

Energy Law

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List of Abbreviations

DA --	Restatement of the Distribution Agreement
FDRE --	Federal Democratic Republic of Ethiopia
GOE --	Government of Ethiopia
LDCs --	Least developed countries
WB --	World Bank
IMF --	International Monetary Fund
KG --	Kilo gram
TOE --	Tones of oil equivalent
EEPCo --	Ethiopian Electric Power Corporation
EPE --	Ethiopian Petroleum Enterprise
CGSC --	Calub Gas Share Company
PURPA --	Public Utilities Regulatory Policy Act
USA --	United States of America
IPP --	Independent Power Producers
EELPA --	Ethiopian Electric Light and Power Authority
EEA --	Ethiopian Electric Agency
PLC - -	Power Line Carrier
ICS - -	Interconnected system
SCS - -	Self contained system
GWH - -	Giga Watt hour
TCF --	Trillion cubic feet
MME --	Ministry of Mines and Energy
MoTI --	Ministry of Trade and Industry
EGS --	Ethiopian Geological Surveys
SPEE - -	Soviet Petroleum Exploration and Expedition
EREDC- -	Ethiopian Rural Energy Development and Promotion Center
MOWR - -	Ministry of Water Resources
NPRDA - -	National Petroleum Reserve Depots Administration

Preface

This study on the Energy Laws of Ethiopia covers all relevant legislations including recent amendments and some drafts affecting the energy sector of the country.

Addis Ababa, August 2000

Girma Hailu

1. Introduction

Section 1. General Background

1. Ethiopia is a Federal Democratic Republic (FDRE) since 1991 with nine Regional States and two Municipality Administrations. It has a two-tier government structure - Federal and Regional. The Federal Government is mandated with defense, foreign affairs, immigration, currency and criminal matters. The Regional Council on the other hand is mandated with political, economic, and social affairs regarding the particular Regional State. Any trans-Regional issue, which is related to Regional States mandate is handled by the Federal Government, which consists of a House of Federation, House of Peoples' Representatives, executive (a cabinet of ministers) and judiciary.

2. With an estimated population of 60 million and 113 million hectares of landmass, Ethiopia is one of the Horn of African countries located between 33⁰ and 48⁰ East longitudes and between 3⁰ and 18⁰ North latitude. It has a diverse climatic condition due to the contrasting altitude, which ranges from the highest point of 4650 meters above sea level at Ras Dasha Mountain to 420 meters below sea level at Dallol Depression.

3. From the Axumite civilization, Queen of Sheba and Solomonic Line of Judah, which emperors of Ethiopia claim to have descended and ruled for centuries a population with diversified culture, over 80 spoken languages (Amharic is the official working language) and two major religious groups, namely; Christianity and Islam are major cultural and religious features of Ethiopia.

4. In economic parlance, Ethiopia is one of the poorest countries in the world, with a per capita GDP of only \$125, and social conditions that are among the worst in Africa. 85 per cent of its population lives in the rural areas. As a result, the economy is also highly agriculture based with few industrial activities in the 15 percent urban centers.

5. Although the population is highly agriculture dependent, more than half suffers from chronic food insecurity. Unemployment is widespread and over 30 per cent of the population have incomes below the absolute poverty level. Ethiopia's economic and social woes are deeply rooted in rapid population growth (3.4 percent per annum), shortage of arable land, rapid environmental degradation, inadequate and crumbling infrastructure, and years of under investment in human- resources, especially before 1991.

6. With a view to bring a sustainable economic development under a Federal Democratic Political system, the Government of Ethiopia since the early 1990's has been engaged in the process of both political and economic reforms.

7. Therefore, the overriding objective of the Federal Government of Ethiopia is to attain relatively fast, broad-based and more equitable economic growth with macroeconomic stability. A rapid increase in agricultural output-sparked by productivity gains and rural development programs to upgrade infrastructure and social services-is expected to be the cornerstone of economic growth and poverty alleviation. At the same time, agricultural development will provide the springboard for higher export earnings of farm commodities and agro-industrial goods. An additional and equally important objective is relative stability of prices to help protect the poor for the ills of inflation and encourage saving and long –term investment.

8. To change and increase the low level of energy consumption the government has recently decided to remove restrictions on private sector participation in the energy sector.

Energy

9. In Ethiopia, like in most developing African countries, the energy sector is dominated by traditional energy. Modern energy, electricity and petroleum and infrastructure for energy supply exist mainly in urban areas. For this reason, majority of the population living in rural areas have little access to modern energy.

10. Adequate and reliable supply of energy is crucial for social and economic development of any country. Easy access to affordable energy is often observed to be associated with the stage of economic development. Industrial countries that have already achieved high living standards have recorded high per capital energy consumption, while least developed countries (LDCs) like Ethiopia are identified as low per capital energy consuming countries. For example, according to the 1997 World Development Report (World Bank, 1997), the per capita commercial energy for Ethiopia in 1994 was 22 Kilograms (Kg), while for low income economies it was on the average 369 Kg and for high income economies it was 5066 Kg.

11. Energy being the basic element for economic development requires due consideration to serve the purpose. Efficient utilization of available energy and improving the supply in quality and quantity is a key in the development process. The relation between energy and economic growth in Ethiopia has become an emotive issue. If economic activity is to be a measure of welfare and continued growth, the implications of future energy development becomes a central point to the debate about energy policies.

12. Ethiopia's energy endowment is considerable with abundant hydropower potential, solar, geothermal, wind power as well as fossil fuels especially natural gas and coal. However, only a very small portion of this potential is developed owing to lack of financial resources, skilled manpower and more importantly appropriate policy and planning.

13. Ethiopia, one of the least developed nations in the world, has proved the close relation that exists between low level of energy consumption and under-development by registering low per capita energy consumption. The energy sector in Ethiopia is classified in two big blocks: traditional and modern energy. The largest proportion of the population is heavily dependent on traditional sources of energy and very few people have access to modern energy like electricity. Wood and biomass account about 93 percent of the total energy consumption of the country (ESMAP-Energy Sector Management Assistance Programme-Ethiopia-Energy Assessment Report No. 179/96.)

14. Although no fuel wood crisis in the sense of absolute shortage has materialized, traditional biomass fuels have become more difficult and time consuming to gather in rural areas and more expensive to buy in urban centers. The structure of energy consumption and the rapid growth of the population are often sited as the major causes of very fast deforestation process, which is the source of the recurrent drought, famine and general environmental degradation. Consequently, fuel wood and other biomass fuels have already been scarce and unaffordable fuels even for most of the rural population.

15. The modern energy sector, comprised of petroleum and electricity, is very limited and very few proportion of the population in Ethiopia have access to modern fuels. The per capita modern energy consumption is about 0.02 tones of oil equivalent (toe), which is one of the lowest in the world. The per capita commercial energy consumption

is extremely low even compared with the African standard. The average for Africa was 0.28 toe. (ESMAP, 1996).

16. Electricity and petroleum fuels are crucial for enhancing the development of modern agriculture, industry and commerce. Any development endeavor in the country has to be backed with the supply of efficient and affordable energy. Despite the problems mentioned regarding energy development, however, there is a diversity of energy resource potential in Ethiopia that has not yet been exploited.

17. Hence, devising appropriate mechanism for the development of energy sector in Ethiopia could solve a number of interrelated basic problems of the country such as economic, environment and social problems.

Section 2. Basic Principles of Energy Law

18. Energy plays an indispensable role in economic development. The development and supply of energy resources is capital intensive and is becoming unaffordable to most of the developing countries.

19. In a country like Ethiopia where the per capita income of the people is less than \$125 the problem is even more intense. For example, hydro has long been the mainstay of power development in the country, however, the apparent high cost of large hydro underscores the need to explore other options for long term expansion.

20. Ethiopia has around 27 million cattle. This amount of dung produced is, in principle, sufficient to provide feedstock for over two million family-size bio gas digesters. However, due to technical, institutional and cost constraints it has been proved to be unaffordable to

the Ethiopian farmer. Because of the low-income standard of the population, it is a big challenge to develop and utilize energy resources in Ethiopia.

21. The budgetary constraints and the necessity of improving the supply and efficiency of the sector have forced most countries to restructure the industry and to invite the private sector to participate in energy resources development. The encouragement of private investment is nowadays sought to be the only alternative for a rapid growth in energy supply. Besides its contribution for investment expenditure, the private sector is believed to introduce efficiency in the management. What the private sector needs is a clear policy direction and a legal framework that specifies rights and obligations of the parties involved for minimizing the risk of being victim of political and policy changes that have occurred in Ethiopia in the 1970s.

22. As of necessity, more and more countries are currently entering into reform programs that create conducive climate to encourage private investment in the energy activities. The Ethiopian modern energy supply was predominantly done by the state owned public enterprise. It is still the Ethiopian Electric Power Corporation (EEPCo) which generates, transmits and distributes electricity in the country. And, all petroleum products procurement is the responsibility of Ethiopian Petroleum Enterprise (EPE).

23. Ethiopia has one of the lowest levels of energy consumption in the world - only 5 percent of the population have access to electricity. To alleviate the problem of energy supply and its utilization, the Ethiopian Government has issued the National Energy Policy in 1994.

24. The need for the National Energy Policy is based on the following basic principles-

- i. reliance on traditional energy sources for the supply of fuel wood as well as its utilization in unsustainable manner has resulted in nation wide forest depletion, environmental degradation, shortage of fuel wood and the rise in price;
- ii. failure of other economic sectors to meet their development goals and increased productivity because of the non-fulfillment of the development plan and strategy of the country's energy resources;
- iii. incompatibility of imported energy technologies and implementation of indigenous ones for not taking into account the energy endowments, social and cultural conditions of the country;
- iv. backward and inefficient energy production, conversion and end-use equipment being the major factor for huge energy waste;
- v. inability to raise the efficiency of the energy sector due to lack of necessary institutional, manpower capabilities and capital to undertake energy development programs;
- vi. failure to efficiently and appropriately use the meager foreign exchange earnings of the nation for energy and technology development; and
- vii. difficulty in stabilizing market variations and disorders regularly faced due to the energy price imbalances.

25. The 1994 National Energy Policy, based on these above basic principles, primarily addresses the household energy problem by promoting agro-forestry, increasing efficiency of biomass fuels, and

facilitating the shift to greater use of modern fuels. These include mainly hydropower to increase the electricity supply and also to develop geothermal, solar, wind and other renewable energy resources where appropriate and to further explore and develop oil and gas reserves. The policy also encourages private participation in the energy sector development in Ethiopia.

26. Following the issuance of the Energy Policy, the Government decided to remove restrictions on private sector participation in electricity generation and also to privatize the Calub Gas Share Company (CGSC). CGSC is a company established by government institutions as Share Company to exploit the gas reserves in the Somali National Regional State (Eastern part of the country). Parallel reforms such as the elimination of all subsidies and commercialization of the public utility and the enactment of a new regulatory framework have been introduced.

27. The basic principle of undertaking electricity industry reform through the Electricity Proclamation No. 86/1997 and institutional reorganization is to clearly demarcate regulatory and operational responsibilities with the primary objective of promoting the development of efficient, reliable, high quality and economical electricity services in the country.

