

RENEWABLE ENERGY BILL, 2011

The object of this Bill is to support the development, utilisation and efficient management of renewable energy sources.

Government faces the challenge to increase renewable energy in the national energy mix in a sustainable manner. Its goal is to increase the proportion of renewable energy, particularly solar, wind, mini hydro and waste-to-energy in the national energy supply mix and to contribute to the mitigation of climate change.

Ghana is well endowed with renewable energy resources, particularly biomass, solar and wind energy. The development and use of renewable energy and waste-to-energy resources have the potential to ensure Ghana's energy security and mitigate the negative climate change impacts. The use of waste-to-energy resources has the potential to act as a significant part of the national sanitation programme. Biomass is Ghana's dominant energy resource in terms of endowment and consumption. Biomass resources cover about 20.8 million hectares of the 23.8 million hectare land mass of Ghana and is the source of supply of about 60% of the total energy used in the country. The vast arable and degraded land mass of Ghana has the potential for the cultivation of crops and plants that can be converted into a wide range of solid and liquid biofuels.

By virtue of its geographic location, Ghana is well endowed with solar resources which could be exploited for electricity generation and low heat requirements in homes and industries. Monthly average solar irradiation in the country ranges between 4 and 6 kWh / m² a day with an annual sunshine duration of one thousand eight hundred hours to three thousand hours. There are more than twenty-one potential medium and small hydro power sites with capacities from 30 KW to 95 MW summing up to about 840 MW. Solar energy utilisation has however been limited owing to its comparatively higher cost.

Ghana has moderate wind speed, especially along the coast which could be exploited for wind power generation. Data available at the Energy Commission indicates wind speeds of between 5 to 8 m/s at 5 (l) meters above ground level. The current exploitable potential is well over 1,000 MW which could generate over 1,500 GWh/per year to supplement the nation's energy supply.

Government is committed to improving the cost-effectiveness of solar and wind technologies by addressing the technological difficulties, institutional barriers, as well as market constraints that hamper the deployment of solar and wind technologies. Even though the overall potential of mini-hydro is limited, 21 potential mini hydro sites that could be developed for power generation have been identified in the country. The generating capacities of these sites range between 4kW and 325kW.

Furthermore, Ghana has about 18.3 Mha representing three quarters of land area under tree cover. The climatic and soil conditions are very suitable not only for large scale production of agricultural products, but also energy crops and sustainable woodfuel production.

The policy direction on biomass is to support sustained regeneration of woody biomass resources through legislation, fiscal incentives and attractive pricing and promote the establishment of dedicated woodlots for woodfuel production. Furthermore, Government seeks to promote the production and use of improved and more efficient biomass utilisation technologies. Government also intends to promote the use of alternative fuels, like liquid petroleum gas as a substitute for fuel, wood and charcoal by addressing the institutional and market constraints that hamper increasing access to it in Ghana. The policy direction for pricing wood fuels focuses on prices based on market forces and the regulation of taxes and levies on woodfuels by the appropriate national agencies or local authorities where necessary.

Another component of biomass that the Government seeks to focus on is liquid biomass fuels. Its policy direction is to balance biofuel development against food security, support the development of an indigenous alternative transportation fuel industry based on bio-energy resources namely biofuels, and support private sector investments in the cultivation of biofuel feedstock. The extraction of the bio-oil and refining of bio-oil into secondary products is also to be supported by legislation.

In order to improve the cost-effectiveness of solar and wind technologies, legislation is required to regulate the fiscal regimes for this. With the appropriate legal framework in place, support may be given to indigenous research and development to reduce the cost of solar and wind energy technologies and the use of decentralised off-grid alternative technologies like solar and wind, where they are competitive with the conventional electricity supply.

In the same vein, the policy direction regarding mini hydro is to create the appropriate fiscal and regulatory framework and provide pricing incentives for mini hydropower projects. In the absence of a legal framework, the foregoing policy recommendations cannot be implemented hence the need for this Bill.

