THE UNITED REPUBLIC OF TANZANIA

MINISTRY OF ENERGY AND MINERALS

Energy Subsidy Policy

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Acronyms

COSS  Cost of Service Study
EPP   Emergency Power Plan
ESP   Energy Subsidy Policy
EWURA Energy and Water Utilities Regulatory Authority
IEA   International Energy Agency
MEM   Ministry of Energy and Minerals
MoF   Ministry of Finance
MW    Megawatt
PDB   President's Delivery Bureau
POPC  President's Office, Planning Commission
PSMP  Power System Master Plan
REA   Rural Energy Agency
REF   Rural Energy Fund
TANESCO Tanzania Electric Supply Company Limited
As Tanzania’s economy expands, it is imperative that the energy sector expands in capacity and enhances its efficiency to support the rest of the economy. Tanzania has an abundance of natural energy resources: these must be exploited on an economically sustainable basis to ensure Tanzania’s growth is also sustainable. This Policy provides direction on the pricing of energy products and infrastructure which will ensure resources are exploited in the most economically sustainable way, with the benefits accruing to all Tanzanians.

We will soon begin exploitation of significant off-shore gas reserves, providing natural gas for electricity generation and other potential uses. My Ministry is finalising the Natural Gas Policy to give direction to the sustainable exploitation of the natural gas resources in a way which brings the maximum economic benefit to all Tanzanians.

Tanzania’s electricity sector is a cornerstone of economic development, and as such, the Government is focused on improving its reliability and stability, and enhancing its capacity, to ensure Tanzanian households and businesses are provided high quality electricity supplies. Our national utility, TANESCO, has struggled to remain financially viable, and this has affected the rest of the economy. It is a priority of the Government to have a financially viable and independently sustainable energy sector, and TANESCO is at the centre of this.

The Government is focused on increasing the access of all Tanzanians to electricity connections, regardless of where they live or their income. As part of the Big Results Now programme, we will strive to have 30% of Tanzanians connected by 2015 and 55% connected by 2025. To aid this, we are focused on the affordability of electricity connections for all households.

For Tanzania to develop in a sustainable way, the Government is focused on the exploitation of our renewable energy resources: hydro, solar, wind and biomass. Renewable energy projects are a priority for the Government, and their economic viability is imperative for the continued development of the sector.

To ensure we have a sustainable electricity sector, and to support the connection of the 38 million Tanzanians on the mainland not yet connected to electricity, we will make sure all electricity consumers pay their fair share for the electricity they consume. Without ensuring this, our electricity supply system risks continued unreliability for those already connected and the 38 million unconnected Tanzanians will continue to go without electricity.

The Government has previously been directly involved in the market for petroleum products. As Tanzania grows economically, and as we seek to minimise our carbon footprint, it is important for petroleum products to be priced appropriately. The Government will no longer be involved in subsidising petroleum or petroleum products for general consumption.
This Policy focuses on the pricing of all energy products, and the development of the infrastructure that brings energy to the consumers. With high quality infrastructure, we increase the reliability of energy provision, lower overall system costs, and enhance the economic potential of Tanzanian businesses and the livelihoods of all Tanzanian citizens.

Prof. Sospeter M. Muhongo (MP.)

MINISTER FOR ENERGY AND MINERALS
Introduction

1 Introduction

This document presents the Government’s policy on the provision of subsidies in the energy sector.

Energy subsidies are any government action that concerns primarily the energy sector that lowers the cost of energy production, raises the price received by energy producers, or lowers the price paid by energy consumers.¹ There are many different types of energy subsidies. Some have a direct effect on price, like grants and tax exemptions, while others act indirectly, such as regulations that skew the market in favour of a particular fuel or government-sponsored technology research and development.

At various times in the past the Government has provided public subsidies and promoted cross subsidisation in the energy sector as part of national energy policy generally to promote the achievement of national development objectives and specifically to: promote the development of the sector, correct for various market failures, and re-distribute income to households with low incomes and to households in rural areas.

The Ministry of Mines and Energy, in close co-operation with other energy stakeholders, has conducted a thorough review of experience and evidence of the comprehensiveness, coherence and effectiveness of past subsidy provision. From that review we have concluded that a comprehensive statement of energy subsidy policy setting out rules for decision making and action for setting subsidies that are fully effective and coherent across the energy sub-sectors is a necessary and important addition to the energy sector policy framework particularly at this time of rapid change and development in the energy sector.

