

Annex Q

Energy: Technical Note

Technical Note Q.1 Draft Guidance Country Note on Energy for the PRSP

The purpose of this volume, and this chapter, is to assist countries in the preparation of poverty reduction strategies. Following a consultative and participatory process, countries articulate these strategies in a Poverty Reduction Strategy Paper (PRSP). An Energy Note should be prepared for input into the PRSP process.

The Energy Note should:

- Identify the energy sector and identify energy service linkages to the priority poverty reduction strategies of the country.
- Propose energy sector goals and strategies to achieve them, and establish quantifiable indicators to measure progress in achieving those goals.

By way of example, table Q.2 illustrates these for a particular country in Sub-Saharan Africa.

Table Q.1. Assessing Energy-Poverty Linkages in the PRSP—Example for Country X

<i>Priority Poverty Reduction Objectives and Policies</i> (derived from the PRSP)	<i>Extent</i>	<i>Complementarity of Energy to Poverty Reduction Strategies</i> <i>Linkage and Rationale</i>
1. Poverty Reduction Broad Strategy		
Growth <ul style="list-style-type: none"> • Raise annual growth to 6 percent • Ensure more equitable income and assets <i>Notes</i> Manufacturing (handicraft) is an important nonfarm business for the rural poor in country X Agriculture diversification is essential to growth in country X	High	Plans to expand manufacturing for exports are partly dependent on reliable energy supply Modern lighting that extends the working day, and partial mechanization can boost output and improve productivity Energy is needed for mechanical lift irrigation, for operation of minidairies, and for postharvest processing and marketing of some crops
Food security <ul style="list-style-type: none"> • Reduction of chronic and transitory food insecurity • Increase agriculture production and the productivity of commercial farming <i>Notes</i> Country X's agriculture production system is largely rainfed and subject to periodic droughts, which lead to large variability in annual food output	High	Energy services to ensure a cold chain can improve productivity of dairying and boost consumption of milk products Plans for increased commercial farming will benefit from inputs like refrigeration and storage
2. Social Sector Development		
Education <ul style="list-style-type: none"> • Reduce illiteracy • Improve teaching and learning in schools 	Low	Modern lighting in the home that is accessible to all household members has strong correlation with improved literacy
Health <ul style="list-style-type: none"> • Improve primary health services • Improve water supply and sanitation services <i>Notes</i> In country X's drought-prone conditions, 65 percent of the population relies on rainfed water collection	High	Energy services are needed in basic health care (to operate diagnostic equipment, for lighting, and for vaccine preservation) Energy is needed for expanded use of water from boreholes

(Table continues on the following page.)

Table Q.1. Assessing Energy-Poverty Linkages in the PRSP—Example for Country X (continued)

Priority Poverty Reduction Objectives and Policies <i>(derived from the PRSP)</i>	Extent	Complementarity of Energy to Poverty Reduction Strategies Linkage and Rationale
2. Social Sector Development (continued)		
Gender <ul style="list-style-type: none"> Mainstream gender issues in all government policies 	Medium	<p>Women disproportionately bear the burden of gathering biomass fuels for cooking, and disproportionately bear the health and safety impacts of gathering and using these fuels. The opportunity costs to women are in terms of lost education, leisure, and productive activity because of time spent collecting, processing, and using these traditional fuels. Similarly, inadequate water supply (the result, in part, of inadequate energy supply) results in women having to carry containers of potable water long distances. The lack of farm mechanization results in women having to labor long hours in the fields</p>
3. Economic Management		
Fiscal policy <ul style="list-style-type: none"> Promote macroeconomic stability and reduce size of government 	High	<p>Borrowing for infrastructure investment by energy utilities in country X (specifically by the electricity utility) is directly incurred by the government. The electricity utility is unable to service its debts, placing the burden on the government budget. Reforms are needed to minimize the build-up of these public liabilities</p> <p>Direct taxes on energy enterprises and indirect taxes on energy commodities could provide an excellent tax base. However, taxes on fuels used by the poor should not be regressive</p>
Expenditure policy <ul style="list-style-type: none"> Reduce total expenditure while reorienting the structure toward social sectors 	High	<p>Direct budgetary support for the sector could squeeze out resources available for social investment</p> <p>Well-designed mechanisms that subsidize connection costs of energy access or equipment can be pro-poor</p>
4. Private Sector Development		
Industry sector and investment promotion <ul style="list-style-type: none"> Manufacturing for exports; product diversification, and so forth 	High	<p>The investment attractiveness of country X for export manufacturing will be influenced by the reliable supply of energy services</p> <p>Competition in the energy sector by allowing the entry of new, nonutility service providers can meet the energy needs of rural trading centers</p> <p>Rule-based economic regulation of the energy sector leads to increased investment by encouraging business confidence</p>
Competition and consumer protection <ul style="list-style-type: none"> Increase efficiency and broaden ownership base by privatizing public enterprises 		
5. Natural Resources and the Environment		
<p>Encourage comanagement of forest and forest resources and foster ownership</p>	High	<p>Wood is virtually the only cooking fuel in rural areas. Sustainable markets for fuelwood exploitation are implicit in sustainable forest management. Use of charcoal and improved stoves with chimneys for cooking and heating also has an impact on the sustainability of fuelwood exploitation</p>

Table Q.2. Proposed Energy Sector Goals, Strategies, and Indicators—Example for Country X

