



AEEP – Energy Stakeholder Dialogue Zambia

Joining Forces for Sustainable Energy

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1. Background

As Secretariat of the Africa-EU Energy Partnership (AEEP), the EUEI PDF (EU Energy Initiative Partnership Dialogue Facility) is tasked with creating a framework for structured political dialogue and cooperation between Africa and the European Union on energy issues of strategic importance. One of its aims is thus to establish a dialogue between and amongst relevant public and non-state stakeholder groups.

Within this context, the EUEI PDF planned and organised the First AEEP Stakeholder Forum in Cape Town in May 2012. At the recent EU and Africa Implementing Team Meetings in September and October 2013 respectively, the private sector and civil society stakeholders expressed the need to be more closely involved in promoting the partnership and in AEEP meetings.

Achieving the ambitious targets of energy access on the international level will certainly need concerted action on the country level from the public, but also the private and non-profit sectors. Global frameworks such as Sustainable Energy for All (SE4ALL) will likely guide investments and interventions around the three major components of energy for development: access to energy services; penetration of renewable energy (RE); and improvement in Energy Efficiency (EE). They therefore represent a tangible and strategic opportunity around which Non State Stakeholders – NSS (civil society, private sector and academia) should engage further.

2. Scope of the Dialogue Event

The AEEP- Energy Stakeholder Dialogue was held at the Cresta Golf View Hotel, Lusaka Zambia on 27 November 2013. The Dialogue was convened by Energy and Environmental Concerns of Zambia (EECZ), in conjunction with the EU Energy Initiative-Partnership Dialogue Facility (EUEI-PDF) as the AEEP Secretariat; Practical Action and the Alliance for Rural Electrification (ARE) – as AEEP Focal Points.

The 42 participants represented development agencies, government bodies, the energy industry, civil society, research and academia and development partners. They came together under AEEP to discuss recent developments on the national and international policy-making process on the three global targets set under SE4ALL. The event also aimed at stimulating NSS involvement in Zambia's energy sector development through the facilitation of market, feasibility and finance information and project partnerships.

3. Objectives

The objectives of this event were to reinforce a bottom-up and multi-stakeholder approach by:

- Strengthening NSS and public dialogues as well as NSS involvement in the policy making process on the national, regional and international level (e.g. in the context of SE4ALL or the AEEP);
- Stimulating NSS participation in Zambia's energy sector development through the sharing of market and finance information and facilitation of project partnerships.

For the participants, the event provided opportunities to:

- Learn from national and international energy experts;
- Engage in discussions and help shape future energy policies and initiatives;
- Exchange with new business partners and link with financial institutions.

The outcome of the concrete, constructive and practical discussions included:

- Stronger relationships between key stakeholders in Zambia private sector, academia and civil society E;
- A shared statement with clear recommendations supporting work on energy access and renewable energy in Zambia;
- New project partnerships formed and information shared on financing and market opportunities.

4. Agenda

The conference was opened by Dr. George Kasali, Director of Energy and Environmental Concerns of Zambia, (EECZ). Dr. Kasali welcomed participants and reiterated EECZ's commitment to ensuring sustainable energy solutions in Zambia.

The welcome address was given by Ms. Annie Chandipo, of the Ministry of Energy and Water Development, MEWD. Ms. Chandipo emphasized the government's efforts to stimulate development in Zambia's energy sector, noting that events like these would help achieve objectives regarding access to energy in Zambia. She expressed hope that the recommendations of the dialogue would be implemented on the ground.

The address was followed by brief presentations by the organizers, EUEI-PDF, ARE and Practical Action, describing their organizations, the context of the dialogue forums, and highlighting the objectives of the event.

The morning session, moderated by Mr. Niklas Hayek of EUEI-PDF, discussed planning for universal energy access. The key presentations on energy access included the Energy Policy Framework in Zambia by Ms. Annie Chandipo of the Ministry of Energy and Water; Non State Stakeholder Engagement in SE4ALL by Ben Ndonyo of Energy and Environmental Concerns of Zambia (EECZ); and a regional Energy Perspective by Joseph Hwani of Practical Action. These presentations were followed by a plenary session.