Since the 2003 revision of the National Energy Policy the energy sector has developed rapidly and changed structurally. In the petroleum sector, we have developed a partnership between public and private stakeholders to coordinate the bulk procurement of petroleum products, with the creation of the Bulk Procurement Technical Committee and a private sector-led Petroleum Importation Coordinator. We have increased the capacity of our electricity network to 1,500 MW and have over 5 million Tanzanians now connected to the network. Our electricity generation has faced challenges from variable weather patterns affecting our ability to use hydro power, but we have increased our use of renewable energy through the development of solar, wind and biomass generation plants. Much of this success has been through the work of the Rural Energy Agency, which has expanded the reach of energy services to rural communities through connections to the TANESCO grid and the development of isolated electricity systems. The sector still faces challenges, particularly in the operation and financial stability of TANESCO as the national electricity utility, and in increasing the number of connections to households in both rural and urban areas.

¹ This definition is that used by the International Energy Agency and has been widely adopted.
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The major change in the energy sector has been the discovery off-shore of significant reserves of natural gas. The Government has been working hard to develop a Natural Gas Policy in response to gas sector developments, which is out for consultation. The policy deals with mid and downstream (how gas is used once it has been extracted) and will follow this up with a new policy document for upstream gas in due course. [Other sub-sector policy intentions to be added?]

The Government is also in the process of updating its National Energy Policy, and this will be released for consultation in due course. [MEM to review and revise ESP as necessary]

1.1 Status of Energy Sector

Tanzania has an abundance of natural energy resources, including mineral resources (coal and natural gas) and renewable energy. Many of our resources are already being harnessed for electricity generation, notably hydropower and natural gas, while other resources are being developed for productive use (wind, solar and coal). We will continue the exploration for new sources of energy for electricity generation (notably geo-thermal) to sustain the growth of Tanzania’s economy.

Energy resources are consumed both directly (particularly woodfuel and charcoal for cooking and domestic heating) and used to generate electricity. For example, petroleum and natural gas are used in vehicles, while much of the electricity provided to consumers, to businesses for production and to households for heat, light and cooking, is generated using Tanzania’s own natural resources: natural gas, water, and increasingly other renewable sources such as solar power, biomass and wind.

Tanzania imports all of its petroleum and petroleum products (including diesel and kerosene), for sale domestically by private businesses, or for use in electricity generation. At present, all petroleum products for general consumption are priced efficiently under a market-based approach and do not receive subsidies from the Government. In the past, we have subsidised kerosene for household consumption, but as the targeted beneficiaries did not end up as the main recipients of the subsidy, we stopped the subsidy programme. The Government has also paid subsidies for the use of petroleum products as a fuel for the generation of electricity under the Emergency Power Programme (EPP).

In recent years, we have discovered very large quantities of natural gas off-shore. Such quantities will have a significant impact not only on the energy sector, but also on the entire economy. The Ministry of Energy and Minerals (MEM) is currently consulting on a Natural Gas Policy which will give direction to the Government and private and public sector stakeholders on the best utilisation of the resource.

The electricity sub-sector currently receives the greatest level of investment of any of the energy sub-sectors (the gas sub-sector is expected to receive significant investment in coming years). The focus of the sub-sector is TANESCO, our national electricity utility. In recent years, TANESCO has struggled to generate sufficient
revenue to cover its operating costs, and has received significant subsidies from the Government in order for it to remain viable.

### 1.2 Energy sector policy and legislation

This policy on energy subsidies is part of the policy and legislative framework for the energy sector.

The primary policy guiding the energy sector is the **National Energy Policy 2003**. MEM is currently updating this, and when it is presented it will give strong direction for the continued development of Tanzania’s energy sector.

The national policy objective for the development of the energy sector is:

> to provide an input in the development process by establishing efficient energy production, procurement, transportation, distribution, and end-user systems in an environmentally sound manner and with due regard to gender issues

The specific objectives outlined by the policy take into consideration the need to:

a) have affordable and reliable energy supplies in the whole country;
b) reform the market for energy services and establish an adequate institutional framework, which facilitates investment, expansion of services, efficient pricing mechanisms and other financial incentives;
c) enhance the development and utilisation of indigenous and renewable energy sources and technologies;
d) adequately take into account environmental considerations for all energy activities;
e) increase energy efficiency and conservation in all sectors; and
f) increase energy education and build gender-balanced capacity in energy planning, implementation and monitoring.

The Policy gives a strategic direction towards a market economy, free of subsidies.

> In line with the overall economic policy of the country, the market-oriented concept shall apply to the supply of energy products and services. Implicitly, medium and long-term services of independent economic actors should determine allocation of resources. Competition on a fair and equitable basis among independent actors forms the basis for market efficiency.

### Big Results Now – Energy Lab 2013

The Big Results Now Energy Lab held in early 2013 set the key targets for the energy sector as:

1) Achieving 50% increases in energy delivered and TANESCO revenue by: revamping operations of existing assets; delivering new gas to underutilised plants; upholding water management practices and improving in-dam operations; limiting energy losses in transmission and distribution; launching
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demand management initiatives; and optimising EPP dispatching and fuel supply.

