



SREP Learning Workshop
March 7, 2012
Nairobi, Kenya



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Welcome and Overview

The SREP learning workshop started with a welcome and introduction from Anna Hidalgo, knowledge management officer of the Climate Investment Funds (CIF) Administrative Unit , followed by a workshop overview from facilitator Sue Canney.

The introduction highlighted the role of lesson-learning and knowledge management in the objectives of the CIF (Climate Investment Funds). The CIF's KM program is exploring different modalities and technologies in its KM activities, with a face-to-face workshop based on an in-depth country case study as one type of activity.

This workshop's goal is to draw out lessons from the early stages of the SREP program by highlighting Kenya's progress in the planning and early implementation of their SREP Investment Plan.

Key themes:

- Setting priorities in the Kenyan energy context
- Consultation and stakeholder engagement
- Integrating gender into energy planning
- Technologies and 'transformational change'

Kenya Country Context

Boniface Kinyanjui

Planning Engineer, Kenya Power and Lighting Company

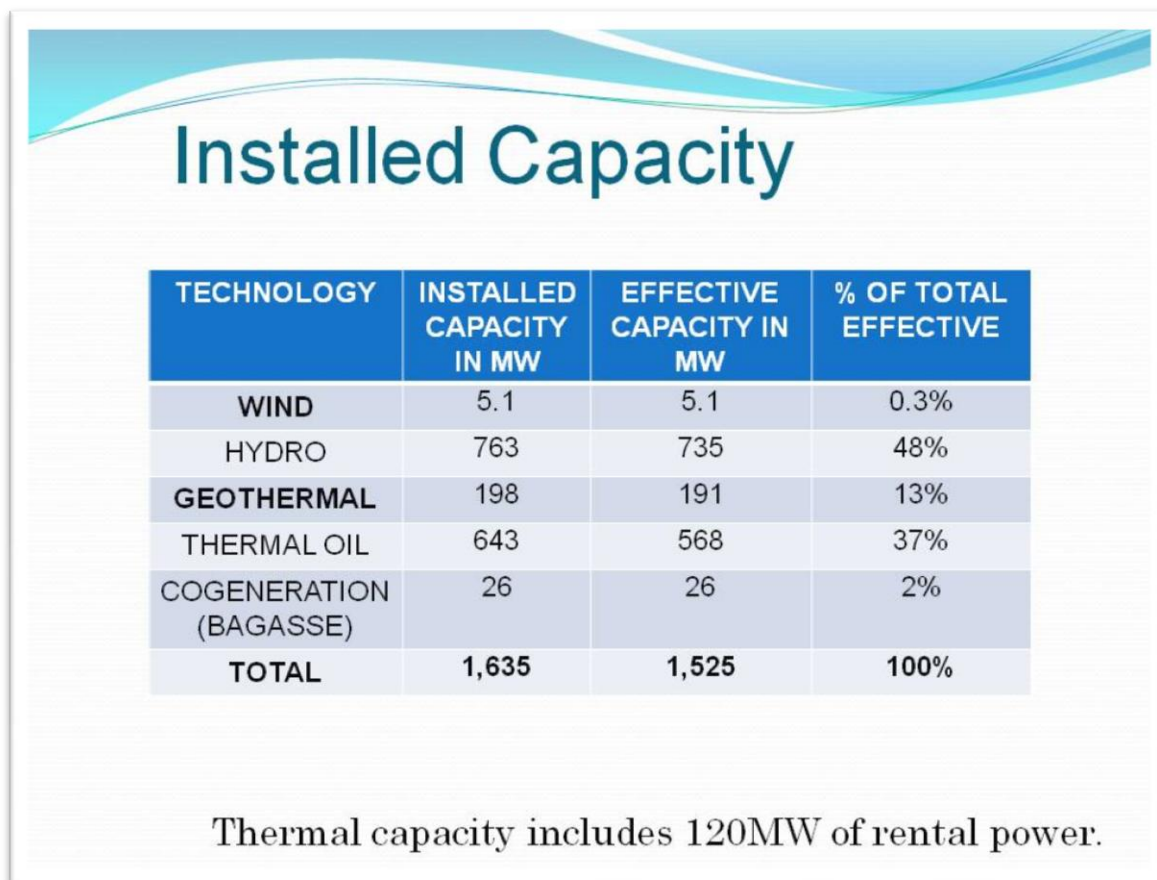
Presentation Overview:

- Country overview and power sector
- Power development planning
- Public-private partnerships

Mr. Kinyanjui gave a detailed overview of the energy context within the country. On electrification, he presented a grid layout map of Kenya. The southwestern, central (around Nairobi) and Mount Kenya and coastal areas are the main areas covered so far. The government is looking into covering more remote off-grid areas, and supplying services such as administration and security to these areas. Proposed power lines are to be implemented in these areas, but because rural Kenyans tend to live in dispersed communities, reaching all customers from a centralized power source is costly. This makes decentralized mini-grids a viable option.

The overall energy supply covers electricity, petroleum, biomass and others, including biogas and solar. Electricity is generated from a variety of courses, including hydro, geothermal, and emergency thermal using diesel and various other energy sources.