The afternoon saw discussions on how to achieve deeper penetration of renewables, featuring presentations on "The Situation and Solutions for Small Scale (off-grid) Renewable Energy" by winnie Musonda of UNDP; "The State of the regional Wind Sector in Southern Africa" and "The East African Wind Corridor" by Johan Van Den Berg of SAWEA, the AEEP Africa focal point for the private sector. This was followed by a presentation on the experience of SNV on Renewable Energy programmes in Zambia by Mr. Chanda Mongo of SNV Zambia; and the experience of HIVOS on Energy Programmes by Rumbidzai Tarusenga of HIVOS Zimbabwe.

Following this session, participants were divided into Policy and Project groups to discuss (a) how to improve the policy framework for the energy sector in Zambia, and (b) how to promote partnerships and financing for energy projects. The group recommendations were shared in plenary and captured as general recommendations of the conference.

The conference concluded with speeches by Mr. Hayek of EUEI PDF; Mr. Miro Baz of ARE and Mr. Mapfumo of Practical Action.

5. Introductory Remarks

Introduction of the EUEI- PDF by Niklas Hayek, EUE-IPDF

In his opening remarks, Mr. Hayek expressed hope that the Dialogue Event would act as a platform to find solutions that improve living standards and make the energy sector in Zambia more sustainable. He said the AEEP has a mandate to organize Energy Stakeholder Dialogues, and can make substantial input to the country energy agenda and international initiatives, including SE4ALL. The AEEP supports political dialogue on the national, regional, and inter-continental level.

Background on the Alliance for Rural Electrification and objectives of the Energy Stakeholders' Dialogue by Louis Carlos Miro Baz, ARE.

Mr. Miro Baz introduced the Alliance for Rural Electrification, ARE, as well as the specific objectives of the Dialogue Event. He said the Alliance for Rural Electrification is the only international business association focusing on the promotion of all kinds of off-grid renewable energy solutions to electrify remote areas in developing and emerging markets. He said it aims at directly stimulating public-private dialogue as well as contributing to market development. ARE serves as a knowledge sharing platform and is a privileged partner of any actor in the energy field interested in engaging with the industry.

Background on Practical Action and objectives of the Energy Stakeholders' Dialogue by Eve Odete, Practical Action.

Ms. Odete introduced Practical Action, and how the organization has supported efforts around access to energy through its broad definition of Total Energy Access (TEA) meaning households, enterprises and community services must have sufficient access to the full range of energy supplies and services that are required to support human social and economic development. Ms. Odete further explained that Practical Action is an international technology development organization working globally and in Southern Africa to contribute to poor people's wellbeing using technology to challenge poverty by building the capabilities of poor men and women; improving their access to technical options and knowledge; and working with them to influence social, economic and institutional systems for innovation and the use of technology.

She noted that through their flagship "Poor People's Energy Outlook" (PPEO) series, Practical Action has used decades of programmatic and consulting experience to make vital contributions to knowledge on the energy needs of the poor. This includes the elaboration of a more robust definition of energy access, including: energy for cooking and mechanical power, alongside electricity; and energy for community services and earning a living equally important as household access. The PPEO also establishes minimum standards for energy services that people use (e.g. lighting, space heating & cooling, cooking).

6. The Morning Session: “Planning towards universal energy access”

Energy Policy Framework in Zambia, by Annie Chandipo , Ministry of Energy and Water, Zambia

Ms. Chandipo presented an overview of the Energy policy framework in Zambia, noting that access to energy is important to stimulate economic development, productivity, and reducing poverty. She reported that wood-fuel is Zambia’s main energy source, followed by petroleum products (imported). She explained that electricity potential is 6000 MW while current capacity stands at 1190 MW. As a result, only 23% of the entire population is served by electricity, being 4% of the rural population, and 48% of the urban. 70% of the population use wood fuel.

The major national energy policy guidelines were highlighted as the National Energy Policy (NEP) 1994 which seeks to promote optimal indigenous energy supply, creating conditions that ensure availability of supply of energy and sources with the lowest costs possible (including environmental and social). According to Ms. Chandipo, the problem with the overarching energy policy is that it does not provide mechanisms for linking to cross-cutting issues; diversification for energy; or private sector involvement.

