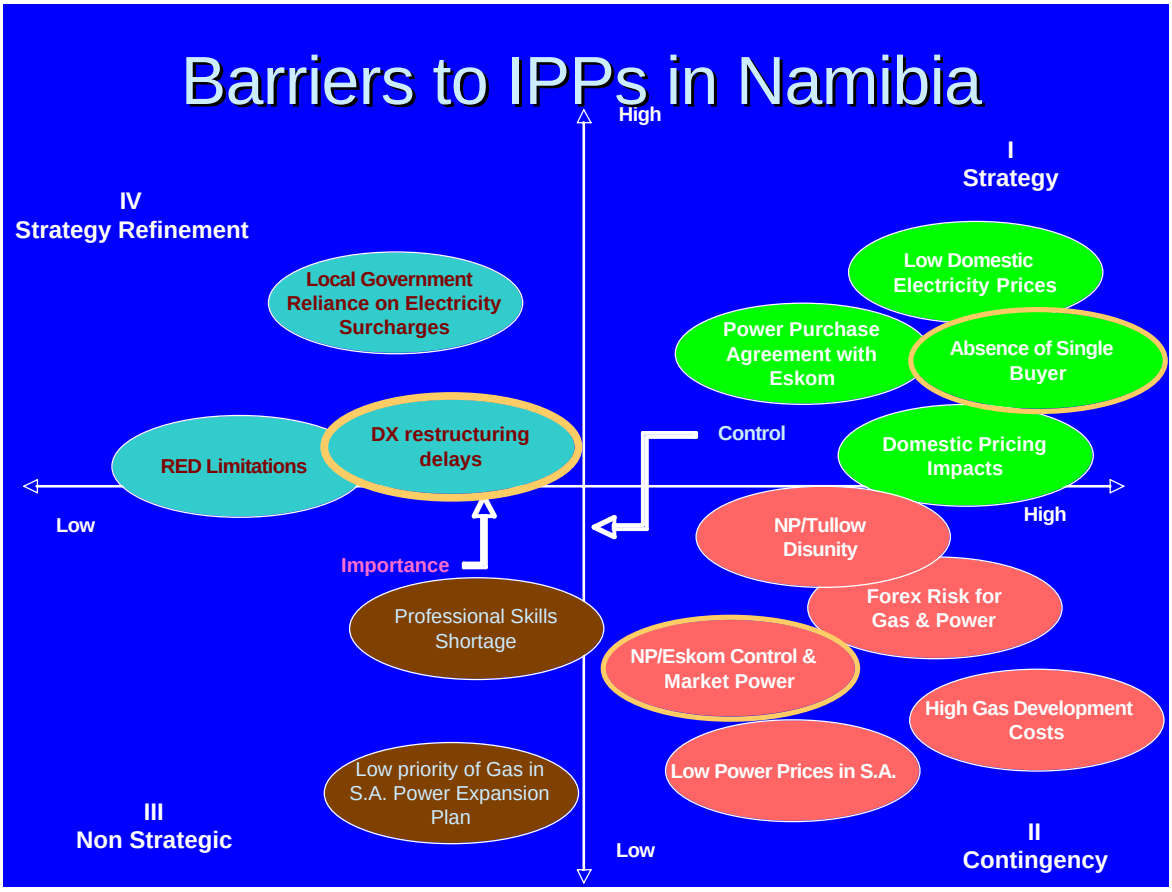
3.1 IPP RISK ENVIRONMENT

In the previous IPP engagement for the ECB, CORE International proposed a way of looking at risks that classified those risks according to their controllability and importance. The resulting groupings of the risks – pricing, financial, institutional and governmental – is shown in Exhibit 2.

It was the chief job of the CORE Team under the previous project to (i) identify and classify IPP risks; (ii) design approaches to IPPs that would minimize the risks to the country; and (iii) devise specific mitigation measures for risks that present significant challenges to IPP project success.

Since the time that the first IPP framework project was completed, the power situation in Southern Africa has continued to change, not always for the better. Key changes in the risk environment facing Namibia's power sector include the following:

EXHIBIT 2: BARRIERS TO IPPs IN NAMIBIA

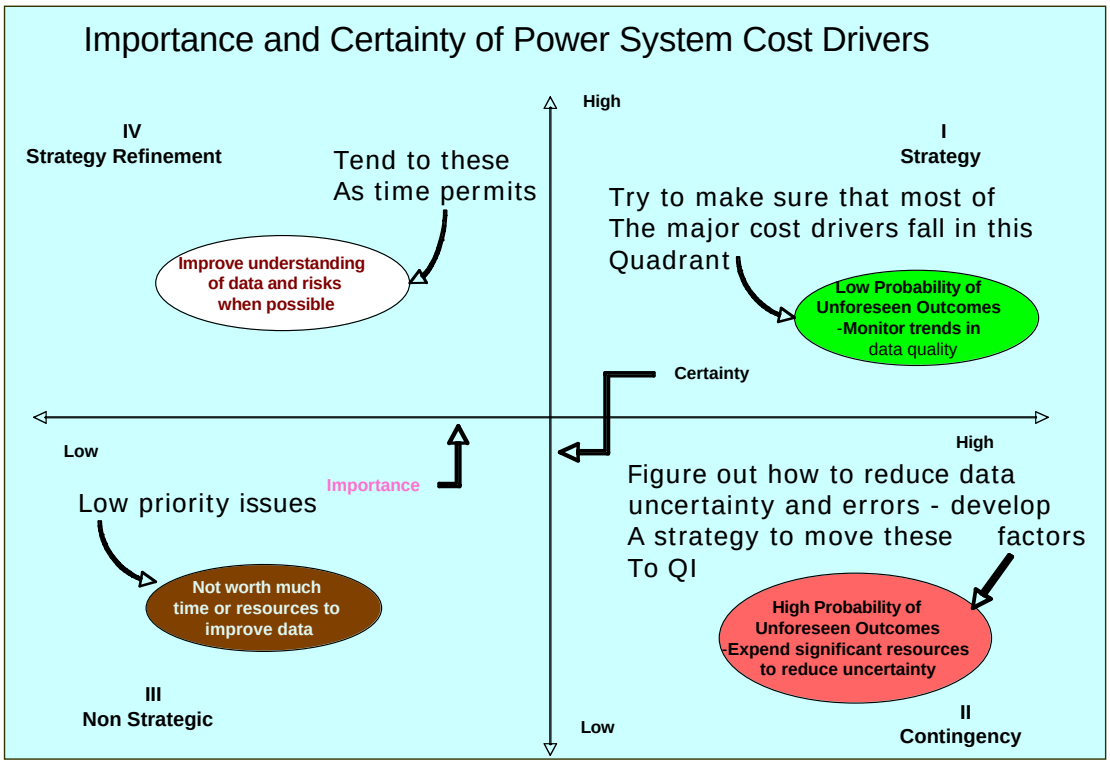


- Power prices in RSA becoming increasingly problematic
- Demand in RSA growing more quickly than expected
- Kudu faces increasing challenges
- Skills shortage in power industry now a worldwide problem
- Many key parameters less certain than a year ago

To account for the increased levels of uncertainty, the CORE Team has introduced a further scale of risk – the degree of certainty. That is, how sure can we be about our understanding of the power supply situation and its key parameters – pricing, financing, labor, fuels?

Exhibit 3 shows how this added risk assessment comports with the current framework:

EXHIBIT 3: IMPORTANCE AND CERTAINTY OF POWER SYSTEM COST DRIVERS



Issues of certainty and information quality have significant impacts on a number of key power system parameters, ones that are especially relevant to the success or failure of IPPs:

- Key components of costs, including engineering, boilers, turbogenerators
- Demand forecasts for electricity
- Environmental regulation
- Fuel prices

An important aspect of this project will be to provide the regulators in Namibia with the tools to deal not only with normal IPP risks, but also with the informational risks that have become such an element of the current power supply situation.

3.2 MARKET MODEL ISSUES

CORE believes that Namibia is making good progress in restructuring market relationships. The important aspects of a market model - financial & legal unbundling, tariff delineation and IRP – are subject to broad agreement among the key parties, NamPower, ECB and the Ministry of Mines and Energy. However, further steps are needed to reduce exposure to outside events.

In particular, the issues surrounding the single-buyer model need to be resolved. At the present time, the regulatory basis for the single buyer model is not completely solid. Moreover, the model continues to be problematic where it is applied elsewhere in the world and can probably not be considered a final stable market model for the country.

The lack of progress of electricity system restructuring elsewhere in the region should be a cautionary tale to Namibia in its pursuit of a stable electricity market model. For example, South Africa, which proposed and then rejected the multi-market model (multi-seller, multi-buyer), may once again be forced to consider changes in its market model as a result of a government decision in that country to rely more on IPPs (up to 30% of the expansion) than was the plan just a few months ago.

As the power situation in the region evolves Namibia should be prepared to consider changes in its market model that will better align risks and benefits for the various market participants. This will be especially relevant if changes in South Africa lead to a more open system of trading and information.

What is the Role of the ECB?

The ECB will continue to play a key role in the IPP situation in Namibia, regardless of the market model outcome. Of particular importance to the evolution of an effective regulatory approach to IPPs are the following ECB activities:

- Bidding & auction procedures that maximize transparency & due process
- Careful oversight of NP activities in acquiring IPPs to make sure the public's interest is represented
- Encouragement and oversight of NamPower efforts to broaden its financial base, especially in transmission & trading, if needed & appropriate
- Oversight of direct contracting between generation companies & large customers down the road (modified single buyer, MSB).

In any single buyer system there is a normal suspicion of the objectivity and fairness of the single buyer. It will be the job of the ECB to establish bidding and evaluation procedures for projects that provide the appropriate degree of comfort on the part of potential investors. With the objective of better aligning pricing, risks and rewards, there are a number of ECB and NamPower initiatives that could improve the perceived environment for fairness and objectivity. These include:

- Greater ECB involvement in/ oversight of NP capacity planning
- Establish ECB- NamPower due diligence for bid evaluations and awards
- Increase confidence in fairness of NamPower dispatch: publish dispatch results *ex post*

On the pricing side, ECB will need to take active steps to maintain the synchronicity between the costs of generation and the prices paid by consumers. Without doubt, one of the leading causes of IPP failure worldwide is the gap that can grow between the costs of generating electricity and the prices paid by consumers in that market. CORE proposes specific steps to remedy this potential danger. These steps include the following ones:

- Place large IPP price adjustment clauses on same schedule as retail/wholesale price adjustments
- Limit pass-through costs through specific permitted cost elements
- Put small & medium IPPs on price-taking linked to the wholesale price

CORE will assist the ECB and coordinate with NamPower in designing specific cost pass-through mechanisms for each type of IPP project.