2) Growing the sector by prioritizing and delivering against 14 prioritized generation projects and 590,000 new connections, supported by business unusual approaches to delivery; involving greater focus on prioritization, M&E, use of alternative sources of funding and fast-tracking approval to address current system bottlenecks.

3) Redefining the sector strategy and structure, including a gradual restructuring of TANESCO to bring viability to the entire system. This is consistent both with the revamping of TANESCO’s operations of existing assets, and also with the specific objectives of National Energy Policy on affordable and reliable energy supplies, and an adequate institutional framework which facilitates investment, expansion of services, efficient pricing mechanisms and other financial incentives.

Specifically on subsidies, the Energy Lab envisages the elimination of subsidies to electricity utilities through establishing cost-reflective tariffs by 2015/16.

Draft Natural Gas Policy (2013)

The Natural Gas Policy will provide a comprehensive framework for addressing challenges around legal frameworks for exploitation, human resource capability and the development of a competitive and effective domestic market for natural gas. The Government envisages establishing an appropriate pricing mechanism to be based on a set of key principles, including cost reflectivity without any subsidies, prudently incurred costs, reliability and quality of service, fair return on invested capital, and capacity allocation to the most valued use.

Electricity Act (2008)

The Electricity Act 2008 is the primary piece of legislation for the electricity sub-sector. The Act determines the facilitation and regulation of generation, transmission, transformation, distribution, supply and use of electric energy, provides for cross-border trade in electricity and for the planning and regulation of rural electrification.

The Act empowers EWURA to regulate the tariffs for the sale of electricity and the charges for connection to any transmission or distribution system. The Act requires that electricity tariffs reflect the cost of efficient business operation, but that they should be adjusted for any subsidies or grants and precludes the use of cross-subsidies. The policy applied in practice has diverged from these principles, in that tariffs have not been set to recover all relevant costs, and have therefore required an implicit subsidy in order for TANESCO to cover its costs.

Similarly, cross-subsidies between customer categories have been applied. The intention for future policy is to adhere to the principle of tariffs being raised to a cost-reflective level overall, while at the same time allowing, within the tariff
Introduction

structure, cross-subsidisation. An amendment to the Act will be introduced to allow cross-subsidies.

Section 24(2) of the Act states that EWURA shall review tariffs once every three years, while Section 23(3) allows the tariffs to include automatic adjustments for changes in the costs of fuel, power purchases, inflation, and currency exchange rates. The intention of such indexation is to ensure that the tariffs paid by consumers reflect all costs between the periodic tariff reviews.

Petroleum Act (2008)

The Petroleum Act 2008 makes provisions for importation, exportation, transportation, transformation, storage and wholesale and retail distribution of petroleum and petroleum products in a liberalized market. The Act states simply yet clearly that the pricing of petroleum and petroleum products throughout the supply chain shall be governed by the rules of supply and demand subject to the provisions of EWURA and the Fair Competition Act. This will continue and so there is to be no subsidy of petroleum and petroleum products.

Rural Energy Act (2005)

The Rural Energy Act 2005 established the Rural Energy Board, Fund and Agency to be responsible for promotion of improved access to modern energy services in the rural areas of Mainland Tanzania and through a Fund within the Agency Board to provide for grants and subsidies to developers of rural energy projects. Thus there are capital production subsidies for rural electricity provision. There is no provision for recurrent production subsidies as the Act does not permit government grants to finance the operating or debt service costs of any project or developer.

The Energy and Water Utilities Regulatory Authority Act (2001)

The EWURA Act 2001 established a Regulatory Authority for the energy sector and water utilities. Section 6 of the Act gives the duty of EWURA as striving to enhance the welfare of Tanzania society by:

a) promoting effective competition and economic efficiency;

b) protecting the interests of consumers;

c) protecting the financial viability of efficient suppliers;

d) promoting the availability of regulated services to all consumers including low income, rural and disadvantaged consumers;

e) enhancing public knowledge, awareness and understanding of the regulated sectors including–

   (i) the rights and obligations of consumers and regulated suppliers;

   (ii) the ways in which complaints and disputes may be initiated and resolved; and

2 The definitions of these terms are given in Section1.5.
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(iii) the duties, functions and activities of the Authority;

f) taking into account the need to protect and preserve the environment.

The EWURA Act impacts on the subsidy policy mainly in respect of objective (c), which requires that the average tariff should be at a level which allows the utility to operate without subsidies from the government budget, and insofar as objective (d) requires tariffs for low income, rural and disadvantaged communities to be cross-subsidised within the tariff structure.


The EWURA Rules 2007 govern the actions, rights and obligations of the Energy and Water Utilities Regulatory Authority (EWURA) and the public and private participants in the regulated sectors. Sections 3(1), 5, 8(1), 22(7) and 25(5) give EWURA the right to initiate a tariff review at any time, while Sections 19(1) and 22(7) require EWURA to analyse both licensees’ (including TANESCO) tariffs and revenue requirement.