28. In addition, the Government has also issued in 1986 a Petroleum Operations Proclamation and a Petroleum Operations Income Tax Proclamation to administer petroleum exploration and development activities. The basic principles of these Proclamations are to carry out petroleum operations in accordance with modern technology and sound principle of resources conservation and to separately regulate the payment of tax on income from petroleum operations.

Section 3. Historical Background

29. The Energy sector reform, more specifically the power sector reform, that is directed towards encouraging participation of the private sector in energy development and defining the role of all parties involved in the activity including the government is a very recent phenomena even in the developed world.

30. In almost all countries, activities related to electricity supply were conducted in vertically integrated private and public monopolies without clear demarcation between regulatory and operational responsibilities. The structural changes in the United States of America with Public Utilities Regulatory Policy Act (PURPA) and comprehensive National Energy Policy act in 1978 and 1992 respectively, for instance, allowed American regulated utilities to purchase electricity from Independent Power Producers (IPP's) while the 1992 Act imposed common carrier status on the transmission and distribution network.

31. Today, many countries have adopted a reform program that possibly led to privatize or deregulate the electricity sector to varying degree. Consequently, considerable experiences are being drawn from the electricity reform process of other countries.

32. The rational for launching electricity industry reform program is to clearly demarcate regulatory and operational responsibilities with the primary goal of increasing efficiency through private participation in the investment and management of the industry.

33. Historically, modern energy supply and distribution such as petroleum and electricity in Ethiopia was a public domain too.

34. The target reform area where the reform program concentrates is the creation of new policy regime and legal framework to promote private investment through:

- a. restructuring and eventually privatizing of the existing power utilities, and
- b. creation of a strong and independent regulatory body capable of ensuring a healthy competition among the participants in all spheres of the activity.

35. Establishment of an independent regulatory institution, well staffed with appropriate professionals that is capable of creating confidence both in the consumers and operators, is crucially important for the realization of the reform goals.

36. In the past, the unwritten Ethiopian Government policy sought to manage the energy sector through tight controls and tried to develop the sector by means of public sector programs and projects using public resources. This policy not only proved ineffective but made the sector host of price and other distortions.

37. In the electric sector, for example, the following three major problems were identified:

- i. heavy dependence on government budget for many years has resulted in increasing the burden on the treasury;
- ii. electric service coverage and quality were and are not adequate, and

- iii. utility lacked the autonomy to manage its operation efficiently.

38. Therefore, it is in light of the above major factors coupled with the influence of the World Bank (WB) through the International Monetary Fund (IMF) (See Economic Reforms for 1998/98-2000/01 The policy Framework Paper, Prepared by the Government of Ethiopia in collaboration with the International Monetary Fund and the World Bank PP. 26&27) that initiated the said reform program in Ethiopia. The major activities selected as the reform focus/target activities in Ethiopia include:

- a. restructuring of the former Ethiopian Electric Light and Power Authority (EELPA) to fully autonomous and commercial power utility,
- b. creation of a legal framework by issuing appropriate proclamations and regulations that clearly demarcate the regulatory and operational responsibilities with the ultimate objective of promoting the development of efficient, reliable, high quality and economical electricity in the country and
- c. creation of an institution that is capable of promoting private investment and administer overall implementation of the electric proclamation and regulations.

39. These activities are basically in line with the standard requirement of international organizations such as the IMF for the reform program and it is also consistent with the principles followed in other countries that have undertaken or are in the process of implementing similar programs.

40. To this effect, so far the Ethiopian Government has taken the following principal measures:

1. EELPA has been restructured from a public enterprise to a commercially oriented autonomous corporation by virtue of Regulation No. 18/1997.
2. Electricity Proclamation and Regulations were issued on 7th July 1997 and 20th May 1999 respectively, which
3. established a new Regulatory Authority named Ethiopian Electric Agency (EEA).

41. Regarding the petroleum sector, up to now all of Ethiopia's petroleum products are imported by the Ethiopian Petroleum Enterprise (EPE). Ethiopia so far has never had commercial oil or gas discovery/production, although the possibilities for oil and gas discoveries had been known since the late 1930's. Several international oil companies have entered into concession agreements with the Government of Ethiopia to explore and develop the oil and gas resources.

42. Some of the international oil companies, which have conducted petroleum exploration activities in the Ogaden Basin, were Elwerath (a German Company), Tenneco Oil Co., White stone Petroleum Co., The Soviet Petroleum Exploration Expedition, Maxus Energy Inc. and Hunt Oil Company. As a result of the past exploration effort, to date, 46 wells have been drilled in the Ogaden basin out of which 9 wells are now ready for natural gas development. Currently, only one international oil company, Ethiopian Hunt Oil Overseas Company has concession for petroleum exploration in Ethiopia. There are 12 blocks with in the Ogaden Basin, which are still open for petroleum exploration. (Petroleum Prospects of Ethiopia, MME, 1999).

Section 4. Sources of Energy Law

43. In effect, primary sources of energy law in the Ethiopian context are the constitutional provisions, parliamentary legislations such as the Petroleum Proclamations, Mining Proclamations, Electric Proclamations; Council of Ministers' regulations such as the Mining, Electric Regulations and Ministerial directives on various specific issues regarding energy matters. It is also worth noting that the traditional concession agreements too have significantly contributed to the shaping of the petroleum laws of Ethiopia.

44. The 1970's first world oil crisis has caused a serious adversity on the world economy. Besides, the fuel wood crisis closely connected with a situation of accelerated environmental degradation had left a big warning that unless energy is utilized in a proper way, conservation measures are applied, efficient technologies are adopted, and alternative energy resources are studied and exploited, the over all economy and people's standards of living would be affected. This has forced countries to think of drafting integrated energy policy and strategy, make preparations to curb problems encountered and/or anticipated and form global cooperation.

45. Ethiopia has a serious problem in energy supply and utilization. This is mainly due to the country's inability to develop the vast energy resources such as hydro, petroleum, solar, wind and improve their utilization.

46. To address this problem, the Government of Ethiopia for the first time has approved a National Energy Policy, which was issued in May 1994. The policy clearly identifies the need for the promotion of

private sector participation in the energy sector development. The New Investment Code Proclamation No. 37/1996 and the Amendment Code Proclamation No. 116/1998) further strengthened this initiative. The earlier Investment Code allowed the participation of local investors in the production and supply of electricity with the installed capacity of up to 25 MW while the latter Law removed the capacity limit for hydropower generation for both local and foreign private investors.

47. Proclamation No. 86/1997 and Council of Ministers' Regulation No. 49/1999 are the legal basis both for the establishment of a new Electric Regulatory Agency (EEA) and participation of private investment in the Electric Industry.

48. And, for the exploration and exploitation of petroleum resources, which also includes gas resources, the Government has issued Petroleum Operations Proclamation No.295 of 1986, Petroleum Operations Income Tax Proclamation No.296 of 1986 and a Model Production Sharing Petroleum Agreement (1994).

49. As one of the important sources of energy, coal exploration and development has also been treated under the broad Mining Proclamation and Regulation of 1993 and 1994, respectively.

Section 5. Role of Government Institutions in the Shaping and Administration of Energy Law and Policy

50. In principle, the role of government institutions that are mandated to formulate and implement proclamations, regulations and directives should be clearly defined before introducing a new reform program. The capacity of the government institutions directly influences the content and quality of the policy and legal procedures that are to be executed by the appropriate government organizations. Even after being issued the implementation requires a proper government structure with qualified personnel to achieve the desired goal, which is the supply of efficient and affordable energy for the nation.

51. The main functions of government institutions in Ethiopia includes to :

- a) formulate policy, strategy and legislation,
- b) undertake researches/studies in the energy sector, and
- c) follow-up and monitor the implementation of the policy, laws and regulations viz a viz the set goals.

52. The following are the main government institutions involved in the energy policy and law formulation and regulation activities in Ethiopia.

Ministry of Mines and Energy (MME)

53. The Ministry of Mines and Energy is the principal government organ responsible for the formulation of energy policy, laws and directives that influence the development of energy resources.

MME, as its name indicates, consists of two main sectors; that is, mines and energy sectors. The energy institutions accountable to MME at present are the Ethiopian Electric Agency (EEA), the Ethiopian Rural

Energy Development and Promotion Center (EREDEC) and National Petroleum Depots Administration.

54. According to Proclamation No. 41/1993 Definition of Powers of the Executive Organs of FDRE, MME has been entrusted with the following duties and responsibilities regarding the energy sector.

1. Formulate policies and strategy concerning the country's energy development and, upon approval, follow up and supervise their implementation.
2. Collect and maintain a depository of energy data and prepare reports.
3. Undertake studies concerning the development and utilization of energy; and promote the growth and expansion of the country's electric energy supply;
4. In cooperation with the appropriate organs, ensure the availability of gas, petroleum and by-products necessary for the country.
5. In cooperation with the appropriate organs, determine the volume of energy reserves and ensure that it is maintained.
6. Issue license for petroleum and gas prospection, exploration and operations; issue and supervise the implementation of directives concerning small-scale production and supply of electric energy.
7. Establish, as may be necessary, research and training centers that may assist the enhancement of the development of energy resources.

55. Article 28 of the Electricity Proclamation No. 86/1997 empowers MME to issue directives necessary for the implementation of the Proclamation. The Council of Ministers' is empowered to issue regulations necessary for the implementation of Proclamations in general.

56. Each of the operational organizations used to report to the Minister of MME. Thus, MME not only developed policy for the energy and mining sectors, but also played a key role in implementing that policy with the operating companies under its purview. The mandate included the development and monitoring of projects and their budgets. MME effectively served as the regulator and operator in both sectors.

57. By 1993 however, MME was restructured based on the general principles regarding the role of government institutions in the economy. The overall intent was to detach operational entities from the direct authority of MME and establish them as independent government-owned enterprises with a board of directors and a mandate to pursue commercial objectives.

58. The Government of Ethiopia has sought to reduce the role of the government in commercial activities within the energy sector. Thus, MME has undergone significant structural changes since 1993, as well as reform of its overall mandate. Before 1993, MME had extensive responsibilities for all policy and operational activities throughout the energy and mining sectors of the country.

Ethiopian Electric Agency

59. The Ethiopian Electric Agency is a new regulatory agency established in 1997 and vested with powers to:

- a. determine the quality and standard of electricity services,
- b. supervise and ensure that the generation, transmission, distribution and sale of electricity are carried out in accordance with the electricity proclamation, regulation and directives issued;
- c. issue certificate of professional competence to electrical contractors;
- d. issues, suspend and revoke license for generation, transmission, distribution and sale of electricity, and
- e. study/appraise and recommend tariff and supervise its implementation

Ethiopian Electric Power Corporation

60. The Ethiopian Electric Power Corporation (formerly Ethiopian Electric Light and Power Authority established by Charter in 1956) is a statutory Corporation established by Council of Ministers Regulation No. 118/97. It is empowered to engage in the business of electricity generation, transmission and distribution in Ethiopia and is owned by the Government. Presently by virtue of the Public Enterprise Proclamation No. 25/1992, EEPCo is accountable to the Office of the Prime Minister.

61. EEPCo operates two power supply systems; the interconnected system (ICS) consisting of major hydropower plants and self contained system (SCS), which operates largely in remote areas and mainly consists of diesel generating units and small hydropower plants.