The following table describes the installed capacity of the Kenyan energy sector:

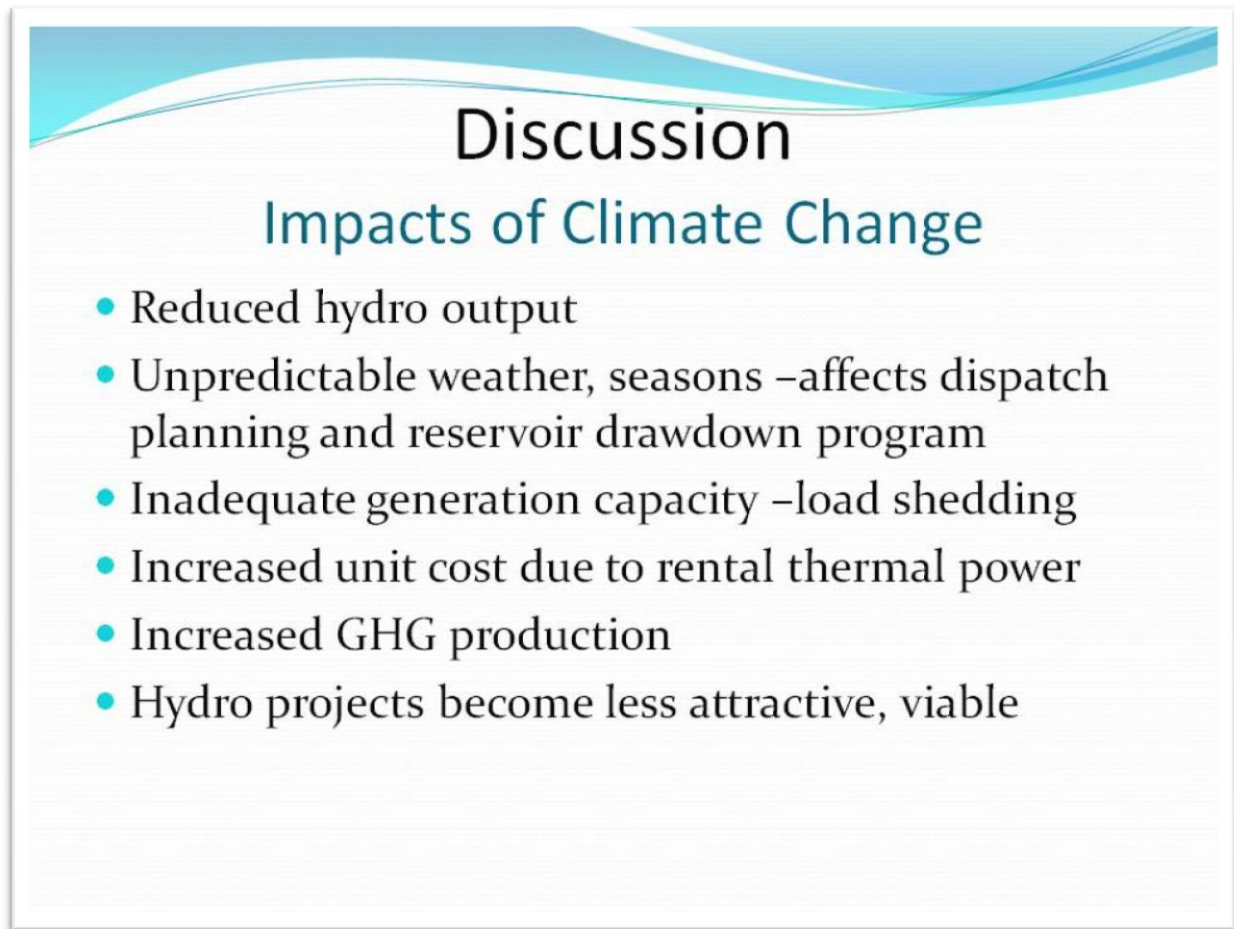


The presentation also shared the annual energy consumption by various customers, with the majority of customers being domestic customers.

Other topics that were highlighted in the presentation:

- ❖ Data on the annual statics from 2004- 2011 to get the breakdown of where Kenya is coming from, with efficiency levels getting better and losses currently at 16% and growth in sales at 9.1 %, Availability of adequate capacity has stood out as a challenge.
- ❖ Existing mini grids, Kenya has 13 power stations that provide 14mega watts.
- ❖ Daily electricity demand profile-demand low at around midnight and rises at around 4.30am
- ❖ The challenging of providing fluctuating capacity and steady supply during the peak hours in the day (around noon) and evenings (from 7pm – 10pm) .
- ❖ Annual electricity generation by source GWh
- ❖ Emergency thermal fuel costs have increased considerably since 2009 and impact the country’s economy, because of the rising cost f oil imports as well as emitting greater CO2 and negatively impacting climate change.

The following slide summarizes the challenges posed to the energy sector by climate change:



Discussion

Impacts of Climate Change

- Reduced hydro output
- Unpredictable weather, seasons –affects dispatch planning and reservoir drawdown program
- Inadequate generation capacity –load shedding
- Increased unit cost due to rental thermal power
- Increased GHG production
- Hydro projects become less attractive, viable

Comments, Questions, Suggestions

- **Who /what is the regulatory body in Kenya?**

The Energy Regulatory Commission (ERC) is the regulatory body. It is an independent body that was started by an act of parliament, and is a stand-alone body. Funding for the body is generated from payments by electricity and petroleum consumers, not from the government.

The mandate of the body is to protect the users and investors, and ensure technical viability. The commission has representation from the industry, the permanent secretary in the Ministry of Energy, other relevant government officials, and all energy sectors.

The ERC can propose legislation, policies and standards, but depends on the government to pass laws. Pending legislation is discussed and then passed at parliamentary level.

- **The presentation highlighted the expenditure for the thermal power plants but what is the revenue? At what cost will the operations break even, compared to what is being charged now?**

The information on the cost of revenue is accessible on the MoE website; the fact that it's public utility information means it is available for all.