1.3 Justification for Energy Subsidy Policy

Previous approaches to subsidy provision in the energy sector have been largely *ad hoc*, with the primary beneficiaries being more well-off Tanzanians, at the expense of the majority of Tanzanians who are poor and unconnected to modern energy supplies.

Unconnected rural households (which make up a large proportion of the unconnected population) are currently paying significantly more for kerosene and electricity services (e.g. mobile phone charging) than connected households are paying for electricity\(^3\). Even if the ‘lifeline’ D1 tariff (very low tariff allowed on the first 50 kWh of consumption) was removed and there was no longer any cross-subsidy between connected electricity consumers, the D1 customers would still be paying less per month than unconnected households pay for basic energy, and with the significant additional benefits which electricity brings over current energy sources, e.g. health benefits, quality of lighting, security of supply. The cost and quality benefits of connection should encourage rural households to become connected to the national grid. However, the large up-front connection fee that would be required to meet the full costs of connection would be a significant barrier for many presently unconnected households. Government’s policy response is to design and finance targeted programmes that assist the poorest customers in connecting to the network, provided routine operation and maintenance is provided for through tariff revenues.

The principle justification for a specific policy document on energy subsidies is that the application of existing energy policy has not been systematic and has had

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\(^3\) For further information, please refer to Consulting Services for Electricity Access Scale-up and Subsidy Policy Study, Final Report, by CRISIL Risk and Infrastructure Solutions Limited, 2013
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undesirable consequences in terms of overall national welfare. This policy document sets out a comprehensive and structured approach to public sector decision making and action in relation to energy subsidies that switches the focus to universal access to modern energy through connection subsidies and consumers paying their fair share of the costs of energy supply.

It sets the rules for decision-making and action that will guide the Government and other sector stakeholders in the allocation of sector resources to areas identified as of priority to national objectives. It also provides the rules for decision-making and action in the regulation of the sector in respect of financial viability of the sector.

1.4 Objectives of Energy Subsidy Policy

1.4.1 Main vision and objective for sector

The Government’s vision of the energy sector is of a sector that effectively contributes to the growth of the national economy and improves the standard of living for the entire nation in a sustainable and environmentally sound manner.

In order for this vision to materialise, the Government will act to promote the development of the sector in close co-operation with other sector stakeholders. As the pricing (and subsidy) of all goods traded in the energy sector is fundamental to the development of the entire sector, it is vital the Energy Subsidy Policy supports the achievement of the overall and specific energy sector policy objectives.

The Government’s overall objective for the sector is:

To ensure the universal and equitable access to, and economic sustainability of, a reliable, stable and environmentally sound energy system.

1.4.2 Specific objectives

The specific objectives for development of the sector are:

a) Universal access of all citizens to energy, particularly to electricity;

b) Equitable access such that citizens are able to access energy, particularly electricity, regardless of their level of income or wealth;

c) Economic sustainability of the entire energy sector such that it is able to generate sufficient revenues to cover its costs, and does not require ongoing external support;

d) Financial viability of energy and power operators (TANESCO and other private promoters), reducing the burden on the national budget;

e) Reliability and stability of the energy system such that it is not subject to random failures causing a break in the supply of energy;
Introduction

f) Promote efficient allocation of resources in the energy sector, particularly so that energy sources are affordable to the poor;

g) Consistency and transparency in pricing system of all energy goods;

h) Compliance with the relevant standards and environmental laws;

i) Promote private sector participation in the delivery of energy services;

j) Diversification of the energy mix;

k) Promotion of the use of alternative and renewable energies; and

l) Promotion of off-grid delivery options.

1.5 What subsidies and for what purpose?

Subsidies are intended to overcome distortions and failures in the energy market, or to positively direct resources to particular parts of the economy. Subsidies (such as connection subsidies) can also be used to support disadvantaged parts of society by redistributing income.

In setting out the rules for decision making and action in respect of the use of subsidies in the energy sector we must be clear about the type of subsidies, the target or channel for the subsidies and especially of their intended effects.

Subsidies can be targeted either at producers or consumers, to alter their behaviour in the production or consumption of a particular good. A production subsidy encourages suppliers to increase the output of a particular good by partially offsetting the production costs. For example, the National Energy Policy 2003 encourages the Government to pursue rural electrification, which is not always financially sustainable and may rely on both capital and recurrent subsidies. A consumption subsidy lowers the price paid to increase affordability and/or encourage use of the good. For example, the Rural Energy Act 2005 promotes the role of the Rural Energy Fund in capital projects, which includes a significant role in subsidising the capital costs of rural households connecting to the national electricity grid so that they can access cheaper and cleaner sources of energy.