62. Until very recently, EEPCo used to be the government regulatory body. EEPCo used to issue certificate of professional competence to electrical contractors. Private individuals who used to generate and sale electric power from diesel to rural villages were either supervised or doing their business in consultation with EEPCo.

Ethiopian Rural Energy Development and Promotion Center

63. The Ethiopian Rural Energy Development and promotion Center, which was formerly the Ethiopian Energy Authority and Ethiopian National Energy Committee, has existed for over two decades. Recently it has been reorganized to be responsible for technology research and development, especially in the areas of renewable and household energy, data collection and analysis, training and demonstration activities focusing on rural energy issues. According to the recent draft proclamation prepared for the establishment of the Center, it has been vested with powers to:

- a. identify the energy resources suitable for the rural areas and conduct studies for their development;
- b. improve indigenous energy technologies and adapt foreign energy technologies in line with the needs of the country;
- c. study the energy demand, supply and consumption patterns of the rural areas
- d. study the production, distribution, utilization and conservation of affordable and efficient energy resources and technologies with due regard to the protection of the environment and promote same to the rural community via private, and public and other sectors.

- e. evaluate social, economic and environmental impacts of using various energy sources and technologies;
- f. provide consultancy services in the energy sector with or without payment;
- g. collect and own information related to energy studies, and may make it available to users;
- h. raise the awareness of the rural community and provide training concerning the production, distribution, utilization and conservation of energy.

National Petroleum Reserves Depots Administration

64. As a consequence of diminishing government role in economic activities, MME lost oversight of the Ethiopian Electric Light and Power Authority (EELPA), which was restructured into a Corporation and removed from the purview of the MME. Also in 1997, the responsibility for overseeing Ethiopia's strategic petroleum reserves shifted from the Ethiopian Petroleum Enterprise (EPE) to a newly created entity called the National Petroleum Reserves Depots Administration and has been placed under the MME. According to Proclamation no. 45/1997 the Depots Administration has been vested with the following powers and duties to:

1. study the number, size and distribution of National Petroleum Reserve Depots required in the Country and prepare plan and budget for their construction;

2. prepare or cause to be prepared by employing consultant engineers of the design of depots;
3. construct by itself or cause the construction by employing contractors;
4. plan the amount of National Petroleum Reserve to be stored in Depots;
5. carry out the necessary technical protection to maintain the quality of the stored petroleum and devise the necessary methods to keep stored petroleum from change its chemical properties or wastage by evaporation due to long time of storage; and
6. ensure the construction of depots and petroleum storage works confirm to the rules of environment protection etc.

65. Except laws and regulations regarding petroleum downstream activities such as petroleum import and distribution, all energy policy, laws and regulations are studied, proposed and administered by MME. The national petroleum reserve depots construction and administration also falls under the supervision of MME. Hence, MME is the leading government organ for the shaping and administration of Energy Laws and Policy in Ethiopia.

66. Ministry of Trade and Industry has no direct responsibility regarding energy law and policy. However, MoTI is the central GOE entity responsible for petroleum product pricing in Ethiopia and currently oversees the Restatement of the Distribution Agreements (DA). It directly involved in the trade aspect of petroleum products. It issues licenses for petroleum distribution, sets petroleum product prices, and manages the Petroleum Distribution Agreements signed with the four petroleum companies namely, Mobile, Shell, Agip and Total, which are currently operating in Ethiopia.

67. MoTI has neither the legal ground nor the special expertise for handling petroleum licensing and control activities. Until very recently there was lack of qualified trained manpower. However, the petroleum downstream activities require special skill to understand the international petroleum market, technology, transportation, safety, etc.

Ministry of Water and Resources

68. Many field studies reveal that Ethiopia stands second in hydropower potential next to the Congo. The mountainous feature and hydrological conditions enables the country to generate hydropower at a lower cost.

69. So far, however, the country has utilized only a fraction of this potential. If this resource is developed and utilized properly, the studies show that the hydropower generation will not only be enough to meet the national energy demand but shall also provide surplus power enough to be marketed to neighboring countries earning commensurate foreign exchange.

70. Lack of a comprehensive water resource management policy in Ethiopia have so far caused adverse impacts among which the following stand out as significant:-

- i. lack of a sustainable and reliable water resources management strategy;
- ii. lack of efficient utilization of water resources;
- iii. prevalence of unrealistic and unattainable plans and programs;
- iv. non-objective oriented programs and projects;
- v. uncertainties and ambiguities in planning;
- vi. prevalence of intensive centralism of management that does not focus on rural development;
- vii. lack of institutional sustainability;
- viii. lack of operation and maintenance activities of water schemes; and

ix. ad hoc development practices lacking coherent objectives and continuity.

71. To alleviate the above adverse effects, the Ministry of Water Resources has recently published Ethiopian Water Resources Management Policy in 1999. The Policy is based on the Constitution of the FDRE, Macro Economic and Social Policies and development strategies as well as the principles of water resources development that would enhance the socio-economic development of the people of Ethiopia.

72. The Water Resources Management Policy influences directly the hydropower power resources development and has included hydropower sub sector policy.

73. The overall objective of the hydropower sub sector policy is to enhance efficient and sustainable development of the water resources and meet the national energy demands as well as cater for external markets to earn foreign exchange. The specific objectives of the hydropower sub sector policy are as follows:

- a. ensuring that small, medium and large hydropower candidate projects are studied and designed to a stage ready for immediate implementation at any one time;
- b. ensuring that a short, medium and long-term hydropower generation program is worked out well ahead of time;
- c. ensuring that hydropower development projects are studied designed constructed, operated and utilized on economically viable basis to an acceptable technical, environmental and safety standards;

- d. ensuring that the negative environmental impacts of hydropower are mitigated to the extent possible and that the positive environmental impacts are exploited as far as possible;
- e. strengthening local human power capacity for hydropower development, project study, design construction and operation;
- f. promoting that hydropower development on trans-regional rivers is effected on the basis of mutual understanding and co-operation amongst Federal and Regional concerned parties; and
- g. encouraging involvement of the private sector in the development of hydropower.

74. The above hydropower sub sector policy is designed to:

- 1. ensure that hydropower development is an integral part of the multipurpose uses so water;
- 2. ensure that hydropower development is affordable and development is in phases;
- 3. subject hydropower development schemes to strict environmental and stakeholder considerations as well as meeting economic criteria;
- 4. ensure that the development sequence of hydropower should be in the priority order of short term, medium term and long term;

5. establish code of practice for study and design of hydropower in due course in keeping with the national interest;
6. promote local capacity building for professionals, consultants and contractors involved in hydropower development;
7. promote local industries to play increasing roles in the supply of material and equipment for hydropower development;
8. develop local capacity for activities extending from reconnaissance to supervision of implementation of hydropower projects;
9. encourage the involvement of domestic investors in the development of hydropower resources; and
10. ensure that all processes of project preparation including survey, reconnaissance, feasibility studies up to detail design of medium and large-scale hydropower projects shall be the responsibility of the water sector.

Regional Bureaux

75. Following the federal government structure, 9 Regional and 2 Municipality Administrations have established Bureaux to follow sectoral matters including energy development in their specific regions. Proclamation No. 41/1993 -- A proclamation to define the Power and Duties of the Central and Regional Executive Organs of the Transitional Government of Ethiopia, has defined the Regional States Government

role in the energy activities. It has not however given any special responsibility to the regional bureaux that could influence the federal policies and laws in the energy sector.

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Part I

Regulatory Framework Concerning Electricity

76. Ethiopia has vast hydropower resources and only a small fraction, 371.5 MW has been developed. The developable hydropower potential is estimated at 30,000 MW, located primarily along the Blue Nile and its tributaries.

77. Until the issuance of the Electricity Proclamation in 1997, there was no clear demarcation among the role of institutions responsible for power development regarding electricity regulation. EEPCo, which is the sole operator of electricity generation, transmission and distribution in Ethiopia, was exercising the role of a government regulatory body. It used to issue certificate of professional competence to electrical contractors. Private individuals who used to generate and sale electric power from diesel to rural villages were doing their business in consultation with EEPCo. The fact that EEPCo issued licenses to these private individuals (diesel) electric suppliers is not clear- there is no procedural or substantive law.

78. MME is, however, the legally empowered government organ to regulate all energy activities in the country. Despite these powers and duties, MME has never acted as a proper regulatory body that exercised the power of licensing, setting standards and inspection. Hence there was no clear legal or institutional framework established for the determination of the functions of the electricity regulation.

79. The power sector has faced many challenges and constraints. To indicate some of these: the management of power sector in the past has suffered from lack of appropriate institutional arrangements particularly in the face of dire need of growth. The institutional difficulties have demonstrated adverse effect on operational performance, responsibility and accountability. There had never been consistency in tariff revision and this has been evidenced over the past many years. The Government has been heavily subsidizing the utility. This has caused budgetary burden on the government and also communicated to the customer's wrong cost signals exacerbating sub-economic consumption and negative bearing on resource allocation.

80. The impact of resource miss-allocation manifested itself in two ways, at the consumption and supply end. At the consumption end, by luring uneconomic demand to surface and not motivating users to invest in utilization efficiency and in the search for expediency to use alternative sources as a substitute to this commercial energy. At the supply end, on the other hand, the system became inefficient partly because of the uneconomic demand. Failure to administer appropriate tariff structure to go abreast of the latest need of the sector has led to undesirable load development; persistent tariff administration problems; and lag in the development inertia by denying the utility the required financial source.

81. Most of the challenges and constraints mentioned above can be removed by restructuring the sector to promote private investment, competition, and clear and transparent regulation in cases where

competition is not possible. Towards this, the government made several changes in the power sector and continues to make more changes.

82. The Electricity Proclamation No. 86/97 issued by the House of Representatives states that activities of the Power industry is to be regulated by 'Electricity Agency', which is accountable to the Ministry of Mines and Energy. The Agency has been entrusted with the responsibility of promoting efficient, reliable, high quality and economical electricity services. It has been vested with the responsibility of granting licenses against technical and non technical criteria, administer price, determine specific service standards, monitor compliance with rules and regulations, imposing penalties, and sanctions against non compliance. The Agency also facilitates the resolution of disputes between operators and customers and among different operators. Moreover, the Agency is also providing advice to Government on the regulatory system, policy direction and on related relevant matters. The latter however, is contextual and not directly specified in the law.

Chapter 1. Production

83. EEPCo has two supply systems; namely, the main inter-connected system (ICS) and the self-contained systems (SCS). Throughout the country there are other generating facilities operated by municipalities, administrative units of regional towns and villages, and self-help schemes. In addition, some establishments such as the sugar mills generate electricity for their own use. However, power produced and sold by municipalities and auto generators are not more than 2 percent of the electricity supplied to the country.

84. The main ICS is supplied by six hydro and six diesel power plants with a total installed capacity of 371.6 MW and 21.4 MW

respectively. Over 96 percent of the total generation in the country come from the ICS (Facts in Brief, EEPCO 1999)

85. The SCS is supplied by three small hydro and several diesel power plants. Generation in this system is mainly by diesel power plants having an aggregate capacity of 25.8 MW. The contribution from the small hydropower plants is only 6.15 MW.