Energy Sector Goals	Monitoring Indicators	Potential Energy Strategies
<p>Expand access (aggressively increase the availability and affordability of energy services)</p> <p><i>Notes</i></p> <ol style="list-style-type: none"> 1. Firewood is virtually the only cooking fuel in rural areas (85 percent of population) 2. 95 percent of households do not consume any electricity 3. Analysis of data from the proposed energy survey will help refine the access indicators (for example, by relating them to the poverty line determined in the Poverty Profile and to women's roles in the supply and use of energy) 4. Population growth rates exceed the rate at which households are being connected to grid-supplied electricity 5. The electricity tariff structure is such that it provides an incentive for the urban nonpoor to cook with electricity 	<p>Availability</p> <p><u>Cookstoves</u></p> <ul style="list-style-type: none"> • Ownership of improved cookstove increases from ___ to ___ of households <p><u>Electricity</u></p> <ul style="list-style-type: none"> • Increase in number of low-voltage points/transformers from ___ to ___ (by district) <p><u>Kerosene</u></p> <ul style="list-style-type: none"> • Increase in kerosene retail outlets from ___ to ___ (by district) <p>Affordability</p> <p><u>Biomass</u></p> <ul style="list-style-type: none"> • The cost of an improved cookstove to be made affordable to the poorest households <p><u>Electricity connection costs</u></p> <ul style="list-style-type: none"> • Payments by new customers of the cost of a home connection spread over a longer period (that is, increased from the present 12 months to ___ years) <p><i>Data sources:</i> utility; regular quick surveys of vendors</p>	<ol style="list-style-type: none"> 1. Implement an efficient licensing process for private firms to enter into production and distribution of electricity—particularly independent suppliers in areas outside the present grid 2. Revise excessively onerous equipment standards that raise the cost of service provision 3. Identify energy-use equipment eligible for microcredit (for example, improved cookstoves) 4. Make the program of consumer credit that spreads the cost of a home electricity connection more attractive to potential customers 5. Revise the electricity tariff structure. Introduce a lifeline tariff 6. Tariffs on imported kerosene (for lighting) to be maintained at reasonable levels—that is, not taxed regressively 7. Policies for sustainable forest use
<p>Improve reliability</p> <p>Increase the dependability of supply of energy services to raise the productive end use of energy by firms and households</p> <p><i>Note</i></p> <p>The goal addresses the competitiveness of firms and impacts on rural nonfarm incomes</p>	<ul style="list-style-type: none"> • Unplanned outages of 66kV transmission line reduced from ___ to ___ hours/month • Production time lost in a sample of the largest manufacturing firms reduced from ___ to ___ hours per month • Unplanned low-voltage (distribution level) outages reduced (specific targets for each district) <p><i>Data sources:</i> utility; regular quick surveys of firms</p>	<ol style="list-style-type: none"> 1. Competitively bid O&M contracting for utility operations 2. Carry out a feasibility study to identify potential improvement in reliability through power imports or exchanges with neighboring countries 3. Establish mechanisms to utilize electricity from neighboring countries
<p>Achieve fiscal sustainability</p> <ul style="list-style-type: none"> • Reduce claim of the sector on the budget • Reduce fiscal risk due to the sector • Achieve cost recovery in electricity supply (eliminate energy subsidies to the nonpoor) <p><i>Note</i></p> <p>The electric utility is currently unable to service debt to government, implying annual net increase in energy sector share of government liabilities</p>	<p>Fiscal discipline for energy utilities</p> <p><u>Set sector targets for reduction in:</u></p> <ul style="list-style-type: none"> • Direct budget transfers • Government domestic borrowing • International borrowing <p><u>Private sector participation</u></p> <ul style="list-style-type: none"> • Private ownership of electricity supply and distribution (Yes/No) <p><u>Cost of use</u></p> <ul style="list-style-type: none"> • Nonsubsistence consumption of electricity (that is > 30 kWhr/month) priced to recover full costs <p><u>Collection</u></p> <ul style="list-style-type: none"> • Reduce receivables from ___ to ___ days <p><i>Data sources:</i> utility; government accounts</p>	<ol style="list-style-type: none"> 1. Revise the electricity tariff structure to ensure cost recovery 2. Improve collection rate for electricity billing 3. Define an open/competitive market structure 4. License new entrants 5. Implement deregulation and establish separate regulator 6. Encourage private sector ownership

**Table Q.2. Proposed Energy Sector Goals, Strategies, and Indicators—Example for Country X
(continued)**

Energy Sector Goals	Monitoring Indicators	Potential Energy Strategies
<p>Improve governance Promote market-based mechanisms, formal oversight institutions, and processes that lead to efficient investment, production, and energy service delivery</p>	<ul style="list-style-type: none"> • Are tariff orders implemented following a rule-based process? (Yes/No) • Are licenses awarded through a public process of competitive bidding? (Yes/No) • Increase in number of independent suppliers from ___ to ___ (specific targets for each district) <p><i>Data sources:</i> public records of regulator; regular rapid survey of firms; confidential complaints mechanism</p>	<ol style="list-style-type: none"> 1. Improve regulatory mechanism 2. Implement an efficient licensing process for private firms to enter into production and distribution of electricity (with performance conditions and incentives to expand service)
<p>Ensure environmental sustainability Ensure the sustainable supply and use of biomass fuels Ensure the sustainable development of hydroelectricity</p>	<p>Increase in ratio of households using improved cookstoves from ___ to ___ (specific targets for each district)</p> <p><i>Data sources:</i> household survey; annual rapid survey of charcoal supply</p>	<ol style="list-style-type: none"> 1. Empower communities to manage forest resources 2. Promote the leasing of plantation areas for tree planting and management by the private sector 3. Promote use of improved stoves in microcredit schemes