The definition of subsidy types is also based on the nature of the different goods traded within the sector. Some goods are traded in one-off transactions (capital cost), such as the construction of a gas pipeline, while others are regularly traded goods (recurrent costs), such as electricity generated. Subsidies can be classified accordingly as capital or recurrent. The base or lifeline component of TANESCO’s D1 tariff is an example of a recurrent consumption subsidy as it improves the affordability of electricity for customers in the D1 category, on the assumption that their ability to pay is constrained, and that it is in the national interest to provide them electricity at this subsidised rate.

Based on these definitions, we can identify four categories of subsidies:
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- **Capital production subsidies or investment subsidies** – once off subsidies paid to suppliers of energy to reduce investment costs

- **Recurrent production / operating cost subsidies** – on-going subsidies paid to suppliers of energy to reduce their recurrent operating costs

- **Capital consumption subsidies** – once-off subsidies paid to consumers of energy, the main category at issue being *electricity connection subsidies*.

- **Recurrent consumption subsidies** – on-going subsidies paid to consumers of energy the main category at issue being *lifeline tariffs* in the electricity sector.

By their nature, once-off capital subsidies are easier to budget and manage than on-going recurrent subsidies. It is the intention of current policy that no recurrent subsidies are to be paid by the Government to any of the private or public sector agents in the energy sector, nor to consumers. This new energy subsidy policy does however allow for TANESCO to cross-subsidise who would otherwise not be able to afford to use electricity, but taking account of what they would otherwise spend on alternative forms of energy and what they are able to contribute can to TANESCO’s revenue requirement. To bring the legalisation in line with this policy stance, the Electricity Act will be amended to permit cross-subsidies for lifeline tariff purposes within the tariff structure.

These four different subsidy categories are explained in Table 1 below, along with their objectives and specific sub-sector directives. In the following sections of this document, policy statements for each of the subsidy types is presented, covering each sub-sector in turn: petroleum (and associated products), natural gas and electricity. Where one of the fuels is an input into electricity generation (e.g. gas-fired power stations), the relevant policy statements are included under electricity.
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**Petroleum**

No subsidies for the Petroleum sub-sector

**Natural Gas**

Government will subsidise the development of the transmission network

No subsidies, including in the supply of natural gas for electricity generation

No subsidies

No subsidies

**Electricity**

Government will subsidise the development and upgrading of generation, transmission, distribution and off-grid infrastructure

No subsidies, including the cost of natural gas for electricity generation

Government will subsidise the connection of low income households to electricity supplies

No external subsidies

Cross-subsidies allowed between customer categories in order to provide a lifeline tariff for low income households
2 Petroleum

2.1 Vision

The overall policy approach is based on a commitment to market-based pricing being applied to modern forms of energy. The petroleum sub-sector no longer benefits from production or consumption subsidies and will generally not be subsidised in future. This vision is consistent with the Petroleum Act 2008, which states that the pricing of petroleum and petroleum products throughout the supply chain shall be governed by the rules of supply and demand subject to the provisions of EWURA and the Fair Competition Act.

Market-based prices already apply in the petroleum sector.

2.2 Objective

No change to the current approach to the efficient allocation of petroleum and petroleum products on a market basis.

The Government will not engage in the market for production or consumption of Petroleum, other than in its existing facilitation role through the Bulk Procurement Technical Committee. The Government wants the private sector to continue its coordination of procurement through the Petroleum Importation Coordinator, and the national domestic distribution and sale of all petroleum products.

The Government formerly subsidised the consumption of kerosene to improve its affordability to poor households. This policy was stopped as it proved unsuccessful. The major beneficiaries were more well-off households in urban areas. And subsidised kerosene intended for use by low-income households was diverted to the transport sector and used as an extender for other fuels.

2.3 Policy statement

The Government shall not provide capital or recurrent subsidies for the production, storage, delivery or consumption of petroleum products.
3 Natural Gas

3.1 Vision

The overall vision for the Natural Gas sub-sector is of a competitive market and the efficient allocation of natural gas resources to exploit our resources in the most sustainable way, for the maximum benefit of all Tanzanians. We have a commitment to market-based pricing whereby market participants negotiate freely. The natural gas sub-sector does not currently benefit from production or consumption subsidies, with the exception of the cost of natural gas used in some of TANESCO’s electricity generation. In the Natural Gas Policy 2013, the Government envisages establishing an appropriate pricing mechanism to be based on a set of key principles, including cost reflectivity without any subsidies, prudently incurred costs, reliability and quality of service, fair return on invested capital, and capacity allocation to the most valued use.

One exception to the policy of no subsidy in the future for the petroleum and natural gas sub-sectors is that capital production subsidies for gas transmission will be considered in order to catalyse the development of infrastructure to develop a domestic market for gas (beyond electricity generation). The Government will ensure the natural gas transmission network supplies to citygates. From there, investments in distribution and downstream utilisation of gas are to be made by the private sector without consumption or production subsidy.