The NEP guiding principles are the development of appropriate technologies; development of human capacity; optimizing energy efficiency (production, transformation and end use levels); providing incentives to enhance the performance of the energy sector; partnerships with the private sector and civil society; and community participation.

Other key guiding policies include the Vision 2030 whose objective is well-developed, managed, reliable sustainable energy services for the improvement of the quality for all Zambians; The 6th National Development Plan which defines the roadmap for poverty reduction and economic development; the Rural electrification master plan whose goal is to increase rural electricity access and promote use of biofuels; the Millennium Development Goals (MDGs); and the UN Sustainable Energy for All Initiative (SE4ALL).

On policy measures and strategies, Ms. Chandipo noted that there is a huge potential for energy generation in Zambia. However, this requires a number of measures including high investment capital costs; increased private sector participation through financially attractive guarantees for long-term stable income streams, fiscal incentives and smart subsidies; and resource mapping to address the lack of information. It also requires availability of market information; research; providing financial and fiscal instruments; promotion, enhancement, development and deployment of RETs; and public awareness.

Ms. Chandipo went on to elaborate that the government’s main policy objective on energy access will be realized through promotion of the development of energy businesses in rural areas; and integrating energy in development programmes. The objective towards promotion of energy efficiency will be realized through a number of policy measures and strategies including substitutions, wherever possible; good quality products (standards); expanding generation and transmission capacity; increasing energy access; and increasing the use of biofuels.

The institutional framework for realizing these policy measures and strategies has been put in place, and these include Rural Electrification Authority, Department of Energy and ZESCO, among others. She further reported that the legal framework is in place and these include Rural

Electrification Authority Act; Electricity Act; and Energy Regulation Act. Coupled with the legal and institutional framework are a set of incentives such as regeneration and micro-hydro prioritisation.

Non State Stakeholder Engagement in SE4ALL By Ben Ndonyo, Energy and Environmental Concerns of Zambia (EECZ)

In his remarks, Mr. Ndonyo reported that EECZ is a development organization that is concerned with conservation of sustainable energy resources. Since its establishment in 2000, the organization has provided a forum and opportunity for interaction and exchange of ideas; fostered education and scientific development; advocated for sustainable utilization of energy resources; and promoted gender equity. Past energy activities by EECZ include Biogas Digesters, solar water disinfection, holding energy forums, and strengthening the resilience of rural farmers.

Further in his remarks, Mr. Ndonyo reported that: EECZ participated in an SE4ALL regional workshop held in Harare under Hivos and Practical Action to increase civil society awareness on the SE4ALL global framework; plans further national and regional coordination; and is generating a series of recommendations for country level action. In Zambia, EECZ has supported CSO activities in SE4ALL through stakeholder workshops; media training; interaction with the UN, government and law-makers strengthening Non State Actor involvement; and involvement in national assessments to provide planning data and implementation of national plans to achieve the set targets of SE4ALL. Mr. Ndonyo noted that Zambia is an opt-in country, in the process of developing a Gap Analysis and National SE4ALL Implementation Plan within the SE4ALL global initiative

Regional Energy Perspective by Joseph Hwani, Practical Action

In his remarks, Mr. Hwani reported that the Southern Africa regional peak electricity demand for the interconnected countries and the whole pool is 50 339 MW and 54 436 MW respectively. This is against an available generation capacity of 51 GW irrespective of an installed capacity of 56 GW. The installed capacity constitute Coal (74.3%), Hydro (20.1%), nuclear (4%) and gas/diesel (1.6%). Thus the pool does not have the capacity to meet its demand hence cannot also meet the 10 - 15% reserve margin required for security and reliability. As a result, Namibia, South Africa, Zambia and Zimbabwe resort to load-shedding as a stop-gap measure to conserve energy. Botswana, Namibia and Swaziland, which rely on South Africa for their energy supplies, are now in trouble.

Mr Hwani went on to highlight the regional electrification statistics with notable low electrification status in Mozambique, Malawi, Lesotho and Zambia. These statistics are against varying definitions of electricity access, with countries like Zimbabwe defining 10km radius of utility grid pole as area having access to electricity. GDP per capita / Kwh per capita per annum ratio remains very low in Zambia and the region generally, with the exception of South Africa and Mauritius. Additionally, policy development is hindered by the lack of accurate energy information and data to guide policy strategy and planning.