86. In the year 1998, the total electric generation in the ICS was 1,619 GWH, and in the SCS it was 34 GWH. Out of the total generation 19 per cent was recorded as energy loss.

87. Although MME, in the past, was involved in the monitoring of capital projects implemented by the power utility, the overall regulatory function designed to maintain international standards, safety and competitiveness was non-existent in the country.

88. In the Electricity Proclamation No. 86/1997, production of electricity, which is defined as generation, is done by acquiring a license from the Ethiopian Electric Agency. According to article 10 of the Proclamation, a person is not allowed to generate (produce) electricity for commercial purposes unless he is a holder of a license. If any person decides to produce electricity for non-commercial purpose he should notify the Agency, in advance, and produce documents evidencing that he has fulfilled environmental protection and safety conditions as required by the Agency.

89. Any application for electric generation license also requires fulfilling the general and specific requirements stated under Articles 3 and 4 of the Electricity Regulations No. 49/1999.

90. Hence, any individual /investor/ is required to satisfy the qualifying conditions specified in the Proclamation, Regulations and

Directives used for the same purpose as well as in the Investment Law. Besides, it is only after confirmation by the Agency that the applicant is qualified to carry on trade under the Commercial Code that such an applicant is granted a license. Financial capability, technical competence, professional qualification and experience are additional requirements to qualify for a license.

91. A licensee in the electricity business is obliged to carry out its work in compliance with environmental protection laws, quality and safety standards determined by the Agency. They are also required to keep operational records, submit reports and documents to the Agency as requested.

92. In the national grid system generation procurement may be managed through competitive bidding for a Build Own and Operate (BOO) arrangement after determining the additional capacity and energy that is desired to be purchased. Since it is a move to materialize partial or an incremental privatization it will allow investment to proceed probably with little difficulty compared to the current financial challenges. The bidding may be project specific by identifying selected project details or simply by pointing capacity and energy addition requirement leaving the technology choice to the producer for a least cost supply.

93. The contract agreement for BOO is expected to contain effective risk management where the bidding producer should bear risks related to construction cost, project completion cost, non fuel operating expenses, cost related to reliability and fuel price where appropriate. EEPCo on the other hand, as it is commonly accepted, bears risks related to demand and some part of fuel price where appropriate. Effective contract arrangement should be capable enough to transfer risk to the party that can either influence risk factors or absorb the risk at minimum cost. EEPCo need not be subject to regulatory obligations to bid selection procedures.

94. The New Investment Proclamation No. 37/1996 and the Amendment Proclamation No. 116/1998 are the legal instruments that determine the sphere and capacity limitation of private investors participation in the production of electricity.

95. The 1996 Investment Code allowed the participation of local investors in the production of electricity with installed capacity of up to 25 MW while the 1998 Amendment removed the capacity limit for hydropower generation for both local and foreign private investors.

96. Although the above mentioned legal grounds for electricity regulation in the production of electricity have been laid down, due to the delay in the process of organizing the Agency with necessary manpower and facilities to date, no practical operational experience has been observed in Ethiopia.

Chapter 2. Exploitation

97. In the electricity industry in Ethiopia, the activities are divided into production, transmission, distribution and sale/consumption of electricity and the legal framework accordingly covers these areas of activities. As a result, the term ‘exploitation’ is understood as a process of generation or production of energy and hence is covered in the discussions of Chapter 1 above.

Chapter 3. Transport/transmission

98. All the power transmission system in the country is owned and operated by EEP Co. The ICS transmission network consists of 230 KV

and 132KV lines that extend radially from the capital Addis Ababa. These lines interconnect the surrounding load centers with the major hydroelectric generating stations of Koka, Awash II and Awash III, Finchaa and Melka Wakana. A 230 KV extension in the north has recently been completed and connected Finchaa with Bahar Dar and Tigray Region. At the end of 1998, there were 1572 kms (230 KV) and 2278.66 kms (132 KV) of lines in service (EEPCO, 1998.)

99. The sub-transmission system consists of 66 kV & 45kV. At the end of 1998, there were 2218 Kms of lines in service.

100. Supply of the distribution network is provided by step down substations connected to the respective transmission and sub-transmission voltages. Common winding arrangements include 45/15kv, 66/15kv, 132/15kv, and 132/66/15kv. In total there are 98 transmission substations and substations in hydropower stations supplying the distribution system.

101. Presently, there is no load dispatch center in the country. All the power stations and important substations are manned. The operation of hydropower plants is undertaken from the control rooms. The telecommunication system between the most important plants is achieved by Power Line Carrier (PLC) equipment.

102. The general requirements in the Electricity Proclamation and Regulation for acquiring a license apply to those who apply for a transmission license. According to the Electricity Regulation Article 5, the following are the specific requirements for the Application of a transmission license (Council of Ministers Regulation No. 49/1999 Electricity Regulation.)

103. Application for transmission license shall in addition to the general requirements stated under Article 3 of this Regulation contain the following:

- i. Preliminary route map of proposed main and alternative transmission lines.
- ii. Total length and maximum load of transmission lines.
- iii. Standard of voltage and frequency.

104. Access to the transmission facilities by third parties are stated in Article 25 of the Electric Proclamation, which provides that ‘The licensee shall allow the use of his/her transmission line to other licensees where their request is without impediment to his undertakings and they pay the amount to be determined by the Agency.’ At present EEPCo owns the transmission line. Any independent power producer, by paying the transmission charge, can use EEPCo.’s transmission line to sell electric energy to the final consumer. It is not clear, however, that the Amended Investment Law allows transmission access because it only provides for generation. And the assumption is that the independent producer/generator shall sale power to EEPCo, which is the only transmission and distribution company.

Chapter 4. Distribution

105. Power distribution in both ICS and SCS is effected at a primary voltage of 15KV, consisting entirely of 3-phases, 3 wire feeders, and is stepped down to a utilization voltage of 380/220 V (3-phase, 4-wire) using 3-phase transformers.

106. The distributions system in 1998 consists of 8368 km of 15 KV lines, 4,828 distribution transformers and 6,786 km of 380V lines. At the end of 1998, 552,000 customers were connected in both the ICS and

SCS. The number of electrified towns during these periods were 456, out of these 396 towns were electrified from ICS (EEPCO, 1998.)

107. In large cities such as Addis Ababa, meters are installed in most households. In many of the smaller centers, however, a certain fraction of the households consuming electricity are not provided with a meter, a feature which is to be attributed to the existence of the so called 'meter landlords' filling a gap in the final stage of distribution. These consumers illegally supply power from the public supply system through their own connection to other households.

108. Many studies indicated that in distribution area, losses are high, reliability low, and the ability to supply new connections is far short of demand. Technical losses are undoubtedly high because of the dilapidated condition of much of the distribution network. Inability to connect new customers promptly, and to upgrade existing connections when additional service is required, is the other costly weakness of the distribution system. Due to these serious problems, EEPCo has recently taken rehabilitation program in different areas.

109. Regarding the regulatory system, the general requirements mentioned for generation and transmission above are also applicable for acquiring a distribution license.

110. According to Article 6 of the Electric Regulation, application for distribution and sale of electricity license shall, in addition to the general requirements stated under Article 3 of the said Regulation, contain the following information.

1. The source from which the distribution system draws electricity.
2. Estimated number of customers to benefit from the

project and proposed price of each unit of power to be sold.

3. Power purchase contract, where appropriate.

Chapter 5 Consumption

111. Electric energy consumption in 1998 was estimated to be 1359 GWh. Losses during recent years vary between 15 and 19 per cent. The industry sector dominates, accounting for 40.3 percent of total electricity consumption, while household sector accounts for 38.5 percent and the commercial sector accounts for 20.5 percent of total electricity consumption in 1998 (1999 Annual Report, EEPCO.)

112. The Electric Regulation has specified the rights and obligations of the customers. The following rights and obligations of the customers are defined in Article 24 and 25 of the Electric Proclamation. Customers shall have rights to:

- a. require the provision of regular, safe and quality electricity services from licenses, and
- b. submit to the licensee or the Agency, as may be appropriate, any complaints related to electricity services.

113. On the other hand customers shall also have the obligations to:

- a. comply with notices and instruction on the use of electricity.

- b. facilitate the installation, repair, inspection and meter reading of electricity and
- c. promptly notify the licensee of any irregularities of electricity.

114. The Electric Regulation has also provided for pricing mechanisms by which the supplier and consumer transact the electricity service. The general principle of electricity pricing as described in Article 26 of the Regulation is for securing efficient allocation of resources where consumers and producers receive the actual costs associated with consuming and producing one additional unit of energy respectively.

115. Besides, specific pricing mechanisms are set for distribution price in Article 10 of the Regulation.

Part II

Regulatory Framework Concerning Petroleum

116. The Government's stated objectives for the petroleum sub sector are clearly reflected in the Minister of Mines and Energy's letter of January 18, 2000 about the energy sector policy written to the World Bank. The main items of the message include:

- i. establish a transparent policy and regulatory framework that eliminates entry barriers to private participation and protects the environment.
- ii. recognize sector institutions to improve their efficiency;

- iii. encourage further private sector participation in petroleum operations (oil and gas exploration and production (E&P), production and refining);
- iv. improve the existing infrastructure and policy/regulatory framework to facilitate petroleum supply and distribution;
- v. stimulate technology transfer to develop local capacity, skills and expertise;
- vi. improve energy efficiency; and
- vii. undertake a targeted investment program.

117. Currently, the petroleum sector distribution activities is regulated by the Restatement of the Distribution Agreement (DA) which gives the power of supervision to the Ministry of Trade and Industry (MoTI). The authority to set and monitor petroleum product prices and margins is granted to the MoTI through the DA, and the DA also provides for monitoring and related activities of petroleum sector regulations, such as operations, safety and environmental issues.

118. Petroleum, Ethiopia's major source of commercial energy, is crucial to the functioning and growth of the economy. Since 1992, national consumption has been increasing by an average of 12 per cent annually.

120. All of Ethiopia's petroleum products is imported. EPE is responsible for the procurement of petroleum products. Four international oil companies (Agip, Mobil, Shell and Total) handle distribution. These four companies in the market are granted an oligopoly in downstream

operations by virtue of the DA and in effect, the companies are self-regulating in many respects.

121. Petroleum products are supplied to the distribution companies by EPE at regulated prices. A government committee also revises the retail prices of petroleum products every three months.

122. The petroleum industry is not developed in Ethiopia. As a result, there are no independent laws and agreements for gas and petroleum as such in Ethiopia. The upstream laws and the petroleum distribution agreements for the downstream activities are comprehensive and applicable on all petroleum products. The Petroleum Operations Proclamation No. 295/1986, which regulates petroleum operations defines 'petroleum' as crude oil and natural gas and includes hydrocarbons produced from oil shells or tar sands. Hence, all the legal instruments are structured to serve the administration of petroleum products in general and there is no specific regulatory legal regime for each type of petroleum product.

123. The specific laws that are issued for the administration of petroleum operations in Ethiopia are Proclamation No. 295 of 1986 -- Petroleum Operation Proclamation, and Proclamation No. 296 of 1986 – Petroleum Operations Income Tax Proclamation.