3.2 Objective

The Government’s objective is the efficient operation of a national natural gas market underpinned by legislation and a regulatory framework for the efficient operating of a national gas market where the private sector undertakes all operations in the production of natural gas, including distribution and the Government will act only to ensure the necessary transmission infrastructure for delivery of natural gas to citygates in regional markets.

3.3 Policy statement

The Government shall:

i) Provide capital subsidies as necessary for the transmission of Natural Gas to citygates within Dar es Salaam, to facilitate the development of a national domestic market for Natural Gas.

ii) Not provide recurrent subsidies for the production of Natural Gas.

iii) Not provide capital or recurrent subsidies for the consumption of Natural Gas.
4 Electricity

4.1 Vision and tariff implications

The Government’s vision of the electricity sub-sector is of a reliable, stable, economically sustainable electricity system, to which all citizens of Tanzania have access, regardless of their income or wealth.

The achievement of this vision requires electricity tariffs to be raised to and maintained at cost recovery levels. Without an economically sustainable electricity sector, the reliability of the supply is compromised, and affordability becomes irrelevant.

4.2 Objectives

For the vision of the electricity sub-sector to materialise, the Energy Subsidy Policy should support the achievement of objectives relating to quality of infrastructure, facilitating access and ensuring production efficiency.

High quality infrastructure

A reliable and stable electricity system that is not subject to random failures causing a break in the supply of electricity, requires high quality and timely investments in generation, transmission and distribution infrastructure that keep ahead of the rising demand for electricity. The Government would like to see as many as possible of the generation, transmission and distribution investments identified in the Power System Master Plan (PSMP) undertaken by the private sector. For this to be economically sustainable all costs for the development of electricity infrastructure by the private sector should ultimately be recovered through revenues without subsidy.

However, where there are PSMP projects which the private sector will not undertake, or where these will not be undertaken in a timely fashion and national economic development is going to be held back, and where TANESCO does not have sufficient own resources or borrowing capacity to finance such projects, the Government will provide capital production subsidies to TANESCO that ensure the timely development of these PSMP projects. In particular, Government subsidies would be warranted in circumstances where a project such as a transmission line into an unelectrified part of the country will not be immediately financially viable but will make possible new types of economic activity, generating jobs and income and in due course a remunerative electricity market.

In areas which are not currently served by the main grid, and which are unlikely to be served by the main grid in the foreseeable future, the Government of Tanzania will provide capital production subsidies to private or public projects which would not otherwise be viable. This will be done via the Rural Energy Agency and the Rural Energy Fund, to ensure tariffs are both cost-reflective and affordable (net of subsidies), incorporating a full programme for routine and periodic maintenance,
Electricity

capital depreciation of assets and fuel costs. Where possible, projects which incorporate renewable energy shall be promoted.

**Increased access**

Following on from the infrastructure objective, the Government’s objective for access is 30% by the end of fiscal year 2015/16.

Once the electricity network has been delivered to an area customers need to be connected and this involves a once-off capital cost including the installation of a pre-paid or post-paid meter.

The cost and quality benefits of connection to the electricity should encourage rural households to become connected to the national grid. However, the large up-front connection fee that would be required to meet the full costs of connection would be a significant barrier for many presently unconnected households. As already identified in Section 1.3, there is a role for subsidy here to overcome the barrier and thereby ensuring a household’s wealth will not affect its ability to connect to the electricity network.

The Government will accelerate the attainment of its objective for access to electricity by providing capital consumption subsidies for the once-off connection costs of customers in urban areas (via TANESCO) and rural areas (via the Rural Energy Fund) provided that routine operation and maintenance of the infrastructure and connection is fully provided for by tariff revenues. The process for identifying potential electricity customers eligible for subsidies will be transparent and consistent to ensure effectiveness.

The objective of expanding access is not limited only to households that can benefit from capital subsidies through TANESCO and REA. Households beyond the reach of the TANESCO-operated grid and isolated mini-grids can also have access to modern forms of clean and safe energy such as photovoltaic energy (e.g. solar pico lighting and solar home systems). However, take up of such access opportunities is limited, not by households’ income and wealth limitations, but by limitations on access to working capital by commercial suppliers of photovoltaic energy systems. the development of commercially sustainable business. Energy subsidies can correct for this financial market failure by providing a variant of a capital production subsidy in the form of initial funding for a financial facility to support the development and expansion of companies that supply lighting and basic electricity services.

**Off-grid electrification**

In areas which are not currently served by the main grid, and which are unlikely to be served by the main grid in the foreseeable future, the objective is to provide electricity through mini-grids, preferably using renewable energy, developed by private sector developers or through REA. Capital production subsidies may be warranted, with the specific limits defined in the policy statements in Section 4.3.
Efficient production

The Government wants both the public and private sector to operate generation, transmission and distribution infrastructure in the most efficient way. All ongoing operations in the generation, transmission and distribution of electricity shall incur their full operating costs, including the full programme for routine and periodic maintenance, capital depreciation and the costs of fuel. This objective applies to the use of renewable energy in generation as well. Use of renewable energy and the diversification of the energy mix is important, but only when renewable energy is otherwise comparable to a non-renewable energy source in its long run marginal cost and when matched to forecast demand profiles.