In his conclusion, Hwani emphasized that on average energy access levels in the region are lower than 50%, with rural areas accounting for as little as 3-4% and development is hindered by lack of accurate energy information and data to guide policy strategy and planning. He challenged everyone to make a difference by adopting constructive and sustainable thinking actions.

Plenary Session

Below is a summary of the questions and comments from the plenary session, following the key remarks and presentations in the morning session:

Need for Data and Information

- The main problem in Zambia is lack of data. There is need for a good research institution to make an assessment of the energy situation and gaps. Since there is none, the Government should be responsible for gathering data, and giving accurate and timely data to the public. At present, target setting is difficult because of lack of data, which in turn, is caused by lack of systems to gather and track energy use.
- The government is embarking on a study for the entire wood-fuel value chain. There is need for a similar study for electrification.
- There is a need for information on the cost of installing electricity vis a vis using charcoal, and other biomass options. Energy data sits with different energy institutions. Need to have a central depository for data.
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- The current policies are adequate. However NSS involvement needs to be strengthened.

Policies

- The current definition of access is narrow, being commonly understood to mean grid connection. Is access to electricity equivalent to taking power to the community? 70-80% of the Zambian population still uses charcoal for cooking. What else is in the package for real energy access? There is need to economically empower people to pay for electricity.
- There is need to invest in smart subsidies.
- Zambia will face enormous challenges in achieving universal energy access by 2030 due to low demographics and density, and subsequent remoteness of demand.
- Measures by the Electricity Regulatory Board (ERB) to stimulate off-grid electrification are now in place. These include:
 - i. There is no specific stand-alone procedure for off grid systems. Investments off-grid are treated the same, unless it is a renewable energy investment.
 - ii. Administrative procedures are relaxed to spur RE investment, for example, license fees are not paid by solar investors, so as to remove for example, financial barriers.
 - iii. Development of Renewable Energy Feed in Tariffs (REFITS) is yet to be undertaken. Power Purchase Agreements are applied on case by case basis with a different tariff from ZESCO. Tariffs exist for RE off-grid systems, for example the government is now developing feed-in tariffs.
- What is the gap between the National Energy Policy and the SE4ALL policy framework. The implementation of policies is the major challenge. In this regard, there is a need to look at the capacity of the institutions to implement policies effectively, and move beyond feasibility studies to practical solutions.
- What is the policy direction- Sustainable energy or any other source of energy?
- Policies should have clear implementation plans.

Civil Society/community engagement

- There is a need to demonstrate the economic benefit of connection to power to spur greater uptake in the rural communities.
- There is a need to engage communities fully when planning for mini grids and other decentralized energy solutions.
- More education for citizens on the benefits of efficient energy use is needed.
- We need to change attitudes and perceptions of people on use of biogas.
- Need to encourage use of waste for energy including sawdust for charcoal, briquettes and others.

Stakeholders

- We need innovation such as through the private sector players.
- What can CSOs do to foster regional exchange in Southern Africa?
- Lack of information is hindering the contribution of other sectors such as the private sector- whereas government presents feasibility and financiers, the private sector showcases solutions, and banks take care of finance and warranties.
- The Alliance for Rural Electrification could help with organising such energy dialogue events in future.
- Investment Endorsement Letters for the private sector are necessary to encourage investments.



7. The Afternoon Session: How to Achieve a Deeper Penetration of Renewable Energies”

Situation and Solutions for Small Scale (off-grid) Renewable Energy By Eric Chitepa, UNDP

Mr. Chitepa from UNDP spoke on the opportunities for off-grid energy solution in Zambia, SE4ALL, and the MDGs. He noted that achieving SE4ALL targets would require an enabling environment, incentives and institutional reforms; and a robust tracking and monitoring framework.

He identified opportunities in RET as innovation over the past years, and have reduced costs for solar-photovoltaic (PV) and wind; and improvements in facilitation of Pico- and micro-hydro. According Mr. Chitepa, enablers of innovation include international cooperation; research and development. She thus reiterated the need for an enabling environment for the promotion of RETs; and rural electrification and community development funds.

Mr. Chitepa concluded that Zambia has high hydro potential, but that no one policy solution fits all. He also pointed out that that there is a need to focus on income generating activities.