- **Climate change increases the cost of diesel purchases-; you don't have a government geothermal power station?**

KenGen, the geothermal power corporation, is 30% private and 70% government owned. The rest comes from independent power producers (IPPs).

- **What incentives are used to attract investment from the private sector?**

Kenya uses feed-in- tariffs to open up the grid to investors, and the information is posted on the web to help investors to identify possible projects.

- **If the cost of generation is unpredictable, how then do you handle the consumer reaction to the monthly tariff change, especially when the cost is high?**

By involving stakeholders in the process of setting the tariff. The Kenya Association of Manufacturers and KEPSA (Kenya Private Sector Alliance) interact with the government and look at various issues related to the tariff. There is also transparency in information disclosure, which creates user awareness: the information on tariffs, including the tariff schedule and fuel cost, is published monthly. In Kenya, politics have been removed from the pricing so the consumer knows that 'You pay for what you get.'

Comments from Engineer Khazenzi

With Kenya's population growth at 2.5% and with the KONZA project coming on line, there will continue to be higher energy demand. Kenya will need approximately 15,000 MW by the year 2030. Climate change is affecting the major hydro sources and small hydro sources, so the question is where to get power, what resources to use?

Kenya has no oil and the increased use of oil-based emergency thermal electricity generation has led to price fluctuations, making it hard for manufacturers to plan their production. Thus, Kenya is taking the option of looking/sourcing internally for other energy sources very seriously - and the biggest source is geothermal. The question remains how best to go about it. The gestation period for geothermal products is long, so we are looking into how to shorten it.

On the development of geothermal and funding, donors now have confidence to move forward with this strategy. There is a team involved in planning for development.

Group Questions

- **Why is Kenya planning to develop more geothermal resource and not concentrate on the available hydro resources?**

All Kenya's major hydro resources are affected by climate change and increasingly varied rainfall patterns. Climate change is with us, so we have to make a decision now. Inadequate electricity generation from hydro-power sources has resulted in power rationing.

- **What are the lessons learnt from the 1997 unbundling process?**

The move from one utility dominating has had its negative and positive aspects, but overall, it's a success story. The regulatory body is now in charge of the sector. Restructuring opened up the sector to participation of IPPs (Independent Power Producers). Kenya Power and Lighting Company (KPLC) has been able to focus on its core business of transmission and distribution, while Kengen and other bodies concentrate on the generation.

Unbundling has also opened up more funding from the private sector. The number of grid-connected customers has doubled, from 1 million to close to 2 million. However, one of the disadvantages of re-structuring has been the long time it has taken to work out the pricing of tariffs, as well as the challenges of some of the operational modalities of fluctuating supplies from solar, wind, and co-generation.

- **How is Kenya's energy development policy aligned to East Africa Community policy and the larger power market?**

The Kenya development policy is in support with the development partners the Nile based initiatives and it's looking at integration with Ethiopia, Tanzania and DRC.

- **What is the role of the private sector in funding? Does the private sector fund the feasibility studies for the various projects?**

Kenya procures through international competitive bidding and the involvement of external consultancies.

- **Electricity from Biomass, what is the source of biomass to produce electricity?**

The source of biomass is waste from sugarcanes. Currently we get 26MW from Mumias Sugar Company; they have capacity for their own use. Other sugar plants with capacity still need to do some work to be able to provide. Private sector initiatives using Invasive species, such as Prosopis in the dry areas has also been muted and proposed.

- **Is there a conflict between food security and biomass?**

There will be no conflict between food security and biomass, because electricity from biomass is generated from waste products - either sugarcane waste or sisal waste.

- **What happens when there is a shortage of biomass?**

The 26MW out of 1200MW that's generated from biomass by the Mumias Sugar Company out, is not a lot, so we are able to continue with operations. It is a consideration in our planning.

- **How and what are the financial instruments?**

The need for secure financing is a major issue. We have had challenges with adequate government sovereign guarantees, leading to delays in implementation. However the now attractive feed-in tariffs and a stable power sector has become an incentive for the private sector who want to invest.

- **What are of the causes of losses and are there any measures/steps to minimize them?**

Power losses comprise of technical and non- technical sources.

Technical losses:

- Due to lack of transmission capacity, transmission losses are quite high because of transporting power over long distances e.g. Mombasa to Nairobi; However the transmission loss will be minimized by building a 400KV transmission line from Mombasa to Nairobi which will bring the losses down from 5% to 2.5%.
- There are also distribution losses, there are a lot of low and medium voltage lines that are too long and have to transport power in the rural areas. Long lines cause technical losses; however the government is working on improving the system to reduce losses.

Non-technical losses:

- Theft is a major non- technical loss, and the measures taken to minimize theft include the installation of pre-paid metering and placement of meters higher on the poles to avoid interference.

- **What are the local communities' relationships with the projects? What is in it for the communities?**

In the development of geothermal projects, the community is involved at every stage, through the engagement process. The community has also benefited from scholarships, water supply, and improved infrastructure.

- **Any plans going forward on carbon credits?**

Mumias Sugar Company, which produces 26MW, was the first project benefitting from CDM carbon credits to be registered in Kenya. Currently Kenya has other carbon credit projects registered, e.g. Lake Turkana and Kengen.

Stakeholder Engagement

Lessons Learned from the SREP planning process

Engineer Raphael Khazenzi

Acting Director, Renewable Energy, Ministry of Energy

The stakeholder engagement process involved the Kenya Private Sector Alliance (KEPSA) and several government agencies/ministries: the office of the Prime Minister, the Ministry of Environment, and the Ministry of Finance.