124. Petroleum Operation is defined in Article 2 of the Petroleum Operation Proclamation as the 'operation involving and related to, the exploration, development, extraction, production, field separation, treatment (but excluding refining), storage, transportation up to the point of exportation or entry into a system for domestic consumption and marketing of petroleum excluding refining of crude oil, but including the processing of natural gas.'

125. As the petroleum industry is still in its infancy in Ethiopia, the above definition clearly shows that all phases of petroleum operations including production/exploitation and exploration are well captured.

126. The Petroleum Operations Proclamation empowers MME to give license for exploration and production/exploitation of petroleum from 4 to 25 years respectively.

Chapter 1. Production

127. So far, there is no petroleum production in the country. Currently, all refined petroleum products are imported from abroad through EPE. In the past crude oil and petroleum products were imported by EPE and refined in the Assab Refinery. The Assab refinery was built in 1967 with, a Soviet technology. The refinery's total capacity was 800 thousand tons per year of crude oil input. It was based on the simple hydro skimming process and was designed to produce a fuel oil fraction ranging between 32 and 55 percent of refined products. However, as a result of deterioration of the refinery it has been discontinued since 1997.

128. Crude oil and products were purchased by competitive international bidding on and as – needed basis. Now a days, the GOE imports refined petroleum products.

Chapter 2. Exploration

129. The sedimentary regions of Ethiopia cover a significant portion of the country and comprise of five distinct sedimentary basins. These include the Ogaden, Blue Nile, Mekele, Gambella and Southern

Rift basins. The development of most of these basins is related to the extensional geo-dynamic tectonics that have taken place intermittently since the Late Paleozoic and continued up to the Tertiary.

Resources Base

130. The Ogaden, Blue Nile and Mekele basins are presumed to be cratonic rift basins formed as a result of extensional stress induced by the break-up of Gondwanaland in the Late Paleozoic. The Ogaden Basin, located in the area extending from the east to southeast part of Ethiopia, is constituted of triaxially rifted troughs trending NW-SE, N-S, and E-W. The Blue Nile (Abbay) Basin is a NW-SE trending branch of the Ogaden intercontinental rift basin. Thick Permo-Triassic sediments, ranging from continental fluvial and deltaic clastics to marine argillaceous types, were deposited in the Ogaden region in the early rifting stage. Equivalent sediments are also represented in the Blue Nile and Mekele basins.

131. Continued large scale down wrapping of the entire East African continent took place during Upper Triassic to Lower Jurassic time and fluvio-deltaic sediments were deposited over a large area, extending up to the western and northern regions of Ethiopia. Further rifting and subsidence of the region, including the Saudi Arabia and Yemeni areas, led to the transgression of the sea from the east and southeast, flooding an extensive area.

132. This event is probably related with the tectonics of separation of Madagascar from the Africa coast and evolution of the Indian Ocean. Marine sediments varying from the Africa coast types, were deposited over a large area, although the sedimentary facies were controlled by sub-basins formed by recurrent faulting and tilting of fault blocks during the Jurassic. The NW-SE trending basins of Yemen and northeast Somalia are believed to have been formed by the Jurassic rifting and subsidence events in the Horn of Africa and southern Arabia.

133. The Gambella Basin is part of the Central African Rift System. The southern Sudan basins and the Anza Basin of northern Kenya also failed in rift basins of the Central African Rift System. The Gambella Basin is the southward continuation of the Melut Basin of south Sudan and probably extends to join the Anza Graben in the southeast. These fault-bounded basins, with a general NW-SE trend, contain thick fluvial, lacustrine to marine sediments reaching thickness of 6 to 10 Km.

134. Generally about 40 percent of the country is covered by sedimentary rocks of Permo-Triassic continental to deep marine sediments and Cretaceous rift sediments and these are prospective for petroleum resources.

135. Recent assessment of Hydrocarbon potential of the Ogaden Basin is included in the study made by the Alconsult International Ltd. on behalf of the Canadian International Development Agency (CIDA). The study is part of a large study, the East Africa Regional Hydrocarbon Study, which covers Ethiopia, Kenya, Madagascar, Mauritius, Mozambique, Seychelles, South Africa and Tanzania. The assessment proved that the Ogaden basin is a reasonable prospective area for petroleum resources.

136. The Ogaden basin is located in the southeastern region and occupies an area of 350,000 square kilometers. The basin is characterized by deep, asymmetrical grabens separated by internal highs. The sedimentary succession reaches a thickness of 10,000 meters in the deeper parts and is comprised of non marine to deep marine clastics, very thick, shallow-to-deep marine carbonates and evaporites. Petroleum exploration activities in the basin were carried out by a number of international companies during the last 37 years and it is found to be prospective for petroleum.

137. The Abbay Basin, which covers a large area over the central northwestern plateau of Ethiopia, consists of a thick Mesozoic sedimentary succession exceeding 1600 meters in thickness.

138. The Mekele Basin has an aerial coverage of about 8,000 square kilometers and is located in the northern part of the country. The thick Mesozoic sedimentary succession of the basin comprises sediments ranging from fluvio-lacustrine to deep marine origin. The whole sedimentary sequence reaches 2,000 meters in thickness.

139. The potential of the Gambella area for hydrocarbons needs to be viewed along with the South Central Sudanese basins, which are renowned for oil pool discoveries. The Gambella area is the southeastern extension of the Melut basin where two oil discoveries (Adar and Yale) have been made in the southern Sudan.

140. The Omo and Chew Bahir basins lie within the broadly rifted zone of the southern Ethiopia bordering northern Kenya. Both are extensional basins bounded by N-S striking faults that are assumed to be younger features that crosscut older NE and NW striking faults of the area. The northern parts of the Omo and Chew Bahir basins are presumed to be northward continuation of the Oligocene rift system of north Kenya (Petroleum Prospects of Ethiopia, MME, 1999.)

141. Regarding the institutional and regulatory framework, the Petroleum Proclamation No. 295/1986 and Proclamation No. 296/1986 Petroleum Operations Income Tax are the applicable law and provides the following legal provisions for as a basis for negotiation of a petroleum agreement.

142. Contractor's take is normally expressed in production sharing the percentage of which is negotiable tied to production rate, and is

contemplated a maximum 85 percent and a minimum of 25 per cent. Cost Recovery is 100 percent of all petroleum operations costs and the details are negotiable in a petroleum agreement. Income tax is excluded from cost recovery

143. Government participation is a matter of principle because the Government wants to retain the right to participate in petroleum development where there is discovery. It is only during production that the government wants to negotiate a percentage not exceeding maximum of 20 percent. Recent contracts have provided for up to 10 percent government participation.

144. Government takes royalty, which is negotiable, tied to production rate and never higher than 12.5 percent for oil. Production sharing is negotiable tied with production rate. Annual rentals of \$ US 4 per square kilometer during exploration, \$ US 8-20 per sq. km. during exploration extension, and \$ US 200 per sq. km. for a development area. There is no dividend remittance or profit export tax. Although there is no signature bonus, a production bonus however, is negotiable.

145. Income tax is 50 percent from petroleum operations taxable income pursuant to the Article 3 of the Petroleum Income Tax Proclamation. Since this tax rate of Ethiopia has been found to be on the high side compared to neighboring countries, the tax rate is being revised by GOE. All pre-production cost and production capital expenditures are depreciated over five years (Article 5). All post production revenue expenditures are expensed. Loss may be carried forward for a maximum of 10 years (Article 14).

146. MME is empowered to sign petroleum agreements on behalf of the Ethiopian Government. The administration of petroleum operations is vested in MME according to the Petroleum Operations Proclamation,

Petroleum Income Tax Proclamation and the Production Sharing Agreement.

147. Disputes arising from or in connection to a petroleum agreement are handled by an international arbitration details of which are to be specified in petroleum agreements.

148. Up to now, there is no petroleum production agreement signed in Ethiopia with any company since there is no economic oil discovery. The only discovery registered is natural gas and Calub Gas Share Company (CGSC) is handling it and even for that, there is no formal agreement signed yet. CGSC is in operation with a temporary license issued by MME.

Chapter 3. Exploitation

149. The Petroleum Proclamation No. 295/1986 does not differentiate between production and exploitation. According to the said Proclamation, all exploration development, extraction, production, field separation etc. are treated as petroleum operation and there is no independent activity defined in the law as exploitation. Therefore, the discussion in Chapter 1 above relating to production is applicable to exploitation of petroleum resources in Ethiopia.

Chapter 4. Transport

150. In the past, before the Ethio-Eritrean conflict, all of Ethiopia's petroleum products supply were delivered by tankers to the port of Assab, which since 1995, it is no more Ethiopian port. Petroleum

unloading facilities included two sea berths and one sea jetty, with maximum ship drafts restricted to 11 and 7 meters for the sea berths, and 8.5 meters for the sea jetty.

151. However, Ethiopia's current refined petroleum products are delivered at the port of Djibouti and trucked more than 600-km inland by many tanker trucks that use the road in each direction.

152. According to the Restatement of the Distribution Agreement signed between the four petroleum distribution companies and MoTI, it is the Government that determines the transport tariffs applicable to road, rail and sea movement of petroleum products. The Government also allows the companies to apply the differential rate for their sales at various localities in the country.

153. All rail or sea transport costs as applicable are taken into account in determining the retail prices at different localities. The Distribution Agreement has clauses that accommodate the transportation of products even outside the accepted route and for government deliveries. In all cases, transport costs are allowed to be added on in the cost of delivery to be absorbed by the final consumer. However, it is the companies that are liable to demurrage to transporters in the event that the delay in excess of the agreed period has been caused due to its own operational actions, programming, etc.

154. In general dependence on a single road and port, coupled with limited storage capacity, makes Ethiopia's petroleum supply vulnerable to disruptions of either a natural or man-made nature. Moreover, forecast of increased annual consumption will further exacerbate inland supply, storage and transportation problems. In view of this, Ethiopia is now critically considering alternative transportation routes and to increase security of supply.

Chapter 5. Distribution

155. To date, petroleum products distribution activities are done according to the Restatement of the Distribution Agreements signed periodically between the MoTI and the petroleum distribution companies operating for more than 30 years in Ethiopia. There are four petroleum distribution companies in operation in Ethiopia namely, Mobil, Shell, Agip and Total. The Government organ that signed the Distribution Agreement and regulates the implementation and overall petroleum distribution operation is MoTI.

156. The four petroleum distribution companies have separate agreements with MoTI independently, although the content is similar. The Agreements signed between the oil companies and MoTI have provisions that accommodate the process of delivery, supervision, measurement, accounting procedures, price determination, transportation etc.

157. The Government is the one that determines the inland wholesale and retail selling prices. According to the Agreement, the Government takes factors such as CIF cost of product, transport, duties and taxes, company's marketing expenses, profit and dealer's commission into account for petroleum price determination.

158. Marketing arrangements in the distribution of petroleum products is by and large based on contractual relationships between the importer/operator which is the Ethiopian Petroleum Enterprise and the four traditional oil companies currently engaged in the distribution of Liquefied Petroleum Gas (LPG) and other petroleum products.

159. These four companies and their respective dealers who also sell other petroleum products at various supply posts are owned by these companies and consumers jointly.