The State of the regional Wind Sector in Southern Africa; and The East African Wind Corridor By Johan Van Den Berg, SAWEA

Mr. Van Den Berg shared SAWEA’s experience with both the regional wind sector in Southern Africa, as well as the East African Wind Corridor. SAWEA is the AEEP Focal Point for the private sector in Africa.

Mr. Van Den Berg began by observing that the share of wind power in South Africa is 10%. He however hailed the fact that there is a competitive procurement system for South Africa. For example, the government had plans for REFITs for different technologies, but ultimately, it did not take this option, but rather opted for a competitive procurement process. According to Mr. Van Den Berg, REFIT is a good instrument to finance limited grid-based generation.

According to Mr. Van Den Berg, finance is a problem for small scale generation because transaction costs are high. Nevertheless, he noted that there is close collaboration between the private and public sector in South Africa, with public sector energy projects being developed with private investment. He urged for greater measures to incentivize further private sector involvement, noting that banks are risk averse, making it difficult for businesses to enter the renewables space. He further observed that off-grid wind is needed as grid extension is too costly, and made a strong case for integration of community benefits to create jobs and socio-economic development within wind energy project sites.

To address technical and engineering barriers, Mr. Van den Berg suggested resource assessment; grid integration for on-grid; consideration of logistics, particularly transport and radar; availability of local operations and maintenance skills; and the availability of certified, locally produced (local content) equipment that financiers will approve.

Mr. Van Den Berg further identified entrepreneurial barriers related to wind energy as being: the long duration taken in marketing and resilience; and weak buy-in of governments. He said financial barriers include the question of bankability.

In conclusion, Mr. Van Den Berg reiterated that off-grid electrification is the future, and there is already great potential and interest in it. He urged stakeholders to get telecoms, the growing African giants, involved in the energy sector.

The Experience of SNV on Renewable Energy Programmes in Zambia

By Chanda Mongo, SNV

Mr. Mongo gave an overview of the Biogas and improved cook stove programmes implemented by SNV in Zambia. To date, the biogas programme has trained 17 masons, with plans for strengthening their marketing skills. He indicated the programme has established a huge potential for bio-digesters for farmers keeping cattle or pigs, as well as for dairy farmers.

It was reported that the SNV improved cook stoves programme uses a market based approach to locally produce cook stoves and bio char briquettes. The programme also implements an atrophy oil lamp project that plans to target 39,945 people by 2015. A Jatropha biofuel project targets two types of companies: oil production and lamp manufacturing.

The Experience of Hivos Energy Programmes By Rumbidzai Tarusenga, Hivos Zimbabwe.

In her presentation of the experience of Hivos energy programme, Ms. Tarusenga enumerated the organization's programmes in Southern Africa to include promotion of a green society through agriculture and energy; supporting dialogue on SE4ALL in Zambia, Malawi and Zimbabwe; implementation of bio-digesters in Ethiopia, Kenya, and Zambia, targeting 10 million people by 2015; and investing in research and development in bottling biogas.

Plenary Session

Below is a summary of the comments, questions and recommendations that came from the plenary session following the afternoon presentations:

- The mandate of Zambia Development Authority (ZDA) is to effectively promote investment in Zambia's energy sector and SMEs. ZDA's mandate includes large scale Renewable Energies, while the Rural Electrification Authority, REA is in charge of small scale Renewable Energy.
- According to EECZ, there is a general lack of Environmental Impact Assessments for hydropower and thermal projects.
- There are CDM and other funding windows to which Zambia could apply to get funding for its RE programme.
- SNV should consider working with Biofuels Association of Zambia

8. Reports of the Group Sessions

Project Group: partnerships and financing for energy projects

The Project group identified the following as hindering effective partnerships and investments in energy projects in Zambia and made recommendations on overcoming these issues:

1. Information gaps: lack of information and no sufficient best practices.
 - The government should create a website at the department of energy and link this to websites of key players in the energy sector.
2. Lack of capacity to design and manufacture energy equipment.
 - The government should establish energy centres of excellence by revamping training institutions, and establishing energy departments in universities and colleges.
3. Lack of entrepreneurship and low manufacturing capacity
 - The government should attract Foreign Direct Investment (FDI) by offering sufficient incentives to investors.