At the outset, the task force working on SREP developed on a draft Investment Plan, which acted as the working document and was posted on the SREP website. The Investment Plan draft was done in consultation with the MDBs. A draft document is important, and it helps the team learn about the program's rules and regulations.

The list of stakeholders was jointly developed by the World Bank and other donors. The World Bank and other donors had the initial contact with the private sector, Ministry of Environment and Ministry of Finance.

Responsiveness, Project Selection, and Inclusiveness

A national stakeholder's consultation workshop was held to capture stakeholder's comments and explain why certain projects or issues cannot be taken up. The projects were 7 in total, but only 3 were picked because they best fit the criteria of the World Bank and MDBs. The 3 projects that were picked were the Geothermal, mini-grids and solar water heating.

The cook stove project was one of the projects that were not taken up. However, one of the lessons learned is for the team not to restrict itself in the development process - don't limit yourselves only what particular MDBs want. Keep projects that do not fall under the immediate criteria included in the investment plan, because the IP is widely read by other donors, and other projects may be taken up by these other donors. In the case of Kenya, for instance, Energy Plus has expressed interest in the cook stoves.

Gender was one of the major issues. Ensuring women and men are well represented on the team is key to achieving balanced input and the different stakeholder views into the IP. However, in Kenya's case, finding enough women willing to participate at the time, was not that easy.

Staying on focus in public consultations is hard as the stakeholders can choose to use the occasion to raise other topics as concerns, such as fuel tariffs.

A technical committee meeting was held after the stakeholder's consultation workshop to validate the IP by taking into consideration the previous comments addressed in the stakeholder consultation workshop.

Through back and forth communication and review, the Kenyan team was able to involve the stakeholders in the whole process, and creating a broad sense of ownership with the projects.

The updated version of the Investment Plan was sent to the stakeholders by email, and was also posted on the website.

Role of MDBs and Development Partners

SREP Kenya: Stakeholder Engagement and Collaboration with Development Partners

Mits Motahashi

Energy Specialist, The World Bank

There was a high level of ownership from stakeholders and the government team in preparing the Kenya IP, and there was also a high level of collaboration amongst MDBs.

Overview of presentation:

- Stakeholders of SREP Kenya
- Timeline of Kenya IP preparation
- Existing platforms in the sector
- The main challenges and mitigating factors
- Impacts during IP planning process and on MDBs

The following slide summarizes the main challenges and mitigating factors encountered in the IP development process:

Challenges Encountered	Factors that Helped
<u>Adjusting to the New Ways of Working</u>	
<ul style="list-style-type: none">• Understanding guidelines and procedures• Long lines of communications• Differences in procedures among MDBs	<ul style="list-style-type: none">• SREP Focal Points• Experience sharing• Development Partners' Participation in Joint Missions• Mutual-dependency• Close communications
<u>Managing Expectations of Stakeholders</u>	
<ul style="list-style-type: none">• Prioritization• Transformative impacts• Communicating country context	<ul style="list-style-type: none">• Stakeholder engagement in prioritization exercise• Knowledge sharing events

Questions and Comments

- How did Kenya identify which stakeholders were to be invited?

From the initial contact list that the World Bank and other donors had, and from the representative associations of the different stakeholder groups. World Bank and AfD did first

consultations during first joint missions and consulted with the Ministry of Environment, Private Sector Alliance, Manufacturers, and the Office of the Prime Minister, among others, to identify key stakeholders to invite. Stakeholders included bankers, representative associations, in addition to regular partners.

- There are donor coordination issues at the country level, and there is a need for further insights on how this issue is addressed in other countries.
- There should be a certain limit to the number of stakeholders to be involved, and clarification of the rules and regulations concerning stakeholders. Stakeholders should be limited and prioritized. Rules and conditions of donor projects should be harmonized. Face-to-face explanations of the rationale for prioritization is also important.

Integrating Gender into Energy Planning

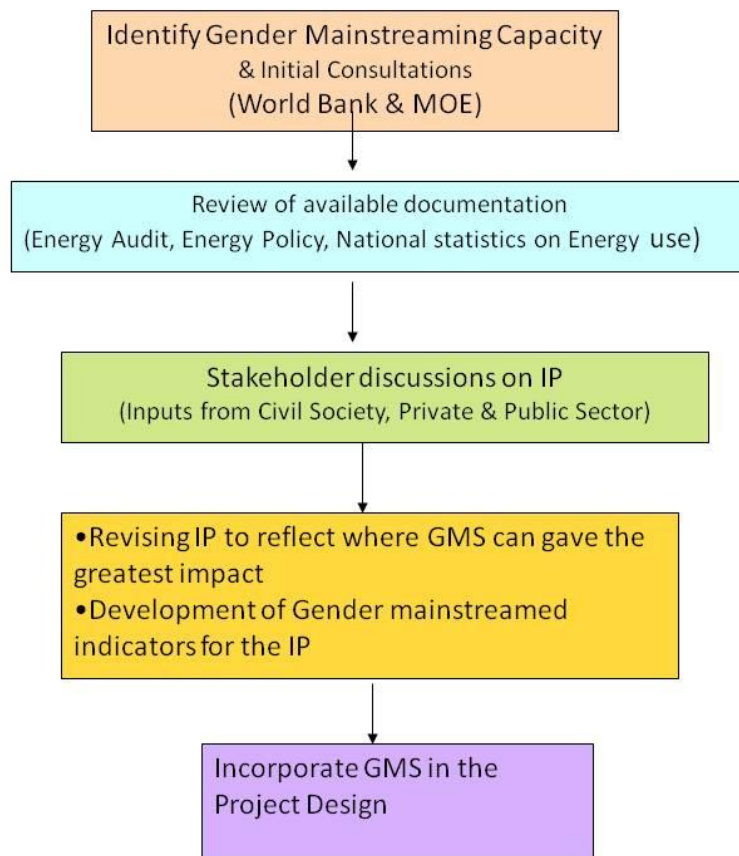
Presentations and Panel Discussion by specialists from Energia, Practical Action, the Kenya Ministry of Energy, and the World Bank

The process of engendering the SREP Investment Plan

Faith Odongo

Assistant Director of Renewable Energy, Ministry of Energy

Ana Rojas presented on behalf of Faith, with key steps in the Investment Plan development process highlighted in the following graphic:



1. Identify GMS Capacity in the World Bank & MOE
 - Identify staff who have been trained on gender and energy issues
 - What do they know?
 - How can the available information be used?