The first group of *clauses*, *clause* 1 to 4 provides for preliminary matters. *Clause* 1 states the object of the Bill as the provision and utilisation of renewable energy sources for electricity and heat generation in an efficient and sustainable manner. The ambit of the object expands in *clause* 2 to cover the provision of a framework to support the development and utilisation of renewable energy sources and the creation of an enabling environment to attract investment in renewable energy sources. The promotion for the use

of renewable energy, the diversification of supplies to safeguard energy security, and improved access to electricity through the use of renewable energy sources also fall within the ambit of *clause 2*. In addition, the building of indigenous capacity in technology for renewable energy sources, public education of renewable energy production and consumption and the regulation of the production and supply of woodfuel and biofuel represent components of the object.

Clause 3 defines renewable energy to include wind, solar, hydro, biomass, biofuel, landfill and sewage gas, municipal solid waste, industrial waste, geothermal energy, ocean energy and any other energy source designated by the Minister.

Clause 4 makes the Minister responsible for the provision of policy direction for the achievement of the object of the Bill.

Clause 5 to *8* outline the responsibilities of various institutions. In *clause 5*, the Energy Commission is responsible for the provision of advice to the Minister on renewable energy technologies. It is also to ensure the collaboration between Government and the private sector and civil society for the promotion of renewable energy source, the provision of recommendations for financial incentives, and exemptions from customs, levies and other duties. In addition, the Energy Commission has a role to play concerning the preparation of the educational curriculum on efficient use of renewable energy sources, the promotion of local manufacture of components to facilitate rapid growth of renewable energy sources and the promotion of training and support of local experts in the field of renewable energy.

Clause 6 defines the responsibilities of the Public Utilities Regulatory Commission. It is responsible for the approval of rates chargeable for the purchase of electricity from renewable energy sources by public utilities, charges for grid connections and rates for the wheeling of electricity from renewable energy sources. *Clause 7* states further the obligation of the Public Utilities Regulatory Commission to comply with the provisions of the Bill.

Clause 8 requires the relevant institutions responsible for the development, promotion, management and utilisation of renewable energy sources to collaborate with the Commission in the exercise of its powers and performance of its functions provided for in the Bill. The clause further identifies the relevant institutions to be the Ghana Standards Board, the Forestry Commission, the Lands Commission, the Environmental Protection Agency, the Ministry of Food and Agriculture, the Metropolitan, Municipal and District Assemblies, the National Petroleum Authority and other institutions designated by the Minister.

The licensing provisions are dealt with in *clause 9 to 19*. *Clause 9* makes it a requirement to obtain a licence to engage in commercial activity in the renewable energy industry. It further enumerates the various categories of activities for which a licence is required.

Clause 10 indicates the persons to whom a licence may be granted. The procedure for the application of a licence is provided for in *clause 11*.

Clause 12 makes provision for the grant of a licence but enumerates the grounds on which the Board may reject an application for a licence. *Clause 13* specifies the conditions of a licence. Conditions may be restricted to that contained in the licence or to those requiring the licensee to provide the Commission with vital information that the Board may require for the purpose of performing its functions.

Clause 14 expressly restricts the transferability of a licence granted unless it is with the prior written approval of the Board.

Clause 15 provides for the duration and renewal of a licence and states the period of sixty days before the expiration of the licence as the period for the application for the renewal of the licence.

Even though *clause 16* provides for the modification of a licence by the Board, the modification cannot be effected without the notification given by the Board to the licensee and general public. Besides, the Board is mandated to consider representations or objections made to it by the public before it effects the modification.

Provision is made in *clause 17* for the suspension or cancellation of a licence. It mandates the Board to give the licensee written notice of its dissatisfaction and an opportunity to be heard before taking action to suspend or cancel a licence. Furthermore, the Board is obliged to consider likely loss and damage to the licensee that may be caused as a result of the suspension or cancellation.