Other regulatory considerations include the reduction of transactional costs, especially for smaller projects. This concern will be addressed through the provision of standard project documents for such investors (Task 2).

Skills and Capacity Enhancement at ECB

In order to provide for a smooth and transparent IPP process, the CORE Team plans to assist the ECB in the development of specific skills and procedures that will enhance its ability to oversee IPPs effectively and fairly. These programs will also include NamPower and MME, as appropriate. Key areas of capacity improvement include the following ones:

- Governance improvement and information management
- Approaches for negotiating large IPPs
- Tender preparation & model documents for granting licenses to small & medium IPPs
- Consumer education & customer participation approaches like public hearings
- Best practices in dispute mediation & arbitration
- Cost of service & tariff review approaches
- Risk quantification & mitigation strategies
- Stakeholder coordination best practices

Integrated Resource Planning

One of the key elements of the new power sector environment in Namibia is the introduction of IRP in place of the traditional least cost expansion plan for the power system. The IRP is useful to provide a picture of the total supply and demand side resources available to the energy system. In order to be useful as a policy tool, the IRP needs to represent a joint and coordinated output of its various implementing entities, NP, ECB and MME.

To that end, the CORE Team will work with the three parties to provide the kinds of skills and approaches to resource planning that will advance the IPP environment in the country. In particular, the CORE Team plans to work closely with the ECB to assist its analysis and documentation of how the ECB will implement government policies in the power sector, with special attention to the role of IPPs.

Discussions with ECB Officials on Project Work Plan and Key Issues

During the December 6 and 7 meetings at the ECB, CORE's Project Director, Vinod Shrivastava held discussions with ECB officials on issues related to project inception,

project schedule and other related issues. The following agenda was used as a basis for these discussions:

- Review of the Terms of Reference for the Technical Assistance and Clarifications of Various Tasks and Deliverables
- Discussion on the Project Schedule for the Completion of the Technical Assistance
- Need for an MOU Between the ECB and NamPower on Procedures for Collaboration and Coordination on the IPP Licensing Process
- Role of Various Team Members in the CORE Team

The following is a summary of the key points raised during these meetings, all of which have been taken into consideration in finalizing this Inception Report:

- ECB recognized that the assistance required for the development of the MOU and related operating guidelines and procedures is not a part of CORE's current Terms of Reference. However, this exercise is critically needed in view of the continued need for clarifying the coordination between the ECB and NamPower. Accordingly, ECB will discuss a separate agreement with CORE to provide this service.
- The capacity building and training exercise will include a workshop on the methodology for evaluation economic and financial analysis of proposed IPPs.
- In the area of IRP, CORE's role in the Terms of Reference is only to provide an Action Plan and a workshop for the IRP process. ECB contemplates additional assistance from CORE in this area in order to lead this process as IRP, because of its policy nature, should properly be developed by a government agency rather than the utility. ECB will procure this support from CORE through a separate parallel direct contract independent of USTDA.
- ECB will work with the Ministry of Mines and Energy for the Ministry to make it clear to all parties that the development of the IRP is a national policy making function and the Ministry has requested the ECB to lead this process with input from all stakeholders including NamPower
- The scope of Task 4 will be applicable to any power generation project not just the IPPs. In addition, CORE will develop a standard methodology for conducting an economic and financial analysis of power generation projects and install this methodology at ECB offices. ECB staff will be trained in the use of this methodology.
- The work related to developing the Distribution Grid Code in Task 3 will be conducted at a fast pace as any invader bush IPP will not able to proceed in the absence of such a Grid Code. It is anticipated that the invader bush IPPs may sell electricity directly one of the REDs. ECB will provide CORE with the details of the planned invader bush pilot IPP.
- ECB will provide CORE any additional data on all IPP applications that have been submitted. In addition, ECB shall provide CORE with a summary of status of all of the IPP applications.

- Under Task 5, CORE will make sure that any recommendations made by CORE on the EIAs required of IPPs are consistent with the provisions of the newly passed Environmental Act.
- In general ECB concurred with the schedule proposed by CORE for the completion of the Technical Assistance.
- In the meeting with Mr. Simasiku, COE and Mr. Clarke two specific issues were discussed. The first issue focused on the entire process of meticulous procedures and record keeping during the IPP licensing process both to ensure process transparency and fairness and to enhance ECB's ability to respond to any objections and or disputes to the licensing decisions. Mr. Simasiku fully supported the idea and had been discussing this issue a lot internally. He asked Mr. Clarke to issue a letter to CORE assuring ECB's full commitment and support in this area and request CORE to submit a proposal this additional task not included in the USTDA-funded grant and the Terms of Reference.

Discussions with ECB and NamPower Officials on Project Work Plan and Various Key Issues

CORE also held a joint meeting with ECB and NamPower on a number of issues including the following:

- NamPower Input on the Planned Capacity Building of ECB Staff
- MOU and Operating Guidelines for the ECB IPP Licensing Process and NamPower's Participation in this Process
- Need for Confidentiality and Chain of Custody for All Confidential Data and Information Submitted by the IPPs
- Status of the IRP Process Begun by NamPower
- Other Items

A list all ECB and NP personnel present during this meeting is included in Annex 1. The following is a quick summary of the discussions during this meeting:

- NamPower will provide any comments that it may have on the proposed areas for capacity building of ECB staff and it will participate in some of these workshops.
- At the beginning of the discussion, there was considerable resistance by NP to moving forward with an MOU between the CEO of ECB and the Managing Director of NP. However, as this discussion moved forward, both ECB and NP agreed that there is a considerable need for developing operating guidelines that will govern the IPP licensing process. Many details were discussed during this part of the meeting including the following:
  - Guidelines with respect to documenting the IPP applications.
  - Need for clear and publicized procedures and criteria for issuing provisional and conditional licenses including the criteria for

determine when an IPP may qualify for a provisional or conditional license.

- Clarification on whether NP is obligated under the Law to enter into a PPA with an IPP once the ECB has issued a license.
- Further clarification of the IPP application process including data and information requirements from prospective IPPs in order to (i) streamline the process, (ii) weeding out fly-by-night IPP applications and (iii) focusing on serious IPP proposals in order to reduce the unnecessary burden both on the ECB and NP.
- Clarification and clear procedures for how ECB should handle objections to a conditional license issued by any one including NP. Clear articulation of such procedures on the ECB web site.
- Clear procedures for handling confidential information submitted by the IPPs including the chain of custody and access code for such information in order to prevent leaks and potential litigation. In this regard, it may also be advisable for ECB to develop criteria to decide what information is confidential and what is not rather than allowing the IPPs to make a unilateral determination on placing confidentiality burden on ECB.
- NP clearly understands and accepts that it would be a conflict of interest for ECB to allow NP in the actual evaluation of IPP applications as NP itself is a regulated entity and a licensee. At the same time, it would be quite worthwhile for NP to offer suggestions on any aspects of the IPP licensing process and procedures that are finalized and published by the ECB.
- It was agreed that a check list document should be developed for ECB to record all of its activities during the initial IPP application review and the subsequent evaluation and decision process. A generic version of this process and the checklist should very likely be published on the ECB web site in order to make the process fair and transparent.
- NP and ECB agreed that the best approach to begin this process is to start with the basic governing documents – the Electricity Act, the Generation Licensing Process published on the ECB web site, and other rules and procedures and develop the application process, the various operating procedures, the IPP application documentation process, the application review process, the criteria for making the determination as to whether any IPPs deserve to be granted provisional or conditional licenses, procedures for determining what information is confidential and the procedure for ensuring such confidentiality.
- It was also suggested that it may be very useful to have a “one-stop-shopping” web site for small IPPs where such IPP developers can go to get most of the basic information about Namibia and its IPP process.

  - The environmental impact assessment requirements to be imposed upon the IPPs should take into consideration the specific characteristics of the IPPs. For example and small (1 – 5 MW) wind power project may need a much reduced EIA than a large fossil fuel-based IPP. NP recommended to ECB to potentially develop guidelines for EIAs for different types of IPPs.

- With respect to the progress on the IRP process being pursued by NP, the NP personnel proposed could not give us any update other than that Werner was leading that effort. Given that IRP is generally an activity that is led by a government entity rather than a regulated entity such as a utility, ECB will proceed to discuss with the Minister and clarify the roles of the various parties. ECB expects to be leading the development of the IRP and has requested CORE to provide a proposal to support this process along with the process for the development of the MOU and operating guidelines and procedures for the IPP licensing process.
- There was considerable discussion on the conditional license issued to Namcoal and the written objections submitted to the ECB by NP. NP felt that their objections were not addressed by the ECB to their satisfaction. In order to avoid future similar situations it was suggested by NP that ECB may further clarify its process for addressing any objections to its decisions related to the licensing process. ECB will provide a copy of the entire correspondence to CORE for CORE to offer an opinion.
- With respect to the capacity building workshops to be conducted by CORE, NP suggested that it may be a good idea to include the REDs as well as in some of the most appropriate workshops. ECB and CORE both agreed that this was a good idea.
- Another useful recommendation made by NP was that ECB may consider bidding rounds for specific types of IPPs perhaps after the NIRP has been completed and Namibia has a fairly good idea of the future capacity targets and mix.

Presentation by Uli Seydlitz on the EMCON REEECAP Project

- EMCON has been conducted an assignment for the Renewable Energy and Energy Efficiency Institute in Namibia. The work is funded by the Ministry of Mines and Energy through a grant to the Institute. The study is entitled – “Macroeconomic Study of Renewable Energy and Energy Efficiency”. The model developed by EMCON includes 15 generators and 8 scenarios including a Base Case and a Best case Scenario. Unfortunately, despite many attempts, EMCON was not able to get any data from NamPower. The model to be completed soon will be available to anyone including the MME, ECB, and NP.

  This work could easily be rolled into a NIRP. Regardless of when the issue of who takes the lead for the NIRP is resolved this work is valuable and can be structured with some support from CORE under Task 3 of its Terms of Reference into a high level briefing to the Namibian leaders on

the NIRP process. The work being conducted by the NP in this area could be rolled into the overall NIRP.

- **Action Item:**

  Vinod Shrivastava of the CORE Team will work with EMCON and ECB to develop a presentation out of Uli's work and integrate it into the IRP Action Plan to be developed by CORE under Task 3.