Chapter 5. Consumption

160. The total demand for petroleum products in Ethiopia is very low by international standards. For example, the 1995 total demand of 865,000 tones amounted to just over 15 kg of oil per person, one of the lowest rates in the world. By way of comparison, the per capita consumption of oil products in neighboring Kenya is about seven times higher at more than 100 kg of oil equivalent per person.

161. Most oil products are consumed in the transportation sector, which accounts for at least two-thirds of the country's total petroleum product consumption. The sectoral breakdown for 1996 was approximately as follows:

- Transport 69%
- Industry 10%
- Households 21% (IRG, p 3-1)

162. As an indication of the low productivity and backwardness of the agriculture sector, virtually no petroleum energy was used in agriculture (20,000 tones or 0.1%) owing to the under-mechanization of Ethiopia's farms.

163. While petroleum plays a very significant role in the supply of energy in the transportation and industrial sectors of the country, it constitutes a small portion in over all energy supply, accounting for only 5.4 percent of total national energy supply.

164. There is a very significant demand growth potential for petroleum products both in existing markets and in the substitution for biomass in traditional uses. Petroleum demand is projected to increase to 2.1 to 2.6 million tones by year 2010.

165. For the last two decades, the GOE had tight control over the domestic petroleum sub-sector, especially the acquisition of foreign oil and the setting of prices within the country. Recently this has changed and the price has been liberalized.

166. GOE determines both the inland wholesale and retail prices of petroleum products. The regulation and the factors accounted for in the price determination are detailed point by point in the said Agreement. Every three months, the Government reviews the price of petroleum products. There is a national petroleum pricing committee established for this purpose. This committee does not involve the private companies and the consumer.

167. The Government also commits itself to absorb the increases in retail price resulting from the increase in any of the elements of the CIF cost of product. This is a clear indication that petroleum prices are subsidized in Ethiopia.

168. The tax level on petroleum products can affect both the level of demand as well as its distribution among various products, especially gasoline and diesel. High level of taxation can reduce, or slow the pace of demand increases. However, a rapidly expanding economy and high rates of urbanization and population growth can, and usually do, offset the impact of higher taxes.

Part III

Regulatory Framework Concerning Gas

Chapter1. Production

169. So far, at least as of August 2000, there is no commercial gas production in Ethiopia. However, the country has large but remotely located natural gas reserves. This gas field is located in the eastern part of Ethiopia called ‘Calub’ in the Somali national regional state approximately 1200 km south east of the capital city Addis Ababa. An American Oil company, Tenneco, initially found the gas field and subsequent exploration activities were done in cooperation with the former Soviet Union – Soviet Petroleum Exploration and Expedition (SPEE). The gas field is estimated to contain 2.7 Trillion Cubic Feet (TCF) or 76 billion cubic meters of gas, which is comparable with commercial deposits in other parts of the World, including the United States.

170. It is one of the discoveries made within the east African continental margin which includes a wide onshore belt that extended from Ethiopia, Somalia, through Kenya, Tanzania, Mozambique and north eastern South Africa.

171. A meaningful gas development depends on a reliable gas reserve for future years to come. In this regard, the discovery of Hilala gas and oil pool near the Calub Gas Condensate field enhances the potential of the resource. The Hilala gas condensate pool is located some 75 km to the west of the Calub gas condensate field. Tenneco tested Hilala-1 well and recorded oil and gas flows at different depth interval.

172. Later in 1993, Soviet Petroleum Exploration Expedition drilled Hilala-4 well and tested the Adigrat sand through production casing and confirmed the presence of a gas condensate pool. SPEE estimated the initial gas in place at 1.3 TCF (40 billion m³) in the triassic sand and oil in place at 2.4 MM barrels in the middle Jurassic oolitic limestone.

173. Hilala is a large structure with only four wells drilled to date of which two, are shallow wells bottomed in the Middle Jurassic limestone. Hence, the structure requires further delineation work before embarking on a development activity. In conjunction with the Calub Gas condensate field, the Hilala gas and oil pool could make a large scale gas industry a reality in Ethiopia.

174. Since private investment was not attracted, the Government of Ethiopia has formed a share company named Calub Gas Share Company (CGSC). The shareholders of the company are public organizations including Ministry of Finance, Ethiopian Mineral Resources Development Corporation, Ethiopian Petroleum Enterprise, Ethiopian Electric and Power Corporation and Housing and Saving Bank. The share value of the company is Birr 102 million and the company is responsible for the commercial activities involved with the extraction and processing of the Calub petroleum products.

175. The Calub gas deposit is planned to produce liquid products from the gas condensate. Based on the composition of the Calub deposit, the plant is designed to produce 21,000 ton of LPG, 25,000 tons gasoline, 7,000 tons of kerosene, 13,000 tons of diesel fuels per year. This output is equivalent to about 10 percent of the 1992 petroleum imports of the country. There are other alternatives to develop the gas reserve such as producing electricity and production of urea fertilizer (Project Profile for Calub Gas Development Project, CGSC, 1998, Addis Ababa.)

176. CGSC has applied to the Ministry of Mines and Energy to undertake the above mentioned activities and the request is currently under negotiation. The negotiation is based on the model agreement prepared for petroleum exploration/production, Production Sharing Agreement (PSA). The PSA is the model agreement based on the Petroleum Operation Proclamation No. 295/1986 and Petroleum Operation Income Tax Proclamation No. 296/1986. The important articles discussed in the Petroleum Part above are valid for gas operations too. So far, there is no separate law or regulation that administers gas and is for all practical purposes treated as petroleum. The peculiarity for gas especially for Calub is the cost recovery, which the government has already expended to develop the Calub gas field.

Chapter 2. Exploration

177. In the period between 1950 and 1956, Sinclair Oil company explored the northern part of the Ogaden basin and drilled a total of 17 wells, although some of them were extremely shallow. Significant oil and gas shows were recorded in Galadi but apart from that well, no significant hydrocarbons were observed in the remaining 16 wells.

178. The most important period of exploration was undertaken by Tenneco from 1970 to 1975, which drilled a total of 8 wells but also conducting aero magnetic and seismic over the whole of the Ethiopian Ogaden Basin. Within this program, a sub-commercial gas discovery was made at Calub and significant oil and gas was tested at Hilala, Magan and El Kuran.

179. In 1975, Tenneco abandoned the area and subsequently all operations have been conducted by Ethiopians using the former Soviet Union experts. Four major programs of seismic acquisition have resulted

in an extensive grid over the Ogaden Basin of approximately 9 – 10,000 kms.

180. The largest sedimentary basin with a commercial discovery of a gas condensate field, the Calub Gas Field is situated in the eastern part of the country. The basin has an area of 350,000 Sq. Km. and sedimentary thickness of up to 10,000 meters. The reserve potential of Calub gas field is proved to be 2.7 TCF and this resource is under development for production.

181. The drilling program was concentrated on the development of the Calub Gas field with a further nine wells drilled or completed to date and three additional wells drilled on the Hilala structure, two wells on the Shilabo structure and one more well on the Magan structure. Tenneco recorded all of these structures. Additional exploration wells have been drilled at Faf, Tuli and South Calub but no significant hydrocarbons were identified at these locations.

182. A total of 45 wells were drilled with only the Calub field having commercial significance (CGSC, 1998.)

183. CGSC shares belong to the government. Now with serious interest to involve private investment in all economic sectors in the country, the government has decided to privatize 100 percent of its share in CGSC and actions are being taken towards this end.

Chapter 3. Transportation

184. The gas deposit is far from the potential market for the product. This needs reliable transport to bring the product to the nearby area where potential users can be easily reached. The gas deposit has been

already studied with different scenarios. The different scenarios included Urea production, Urea production and 100 MW electric generation plant, urea production, plus 100 MW power plant, plus 10,000-barrel/day synfuel production.

185. The transportation mechanism designed for all scenarios through pipeline from the deposit area to the different possible locations of gas users. In the case of electricity generation, the location of plant to be close to 230 KV or 132 KV network. For synfuels, the plant must be close to the urban areas.

186. However, the CGSC is currently focusing on the use of the deposit at calub for the production of 66,000 tons of petroleum products annually at small-scale level. In this case, the main consumers of the product will be the major large cities including Dire Dawa, Harar, and Addis Ababa. The transportation of the refined petroleum to the potential market is planned to be undertaken by special gas trucks (CGSC, 1998.)

Chapter 4. Distribution

187. The distribution of gas products especially LPG to the consumers is done by the international oil companies on the basis of a distribution agreement signed between the companies and the Ministry of Trade and Industry. The marketing and distribution of the product of the Calub Gas Share Company will be also given to oil companies such as AGIP, TOTAL, SHELL and MOBIL, which have a reliable distribution network and marketing capabilities. These distributors shall receive the product at the plant gate. The marketing and distribution function is expected to be conducted in an efficient and cost effective way. The distribution agreements shall cover all aspects of distribution of gas in Ethiopia. However, if a private company undertakes the development and

production of the Calub gas, the company may establish/ have its own distribution arrangements.

Chapter 5. Consumption

188. The estimated quantity of the gas product that CGSC is expected to produce such as LPG, kerosene, gasoline and diesel oil are far below the national demand. Based on the 1992 consumption statistics, it covers about 10 percent of the national requirement. Hence it is expected that all the out production of CGSC will be consumed locally.

Part IV

Regulatory Framework Concerning Coal

189. To meet the growing demand for and to alleviate the critical energy shortage in the country, the Government has embarked for exploration of alternative energy minerals such as coal in the country. After several investigative exploration work by the Geological Survey of Ethiopia, some occurrences were identified in different parts of the country such as in the Oromia region (at Delbi, Moye, Yayu, Jiren, Arjo, Nejo and Mendi areas), in the Southern Nations, Nationalities and Peoples Region (at Gojeb, Chida, Kindo Halale and Waka), in the Amhara Region (at Mush valley, Chilga and Wuchale area.) However, few of these areas are considered to contain potentially rich coal resources from the point of view of their economic value.

Resource Base

190. The coal bearing sub basin at Delbi contains three coal seams with thickness varying between 0.4 and 2.4m. These coals are low in sulfur and have high ash content. Preliminary studies confirmed a total coal reserve of 14M tons at C1 and C2 categories. It has a heating value of 4307 Btu/lb. to 13579 Btu/lb on moist mineral matter free basis. The coals are ranked to be lignite B to high volatile bituminous B rank. They are best suited for thermal combustion.

191. Moye is located 7 km west of the Delbi Basin. In Moye area there are about 16 coal seams with thickness ranging from 0.3 to 2.3m. The preliminary exploration indicated that the C1 and C2 category resources are close to 27.5M tons. The heating value of the coals ranges from 8,677 Btu/lb. to 15,000 Btu/lb, with medium to high volatility characteristics. The coals are ranked to be sub bituminous to high volatile B, bituminous type having qualities desirable for cooking purpose.

192. In association with the coal deposits, the Delbi-Moye basin contains two Oil Shale horizons. The total Oil-Shale reserve is estimated to be 112M tons at C1 and C2 categories. The oil shale is suitable for thermal power generation, due to its low tar yield (4 to 7 percent, weight percentage) and a Calorific Value of 1764 Kcal/kg.