2. Initial Consultations and review of available documentation
(Energy Audit, Energy Policy, National statistics on Energy use)
Issues that were brought out by the energy audit:
 - a) limited availability of gender disaggregated data;
 - b) absence of active gender mainstreaming into the energy sector policy, program and projects;
 - c) need to make clear the links between access to energy and poverty.
 - What the Energy policy says about gender issues
 - What do the national statistics say about energy use that portrays gender disparity?
 - Interpreting the statistics in terms of gender:
 - (a) *Health problems: respiratory infections, cancer, and eye diseases.*
 - (b) *Time spent gathering fuel and water which limits their ability to engage in educational and income-generating activities resulting in dramatically different literacy rates and school enrolment levels between men and women;*
 - (c) *Lack of electricity in rural areas is an added hindrance to women's access to useful media information such as market for their produce, health information and civic education.*

3. Stakeholder discussions
(Inputs from Civil Society, Private & Public Sector)
 - Subjecting the document to stakeholder inputs
4. Revising Document to reflect where GMS can give the greatest impact
 - Proposing actions that address women's levels of empowerment, education, literacy, nutrition, health, economic opportunities and involvement in community activities
5. Development of Gender mainstreamed indicators for IP
 - Use of indicators that can be used to monitor implementation
 - The IP document is broad but when it comes to project design the indicators have to be examined more critically to ensure that they lead to results.
6. Incorporate GMS in Project Design

This is the biggest challenge and will entail use of the gender analytic tools and the gender planning framework to inform development of project documents for specific projects.

In particular, the following are important:

1. Use of available expertise to ensure that project design addresses gender issues OR Alternatively train project developers' capacity to mainstream gender into the project design.
2. Developing gender disaggregated data collection mechanisms for specific projects
3. Designing gender sensitive targets and measurable indicators in the Log frame
4. Incorporation of gender considerations into the project implementation process such as the hiring and contracting out

5. Gender budgeting to identify how to increase the benefits for women and to avoid the negative impacts on their activities
6. Including “productive use” components in projects where applicable so as to develop income earning opportunities to generate revenues to pay for energy services

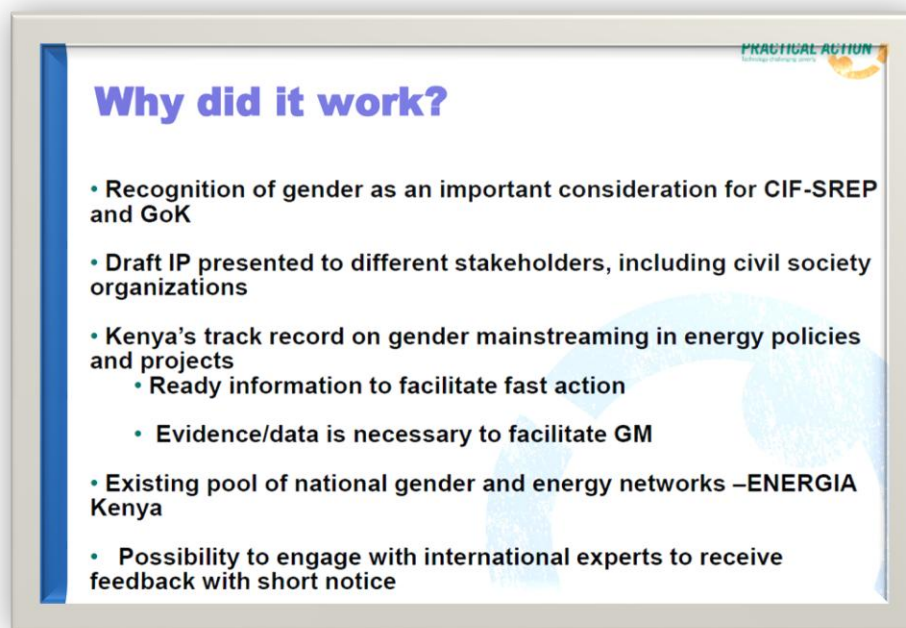
This will be made possible by examining the following:

- The tasks that women and men are involved in, and that they want to change;
- The possibilities that energy technology will change the tasks women and men are involved in;
- Current and possible future uses of energy technology in the activities of women and men;
- The use of, and control over, energy resources and technologies;
- Women’s and men’s preferences for energy technologies;
- The priorities of the women and men involved in the project.

Gender in Kenya’s SREP- IP: A civil society perspective

Lydia Muchiri, Practical Action

The presentation covered the involvement in the IP stakeholder consultation and experiences/reflections from as a civil society (CSO) point of view. Why did it work in the case of Kenya? The reasons and lessons are summarized in this slide:



The presentation also addressed the importance of following through and monitoring the project outputs, outcomes and impact as indicated on the Investment Plan.