One-on-one Meetings with ECB Officials and Key Outcomes

On December 7, one-on-one meetings were held with key ECB officials on a series of subjects. The following discussion summarizes the outcome of these discussions:

- In a meeting with Mr. Simasiku and Mr. Gerrit Clarke, Vinod Shrivastava briefed Mr. Simasiku on the previous day's discussions with NP personnel specifically on the importance of the MOU between ECB and NP and further elaborated the importance of both developing and posting the IPP licensing Process and documenting all activities in order to be fully prepared for any future objections, disputes, or litigations to ECB licensing decisions. Mr. Simasiku strongly endorsed the need for this activity. The following were the specific outcomes of this meeting:
  - Mr. Simasiku asked Mr. Clarke to write a letter to CORE acknowledging CORE's suggestion in this area and expressing ECB's strong support to initiate and complete this process as soon as possible.
  - Mr. Clarke mentioned that this area of work is outside the scope of work under the USTDA and that ECB will need to finance the cost of this work under a separate contract with CORE. Mr. Simasiku agreed and Mr. Clarke asked CORE to submit a proposal as soon as possible, preferably prior to Mr. Shrivastava's departure. Mr. Shrivastava agreed that he will submit a proposal to ECB before leaving Namibia.
  - Mr. Simasiku acknowledged that there continues to be considerable confusion on the roles of various parties (Ministry of Mines and Energy, ECB, and NamPower) in such areas as the NIRP, the IPP Licensing Process, etc. He suggested that during Mr. Shrivastava's next visit he would like to arrange a dinner meeting with the Minister, the Deputy Minister, the Permanent Secretary, and the MD of NamPower in order to provide all the parties an independent view of the proper governance that will benefit all parties. Mr. Shrivastava agreed that this is a very good idea and that he will be available to brief this high level group on this subject.
  - Finally, Mr. Simasiku expressed his very sincere appreciation to Mr. Shrivastava to single handedly initiating and successfully negotiating the Phase II USTDA Grant. He expressed ECB's gratitude for this much needed grant.

- **Action Items:**
  - Mr. Clarke will write a letter to CORE as indicated by Mr. Simasiku
  - CORE will provide a proposal to ECB on the work to be conducted in the area of the MOU, OG, and procedures regarding the IPP licensing process
  - Mr. Shrivastava will keep Mr. Simasiku informed of his next mission to Namibia and Mr. Simasiku will seek the high level meeting with Namibian officials.

- A one-on-one meeting was held between Ms. Helene Vosloo and Vinod Shrivastava on CORE's assistance in the area of economic and financial analysis of power generation projects. What ECB would like is for CORE to develop a methodology that will be suitable for ECB to be able to evaluate the economic and financial aspects of the IPP project proposals independently of the analyses provided by the IPP developer. ECB would also like this methodology installed on their system and train the key people in Ms. Vosloo's group on the use of this methodology including a few exercises on real IPP proposals received by the ECB. The methodology should include a wide variety of technologies, cost pass-through provisions and all types of risks (including forex risk). Because of the sensitive nature of this work, Ms. Vosloo suggested and Mr. Shrivastava agreed that this work should be guarded, with limited access to ECB people on a need-to-need basis only.
  - **Action Item:**
    - Dr. Hertzmark will lead this work (Task 4 of the Terms of Reference) and work very closely with Ms. Vosloo. He will proceed to contact Ms. Vosloo and get started on this task. He will also conduct several working sessions and exercises with Ms. Vosloo and her staff. Once the methodology has been finalized and tested, key elements of this methodology should be posted on the ECB web site so that any IPP developers will be required to follow this methodology in developing and submitting their proposals.

- A meeting was held Between Gerrit Clarke, Ms. Demoline Muruko, and Vinod Shrivastava on the entire process dealing with the MOU, the Operating Guidelines, and the procedures involving the entire IPP licensing process including all stages – pre-application stage, application receipt and related activities, license evaluation stage, and post evaluation stage (including any objections and/or disputes to ECB decisions). The work involved here will include the following tasks:
  - Develop a Draft MOU for ECB and NamPower to set an understanding on the roles of the two parties and the need for the management and staff level cooperation and coordination between the two organizations. Such an MOU will set a clear message to the individuals in the two organizations on the much-needed cooperation while

recognizing each party's independent jurisdictions and responsibilities. It will also avoid any misunderstanding and create a more harmonious climate for the two entities to collaborate in the IPP licensing process.

- Develop detailed Operating Guidelines (OG) for the entire IPP Licensing Process consistent with the Electricity Act of 2007 and all exiting regulations. These OGs will be legally reviewed by the Legal Advisor of ECB including quoting appropriate provisions and clauses of the Electricity Act as the authorizing element for each guideline. Legal work by ECB will ensure that the OGs are (i) complete, (ii) consistent with the Electricity Act, and (iii) consistent will all prevailing regulations. Once completed, these OGs will be installed on the ECB Web Site in order to provide the public and potential IPP developers clear information on the guidelines. This will minimize the flurry of calls and questions by the developers and the public on the overall guidelines used by the ECB in the IPP licensing evaluation process.
- Develop detailed procedures and documentation requirements for all activities related to the IPP process starting from the pre-application stage to the post-application stage. This will include very detailed and concrete processes and steps for every activity. It will also include a justification for each activity in the process by quoting the appropriate clause or provision of the Electricity Act and the current regulations that authorizes such a step. This is a very important task as ECB processes are already in question as evidenced by a written and detailed objection by NamPower to the Namcoal IPP application, an issue that has become rather contentious between the ECB and NP. This was expressed by the NP in the December 6 meeting between ECB, NP, and CORE. Such a process, when completed, will be posted on the ECB Web Site. It should have two benefits – (i) it should reduce any future objections or disputes, and (ii) it will help ECB respond to any objections and disputes in accordance with its published procedure for the IPP licensing application review process consistent with the Law. In addition, it will give a strong message to the stakeholder community and the IPP developer community about the clear and transparent process used by the ECB in its IPP license review process.
- **Action Item:**

  CORE has developed and submitted a proposal to ECB for this work and has already begun some initial planning work in consultation with Demoline Muruko, Legal Advisor, ECB to the extent such planning is included in CORE's Terms of

Reference (Subtask 2.1.1, bullet two). ECB will review CORE's proposal and move forward expeditiously in order to avoid any delays in this critical activity.

- In a final meeting with ECB staff the issue of ECB staff capacity building was discussed in accordance with the capacity building requirements under CORE's Terms of Reference (Subtask 2.2, Task 3, Task 4, and elsewhere by implication). It was agreed that it would be useful to develop a systematic training plan, particularly in view of the fact that many ECB managers and staff travel routinely and we would like to maximize the impact of training by ensuring that key personnel are available for the training.

  - **Action Item:**

    It was agreed that Lois Varrick of the CORE Team will lead this task. She will visit Namibia in late January or early February 2008 and work with ECB managers and staff. She will assess and prioritize the capacity building needs of ECB and will develop a detailed training delivery plan and calendar for the entire duration of the USTDA-funded technical assistance. Ms. Varrick will contact Mr. Clarke and initiate this task in the immediate term.

Documents to be Provided by the ECB to CORE

ECB has received additional IPP proposals as well as the details of the invader bush IPP pilot project being pursued by the Namibia Desert Foundation. In addition, there are other relevant documents that ECB plans to provide to CORE in order to facilitate CORE's advisory support to the ECB. The following documents have been identified that ECB plans to provide to CORE as soon as possible:

- Copies of all correspondence related to the NP objections to the conditional license issued by ECB to Namcoal
- Copy of the Electricity Act in electronic format
- Copy of the Environment Act in electronic format
- Copies (electronic and hard copies) of all new IPP applications
- Copy of the regulatory process prepared by the Legal Advisor
- Copy of the Generation License Application Guidelines and any regulations related to generation (hard copy and electronic copy
- Copy of the Summary Table prepared by the ECB on the status of ALL IPP applications.
- Other relevant documents.

Mr. Clarke has begun providing most of these documents to CORE.

4. WAY FORWARD AND NEXT STEPS

The Plan of Work formulated by the CORE Team to implement this project provides the generalized pathway to project completion. Detailed scopes of work for all project participants and outlines of all the contract deliverables will need to be completed during the next month.

4.1 NEAR TERM TASKS

In the immediate future there are two tasks that will need to be completed. These are the project assessment and evaluation (due diligence, Task 1) and methodology for financial and economic evaluation of projects (Task 4).

Project Assessment and Evaluation (Task 1)

With regard to the project assessment and evaluation, the CORE Team has devised the following approach that applies specifically to three coal-fired power plant proposals, two of which have received conditional licenses from the ECB:

1. Assemble all of the relevant documents for three proposed coal-fired power plant projects. This includes
    a. The licenses for two of the three projects
    b. Technology descriptions
    c. Pre-feasibility studies
    d. Site descriptions
    e. Financial analysis, if any
2. Evaluate the project proposals with regard to the following criteria in both relative terms and with regard to international best practices:
    a. Choice of technology
    b. Financial analysis
    c. Implementation issues
    d. Financing package
    e. Experience of the sponsors
3. Advise ECB on the findings of the project assessment and evaluation

The CORE Team expects to be able to provide the initial assessment to ECB by mid-January. The assessments of other proposed projects will be completed by the end of February. The task will be led by Dr. Hertzmark, who will focus on financial and technical issues. Mr. Shrivastava will focus on the financing and implementation plans and the sponsor issues.

Pricing Issues and Economic Methodology (Task 4)

As was noted above, one of the key problems with IPPs is the potential for the cost of generation and the price of output to get out of sync with each other. A successful resolution of this difficulty requires both technical and policy intervention. The technical assistance consists of (i) a tariff cost pass-through methodology that accurately reflects the approved costs of generation; and (ii) economic and financial evaluation models that

will assist in bid assessment and evaluation. The policy side relies on a commitment on the part of the regulator to keep costs and prices in phase with one another, perhaps through a regulatory understanding or the inclusion of specific pricing clauses in the PPA.

To address the technical side, the CORE Team Leader, Dr. Hertzmark, will work with the ECB tariff staff and the NamPower Head of Trading to devise common data platforms and cost methodology. In addition, Dr. Hertzmark will work with ECB on the "how to" for the economic evaluation of IPP proposals. This activity, which will commence in Namibia in February, will involve the delivery of at least one spreadsheet model and will include significant hands-on sessions with ECB staff using current IPP applications and other projects from around the world. Dr. Hertzmark will closely work with Ms. Helene Vosloo as per the discussion of this activity included earlier in the Inception Report.

Assisting Dr. Hertzmark will be Mr. Sotkiewicz of PURC. Mr. Sotkiewicz will focus specifically on the tariff structure issues associated with IPPs and with the policy framework for implementing a consistent and in-phase pricing and cost approach. This task will commence in February 2008 and the economic and financial modeling workshop and training will conducted during that month. The remainder of the task 4 activities are discussed in the following subsection.

MOU, Operating Guidelines and Procedures for the IPP Licensing Process (Partly in Subtask 2.1.1 and the Rest under a Parallel Contract with ECB)

Under this activity, to be led by Vinod Shrivastava, CORE will proceed in the near term in accordance with the discussion earlier in the Inception Report.