193. The Mush Valley coal is located at about 25km north of Debre Birhan town in the northern Shoa locality. This deposit is situated within the Central Ethiopian Plateau. The geology of the area is mainly represented by thick fissural basalts and acidic volcanic rocks. While the coal bearing basin is bounded by raised topographies of the Trap series Volcanics placed within a small graben. The preliminary reserve

assessment made in the area indicated the resource amount to be 300,000 tons.

194. Quality assessments for the Mush coal deposit have indicated heating value ranges of 5927 to 10154 Btu/lb (on moist mineral matter free basis) and ash content ranges between 0.6 to 14.4%. The ranks of mush coal deposit are lignite A to sub bituminous B type.

195. The Chiliga coal deposit is located at the Amhara Region, in Gonder zone, at about 50km west of the Azezo-Metema Road. The coal occurrence is situated in the Tertiary volcanic terrain of the northern Ethiopia. From the preliminary geological estimate a reserve of approximately 19.7 million tons has been estimated.

196. Analysis of the Chiliga coal ash and fixed carbon contents varied between 3.4 to 36.5 percent and 25 to 41 percent (on as received basis) respectively. The heating value was 7433 to 10244 Btu/lb on moist mineral matter free basis (i.e. 6764 to 9317 Kcal/kg on as received basis). The majority of the coals belong to sub-bituminous coal rank.

197. The Metu - Yayu area is located at about 560 km south west of Addis Ababa in the Oromia Regional State. The geology of the area comprised mainly of high grade gnesses and younger basaltic rocks associated with coal and oil shale bearing sediments. The sedimentary sequence is interbedded either in-between two basaltic units or sandwiched in between the basaltic and the basement rocks.

198. The sedimentary basin in the area contains thick coal seams and also holds two organic rich horizons. These basin most places

occur as horizontal to sub horizontal attitudes. The surface geological mapping conducted in about 100 km sq. disclosed repeated occurrences of about six coal seams ranging in thickness from 0.3 to 4m. The analytical results showed a heating value ranges of 2000 to 7000 kcal/kg.

199. The total reserve at Delbi-Moye is estimated to be 42 million tons and at Yayu is 100 million tons according to a report by the Ethiopian Geological Surveys (EGS). The very recent study conducted at Yayu estimated that 30 million tons to be mineable. In both areas, the coal quality is lignite. In addition, at Chilga, Besile, Mush valley and Gimbi areas all in the western part of Ethiopia coal shows have been recorded by EGS.

200. Coal has reasonably high heating values comparable to other energy sources currently being used in the industrial and domestic sectors (The Coal Potential of Ethiopia, Miniye Betru, 1992 EIGS, Addis Ababa, unpublished.)

201. Since there is no developed coal mine that is being used as energy source in Ethiopia, there is no sub sectoral legal regime established specifically for coal. However, the pre-development (prospecting, exploration and discovery) and development/production are administered by the Mining law and Mining Income Tax Laws which were issued in 1993 and amended in 1996. The following are the highlights of the Mining Laws that affect coal development in Ethiopia in the context of production, transport, distribution and consumption.

Chapter 1. Production

202. In Ethiopia almost all, except for the mineral and petroleum sectors, investments are governed by the Investment

Proclamation which is under the Ethiopian Investment Authority and investors are required to obtain license from the Authority. The mineral and energy sectors, however, have their own laws and regulations and are administered by Ministry of Mines and Energy.

203. According to the Mining Proclamation No. 52/1993 and its Amendments Proclamations No.22/1996, and No. 118/1998 and the Mineral Operations Regulation No. 182/1994, coal production could be divided into artisanal, small scale and large-scale mining operation.

204. Duration periods of a coal exploration, development and mining licenses and renewal thereof vary with the scale of the operation. For artisanal mining, which is not more than 5000m² in size, the license will be valid for one year and may be renewed indefinitely for like periods. For small-scale mining, which is not more than 20,000m² in size, the license will be valid for a maximum period of ten years or the life of the deposit and may be renewed for a maximum period of five years. For large-scale mining, not more than 200,000m² size, the law provides exclusive mining license for a period of twenty years or the life of the deposit, which ever is shorter and may be renewed for a maximum period of ten years.

205. The Mining Proclamation encourages private investment in mineral exploitation and provides exemption from customs duties and taxes on equipment, machinery, vehicles and spare parts necessary for mineral production. There is up to 10 percent government free equity on mining operation when and if it materializes (Article 44). The law also requires among other things, environmental impact study report before issuing the license (Article 26/3).

206. The Mining Income Tax Proclamation No. 53/1993 and Amendment No. 23/1996 gives investors the privilege of ten years carry forward of losses and write off on investment within four consecutive

years. The law also requires 35 percent tax on taxable income and 10 percent dividend tax generated from mining operations.

207. To encourage investment in mining sector, the Mining Income Tax Proclamation No. 53/1993 allows investors to depreciate capital invested in mining operation over four years period on a straight line basis (Article 31.)

208. The rates for license fees are scale dependent, and hence the arrangement is Birr 10 (1 USD \cong Birr 8.15) for artisanal mining; Birr 200 for small-scale mining and Birr 5000 for large-scale mining. The license for renewal fees are also scale dependent and Birr 10 for Artisanal mining; Birr 100 for small-scale mining and Birr 3000 for large-scale mining (Article 32 of the 1994 Mining Regulation.)

209. The land rent is paid on annual basis and the rates are 50, 150, and 400 Eth. Birr /sq. km. for artisanal mining, small scale mining, and large scale mining respectively (Article 33 Mining Regulation.)

210. The Mining Regulation No.182/1994, among other things, provides procedures for renewal, transfer and revocation of licenses and states that royalties to be paid on mining operations to be 2 – 5 percent ad valorem based on the type of mineral produced (Article 34.) Coal production lies in the non-metallic category and the applicable royalty rate is 3 percent.

211. Mines and Energy Bureaux of National Regional States are mandated to give artisanal mining license whereas small and large-scale mining licenses are issued by MME.

Chapter 2. Exploitation

212. The Mining Proclamation No. 52/1993 defines 'Mining Operation' as 'a means of all acts carried out to prospect, explore and mine for minerals' and to mine is further defined as 'a means to undertake all acts to develop, extract and remove from a deposit including their storage 'treatment' processing.' Hence, there is no special definition for exploitation, which is different from production as described in Chapter 1 above.

Chapter 3. Transport

213. Coal requires careful handling and transportation system to minimize the environmental risks associated with it. Ethiopian mining laws and regulations require every mineral operation to be performed in a manner that is acceptable in international standards. This certainly applies to coal production and transportation as well. To date however, since Ethiopia has not yet commercially produced coal and there is no as such a separate law that handles coal transportation issue. There are however traditional coal miners in some parts of the country and their modes of transport is on the back of a mule.

214. Ethiopian coal consumption alternatives, particularly Delbi-Moye deposit were studied in detail. The study considered the use of coal for electricity, for household cooking in the form of briquettes, using the coal for cement factory replacing fuel oil and some other uses. However, the study was not finalized and implemented with either of the alternatives indicated above due to lack of financial resource. The recommended transportation mechanisms from the well studied Delbi and Moye deposit was using special trucks.

Chapter 4. Distribution

215. As has been elaborated above there is no Commercial production of coal in Ethiopia. There are places where the local people produce coal for their own domestic uses. Their production is not as such significant and well recorded and known at the national level. Therefore, there is no distribution scheme laid for coal at the local as well as at the national level.

216. The Delbi-Moye coal is well studied and three potential markets were examined namely electricity production, industrial and domestic use. For domestic and partially for small-scale industrial uses it was assumed that the coal would be prepared in the form of briquettes.

Chapter 5. Consumption

217. There are some areas in Ethiopia that use coal for their own domestic uses. These areas are located near the deposit areas mentioned above. However, there is no national record on the volume of their consumption. Thus, there is no legal provision that addresses the issue of consumption in the Mining Proclamations.

Part V

Interaction between Energy Law and Environment

218. There is an increased awareness about the inter action and linkage of energy and environment. This is well reflected in the energy and environment policy of Ethiopia and further strengthened by the sectoral laws such as water, forestry electricity, petroleum and mining Proclamations.

219. Although the country has issued a National Environment Policy in 1997, some specific environment issues have been already incorporated in the 1994 Energy Policy. The Energy Policy, while describing the rationale for the policy in paragraph 2.8, it states that the need for the energy policy is based on the difficulty to curb environmental pollution, ecological imbalance and desertification due to inappropriate energy development and utilization. Further more, one of the fundamental objectives of the policy is to protect and/or reduce the environmental impact, which arises from unsustainable energy resources development supply and utilization. The general principles of the policy also emphasis the need for planning rural energy development by integrating it with environment protection.

220. In paragraph 5.4 of the Energy Policy, priority issues regarding the environment concern are presented as follows. Promoting energy conservation, increasing utilization efficiencies and application of improved technology will allow a better and reliable service. This in turn will enable saving of resources, reducing the environmental pollution and preservation of eco-system.

221. The Ethiopian Electricity Proclamation No. 86/1997 in Article 13.1 obliges any licensee to carry out generation, transmission, distribution and sale of electricity in compliance with environmental protection laws. The Electricity Regulation No. 49/1999 further elaborates the obligation and requires the applicants for license to present environment assessment report.

222. According to Art. 3.3 of the Electric Regulation, the report should include all potential damages to the environment along with mitigation, restoration or reclamation plan including resettlement program for displaced residents and the estimated costs of implementation of the plan and programs referred to in paragraph (a) of Article 3.3.

223. The Environment Policy covers 10 sectoral and 10 cross-sectoral policy principles. One of the sectoral environment policies is about energy resources. Paragraph 3.5 of the same Policy clearly states that there is an urgent need to harmonize the energy demand with that of the carrying capacity of natural resources by way of developing and marketing environmentally sound energy sources and technology. And to achieve such a broad based objective, specific action plans along the following lines are called on.

- a. To adopt an inter-sectoral process of planning and development which integrates energy development with energy conservation, environmental protection and sustainable utilization of renewable resources.
- b. To promote the development of renewable energy sources and reduce the use of fossil energy resources both for ensuring sustainability and for protecting the environment, as well as for their continuation into the future.

- c. To make institutions and industries that consume large amounts of wood fuel establish their own plantations or make contractual arrangements with plantations to meet their wood requirements.
- d. To encourage Government leases for private entrepreneurs to plant fuel wood lots in peri-urban areas.
- e. To ensure that feasibility studies for hydroelectricity facilities and other significant generating facilities include rigorous environmental impact assessments to allow informed decision-making that maximizes benefits to the community and to the country at large and eliminates or at least minimizes damage to the natural resources base and/or to environmental well-being.
- f. To review current institutional, pricing and regulatory arrangements in the energy sector to suggest reforms that will better meet community energy needs and maximizes the opportunities for private commercial and community sector initiatives to develop and market environmentally sound energy sources.
- g. To recognize that water resources play an important role to meet Ethiopia's energy demand and that, by generating power cause no pollution on the environment.
- h. To focus extension programmes on farm and homestead tree planting to ensure that each homestead grows enough trees to satisfy its wood requirements.
- i. To locate, develop, adopt or adapt energy sources and technologies to replace biomass fuels.