Learning from successful pilots that have increased women’s access to energy

Gibwa A. Kajubi, Social Development Specialist, The World Bank

Using 4 case studies in Kenya, Uganda, Nepal and Botswana, Ms. Kajubi highlighted the key lessons from these case studies, the benefits to women users and the challenges faced.

Case study 1: Kenya-Training women to produce energy

Case study 2: Uganda Solar Dryers-Help women market their products

Case study 3: Nepal Biogas Support Programme –Successful model of PPP for rural HH energy supply

Case study 4: Botswana-Gender mainstreaming into rural electrification

In her presentation, she addressed the question on how SREP can bridge the poverty –energy gap. On this important point, the following slide summarizes the key guide questions for SREP project planners:

How SREP can Bridge the Poverty – Energy Gap

- In determining what kinds of project activities to fund SREP may be guided by the following:
 - What kinds of assistance packages allow for poor women (and men) to benefit from increased access to energy?
 - At the household level, what does it take for women to benefit from electricity? From biogas? From solar and other forms of renewables?
 - How can the poor afford electricity for productive economic uses enabling them to meet costs of connectivity and ensuring regular energy supply?

Comments on mainstreaming gender into implementation plans

- How can the issue of poor men and women be addressed by the market?
- How can successful energy provision to the very resource poor be commercialized to generate income and create employment?
- How to reduce poverty level with the energy projects we provide? The successful ways in which poverty can be and has been reduced by energy provision need to be articulated in project designs, monitored and incorporated into the success reports
- All projects come with an income generation activities and that's how the success is rated, the question is how to link that information to the people.

- How sustainable are these initiatives/Are the projects commercially sustainable at the end of the project? The initiatives are sustainable because they are linked to the external market thus ongoing.
- For countries like Maldives that have total access to electricity in a country; how then does the access of electricity translate to reduction of poverty?
- What income generating activities can women be involved in?
- What's the gender makeup in the committee in each country is there a balance?
- There is need for a gender disaggregated baseline survey, so that the successful impact on both women and men's livelihoods can be fully represented in success stories.

Technologies: Geothermal

Renewable energy technologies and systems: geothermal development in Kenya

Caleb Indiatsi

Deputy Manager, Corporate Planning and Strategy, Geothermal Development Corporation

Mr. Indiatsi gave a comprehensive overview of geothermal energy in Kenya: its development, benefits and future. The full presentation is available online.

Two key slides from this presentation include this one, on the transformational potential of geothermal energy in Kenya:

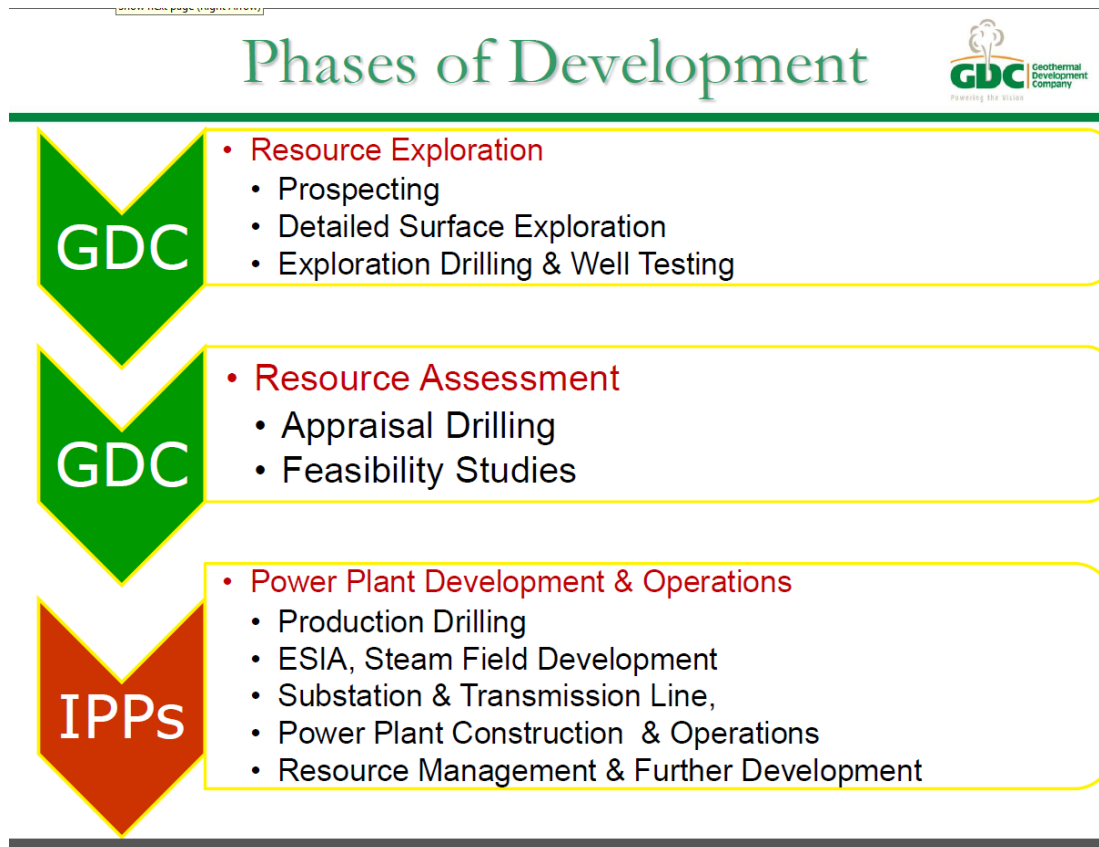
Transformational Potential



- Abundant – more than 7,000 MWe in Kenya
- Indigenous – Kenyan resource
- Green – no emissions
- Least cost source of power for Kenya
- Not affected by adverse weather conditions
- High Availability (>95%)
- Cost of power predictable over the plant life
- Technology already successful in Kenya



And one on the phases of geothermal development:



Presentation Outline

- What is geothermal?
- Location of geothermal resources in Kenya- 14 current promising sites
- Transformational potential
- Comparison with others sources
- Phases of development
- Development history and overview
- Challenges faced
- Concessions
- Significance of SPV for Geothermal
- Modular Power Plants
- Schematic of geothermal system electricity generation
- Industrial support
- Benefits from carbon credits
- Financing plan

Comments and Questions

- Who sets the rate for the leasers?