ECB Capacity Building and Training (Subtask 2.2, Task 3, Task 4, and Other Tasks by Implication)

In accordance with the discussion with ECB and described earlier in the Inception Report, Ms. Varrick of the CORE Team will proceed to develop a comprehensive Capacity Building and Training Delivery Plan.

4.2 MEDIUM TERM TASKS

During the middle part of this assignment three tasks will take up most of the time and efforts of the CORE Team. These are:

- Development of IPP Framework Instruments and Capacity Building (Task 2);
- Technical Assistance to ECB on the Integrated Resource Plan (Task 3)
- Development of Economic and Financial Analysis Tools for ECB (Task 4)

Development of IPP Framework Instruments and Capacity Building (Task 2)

This task has as its objective to provide the ECB with an ability to better assess and regulate IPPs. To that end, the CORE Team will focus on two key activities:

1. Development of IPP framework instruments for large and medium projects; and

2. Provide capacity building to ECB in respect of IPP framework activities

In practice, this will mean the development of project documents, PPAs, fuel supply agreements (FSAs), energy conversion agreements[1] (if desired), project implementation agreements and the like. CORE will provide draft documents at the substantive conclusion of this task.

Work on project documentation is expected to commence in February 2008 and will conclude with the delivery of the documents and a capacity building workshop for ECB in the March-April time frame. Mr. Shrivastava will lead both sub-tasks in this area.

Technical Assistance to ECB on the Integrated Resource Plan (Task 3)

The IRP represents an important change in the approach of the country to energy planning. In order to be implemented properly the IRP must represent a collaborative effort of the relevant parties. From the ECB point of view the IRP will require that the regulator receive clear guidance on such government policies as renewable energy, conservation, electricity industry structure and the role of private investors.

It is not, strictly speaking, the role of the ECB to formulate the detailed plans for resource allocation. Rather, the ECB's role in this area centers on the implementation of government policy. For example, a government policy to promote renewable energy will remain just a wish unless it is further specified by some indication of the government's specific goals (*e.g., xx*% of new electricity generation capacity), financial limits (*e.g.,* willing to pay not more than *1yy*% of NamPower wholesale tariffs for renewable energy), and other similar policy implementation steps.

In order to provide the ECB with appropriate guidance, the CORE Team will work with ECB and MME to assist in the formulation of specific policies. Once these policies are published the CORE Team will help the ECB to create the specific regulations that will be needed for implementation.

A second subtask involves the development of a grid code. This task is relatively straightforward and will involve cooperation with NamPower.

The first subtask will be led by Vinod Shrivastava, with the assistance of the CORE Team and CORE's local counterpart, EMCON Consulting. Work will commence in the March-April period and will conclude in the May-June time frame. CORE will conduct a presentation for ECB, NamPower and MME on the findings and policy implications.

The grid cost subtask will be led by EMCON. This work will commence in the April-May period and will conclude in the May-June period. EMCON will present its findings to ECB and NamPower along with the appropriate documentation.

[1] An energy conversion agreement (ECA) is the analogue to the PPA when the buyer supplies the fuel. Thus, the ECA pays for capacity and non-fuel O&M costs.

Development of Economic and Financial Analysis Tools for ECB (Task 4)

This task will commence in February 2008, with assistance and model transfer to ECB on pricing and economic evaluation methodology (see section 4.1, above). The remainder of the work in this task, the documentation and templates for models and the regulatory analysis, will be started during the February-May period and will conclude by June 2008.

The overall task will be led by Dr. Hertzmark, who will be primarily responsible for client contact in all three subtasks. He will be assisted by Mr. Sotkiewicz and by Emcon, where appropriate. There will be at least two workshops and capacity building activities in this task. The first involves Dr. Hertzmark and the ECB tariffs division as well as the NamPower trading division. The second will involve Mr. Sotkiewicz and ECB/NamPower and will cover primarily policy and pass-through issues.

4.3 PROJECT COMPLETION TASKS

There are four tasks identified in the terms of reference that will be completed during the last four months of the project period. These are:

- Environmental Impact Statement (Task 5)
- Development Impact Statement (Task 6)
- Model Documents and Bid Package Development (Task 7)
- Final Report (Task 8)

Task 5 will be led by Ms. Lois Varrick, assisted by EMCON. This task will likely commence after the completion of the work on Task 3 in the May-June period. The EIA framework description should be completed in August 2008.

Task 6, the Development Impacts Analysis, will also be led by Ms Varrick and will be conducted during the same time period as Task 5. It is expected that completion will be one month later than for the EIA, in the August-September period.

Task 7 is a continuation of the work begun for Task 2, model documentation. As such, the development of the deliverables for this Task will be in process continuously over the life of the project. The overall task will be led by Dr. Hertzmark, who will be specifically responsible for subtasks 7.1 and 7.2, economic/financial and fuel supply documents, respectively. Mr. Shrivastava will be responsible for the project implementation agreements and the institutional agreements (subtasks 7.3 and 7.4). It is expected that the entire package of documents will be handed over to ECB in the period preceding the production of the Final Report (the September-October 2008 period).

CORE will deliver a draft final report at about the same time as the model documents (September-October 2008). We will then revise this report based on comments from the ECB and submit a Final Report before the end of 2008. This Final Report will be accompanied by a final set of workshops on the major documents, skills and recommendations of the CORE Team's efforts.

ANNEX 1: LIST OF MEETINGS AND DISCUSSIONS, INCEPTION MISSION

Date	Organization	Persons Met	Key Issues Discussed
8 November	ECB	Gerrit Clarke Helene Vosloo Damoline Muruko	Outline of project activities – IRP, due diligence, pricing
9 November	ECB, Power Developers	Peter Pronk, Marc Buiting, Leo van Gastel	A variety of pricing and siting issues were discussed with regard to a proposed wind energy project for the southern part of the country
8 November	Ministry of Mines & Energy	Selma-Penna Utonih (Director), Cecilio Mateu, Mulife Siyambango, Maxwell Miyambo, Analie Banna, Nordien Panguela	The discussion centered on the IRP, the Kudu project, and the implications of coal-fired power plants for the supply side and for prices
9 November	ECB	Gerrit Clarke, others	The meeting focused on due diligence, pricing issues and scheduling
9 November	NamPower	B Mbuere, W. Graupe R. Jagau M. van der Meuwe J. Malan P. Iyambo L. Amaambo Others	The meeting contained a presentation of the current state of play (Annex 3). We then discussed the relative merits of the multi-market and single buyer models. The meeting adjourned with an agreement to continue discussions on these issues and to resolve them shortly. Also discussed were licensing and bidding procedures. ECB agreed to present some alternatives. Discussion on the need for an MOU and Operating Guidelines Status of the NP-initiated IRP NP Participation in the Capacity Building of ECB under the Current TA
6 December	ECB	Gerrit Clarke Helene Vosloo Damoline Muruko Robert Kahimise Pinehas Mutota	General discussions on the Terms of Reference Discussion on the Schedule of the TA Discussion on IPP Licensing Procedures and a Possible MOU Between ECB and NamPower Discussion on Additional Work from CORE on the MOU and Operating Guidelines as well as Expanded Work in the area of IRP
6 December	NamPower	B Mbuere, M. van der Meuwe	

		J. Malan P. Iyambo L. Amaambo Christo Visser	
7 December	ECB	S. Simasiku G. Clarke	Discussion on the MOU, Operating Guidelines, and Procedures for the IPP License Review Process
7 December	ECB	G. Clarke H. Vosloo D. Muruko S. Felix	Further Discussion on the Issues Surrounding the MOU and the IRP Process Presentation by EMCON on the IRP Work being Conducted by EMCON
Note: Uli H. Von Seydlitz of EMCON Consulting Group participated in most of the meetings with ECB, NamPower, and CORE.			

ANNEX 2: FINAL TOR AND DETAILED PROJECT SCHEDULE

Terms of Reference

The proposed Technical Assistance shall be provided through a number of tasks. A description of all tasks, subtasks, and deliverables as provided below:

Task 1: Advisory Support for ECB Review and Due Diligence of Current and Potential IPP Projects

Under the USTDA-funded Independent Power Producer and Investment Market Framework Technical Assistance (the "Phase I TA"), the Contractor trained the Grantee in best international practices for conducting due diligence on IPP proposals. Under this Task 1, the Contractor shall conduct a due diligence review including a review, with the Grantee and its staff, of the licensing process of various IPP projects that are at different stages of development. The Contractor shall carry out the following specific subtasks:

Subtask 1.1: Review and Analyze the IPP Licenses and/or Conditional Licenses Already Issued by the Grantee

With respect to the conditional licenses already issued by the Grantee, the Contractor shall:

- Review the licenses and document the conditions included in the licenses, including the basis for these conditions.
- Evaluate the conditions for licensing, using the proposed IPP projects as case studies, and evaluate the impact of such conditions on the viability of the proposed IPP projects in terms of implementation, including a comparison with international best practices and the Contractor's expertise in previous similar IPP projects elsewhere in the world.
- Advise the Grantee of any issues there may be pertaining to the conditions that have been issued.

Subtask 1.2: Provide Expert Due Diligence for the Issuance of Licenses for Additional IPP Projects

Several developers have approached the Grantee with the desire to submit IPP proposals of different-sized plants. Many of these IPPs are at the discussion stage with the Grantee. In addition, the Grantee has received expressions of interest from a number of small developers for smaller IPP projects involving wind, biodiesel, and invader bush as primary energy sources. Currently, these small IPPs that may be viable in specific locations around the country have a cumulative capacity of approximately 90 MW. With respect to all potential new projects, the Contractor's support shall include the following:

- For large and medium size IPPs, the Contractor shall provide expert due diligence services to the Grantee, including advising the Grantee on how to evaluate and revise IPP license applications.
- For the smaller IPP projects, many of which are also being prepared by the Planning Division at the Ministry of Mines and Energy, the Contractor shall:

- Develop a standardized tender document and model license for small IPPs and provide expertise on how to advertise the tender. Such support will be based on both local conditions in Namibia, as well as international best practices for small-scale IPPs and lessons learned from successful case studies in other countries;
- Provide technical support and expert advice to the Grantee in developing tender evaluation criteria and how to conduct tender evaluation/negotiations;
- Provide technical support and expert advice to the Grantee in customizing a Small-scale Power Purchase Agreement (SPPA) and embedding it in a standard license; and
- Provide advisory support for other IPP implementation issues and procedures.

Subtask 1.3: Document All Analysis and Results of Review

Under Subtask 1.3, the Contractor shall document the results of its review of the licensing process using, for illustrative purposes, each IPP project/opportunity reviewed by the Contractor. The Contractor shall prepare model documentation for use by the Grantee to organize potential IPP projects. This documentation will include a format for incorporating project information such as:

- Project Sponsor Details -- Name and contact details of the IPP developer;
- Technical Project Details – size, location, and primary energy source, key project characteristics, buyer of electricity, and overall project costs; and
- Project Financial Details – total financing, sources of financing, amount and size of hardware, software, and construction services to be procured internationally, etc.

