



SCALING-UP RENEWABLE ENERGY PROGRAM IN ETHIOPIA

Final Draft External Independent Review

26th January 2012



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I. TITLE OF THE INVESTMENT PLAN

1. Scaling-up of renewable energy program Ethiopia Investment Plan (IP)

II. PROGRAM UNDER THE SCF

2. SREP

III. NAME AND CONTACTS OF THE REVIEWER

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IV. DATE OF SUBMISSION

4. 21st January 2012 (first draft)

V. PART I: GENERAL CRITERIA

5. **[Please comment on whether the investment plan complies with the general criteria indicated in Annex A of the “Procedures for the preparation of independent technical reviews of PPCR and SREP investment plans and programs”].**

a) Complies with the principles, objectives and criteria of the relevant program as specified in the design documents and programming modalities.

The Ethiopian investment plan (IP) complies with the principles, objectives and most of the criteria of SREP as described in the SREP guidance (Criteria for selecting country and regional pilots under a program for scaling up renewable energy in low income countries (Climate Investment Funds, March 26, 2010)). There is a minor deviation in that some projects in the program exceed the normal threshold of systems below 10MW (or is that exclusively for Hydropower?). The SREP aims to speed up the investment in proven “new” renewable energy technologies while strengthening policy, processes and institutions. The investment program in which SREP has a small yet catalytic role to play, undertakes all of these elements.

b) Takes into account the country capacity to implement the plan.

The plan considers the public and private capacity to implement the plan and provides for activities where capacity

building is required in oversight, regulation, technical expertise, investment assessments, and small and medium business development skills. There are acknowledgments of shortfalls in a number of these capacities in an energy sector planned to grow at a vastly accelerated rate.

c) Has been developed on the basis of sound technical assessments.

The plan has provided evidence of technical assessments of geothermal, wind (general not site specific), and biomass availability, but has not evaluated the demand side with respect to the capacity to absorb and to make modern energy services affordable. In general the crucial technical and social analysis of the demand side is limited. Despite that, the estimate of the growth in demand for electricity is 14% per year from a low base of around 2GW. The GoE maintains that with only 8% access to modern energy currently, and with double-digit growth of the economy coupled with low prices for electricity, uptake of electricity will not be a problem. Some analysis of demand was undertaken to inform the Climate Resilient and Green Economy Strategy. The inclusion of renewable energy, on which GoE has based its expansion plan, will result in increasing electricity prices in order to recover costs, which may result in affecting demand.

d) Demonstrates how it will initiate transformative impact.

The massive scale-up of grid connected renewable energy envisaged in both the short (2015) and long term (2030) in accordance with Ethiopian policy implementation will require large mobilization of human and financial resources. The ambitious plan outlined, in which SREP plays a minor but catalyzing role, will transform the Ethiopian energy sector, and if successful will provide an affirming demonstration of what is possible when deploying CIF resources for clean energy in the context of expanding access to modern energy in Africa.

e) Provides for prioritization of investments, adequate capturing and dissemination of lessons learned, and monitoring and evaluation and links to the results framework.

The SREP resources are involved in all of the projects within the program. The program has many prospective contributions from GoE, bilateral donors and multilateral banks and “others”. The USD 69m SREP contributes is part of a program with a cost of USD 837.9m. The SREP resources are split between soft and hardware investments. While the majority of funds are as yet unpledged, SREP resources are required for planning, capacity development, sectoral strategies, geothermal exploratory drilling, monitoring etc. which will secure the sustainability of the renewable energy sector in Ethiopia. The SREP resources will be the first financing to be pledged to the projects mentioned in the IP (except USD 20 million already spent in Phase I of the Aluto Langanu Geothermal Project).

The plan misses the importance elaborating on methods/protocols for monitoring, reporting and evaluation of lessons learned with respect to results frameworks and how this will affect policy development and implementation into the future. However, the country has practiced performance based monitoring reporting and evaluation system after doing Business Process reengineering and Balanced Score Card in all its public institutions for at least the last five years. Therefore SREP program has to be aligned to the existing performance monitoring systems within GoE, how this will be done should be explained in the IP.

f) Has been proposed with sufficient stakeholder consultation and provides for appropriate stakeholder engagement.

The SREP public participation experience over two days was high level and dominated by government players and the public and private interests in renewable energy. The record is well described, but fails to explain whether the comments have been included in the current version of the IP – if comments were incorporated (as the GoE representatives maintain), this should be explained in the IP annex. Clearly a two-day public participation plan is inadequate for such a large program in which SREP is a minor component. No doubt EIAs for individual projects within the program and energy and other development processes have been and will be subject to public engagement. However the historic (and future) public process context in which the SREP consultation was undertaken is not explained.

g) Adequately addresses social and environmental issues, including gender.