The regulator is not involved in leasing – the benefit of this is that there the operator, KenGen for example, can be sure that the equipment that is leased meets their needs—such as being compatible with the entirety of their system. In some cases the piping is not

compatible and trying to link two different systems would disable the entire thing. [question was not on the recording so the answer was unclear].

- What are the advantages and disadvantages of the geothermal technologies (generation such as condensing and binary plants)?

KenGen is using condensing and binary, IPP is using binary systems. It is not easy to make a judgment on which one is better. The field conditions determine the technologies that are used.

If there is “wet steam”—a binary plant is preferable and if there is “dry steam” then a condensing system is preferable. Core Power IV-owned by Olmert(??)-the prefer binary because they develop that technology.

- What are some of the successes and risks involved with drilling in Kenya? The advancement in the technology and surface exploration on the field is more likely to increase success.¹

Not straight forward. When starting in a new field, it is not easy to determine whether there will be success or not. In the case of GDC and drilling in the Menengai field, the first drill was successful, largely attributable to advancement of technology and the surface explorations that have been undertaken in that field. The expertise of staff that has been developed has really allowed for greater potential success. However, it is still very tricky when going into a new field—there is still a good deal of guess work. In the case of Menengai the success factor so far is 75% in drilling.

- What is the life time of one productive well?
One example is the Olkaria I power plant -31 years and the power plant is still effective. 1981 the first machine was installed, and the third commissioned in 1985. The power plant itself has no problems. The problems are with other infrastructure such as steam lines that are starting to corrode in some cases.
- Is there a scaling problem because of the steaming effect?
Olkaria field has not experienced any scaling problem so far. Scientists continue to test and monitor the field and fluids and try to address any potential problems.

Productivity of wells may diminish over time. Therefore you must account for this eventuality and the possible drilling of new wells. For example currently they drill about one new make-up well every five years, which is acceptable within the financial projections.

Technologies: Hybrid mini-grid

Energy supply in Kenya

**Bernard Osawa, Director of Renewable Energy
Energy Regulatory Commission**

In either rural or urban setting the following fundamentals need to be considered:

- The energy service,
- Technology
- Resource
- Socio- economic landscape and culture

¹ The geothermal presentation can be viewed on the CIF website at [www.xxxx]

One of the most important planning tools to ensure on-going utility and commercial sustainability is to focus on what the energy is needed for. Looking at each need against the above criteria and the specific context and will allow for selection of the most appropriate technology. Energy used for cooking, lighting, communication and entertainment, light industry, irrigation, etc. will need different approaches and technologies. Large projects and donors may tend to be focused on a particular technology, however it may not suit every situation. Technologies must be affordable, available and serviceable in a situation to really be sustainable.

Other RE Technologies

Presentation on the progress report on use of renewable energy in off-grid areas-

Henry Gichungi, KPLC

This presentation particularly focused on small scale wind and solar farms, and how the government is going about piloting the setup of some of these in rural and remote areas. For example, in one school there is a solar kiosk, where students bring their lights in the morning and charge them all day and then use them at night to study at home. Before there were no lights at night and now there is a healthier way for students to study after school.

One effort to provide lighting at the school was not adequate for girls who were having trouble studying in the school at night. With this new system they can bring the lights home to study. There are two lights, one for the school children the other for the mother. Wind-turbines are also being installed in schools, in some there are hybrid systems with wind and solar and wind and diesel.

Comments and Questions

- What is the situation with ownership and maintenance of the systems in the rural areas? Are they maintained by the community or Kenya Power?
Systems connected to the grid are owned by Kenya Power and sold as any other source. Maintenance of solar systems are minimal, just some cleaning of the panels.
- What is the cost of solar panels to the community?
The solar panels were given free to the community; however, there is a cost of 5 shillings per day for maintenance. While there were some questions about the cost at first, the overall cost is much less than other energy source.
- What is the average set-up cost of the solar system installed?
600,000kshs per kilowatt
- Where do you get the panels from?
All products are imported from all over the world especially the big ones, but we are trying to have an assembler in Kenya to assemble the panels from here. No specific country, the panels are sourced from everywhere.
- Wind in off grid areas – are wind data and maps important for investment?
Kenya has data on wind, the suggested amount of data is a minimum of 18 months, but some companies are willing to go ahead with 12 months of data.

- Is the public sector paying for the gathering of wind data?

The Ministry of Energy is collecting the data now. Kenya power started to collect its own data 2 years ago. The private sector also collects its own data. WB gave a loan for the initial tracking, but now government funds are used to do the tracking. The precision of the data is constantly being improved.

Wind data is required to be able to sell the project to investors and also know how much can be generated in a certain location. Information is needed to effectively auction different concessions. Private sector can still collect their own data to calculate feed-in tariffs.