The Contractor shall specify any modifications needed to the model framework documents developed under the Phase I TA, and shall include any information relevant to accelerating the implementation of IPP projects in Namibia.

Task 1: Deliverables:

The Contractor shall prepare and submit an Interim Report that shall document all details of the work completed and recommendations made for enhancing the Grantee's licensing process.

In addition, the Contractor shall deliver the following stand-alone documents to the Grantee for use in any IPP projects:

1. Model Tender Document;
2. Model Small-scale Power Purchase Agreement (SPPA);
3. Negotiation Guidelines; and
4. Model Organization Documentation.

Task 2: Development of IPP Framework Implementation Instruments and Capacity Building of the ECB for IPP Implementation

Under the Phase I TA, the Contractor developed frameworks for three different types of IPPs – large (over 100 MW), medium (10 - 100 MW), and small (1 – 10 MW). The first objective of Task 2 is to develop implementation instruments for large and medium IPPs. The second objective of Task 2 is for the Contractor to provide capacity building and skills development support to the Grantee. Task 2 shall be accomplished by the following:

Subtask 2.1: Develop IPP Framework Implementation Instruments for Large and Medium Sized IPP Projects

Subtask 2.1.1: Large IPP Projects

The Grantee intends that large IPPs will be licensed on a negotiated basis rather than through the issuance of tenders that are more suitable for smaller IPPs. Therefore, the Contractor shall develop a detailed plan of the process for a review of large IPPs including the process for review of power purchase agreements (PPAs). Specifically, the detailed plan shall include the following items:

- Consistent with Namibian Law, the development of approaches and methods for greater Grantee involvement in and oversight of NamPower capacity planning to the degree that it impacts the Grantee's deliberations on IPP applications;
- A model for a consultative process between the Grantee and NamPower for the commissioning of IPPs, keeping in mind the independence of the two bodies, as a regulator and a utility, respectively;
- Consistent with Namibian Law, the development of approaches to increasing investor confidence in the fairness of NamPower dispatch results;
- Tools for the evaluation of the PPA and price adjustment clauses and methodology for avoiding misalignment of prices paid to IPPs and prices paid by the consumers;
- General principles of negotiation related to the development of IPP projects, including contract documents and methodology for ensuring regulatory compliance by licensees; and
- Other areas as they may appear during the technical assistance.

Subtask 2.1.2: Medium IPP Projects (10 – 100 MW)

In the case of Medium IPP projects, the Contractor shall:

- Develop strategies for reduced transactional costs for Medium IPPs through a Grantee program to provide standard contract forms. The Contractor shall assist the Grantee with the standardization of the key agreements developed under the Phase I TA, such as fuel supply agreements, power purchase agreements, and operational contracts, for these Medium IPPs. The Contractor shall provide advisory assistance to the Grantee on how to apply such standard contract forms to any IPP projects currently under consideration by the Grantee; and
- Provide assistance on the development of a process manual for conducting the due diligence of medium-sized IPPs including key elements of reviewing the PPAs and project risks.

Subtask 2.2: Provide Capacity Building and Skills Development Support to the ECB

The electric power market, the power sector restructuring, and the regional power profile are all changing rapidly in Namibia. The Grantee needs to keep pace with these changes and ensure that rational decisions are made that are in the best interest of the Namibian economy while expanding the opportunities for private power generators. Accordingly, managers and staff from the Grantee, the Ministry of Mines and Energy, and other stakeholders require skills development in a number of areas.

The Contractor shall make every effort to work collaboratively with the Grantee and other stakeholders with the goal of providing "hands on" technical assistance and training in the areas covered under this TA, including ad hoc workshops and working sessions that shall be conducted throughout the TA each time the Contractor visits Namibia. In addition to this ad hoc training, this task is dedicated specifically to capacity building of the Grantee in a number of key areas in order to prepare the Grantee to implement a transparent and accountable process for issuing IPP licenses and enforcing compliance with licensing conditions in accordance with international best practices. Specifically, the Contractor shall design and implement a comprehensive program aimed at strengthening the capacity of the Grantee and enhancing the skill sets of the Grantee management and staff. The following are immediate priority training areas for capacity building that have been identified by the Grantee:

- Training in negotiation of large IPPs;
- Tender preparation and standard PPAs and licenses;
- Methodology for granting licenses to small IPPs;
- Best practices in arbitration and dispute settlement;
- Determination of cost of service and tariff review approaches;
- Grid code examples and regulatory procedures;
- Process for putting small IPPs on a price-taking payment schedule that is keyed to the NamPower or RED (Regional Electricity Distributors) wholesale electricity price;
- Regulatory governance as it impacts customer preparation and development of investor confidence to promote IPPs;
- Communications, outreach, public participation, and building consumer acceptance; and
- Power sector market competition and trade capacity building.

The Contractor shall consult with the Grantee and prioritize these areas for training and capacity building. The Contractor shall provide two 3-4 day comprehensive courses, covering at least five topics each, to the Grantee staff and managers. These events also shall be open to senior staff from NamPower and the Ministry of Mines and Energy.

Task 2: Deliverables:

Task 2 shall include two distinct deliverables. The first deliverable will be an Interim Report including documentation of all of the activities conducted under Subtask 2.1 including the detailed plan, discussed in subtask 2.1.1, and all contract forms and the process manual, described in subtask 2.1.2.

The second deliverable will be related to the two courses and shall include the following:

1. Course Plans and Course Books for Training Courses; and

2. A CD of Reference Documents related to International Best Practices in IPP Industry Development and the Role of the Regulator.

Task 3: Technical Assistance to the Grantee in the Development of an Integrated Resource Plan (IRP) and the Distribution Grid Code

The objective of Task 3 is to provide technical assistance to the Grantee in two areas: (i) development of an Integrated Resource Plan (IRP) and (ii) development of a Distribution Grid Code. The Contractor's role shall be to provide expert technical assistance for the development of these two documents including work sessions, detailed outlines, and guidance on the type and frequency of data needs. The Grantee shall be responsible for the development and final production of these two documents.

Subtask 3.1: Provide Technical Assistance for the Integrated Resource Plan

In order to ensure that (i) IPPs are brought on line at a schedule that is consistent with national energy planning; (ii) resources are utilized optimally; and (iii) the generation mix in Namibia is diversified to reduce the current excessive dependence on hydro and imports, the Grantee shall mobilize key Namibian entities such as the Ministry of Mines and Energy (MME) and NamPower to undertake the development of an Integrated Resource Plan (IRP). The Contractor shall, consistent with Namibian Law, support the Grantee in designing an action plan for the development of the IRP by a combined team of the Grantee, MME, and NamPower, under the Grantee's regulatory oversight. The Contractor shall conduct a two to three day training session to train key personnel in the development of the IRP. The actual IRP will be drafted and financed by the Namibian Government independent of this TA.

Subtask 3.2: Technical Assistance for the Development of a Distribution Grid Code:

Under this Subtask 3.2, consistent with Namibian Law, the Contractor shall prepare a draft distribution grid code that will specify standards under which small IPPs will be required to connect to the REDs' distribution network.

Under this subtask, the Contractor shall:

- Develop a detailed Model Template for a Distribution Grid Code;
- Benchmark the Distribution Grid Code with International Distribution Utilities.

Task 3: Deliverables:

As part of this task, the Contractor shall deliver the following documents:

- An Action Plan for the Development of an Integrated Resource Plan (IRP) for Namibia;
- A draft Distribution Grid Code model template ;
- Course plans and course books for the IRP training; and
- A CD of reference documents related to the IRP training.

Task 4: Development of Methodology for Economic and Financial Analysis of IPP Projects

Typically, it is the IPP developer that conducts the economic and financial analysis as part of its application for license. However, it is the responsibility of the Grantee to perform due diligence on the project analysis submitted by the IPP. Accordingly, the Contractor shall develop a standardized methodology to be required of all IPP developers for the provision of an economic and financial analysis of the proposed project. The IPPs will be required to justify the proposed IPP both on the basis of national economic impacts and the financial viability of the project. Specifically, the methodology shall include the standard approach for calculating the economic and financial internal rates of return (IRR) of the proposed IPP projects. The Contractor shall also develop guidelines for Grantee review and due diligence of economic and financial analyses submitted by IPPs.

Task 4 Deliverables:

As part of Task 4, the Contractor shall prepare and deliver to the ECB the following deliverables:

- Standard Guidelines for IPPs for conducting and presenting Economic and Financial Analyses of proposed IPP Projects; and
- Standard Guidelines for Grantee review of Economic and Financial Analyses of proposed IPP Projects.

Task 5: Development of Guidelines for Environmental Analysis of IPP Projects

Namibian environmental laws and standards are consistent with international standards, and all projects, whether publicly financed or privately developed and financed, require the project sponsors/owners to conduct an environmental impact assessment. These environmental impact assessments will also be required of all IPPs, whether negotiated or invited through a tender. The Contractor shall review the environmental standards applicable in Namibia and those of potential lending agencies, and provide advisory support to the ECB on the standard language to be included in all IPP proposal requirements with respect to environmental impact assessment of the proposed power project.

Task 5: Deliverables:

The Contractor shall provide a detailed description of the type of environmental impact assessments that will be required of all IPPs as part of the condition for license. In addition, the Contractor shall provide standard guidelines for IPPs for conducting environmental impact assessments.

Task 6: Analysis of Development Impacts

Subtask 6.1: **Analysis of Development Impacts on Namibia**

The Contractor shall report on the potential Development Impact of the project in Namibia. The Contractor shall focus on what the economic development outcomes will be if the project is implemented according to the recommendations of the technical assistance. While specific focus should be placed on the immediate impact of the project, the Contractor shall include, where appropriate, any additional development benefits to the project, including spin-off and demonstration effects. The analysis shall also include a description of any negative impacts. The analysis of the Contractor shall be as concrete and detailed as possible. The Contractor shall provide estimates of the project's potential benefits in the following areas:

> ***Infrastructure***: A statement on the infrastructure impact giving a brief synopsis. This shall include additions and improvements to electric power generation and transmission systems; roads and other transportation systems, water systems, housing, etc.
>
> ***Market-Oriented Reform***: A description of any regulation, laws, or institutional changes that are recommended and the effect they would have if implemented.
>
> ***Human Capacity Building***: The number and type of positions that would be needed by the Grantee to implement the recommendations, and more broadly, by the electric power industry, as well as the number of people who will receive training and a brief description of the training program. This also shall include identifying improvements in skill sets and in the knowledge base.
>
> ***Technology Transfer and Productivity Enhancement***: A description of any advanced technologies that will be implemented as a result of the project, and a description of any efficiency that will be gained.
>
> ***Other***: Any other development benefits to the project.