In the cases of small hydro and geothermal there are few social and environmental issues that are discussed other than downstream distribution of the electricity. Social and environmental issues are addressed in both the distribution of modern energy and in improving the efficiency improvements in biomass usage for thermal services. In the latter, reduction in further deforestation in existing depleted situations highlights the environmental impacts. A recurring theme is the gathering of biomass and the effects of pollutants from cooking which is highlighted particularly for women and girls. The increase of employment opportunities are expected to be around 20 000 and is expected to consist of 75% women. The GoE maintain that in regard to impacts, “each project will develop detailed Environmental and Social Impact Assessment (ESIA) and any possible Resettlement Action Plan (RAP) that will be carried out at design/implementation phase and in accordance with MDB’s safeguards.” This process of appraisal needs to be explained in the IP.

h) Supports new investments or funding additional to on-going/planned MDB investments.

The SREP resources leverage a portfolio of other investments. According to GoE, the choice of the projects embedded in the IP are a result of a long consultative process between the GoE, AfDB, WB, IFC and other stakeholders that participated throughout the development of the IP. None of the projects were in the AfDB’s or in any other MDB’s pipeline when the development of the IP started. AfDB co-financing is conditional to the GoE’s prioritization of its allocation under the next ADF-13 cycle (African Development Fund - 13) to these two projects. If SREP and GoE funding are successful, SREP resources will complement the investments of the MDBs as described in the IP.

i) Takes into account institutional arrangements and coordination.

The highlevel SREP co-ordination is by the Government of Ethiopia’s Ministry of Water and Energy with specific assistance from the Ministry of Mines (for geothermal), Ethiopian Electric Power Corporation (for geothermal and wind) and IFC and Private Sector (for energy SME capacity development and financing). Oversight comes from the Environmental Minister’s Council, who receive reports on coordination through the SREP Steering Committee that includes Environmental Protection Authority, Ministry of Finance and Economic Development, Ministry of Water and Energy and Ministry of Mines. How the individual projects within the three clusters are co-ordinated is not presented. However this may emerge during inception and/or detailed planning at the commencement of the IP.

j) Promotes poverty reduction.

The plan talks to grid connected geothermal and wind projects in which investment is required. This expansion of supply is linked to an extension of transmission and distribution for productive and household activities. Whether the tariffs allow for savings as electricity replaces diesel and kerosene is not mentioned in the plan – what is certain is that there should be resulting increase in the economic activities as a result of increasing modern energy access. The largest contributions to poverty reduction will come from the energy SME capacity project, which will result in a reduction of the use of biomass and kerosene and result in more time to pursue productive, educational and other activities.

k) Considers cost effectiveness of proposed investments.

The IP does not explicitly talk to the issue of cost effectiveness or how this is to be evaluated. Cost effectiveness, however, is utilized ranking of the projects within the plan, but how this is quantified is not explained in the plan. Cost effectiveness in the plan is left to the GoE to “ensure”. How this is going to be done should be included in the IP.

VI. PART II: COMPLIANCE WITH THE INVESTMENT CRITERIA OR BUSINESS MODEL OF SREP

6. [Please comment on whether the investment plan complies with the criteria specific for the relevant program, as indicated in Annex A of the “Procedures for the preparation of independent technical reviews of PPCR and SREP investment plans and programs”]

a) Catalyze increased investments in renewable energy in total investment:

The SREP Investment Plan presents an investment portfolio, which includes other public and private resources. The SREP contribution is less than 10% of the total portfolio. SREP leverages the finance that has been lined up and augments these resource allocations by filling gaps that in the softer aspects of hardware scale-up and by filling the “valley of death” for newly introduced technologies. The idea is that the SREP resources will unlock financing for geothermal and wind projects downstream.

The allocation of the funds could prove catalytic in pulling together disparate supply side interventions into a programmatic cohesion in terms of institutional capacity, policy and process-wise. This is key to achieve scale-up sustainably while providing increasing certainty for private sector investment.

b) Enabling environment:

The IP presents the country’s long term commitment to promoting renewable energy as part of its energy sector strategies and energy access goals. The IP also demonstrates how SREP supports Ethiopia in strengthening its policies and institutions with a view towards enhancing the enabling environment for renewable energy and energy efficiency investments.

c) Increase energy access:

A dominant component of the IP is to improve access to electricity in a country where the current level of access is very low (+/- 8%). The increase in access is supplied through grid-connected electricity generated using wind and geothermal power. Transmission and distribution technology is mentioned in the plan, but is not part of it. With low levels of consumption of electricity, a challenge will be to recover the costs of power supply and grid expansion. Strategically this may mean prioritising areas and/or more energy intensive users as initial recipients of grid extension. The GoE has an ambitious Universal Electricity Access Program, which addresses both affordability and equity issues in the country so as to electrify all towns and rural villages. In all the UEAP the government is investing its resources to extend the grid to all towns and villages.

d) Implementation capacity:

The IP includes capacity development for the SMEs which are envisaged to take a role in the dissemination of energy technologies such as efficient cook stoves, lighting systems, energy industries etc. The plan includes institutional strengthening in the area of energy governance and the intention to build technical capacity at Universities and technical learning institutions for the installation, operation and maintenance of the renewable energy technologies namely hydro, wind and geothermal. The plan anticipates the generation of 20 000 new employment opportunities within Ethiopia. Monitoring and reporting of the outcomes of implementation will strengthen implementation knowledge and inform policy refinements.

e) Improve the long-term economic viability of the renewable energy sector:

Investment at the scale envisaged in the plan will provide a large boost to the renewable energy sector. However, the long-term economic viability will be to the extent that it catalyses the involvement in private sector investments into the future (which GoE wants to happen). The private sector interests will be mobilized by the ease of doing business, reasonable reward for investments (electricity tariffs and carbon prices) and a stable and predictable policy environment. The local availability of a support industry and human capacity assist in a reasonably priced and speedy response to operating problems, but this will only mature with scale as the IP is implemented. The IP points to capacity targets up to 2030, which provides a horizon during which the renewable energy industry will certainly mature. Key to the long-term economic viability will be the feed-in tariff rates, independent regulation and the enablement of the electricity utility, EEPCo. The IP talks to most of these issues, but is light on the regulatory oversight.

f) Transformative impact:

The IP contributes to a policy direction initiated by the GoE in which the future of energy is renewable and large hydro. The plan provides elements to achieve this in responding to a demand for electricity that is growing as the

country grows and to distribute this widely to its people increasing access (at international standards) to 75%. In expanding the total generation capacity from around 2 to 10GW using renewable energy over a 3-year period is ambitious and will no doubt be transformative to the lives and economic activities of Ethiopians. Should Ethiopia be able to reach these targets, the transformative effect will reach beyond Ethiopia to Africa.

VII. PART III: RECOMMENDATIONS

[Please provide any recommendations that could enhance the quality of the investment plan]

a) Efficient cook-stoves and private sector involvement

Efficient cook-stoves can be left to the private sector who will drive it utilizing the carbon markets and accounting for suppressed demand (as a result of poverty, lack of natural resources, and/or energy infrastructure) in a situation where the biomass appears to be predominantly non-renewable. There are successful programs in east and southern Africa (Uganda Carbon Bureau (Uganda), Climate Care (Kenya), Hestian Innovations (Malawi), ProBEC (SADC) etc.), which would provide affirming demonstrations. SREP's role could be in providing an enabling environment in which the private sector can scale-up. This approach could be applied to small PV lighting systems as easily.

b) Regulation - cost recovery versus affordability

An essential ingredient in achieving sustainability in the electricity sector will be achieving the balance between cost recovery and affordability of electricity, which is a function of an independent regulator (the Ethiopian Electricity Agency). The regulatory principle of least-cost planning needs to be sustained. Strengthening this essential role is under represented in the IP unless this is covered through another program.

c) Feed-in tariffs and EEPCo ambition

A key ingredient to obtaining private sector investment in renewable energy supply will be in creating certainty with respect to feed-in tariff offerings in terms of guaranteeing rates for a period into the future. Many public utilities in Africa that are vertically integrated (as EEPCo appears to be), are hostile to IPP involvement and even if IPPs are supported by policy, utilities find ways to block or slow down IPP involvement using technical or other means. This potential barrier must be preemptively addressed to avoid future conflict. This will require well informed leadership by the Minister and Ministry of Water and Energy. The IP should reflect some high level capacity development and seek guarantees that assure a level playing field when procuring supply capacity.

d) Strengthened MRV and availability of verified energy supply and demand data

The IP provides an opportunity for high quality data to be gathered on both the supply and demand sides. Such data is essential for energy policy development and planning into the future. Independent verification should ensure the quality of the monitored data, which should be available in the public domain for policy analysis and energy entrepreneurs to make use of in establishing business plans for enterprises. The Plan under-represents this requirement.

e) Public withdrawal once scale is reached

While much of the plan involves public finance, it will be important for the up-scaling and future sustainability for public financing to withdraw to when scale in the renewable energy supply has been achieved to make room for more private involvement.

f) Micro-Finance and commercial back capacity building

For local micro and commercial financial players to become involved in financing scale-up they will require to understand the market risks and opportunities in the energy market. The financial players also need to understand the policy makers and vice versa so as to optimize their respective leverages. While the IP includes this element, it should be strengthened as being core to scale-up and sustainability.

g) Decentralized grids versus centralized grid expansions

The opportunities for decentralized energy distributed through small and micro-grids in underserved areas of Africa may prove more cost effective than centralized grid expansions. There is experience in small grids that is explained in the IP, but this is not explored as a way forward in the IP. Small-grids linked to decentralized supply options may have some economy of scale and learning potential (for supply, distribution and tariff setting) that could be utilized in future scale-ups and should see some representation in the investment plans. In the same way, the selection of anchor tenants (such as grain millers, or other energy intensive users) may provide the rationale for prioritizing central grid expansion so as to assure cost recovery for central grid “spurs” into which smaller users could tap into the future.