Cost-reflective tariffs for main grid connection and transparent tariff-setting

The objective for consumption subsidies is that these should be limited only to a ‘lifeline’ amount for households with very low incomes and should be achieved through cross-subsidies. Consequently, the focus of consumption subsidies is on the tariff-setting process. The guiding objective for tariff determination for connections to the main electricity grid is the financial viability of TANESCO, and the removal of the burden on the national budget of supporting the recurrent operations of the utility. Sufficient financial resources should be available to ensure the reliability and stability of the electricity supply system such that it is not subject to random failures causing a break in the supply of electricity (so-called brown-outs and black-outs).

To meet these objectives, TANESCO should be able to collect sufficient revenue to cover all its costs. The Government has set the policy framework for tariff-setting as laid out below, with EWURA having the responsibility for administering this:

a) What costs should be covered?

EWURA will ensure that cost recovery electricity tariffs are determined according to international best practice, which requires that the long-run marginal costs (LRMCs) associated with each tariff category form the basis of the tariff structure, with cross-subsidy modifications to meet social objectives, and the average level of tariffs adjusted to meet the full revenue requirement of the utility. This involves full recovery of all costs required for the operation of existing generation, transmission and distribution infrastructure, the development and operation of any new infrastructure and provision for previously incurred financial commitments. Tariff awards are to include requirements for progressive improvements in TANESCO’s operational efficiency – this is elaborated further below.

b) What is the process by which fair costs are determined?

The EWURA Rules 2007 allow either EWURA or TANESCO to initiate a tariff review. No other entity may initiate a review.

The Electricity Act 2008 prescribes that EWURA will follow a three year Multi-Year Tariff Framework, with annual adjustments for particular cost items made using pre-determined indexation formulae, thereby obviating the need for annual tariff reviews.
EWURA is required to ensure that the entire review process is transparent and provides for consultation with all sector stakeholders, whose views must be given due consideration before EWURA arrives at its independent determination of an appropriate cost level, revenue requirement and tariff structure.

c) How should incentives for improved performance by TANESCO be incorporated?

The EWURA tariff awards will incorporate performance improvement requirements on TANESCO. There should be incentives for continues efficiency improvements and appropriate measures for underperformance.

d) How should customer tariffs be determined?

Customer categories for tariff purposes are groups of customers who impose similar costs on the system when they are supplied with electricity and who have similar willingness and ability to pay. EWURA will decide whether there is good reason to change the definition of customer categories at each tariff review, and will then assign the tariffs for each category in an iterative process. As a first step, the tariffs will be set to reflect the LRMC for each category – this will be lower for a large customer taking supply at a high transmission voltage than a domestic customer, whose costs have to include the distribution infrastructure and the additional losses incurred in supplying electricity at low voltages. The second step involves scaling the LRMC tariffs so that the average revenue generated will be consistent with the revenue requirement.

e) Low tariff for ‘lifeline’ quantity of electricity for poor households

The third step will be to adjust for social objectives, first and foremost being Government’s policy of ensuring that low income households within reach of electricity supplies are able to afford to consume electricity. This is the low tariff for the ‘lifeline’ quantity of electricity and is to be confined to households who would otherwise not be able to afford to use electricity, but should take account of what they would otherwise spend on alternative forms of energy and what they are able to contribute can to TANESCO’s revenue requirement. This social objective is to be achieved without direct subventions from Government, but through EWURA introducing cross-subsidies between customer categories, provided the average tariff is such that TANESCO will still be able to meet its revenue requirement. Cross-subsidies must not be so high that the net payers seek alternative power supplies and TANESCO loses customers.

Off-grid tariff-setting

For isolated mini-grids, the Government will apply the same primary objective of the operator of an isolated mini-grid being allowed to charge tariffs such that it is able to collect sufficient revenue to cover all the costs of its operation, including the recovery of real capital costs. This is to apply whether the operator is TANESCO or a private developer. Above a project size threshold which will be defined from time to time by EWURA (currently 100 kW), tariffs charged for off-grid electricity provision will be approved by EWURA.
The costs of off-grid electricity provision are inherently high, so off-grid cost recovery tariffs are likely to be higher than on-grid tariffs, and significantly higher than those that are subject to cross-subsidisation from other customer categories. In endorsing the principle of cost recovery tariffs for off-grid supplies, Government is acknowledging that people in the beneficiary communities want electricity more than they want low tariffs.