Subtask 6.2: Development Impact of IPP Projects

The Contractor shall identify the potential developmental impacts of a range of IPP projects, using as examples, some representative IPP projects currently being contemplated in Namibia. In consultation with the Grantee, the Contractor shall develop a list of development impact requirements that shall be included in all tenders for IPPs as well as required of all unsolicited IPP proposals.

Task 6: Deliverables:

In addition to the report on the potential development impact of the project in Namibia, the Contractor shall provide a set of development impact guidelines to be included as part of any IPP proposals or tenders for all IPP projects.

Task 7: Implementation Plan for the IPPs

The Contractor shall draft a Model IPP Project Implementation Plan that the Grantee will include in all tender documents for IPP projects. It also will be used by the Grantee as a fact sheet for all unsolicited IPP proposals.

This Model IPP Project Implementation Plan shall include the following:

- Project Financing Details – the type and timing of financing that will be available for project construction and start-up;
- Formalized Agreement for Fuel Supply – including prices and terms and conditions for fuel delivery;
- Project Implementation Schedule – a timeline and a completion date for the project, and
- Institutional Agreements – including a model PPA with the buyer of electricity.

The Contractor shall prepare the Model Implementation Plan in close coordination with the Grantee. The Grantee shall review this plan to better ascertain the level of detail required in future Implementation Plans.

Task 7 Deliverables:

The Contractor shall prepare and submit the following deliverable under Task 7:

- Model IPP Project Implementation Plan

Task 8: Final Report

Under this task, the Contractor shall submit a Draft Final Report to the Grantee. The Grantee shall review the Draft Final Report and provide comments to the Contractor within two weeks from receipt of the draft report. Within two weeks after receiving comments on the Draft Final Report, the Contractor shall finalize and submit the Final Report. The Final Report shall include all documents, analysis reports, course/workshop books, and any other intermediate deliverables developed during the conduct of the technical assistance.

The Contractor shall ensure that the Final Report is submitted in accordance with Clause I of Annex II of the Grant Agreement. The Final Report shall be a substantive and comprehensive report of work performed to carry out all of the tasks set forth in the Terms of Reference and shall include, among other things, an Executive Summary and all deliverables. Each task of the Terms of Reference shall form a separate chapter of the Final Report.

The Final Report shall also include a comprehensive list of suppliers, including potential sources of U.S. equipment and services, relevant to the implementation of each component of the Project as outlined in the Study.

The Contractor shall submit the Final Report in English. The Contractor shall provide five (5) hard copies and one (1) electronic version of both the confidential and public versions of the Final Report to the Grantee and shall provide copies to USTDA in accordance with Clause I of Annex II of the Grant Agreement.

Task 8 Deliverable:

The deliverable for this task shall be a comprehensive Final Report documenting all activities and intermediate deliverables as well as all technical materials as appropriate appendices. The Final Report shall be provided in the format specification and number of copies as specified in the USTDA Grant Agreement and in the contract between the Grantee and Contractor.

Notes:

(1) The Contractor is responsible for compliance with U.S. export licensing requirements, if applicable, in the performance of the Terms of Reference.

(2) **The Contractor and the Grantee shall be careful to ensure that the public version of the Final Report contains no security or confidential information.**

(3) **The Grantee and USTDA shall have an irrevocable, worldwide, royalty-free, non-exclusive right to use and distribute the Final Report and all work product that is developed under these Terms of Reference.**

Note: A detailed schedule for the entire project is being developed and finalized based on the discussions with ECB officials during the December 6-7 mission by Mr. Shrivastava. This schedule will be sent to ECB for review and comment during the December 10 week.

ANNEX 3: PRESENTATION TO ECB AND NAMPOWER ON PROJECT FRAMEWORK AND APPROACH

The file containing this presentation is attached to this Inception Report.

Namibia IPP and Investment Framework Technical Assistance Under a Grant by the U.S. Trade and Development Agency

PREPARED FOR

ELECTRICITY CONTROL BOARD, NAMIBIA

PREPARED BY

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WASHINGTON, D.C. 20016
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November 2007

Presentation Roadmap

- Introduction & Background
- Summary of Previous Efforts
  - Barriers to IPP development
  - Market Model Recommendations
  - Regulatory Recommendations
  - Policy Recommendations
- Current Status & Way Forward

Introduction & Background

- Rationale:
  - Regional power supply issues
  - The end of the surplus generation era
  - Rapid demand growth throughout region
  - Need to secure supplies independently of Eskom

Introduction & Background

- Some steps already under way
  - Caprivi Link with Zambia
  - Investment in rehabilitation of coal-fired station in Zimbabwe
  - IPP generators in Namibia

Introduction & Background

- Previous Efforts in IPP arena
  - NamPower formed development team for Kudu
  - Sector unbundling aimed at providing more level playing field
  - ECB contracted with CORE, International of the USA to advise on market structure, regulation, contracts & other issues
    - CORE's previous work completed in 2006

Introduction & Background

- Objectives of current work (also financed by US Trade & Development Agency)
  - Further assistance to ECB on sector planning, market model development, licensing issues
  - Coordinate with NamPower and MME on specific issues - e.g., IRP
  - Staff development at ECB to address increasingly complex power sector issues

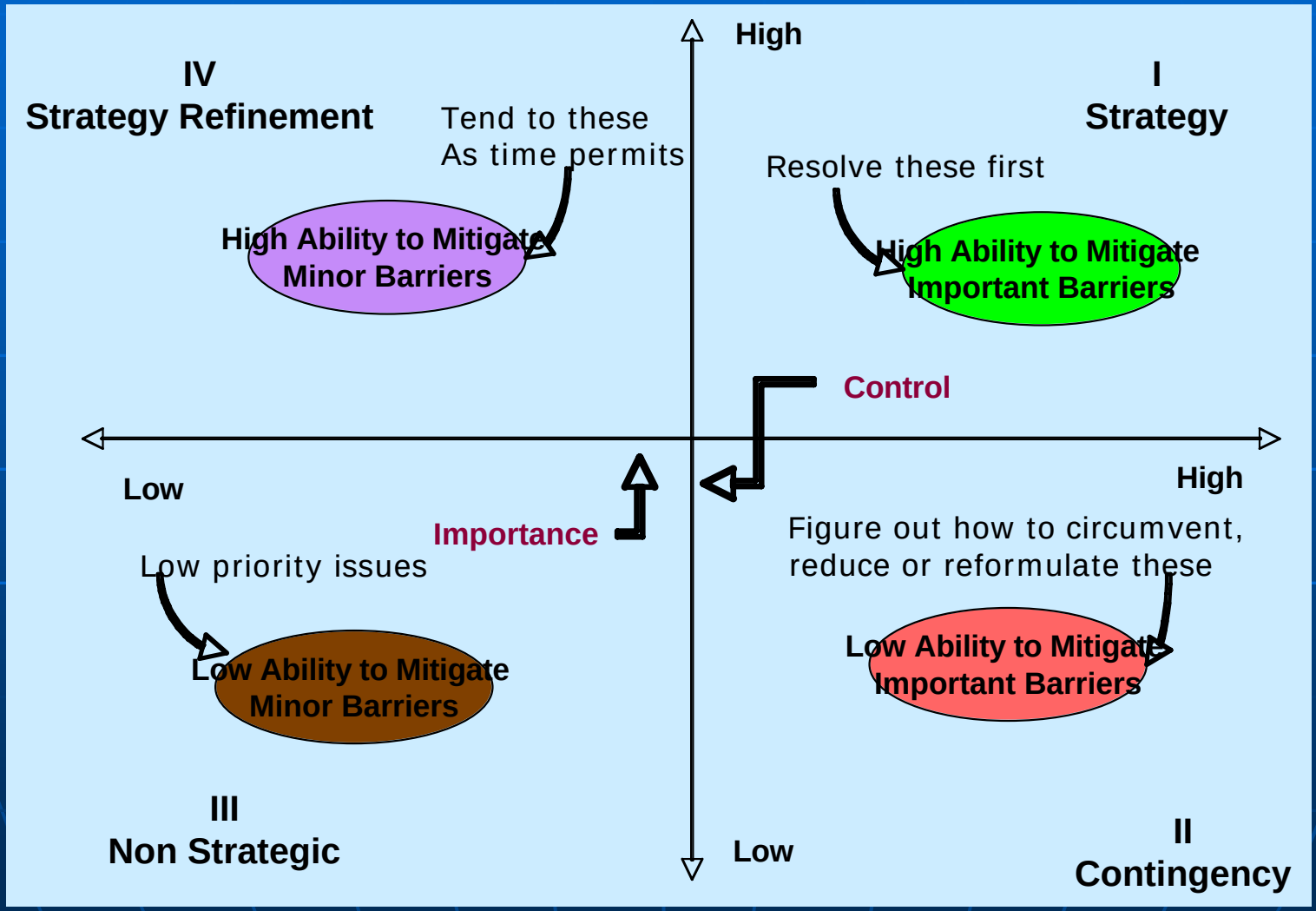
Summary of Previous Efforts

- Barriers to IPPs - why are there no large IPPs in Namibia today?
  - There are numerous problems that lay in the way of IPP investments
    - Pricing
    - Financing
    - Institutional
    - Policy