- On output based systems e.g. the lanterns how do you handle the social part?
The strategy is to involve the community and key stakeholders, for example the school was involved by talking to key people on the lanterns project.
- How do you assure security for the panels?
Kenya Power relies on the school security and power stations security. Villagers often have a role in protecting the communal resources.
- Is the stand alone solar approach sustainable on a commercial level for the longer term?
If the installation is far from the grid and properly designed then sustainability is not an issue. Concentrated solar power is more appropriate for big areas and projects, for off grid it is not appropriate.
- How to be able to implement the Kenya policy 'to make Kenya kerosene free? Different models and energy sources are being explored to find those that are most appropriate and relevant to a given issue. For example trying to find alternatives to using kerosene for lighting will require a particular solution and many options are being considered.
- Any investment on the recycling of used batteries?
Not yet, but we will start thinking on how to recycle the batteries, the environmental impact of using solar energy needs to be considered.
- In connection to developing local capacity -Who does the design of the solar energy installation?
The design and configuration of the panels is done in-house because we have enough information and data to effectively identify the needs. Although in IPP's they design and install. The sizing of the plant is done in-house. Also training is on-going done in-house to fully equip the staff.
- Is there any plan to spin out a "wind development corporation" similar to GDC?

At this moment other technologies are intermittent because the base load is not the same as with geothermal so there are different challenges with wind than with geothermal. However, in the planned restructuring there is a consideration for shifting to a rural energy management structure that could possibly take responsibility for some of the wind and other energy projects.

WRAP –UP: LESSONS LEARNED

Participants were asked to write and post the key lessons they learned during the day, as well as any thoughts they wanted to share.

What are the two key ‘lessons’ that have struck you the most today?

- The importance of stakeholder’s role in SREP project/program IP development. The importance of coordinating with all sectors of the country to develop investment plans.
- Gender mainstream in energy projects/IP and the generation of disaggregated gender data and budgeting. IP preparation-need for implementing a carefully well thought gender mainstreaming and stakeholder investment plan in the IP from the onset
- Need for practical examples-local projects strengthen the business case for proposed project. Boost confidence in the proposed project.
- Kenyan SREP is impressive because of strong teamwork. Kenya is a SREP pioneer among the pilots and will need to be a role model for other SREP countries.
- The design is ‘Kenya Appropriate’. All designs must be holistic and designed to fit the needs-definition of needs is basic.
- Renewable energy is the source for remote villages. Rural energy projects should be oriented to those who are willing to share the cost and towards those who will benefit from it to improve their life. The importance of not just providing energy access but educating people to use energy to reduce poverty
- Kenyan model of providing solar PV’s and solar farms to rural communities
- Efforts on collection of wind data by installation of wind loggers all over the country.
- The importance of investing in various forms of resources such as :-wind, water etc. to produce energy
- Feed in tariffs(FITs) are good; but landlords/developers cannot fund pre feasibilities
- Concessions must be agreed upon in advance
- Openness to constant methodology “evolution”

Sharing and Questions still to be asked

- Keep IPs inclusive beyond SREP criteria. SREP forced us to get to know renewable energy players better –we were previously focused on grid electrification. Face to face consultation increase understanding and ownership. Ownership of the document(IP) and prompt GoK decision making. Helped in building consensus among stakeholders due to the spirit of transparency principles engaged in the process. Learning from Liberia PRS, CSOs, PS and other stakeholders are members of a coordination unit. Carry out stakeholders analysis. What criteria are used to identify stakeholders?
- Information shared within government agencies, private sector, NGO’s, media etc.
- How are projects prioritized? Prioritization: government periodic plan, SREP guidelines/objectives, Stakeholders demand (input and suggestions). Prioritization of proposed projects was easier due to limited technology options applicable /feasible in the context of Maldives
- Restructuring of the power sector. Formation of power planning committee
- Commitment of the MDBs. MDBs would not have collaborated and are required to do so by SREP. Provided a better platform to engage multiple donors and MDBs on addressing and collaborating on energy and related issues. MDBs were not always clear about SREP rules e.g. not wanting to support household biogas, which only emerged when IP was presented. The bias towards electricity was not understood before.

- Impact: Moved from project approach to programmatic approach.

Facilitator's note: The quality of participation and level of interest remained high during the day and many words of deep appreciation were expressed for the Kenyan team with regard to how openly, with interesting depth of details, they had shared their progress and processes.

CIF AU Note: Special thanks goes to the multilingual translation team, and to Engineer Khazenzi and Mits Motohashi for playing an instrumental role in identifying speakers and developing the workshop agenda.

Annex 1: Abbreviated Agenda

Scaling Up Renewable Energy in Low-Income Countries Program (SREP) Learning Workshop,

Hotel Intercontinental Nairobi, Le Chateau Room, March 7, 2012

Objective: The SREP is designed to demonstrate the economic, social and environmental viability of low carbon development pathways in the energy sector in low-income countries. It aims to help low-income countries use new economic opportunities to increase energy access through renewable energy use. This workshop will draw out lessons from the early stages of the SREP program by highlighting Kenya's progress in the planning and early implementation of their SREP Investment Plan.

Agenda :

8:30 Welcome and Overview

9:00-10:30 Kenya Case Study

Kenya's energy context
SREP Investment Plan process-selecting priorities
Value-added of SREP funding
Lesson from SREP planning process

10:30-12:30 Consultation and Stakeholder Engagement

Consultation process in Kenya
Role of stakeholders and Private Sector
Role of Multilateral Development Banks (MDB)

12:30-1:30 Lunch

1:30-2:30 Brainstorming activity: Practical application for making a deep impact

2:30-4:20 Technologies

Geothermal in Kenya-potential for transformational change
Other RE in Kenya-potential for broad adoption, getting RE to work for

everyone

4:20-5:30 Lessons Learned