Policy Group : improving the policy framework for the energy sector

The policy group discussed methods to improve the policy framework in Zambia. The group began by reviewing what has been achieved:

- Formulating a National Energy Policy in 1994 and recently in 2008
- Establishment of regulatory and legal frameworks
- Adding renewable energy to the National Energy Policy
- Liberalising the tariff regime
- Recognizing the role of gender and energy
- Establishment of regulatory institutions

The following recommendations were made in relation to the existing energy policy framework:

The government should:

- Develop REFiTs.
- Finalize the renewable energy strategy.
- Develop the national implementation plans under SE4ALL.
- Formulate a rigorous monitoring and evaluation framework.
- Strengthen multi-sector coordination, for example, between the Ministry of Energy and the Ministry of Health.
- Strengthen the department of planning and information within the Ministry of Energy.
- Focus energy policy on productive uses of energy to ensure poverty reduction.
- Develop innovative financing mechanisms to support modern energy solutions.

Closing Remarks

Closing remarks were made by Mr. Niklas Hayek of EUEI-PDF, Mr. Carlos Miro Baz of ARE and Mr. Reginald Mapfumo of Practical Action.

In his remarks, Mr. Hayek thanked participants for their participation, and informed the meeting that the report of the dialogue would feed into the upcoming High Level Meeting of the AEEP in Addis Ababa, Ethiopia in February 2014. He affirmed that EUEI-PDF would continue holding dialogues, and that it is important for the AEEP to move on to implementation. He said the AEEP would inform participants of follow-up actions.

Mr. Miro Baz and Mr. Mapfumo thanked participants for their active participation in the event. Mr. Mapfumo said Practical Action would continue supporting dialogue between NSS and policy makers, including through briefing meetings.

9. Recommendations of the AEEP Energy Stakeholders Dialogue in Zambia

The participants to the AEEP Energy Stakeholder Dialogue in Zambia came up with a number of comments and recommendations aimed at increasing energy access as well as the share of renewable energy in Zambia's energy mix:

General Comments

- Participants recognized the efforts of the government of Zambia in promoting Energy Access and Renewable Energy through the National Energy Policy and respective supportive regulatory frameworks.
- Civil society and private sector participants recognized their responsibility to proactively engage in the implementation of policies and the country's national SE4ALL plan.
- Government representatives the importance of increasing private sector participation in energy, and noted it is already providing guarantees, fiscal incentives and smart subsidies to reduce the risk for private investors.
- Participants noted the lack of accurate information and data on energy resources to guide policy strategy, planning and investment is a major obstacle to efficient and reasonable target setting.
- Participants highlighted that biomass energy for cooking accounts for a substantial proportion of Zambia's energy consumption and has major environmental and social implications, but is often disregarded in the country's energy strategy formulation process. The biomass energy sector requires clear guidelines and strict regulations to ensure a sustainable and affordable use of the resource.

Recommendations

Coordination of the Energy Sector:

- The government should take the lead in coordinating activities in the energy sector and ensure multisectoral ownership of the energy agenda.
- The energy sector Gap Analysis under SE4ALL should be carried out in a transparent and participatory manner.
- Energy sector development should go hand in hand with institutional capacity building, skills development and the promotion of income generating activities.

To improve information flow the government should:

- Set up a central body responsible for regular compilation of energy data as well as information sharing.
- Build partnerships with academia and civil society who also play a key role in collecting and sharing energy data.
- Create a website gathering feasibility and market information hosted by the Ministry of Energy, and establish links to other actors' websites.
- Document best practices
- Carry out resource mapping.

To improve entrepreneurial and marketing skills, the government should:

- Enhance training in trade institutes and universities.
- Establish centres of excellence for energy technology and innovation.

To increase funding for energy:

- The government and development partners should create ensure a clear understanding of existing funding instruments and their functioning:
- The government should provide incentives to attract local and foreign investment
- Development Banks such as the Africa Development Bank should offer low interest rate loans towards energy projects.
- ZDA and REA should create a toolkit and advisory facilities on energy.
- Stakeholders should increase the capacity to design systems, and to manufacture and to assemble energy technology.

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