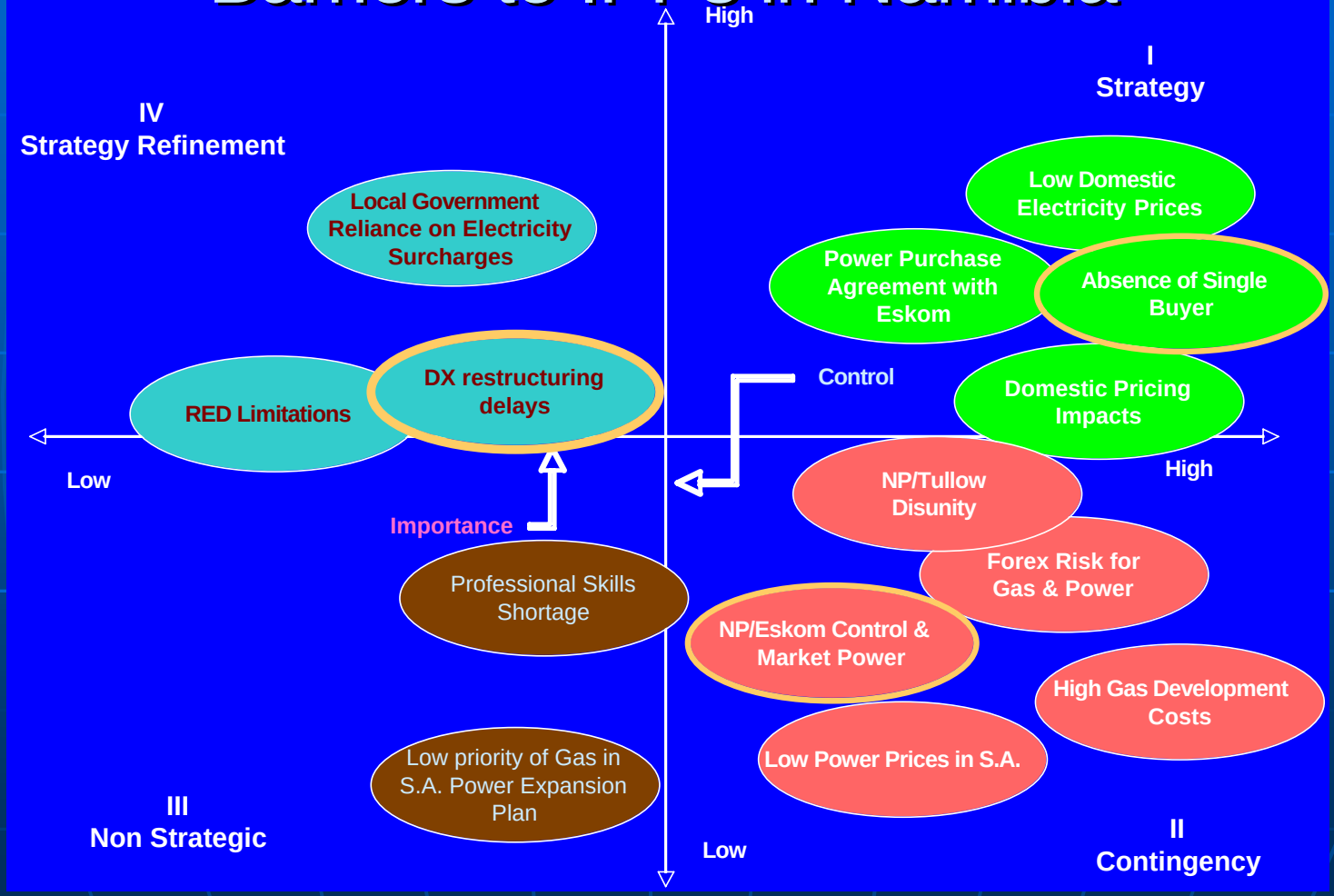
Barriers to IPPs In Namibia

- Some barriers are important, others not so much
- Some barriers are amenable to control & mitigation, others less so
- The first step is to assess the priorities in dealing with various barriers

Barriers to IPPs In Namibia



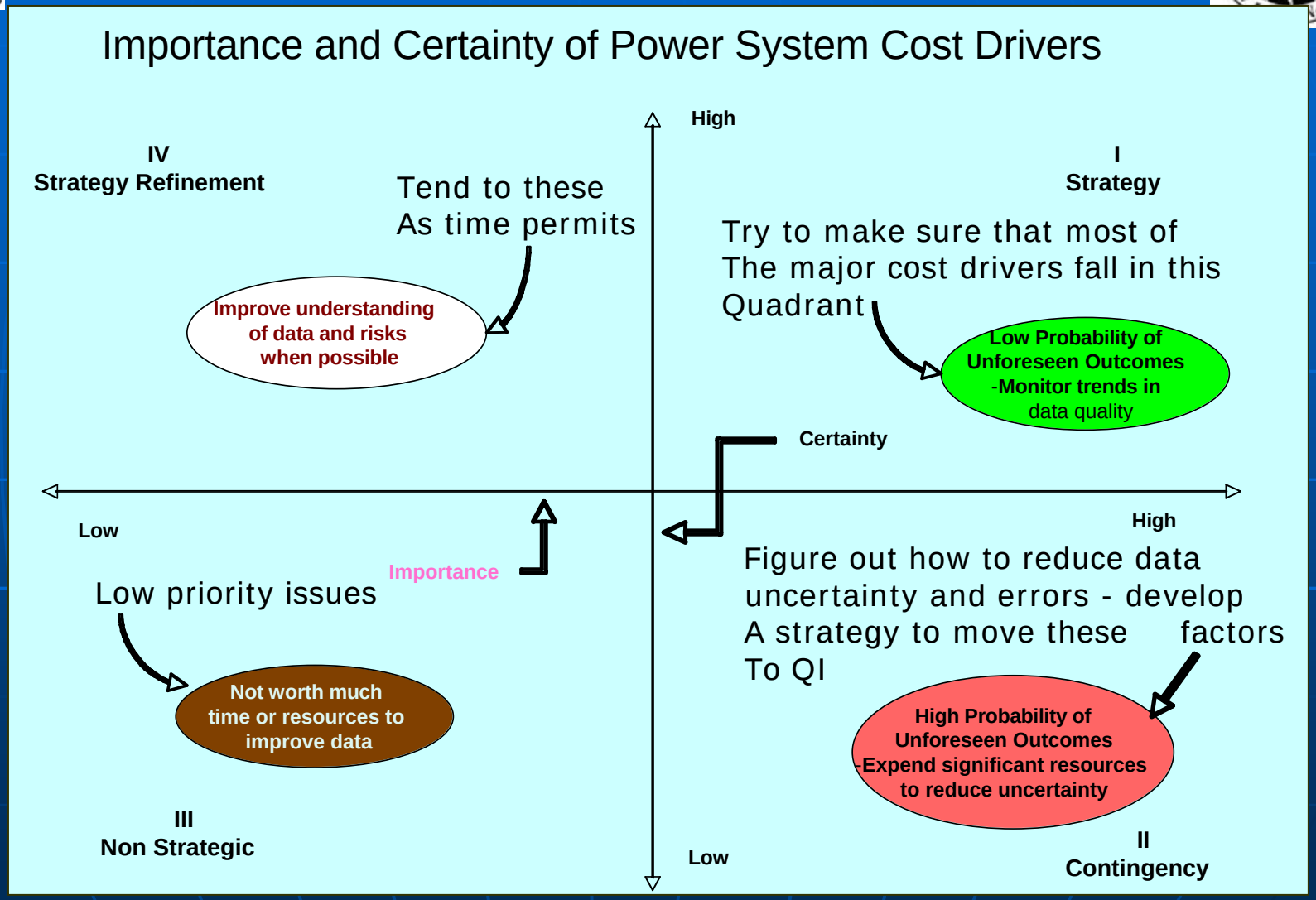
Barriers to IPPs in Namibia



Barriers to IPPs In Namibia

- What is the state of key contingent risks?
  - Power prices in RSA becoming increasingly problematic
  - Demand in RSA growing more quickly than expected
  - Kudu faces increasing challenges
  - Skills shortage in power industry now a worldwide problem
  - Many key parameters less certain than a year ago

Barriers to IPPs In Namibia



Barriers to IPPs In Namibia

- Issues of certainty apply to
  - Key components of costs
  - Demand forecasts
  - Environmental regulation
  - Fuel prices

How to reduce importance & impact of what you don't know?

Market Model for Namibia

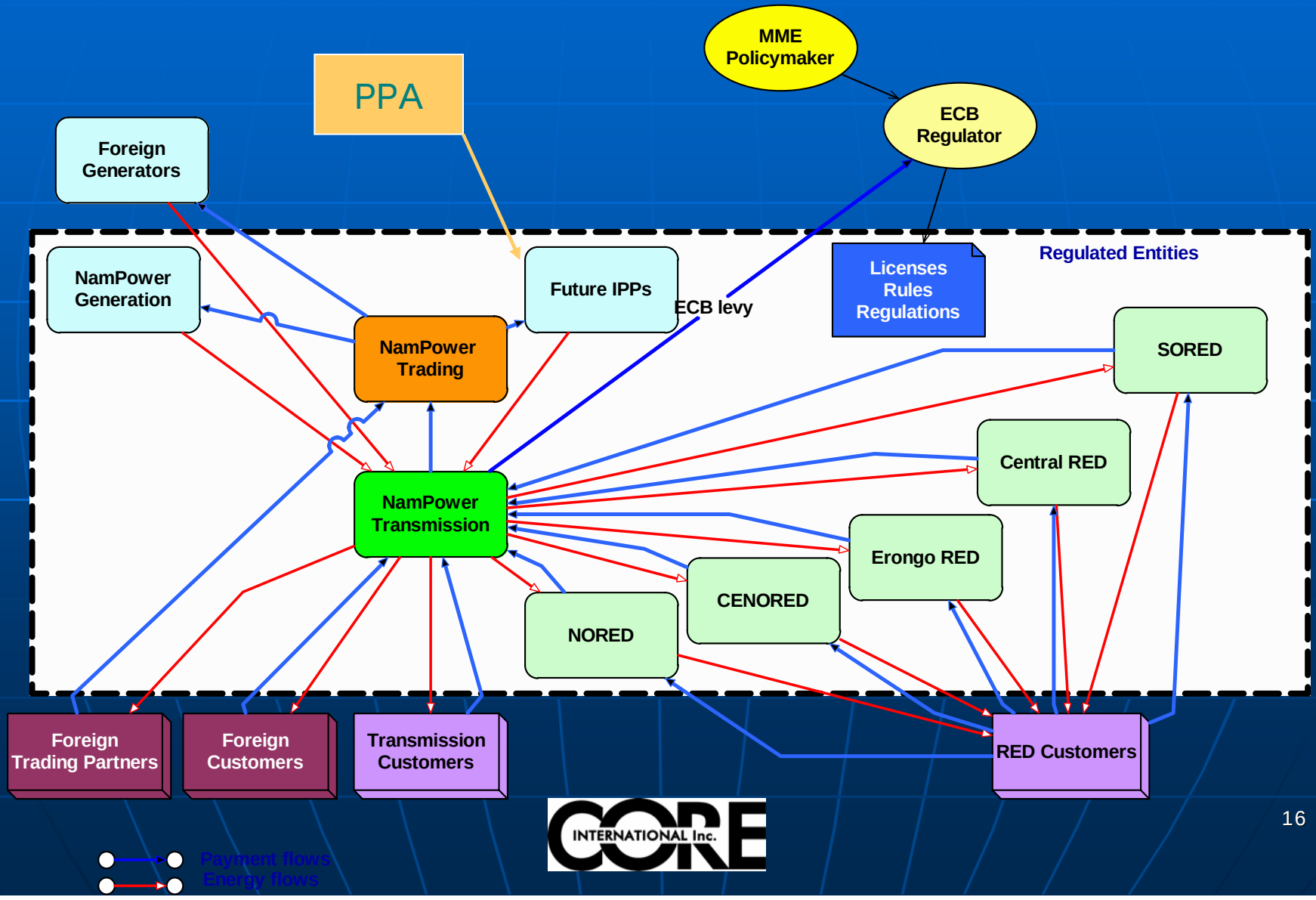
- CORE believes that Namibia is making good progress in restructuring market relationships
  - Financial & legal unbundling
  - Tariff delineation
  - IRP