224. In addition to what has been provided in the Electricity Proclamation, the 1986 Petroleum Proclamations specifically highlights in its Preamble that petroleum operations should be carried out accordance with modern technology and sound principles of resource conservation. Articles 9 cum 14 of the same Proclamation also reaffirms that all Petroleum Agreements shall, inter alia, comply with requirements relating to environment protection.

225. Articles 5 and 6 of the Environment Protection Authority establishment Proclamation empowers EPA to ensure that any social and economic development activity including energy resources ‘are carried out in a manner that will protect the welfare of human beings as well as sustainably protect, develop and utilize the resource bases on which they depend for survival.’

226. The 20 Article Restatement of the Distribution Agreement of April 1979 has recognized the interaction between energy and environment by establishing that the said Agreement is subject to the provisions of Ethiopian Laws. This makes it, among other laws, to be inline with the environment laws of the country that are in place from time to time.

227. Paragraph 6.4.1 of the Energy Policy, which is entitled Energy and Environment, clear demonstrates the interaction between the two by reaffirming that the ‘Government will ensure that the development of energy projects, energy generation, transmission and use is benign to the environment.’

Part VI

Interaction between Energy Law and Tax Law

228. Energy development is a complex and huge investment-requiring venture, which most developing countries do not afford to do from own budget resources. More often than not, there is a financial institution behind most energy development projects in developing countries. Ethiopia is also benefiting from such regional as well as global financial institutions to finance its power sector. However that is not enough compared to the ever-increasing national demand.

229. Meeting national energy demand has called for the mobilization of private financial resources to complement the soft loans usual got from the financial institutions. One method of private resource mobilization is by way of incentives that may work if other conditions are addressed as well. In the Ethiopian case, Government has decided to link development activities including energy with that of the tax and non-tax regimes in a manner that encourages private investment.

230. The overall reading of the Investment Proclamation, Petroleum and Mining Operations Tax Proclamations are a clear evidence of the interaction between energy and tax laws. For instance, the 1996 Investment Proclamation No. 37 and Investment Incentives Regulation No. 7 provide for qualified exemptions from income tax and customs duties for investments. The eligibility criteria is that such investments should meet the minimum capital requirement envisaged in Article 6 of the Proclamation and relate to one of the pioneer and promoted investment activities which are provided in Schedule one and two that are attached to the said Regulation. Pioneer investment activities, among

others, include generation, storage and distribution of electrical energy, petroleum and mining development.

231. In the Electricity Proclamation and Regulation there are no articles referring directly to tax matters. However, by virtue of the Investment proclamation, private investors engaged in the electricity business are allowed to import all types of plant and equipment for generation, transmission and distribution of electricity without payment of customs duties. And they can also be exempted from income tax on incomes earned from sale of electricity for 3 - 5 years depending on the geographical area of the undertaking.

232. Regarding petroleum activity, however, separate Petroleum Operations Income Tax Proclamation is applicable for taxation of such income. According to Article 14 of the said Proclamation, 'losses from operations may be carried forward for a maximum of 10 succeeding accounting years' and 'all pre-production cost and production capital expenditures are allowed to be depreciated over five years period' (Article 5). The law requires any petroleum production operation to pay 50 percent income tax (Article 3).

233. Since the response of the private sector to inject the much-needed private investment into the petroleum sector did not satisfactorily materialize, the Government is currently considering to further reducing the applicable rate of income tax. The proposed tax is aimed at reasonably reducing the current rate in order to serve as an incentive and already submitted for approval to the Council of Ministers'.

233. Coal is considered as one of the sources of energy, as indicated in Part IV here in above. The 1993 Mining and Mining Income Tax Proclamations administer its exploration and development. The Mining Law invites private investors to participate in coal production and provides exemption from customs duties on equipment, machinery,

vehicles and spare parts necessary for the production. The Mining Income Tax and its Amendment of 1996 Proclamation No. 23/1996 also provide ten succeeding accounting years loss carry forward, 35 percent income tax and 10 percent dividend tax (Articles 10, 2/1, 12).

234. The general move towards levying a reduced income tax and provide generous customs duties exemption with a virtual tax holiday for 3-5 years in cases of pioneer energy investments is a manifestation of the interaction and linkage between energy and tax laws in Ethiopia.

Part VII

Interaction between Energy Law and Competition Law

235. The concept of competition calls for a free market setting where production, manufacturing and trade are by and large managed by a strong national as well as international private sector. In a country where the economy is centralized under state monopoly, a throat cutting vigorous competition is less likely to happen. This used to be the most recent history of Ethiopia up to 1993 when the current Government of Ethiopia declared that the country should follow the path of free market economy.

236. Significant political and economic decisions including trade and market liberalization were made. In an effort to strengthen the process, GOE has partially de-nationalized private properties, which were confiscated unlawfully by the previous military regime that was following the Socialist ideology. Although land still is a public property under the FDRE, agriculture, manufacturing, and trade activities are privately owned and are run by individuals or corporate bodies. The

investment and other sectoral legislations have been revised to reassure and facilitate private investment in the social and economic sectors.

237. Consequently, the Government of Ethiopia has restructured the existing public utility into an autonomous and commercial power utility. Based on the Electricity Proclamation, the Government has also established a legal framework and created a regulatory body to regulate the overall electricity operation and to encourage the participation of private investors.

238. From other countries experience, the involvement of the private sector in electricity sector can create competition in two areas, in generation and supply. In the initial stages competition can arise by permitting the existing public utility to purchase power from different independent private producers. This creates opportunity for competitive procurement of electricity but does not involve the public utilities own plant.

239. In Ethiopia, there is no applicable written competition law in any of the economic sectors as such. However, the Electricity Law permits the introduction of private sector independent power producers in electric generation through long term contract. This may give rise to a potential competition in the energy sector in the future that may call for the introduction of a competition law.

240. As a consequence of the of the free market economy initiative, however the Government has undertaken in house study on competition rules to have a healthy and thriving private sector economy in the country. The study has culminated by draft legislation on Trade Practice. The 17 Articles draft Trade Practice proclamation is mainly focused on consumer protection from the exigencies of unfair trade competition. The MOTI draft document however is still with the Office of the Council of ministers' under review, since 1999.

241. The Preamble emphasizes that ‘trade practice must be undertaken in accordance with free-market economic policy of the country.’ Moreover, it indicates ‘that it is desirable to establish a system that is convenient to the development of free- market by regulating unfair trade practice to which consumers are victims and the unfair competition that is carried among traders themselves.’ Articles 3, 4 and 5 of the same draft legislation cover unfair agreement or arrangement, unfair competition, and unfair trade practice, respectively.

242. A broad category of ‘agreements done orally or in writing or in concerted actions shall be considered as injurious to trade and free – market competition. Moreover, items on ‘what is unfair agreement or arrangement falls within the following categories; agreements fixing prices; agreements for collusive tendering as to determine market price; arrangements as to market or consumer allocation; agreements as to allocation by quota of production and sales; concerted refusals to deal or sell; and concerted refusal of supplies to importers.’

243. Unfair competition on the other hand is an ‘act or practice in the commercial activities, that:-

- i. causes, or is likely to cause, confusion with respect to an others enterprise or its activities, in particular, the products or services offered by such enterprise;
- ii. damages, or is likely to damage the goodwill or reputation of another’s enterprise falsely;
- iii. misleads or is likely to mislead, the public with respect to an enterprise or its activities, in particular, the products or services offered by such enterprise;

- iv. results in the disclosure, acquisition or use by others of secret information without the consent of the rightful holder of that information in a manner contrary to honest commercial practices;'

244. In addition, 'any false or unjustifiable allegations that discredits, or is likely to discredit with respect to another's enterprise or its activities, in particular the products or services offered by such enterprise; any act that directly or indirectly restrict, weaken or impede the production and distribution of any commercial goods or the rendering of any services; and any act that restricts or impede the fact and economic means of production or service rendering' is considered act of unfair competition in the draft Trade Practices legislation.

245. The concept of unfair trade practice too has been provided for in such a way that certain kind of trade practices enumerated below are deemed to be contrary to honest trade practice. What is honest trade practice has not been defined but can be inferred.

1. Direct or indirect imposition of any inequitable purchase or selling price or service fee or any other inequitable trading condition;
2. acts which may be prejudicial to buyers of goods or services or which may hamper the growth of markets;
3. selling of similar goods or services to consumers on unequal term or payments;
4. application to dealers in transaction of unequal terms in respect of similar goods, thereby placing some at competitive disadvantage;

5. imposition in the conclusion of a contract to the acceptance, by a person, of additional supplies which, either by its nature or commercial practice, have no connection with the subject of such contract;
6. importation of any goods from any foreign country into Ethiopia at a price substantially less than the actual market value or wholesale price of such goods in the principal markets of the country of their production with the intent to destroy or injure the production of such goods in Ethiopia or to restrict or monopolize any part of trade in such goods;
7. issuance of any false or misleading commercial statement or notice, concerning goods and services in respect of their quality, quantity, volume, manufacturing process, component, strength, or the time and place of the production of goods of the services rendering, or other similar conditions;
8. hoarding, diverting or withholding goods from normal trade channels;
9. trading in any manner by goods imported into Ethiopia for humanitarian purpose; and
10. refusing consumer's request for the sale of goods or services without good cause.

246. The draft Trade Practice legislation is a first of its kind and covers, among other things, items such as indication of price of products, labels of goods, distribution of goods and penalty clauses that are very useful to guide and regulate a healthy business sector in the country. But, the question remains when will GOE enact this law? And how will it enforce it?

Conclusion

247. Ethiopian industry, transport and commercial sectors largely depend on imported fuel. The amount of foreign currency spent for the importation of petroleum products is very significant and it is between 19 to 28 percent of the export earnings (National Bank of Ethiopia, 1999.) This has a major impact on the national economy. Nearly all the remaining energy needs particularly for domestic purposes are covered by fuel wood, the supply of which has led to a very rapid depletion of the natural forest resources and vegetation cover. Due to frequent usage of fuel wood for energy supply in the country, the forest resource coverage has dropped from 35 percent coverage to less than 3 percent. As a consequence of increased environmental degradation, Ethiopia is facing a cyclical draught and famine.

248. In the past, all production and distribution of energy resources were the responsibility of the government in Ethiopia. There was no policy regarding production, investment, pricing etc. of energy resources. Hence, the Government arbitrarily and exclusively managed energy activities without involving the private sector and the consumer. This practice lacked proper long-term program and environment protection mechanisms and the sector could not meet the increasing demand for efficient and affordable energy.

249. Recently, the Government has recognized the indispensable role of the energy sector in economic development of the country. Furthermore, the Government has also realized the necessity of policy, institutional, and legal frameworks for proper management of the energy sector.

250. The issuance of the energy policy, establishment of relevant regulatory institutions and related laws that are intended to regulate and promote private investment could be sited as positive steps towards bringing efficiency and proper management of the energy sector. Nevertheless, it is very difficult to conclude that the hitherto steps taken by the Government are exhaustive and sufficient.

251. Complex as it is, however, the energy sector reform in Ethiopia will gradually pave the way for an efficient, affordable and reliable supply of energy that will bring about socio-economic development in a manner that is environment friendly.

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