Despite the off grid tariffs being high relative to TANESCO tariffs, very often people will be paying less for a superior form of energy than they were before the off-grid electricity became available. In that opportunity cost sense, ‘high’ cost-reflective tariffs may be affordable, but Government would nonetheless seek to find ways of reducing off-grid tariffs. Government will not, however, provide recurrent consumption subsidies. The Government may justify providing capital production subsidies to the developer if the subsidy costs are outweighed by the economic benefits, taking into account the developmental impact from the resulting additional electricity usage for productive and household purposes.

4.3 Policy statements

With regards to capital production subsidies, the Government shall:

i) Subsidise the development of PSMP-determined and economically justifiable electricity generation, transmission and distribution projects which would not otherwise be implemented in time by private sector developers or TANESCO.

ii) Subsidise transmission and distribution infrastructure to support viable and appropriately scheduled private sector generation projects where such infrastructure would not otherwise be built.

iii) Subsidise a portion of the capital costs of viable off-grid generation and distribution projects (developed by TANESCO or by private providers) to the extent that the reduction in the capital component makes cost-recovery tariffs affordable to consumers served by the project.

iv) Provide the initial funding for a financing facility, to be administered by REA, to support the short-term (under one year) financing requirements of providers of small-scale lighting and basic electricity supply technologies, with the intention of facilitating the development and expansion of a commercially sustainable market for such technologies. The total value of the facility shall be capped for a period of five years, with its ongoing existence determined after proper economic evaluation of its success in assisting businesses and providing lighting and electricity.
With regards to **recurrent production subsidies**, the Government shall

i) Not provide subsidies for the generation, transmission or distribution of grid-based electricity (via either the main national grid or isolated mini-grids, and including those producers owned by the Government of Tanzania).

ii) Not provide subsidies to the electricity sector through artificially low prices for natural gas.


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<tr>
<th>With regards to <strong>capital consumption subsidies</strong>, the Government shall:</th>
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<tr>
<td>i) Provide financial support for connecting to the electricity grid, or to an off-grid electricity supply, to any unconnected household that is unable to afford the full cost of connection.</td>
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<tr>
<td>ii) Provide financial support to the Rural Electrification Fund and Rural Energy Agency to enable it to increase the number of potential customers connected in rural areas.</td>
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<tr>
<td>iii) Provide repayable financial support to TANESCO in the introduction of flexible payment plans to recover the consumer contribution to the connection charge (where this is payable to TANESCO).</td>
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With regards to **recurrent consumption subsidies**, the Government shall:

i) Not provide recurrent subsidies to any consumers of electricity.

ii) Protect EWURA’s role of sole independent arbiter of electricity tariffs for all consumers of electricity.

iii) Provide policy guidelines for electricity tariff-setting by EWURA:

   a. EWURA is to receive applications from TANESCO or initiate a tariff review process if it considers this to be necessary;

   b. EWURA will establish a multi-year tariff review framework that includes performance incentives and indexation to protect the real value of the tariffs from inflation (fuel increases and exchange rate changes);

   c. EWURA awards base tariffs on detailed scrutiny of TANESCO’s economic (LRMC) and financial sustainability;

   d. EWURA will hold transparent public discussions on the assessment of TANESCO’s forecast operating costs and calculation of required revenue;

   e. EWURA will ensure TANESCO can raise enough revenue to meet all operating costs;

   f. EWURA will include performance enhancement measures in TANESCO’s allowable revenue requirement;

   g. EWURA will encourage TANESCO to set rewards and penalties for senior managers for over- or under-achievement of performance enhancement targets by TANESCO;

   h. EWURA (the current Electricity Act not withstanding) will allow cross-subsidies within TANESCO’s tariff structure. Cross-subsidies should be limited to reducing the tariff for a lifeline quantity of electricity for the lowest income consumers, and financed in a way that imposes the least degree of distortion on the tariffs of other customers categories.

iv) EWURA will, in determining tariffs for isolated mini-grid operators, allow operators to collect sufficient revenue to cover their levelised cost over an agreed number of years of operation, adjusted for the actual cost of finance, including any capital subsidies which they may have received.
5 Gender mainstreaming

The Government focuses on mainstreaming gender issues and promoting the role of women in both the production and consumption of energy. This Policy does not discriminate on the basis of gender, and subsidies will not be distributed differentiated on the basis of gender. While there are a high number of female-headed households in Tanzania, the challenge of targeting these households as beneficiaries makes this approach impossible.

However, women will be significant beneficiaries from this Policy. Increasing access to reliable, safe and affordable electricity supplies will improve their livelihoods in terms of both health and time availability, as households will no longer be so reliant on more dangerous kerosene or biomass energy sources for household activities.
## Annexes

### A1 List of references

<table>
<thead>
<tr>
<th>Title</th>
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\(^4\) The research which is presented in the CRISIL and ECA reports was specifically commissioned to provide the analytic basis for the Energy Subsidy Policy.