Further steps are needed to reduce exposure to outside events

Market Model for Namibia

- Any restructuring of the power market must confront these issues for IPPs
  - Strengths & weaknesses of single buyer model
  - Potential domestic pricing impacts of large IPPs
  - IRP
  - Impacts of South African pricing policies on domestic power prices

Namibia ESI Structure



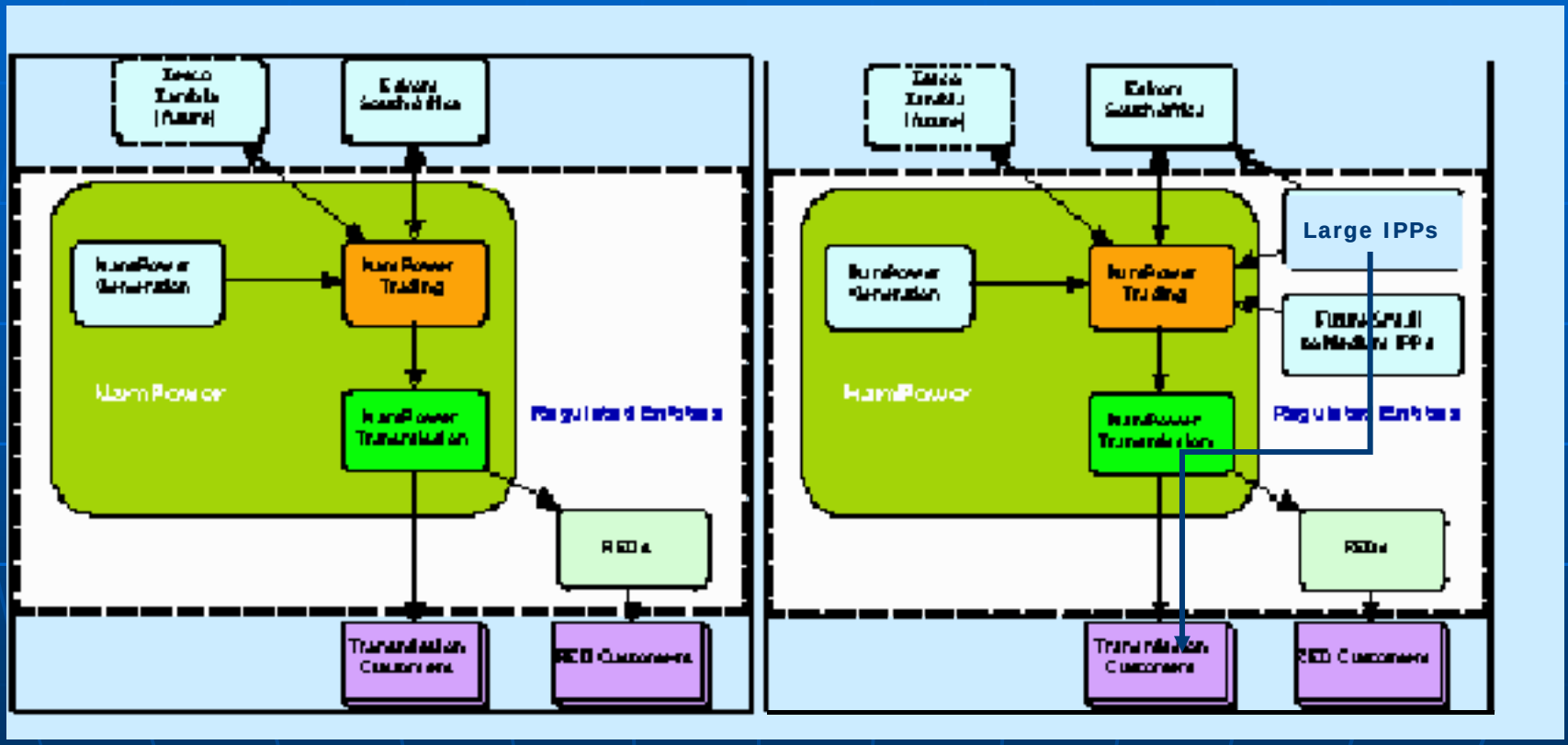
Market Model for Namibia

- Given the absence of significant restructuring in the region & the market power of South Africa, one must ask:
  - Is this model going to align risks and rewards for NP, investors in IPPs, large loads and foreign customers/suppliers?
  - Should additional risk be apportioned to potential beneficiaries?
  - Will the undiluted single-buyer model continue to leave the impression of bias in the IPP acquisition process?

Market Model for Namibia

- What needs to be done?
  - Create bidding & auction procedures that maximize transparency & due process
  - Carefully oversee NP activities in acquiring IPPs to make sure public's interest is represented
  - Consider broadening financial base of NP, especially in transmission & trading, if needed & appropriate
  - Consider direct contracting between generation companies & large customers down the road (modified single buyer, MSB)

Market Model for Namibia



Current Market Model

Risk Mitigation Market Model

Market Model for Namibia

- MSB - is it right today?
  - Country needs to build confidence in IPP process before bringing in additional parties
  - Pricing pass-through methodology must be formulated carefully to mitigate potential for price spikes
  - MSB becomes more feasible if SAPP expands membership and/or other countries, especially RSA, restructure power utilities
  - RSA experience with IPPs, perhaps 30% of expansion market, needs to be monitored carefully

Regulatory Recommendations

- Distinguish among 3 IPP classes:
  - Large: > 100MW
  - Medium: 5 – 100MW
  - Small: < 5MW

Regulatory Recommendations

- Objective: align prices, risks & incentives
- Create a level playing field between IPP investors & NamPower
  - Greater ECB involvement in/ oversight of NP capacity planning
  - Establish ECB-NP due diligence for bid evaluations and awards
  - Increase confidence in fairness of NP dispatch: publish dispatch results *ex post*

Regulatory Recommendations

- Maintain synchronicity between prices paid by NP Trading & consumers
  - Large IPP price adjustment clauses on same schedule as retail/wholesale price adjustments
  - Limit pass-through costs through specific permitted cost elements
  - Put small & medium IPPs on price-taking linked to the wholesale price

Regulatory Recommendations

- Reduce transactional costs & uncertainties for small & medium IPPs
  - Standard contracts (power purchase agreement, fuel supply agreement, operational contracts)
    - Based on standard format with negotiated provisions for supply conditions
    - Pricing provisions should be standard - but specific pricing terms should be adapted to technology

Regulatory Recommendations

- Medium & Small IPPs - Pricing
  - Based on wholesale market price
  - Time of day pricing used if plant output can be controlled by time of day
- Other Regulatory Concerns
  - Assurance of firm legal rights to resources and sites
  - Competitive solicitation for plant construction
  - Technical and safety regulation
  - Pricing of output
  - Succession and transferability

Regulatory Recommendations

- Institute a comprehensive capacity building program for ECB, NP and MME in following areas
  - Governance improvement
  - Approaches for negotiating large IPPs
  - Tender preparation & model documents for granting licenses to small & medium IPPs
  - Stakeholder coordination best practices

Regulatory Recommendations

- Institute a comprehensive capacity building program for ECB, NP and MME in following areas (cont.)
  - Consumer education & customer participation approaches like public hearings
  - Best practices in dispute mediation & arbitration
  - Cost of service & tariff review approaches
  - Risk quantification & mitigation strategies

Regulatory Recommendations

Other Issues

- Environmental oversight
  - Government environmental policies
  - Role of NP & ECB in environmental policy implementation
  - Impacts of environmental policy on generation mix
- National Energy Planning considerations
  - IRP
  - Vision 2030

Policy Recommendations

Roles & Responsibilities of ECB, NP, REDs

- Large IPPs:
  - Negotiated rather than competitive bid (relatively small Namibian system: many large IPPs unlikely)
  - Competitive bidding for EPC contract if standard technology to be used
  - Competitive bidding for Fuel Supply Agreement if fuel readily available & relatively generic specifications
  - NamPower plays lead role

Policy Recommendations

Roles & Responsibilities of ECB, NP, REDs

- Medium IPPs:
  - Competitive bidding
  - Price takers (average generation) + premium for renewable energy
  - ECB plays lead role
- Small IPPs:
  - Competitive bidding
  - Price takers (wholesale) + premium for renewable energy
  - RED plays lead role

Regulatory Recommendations

- Small & Medium IPPs - Role of ECB
  - ECB role with small IPPs limited to initial contract format
    - ECB provides service to REDs and acts to settle disputes
    - Main oversight of small IPPs is by RED
    - ECB establishes information and reporting requirements

Regulatory Recommendations

- Small & Medium IPPs - Role of ECB
  - ECB has significant oversight role vis-à-vis Medium IPPs
    - Establishes technical & financial requirements & reporting
    - Oversees performance
    - May have ongoing role in pricing adjustment issues

Regulatory Recommendations

- Information requirements should be specified in ECB regulations
  - Limits acceptable customization of PPA
    - Different reporting terms for large, medium & small IPPs
    - Small & Medium IPPs should have reporting & information flows specified by ECB regulations that are reproduced in PPA
    - Large IPPs should have reporting requirements that must appear in a *valid* PPA

Regulatory Recommendations

- Information requirements should be specified in ECB regulations
  - Work with NP to produce standard terms for certain payments & calculations
  - Publish as public documents for potential bidders
  - Invite public comment on proposed standard terms

Regulatory Recommendations

Small IPPs	ECB	NP	RED
Technical & Safety	O	◉	O
Sale-Purchase	O	○	◉
Tariff	◉	○	O
Physical Supply	O	○	◉
Delivery & Acceptance of Output	O	○	◉
Indemnity	◉	○	O
Dispute Resolution	◉	○	O
Key: ◉ - Lead; O - Secondary; ○ - No Role			

Regulatory Recommendations

Medium IPPs	ECB	NP	RED
Technical & Safety	O	◉	○
Sale-Purchase	◉	O	O
Tariff	◉	O	○
Physical Supply	O	◉	○
Delivery & Acceptance of Output	O	◉	○
Indemnity	◉	O	○
Dispute Resolution	◉	O	○
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Regulatory Recommendations

Large IPPs	ECB	NP	RED
Technical & Safety	O	◉	○
Sale-Purchase	O	◉	○
Tariff	O	◉	○
Physical Supply	O	◉	○
Delivery & Acceptance of Output	O	◉	○
Indemnity	O	◉	○
Dispute Resolution	◉	O	○
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