Clause 18 provides an avenue for redress for a person aggrieved by the refusal of the Commission to grant or renew the licence, or by a modification, suspension or cancellation of a licence. An aggrieved person may lodge a complaint with the Minister who is enjoined to take a decision within a period of thirty days after receipt of the complaint.

Clause 19 also provides for redress in the form of dispute settlement by arbitration at the request of a licensee. Disputes between licensees may be settled in accordance with this clause.

Clause 20 to 23 spells out special requirements that relate to licences. *Clause 20* applies the provisions of *clause 21 to 25* to licences for the activities of production, transportation, storage, marketing and installation and maintenance. This group of clauses specifies the various conditions attached to a production and supply licence, bulk storage licence, marketing licence, installation and maintenance licence and bulk transportation licence respectively in *clauses, 21, 22, 23, 24 25*.

The requirements for electricity generation are contained in *clause 26 to 31*. *Clause 26* establishes a feed-in-tariff scheme for the purpose of guaranteeing the sale of electricity generated from renewable energy sources. This scheme consists of the renewable energy purchase obligation, the feed-in-tariff rate and the connection to transmission and distribution systems.

Clause 27 correlates the obligation of an electricity distribution utility to purchase electricity from renewable energy sources to the percentage level of electricity to be purchased. This value is determined by the Public Utilities Regulatory Commission taking into account the technology being used to generate the electricity, the assurance of the financial integrity of the public utility and the net effect of the cost of renewable energy on the end user tariff. However, an exception is made for the non purchase of electricity at the fixed percentage level in the case of a bulk customer who may instead pay a premium to the Commission. *Clause 26* further provides a definition for the meanings of 'premium' and 'bulk customer' in the context of *clause 27*.

Clause 28 prohibits an electricity distribution utility from buying or negotiating a Power Purchase Agreement with a generator of electricity from renewable energy sources unless it is in accordance with guidelines provided by the Public Utilities Regulatory Commission. The guidelines are to indicate the level or rates that may be charged by the public utility for the electricity generated. *Sub clause (3)* enumerates the matters that the Public Utilities Regulatory Commission is to take into account in preparing the guidelines. These border on technology, the location of the generation facility, operating norms for the specific technology under consideration, costs associated with construction, commissioning, operation and maintenance of the plant, reasonable rate of return and the balance between the interest of the consumer and the investor. The period for the application of the feed-in-tariff rate fixed for electricity from renewable energy sources is to be guaranteed for a period of ten years and subsequently subject to review every two years.

Clauses 29 and 30 respectively, provide for the approval of feed-in-tariff rates and the publication of feed-in-tariff rates. *Clause 31* defines the nature of the connection that may be made by a generator of electricity to transmission and distribution systems. The *clause* also places an obligation on an operator of a transmission or distribution system to upgrade the transmission or distribution system at reasonable economic expense and in a timely fashion when requested to do so. The *clause* indicates that cost sharing for the

upgrade should be split equally between the operator of the transmission or distribution system and the electricity generator. However, the costs associated with connecting installations to the metering point shall be borne by the generator of the electricity. The clause enjoins both parties to enter into a connection agreement.

Clause 32 to 41 provide for the establishment of the Renewable Energy Fund and related matters. *Clause 31* establishes the Fund. *Clause 33* sets out the object of the Fund which is to provide financial resources for the promotion, development and utilisation of renewable energy sources. In line with the object, moneys are to be applied for relevant activities as stated in sub clause (2).

Clause 34 spells out the sources of the Fund and *clause 35* provides for the bank account for the Fund. It must be noted that, it is the Board of the Energy Commission that is responsible for the management of the Fund established by clause 32. The Board's responsibilities are delineated in sub clause (3).

The retention of funds is the content of *clause 37*. This is subject to the Ministries, Departments and Agencies (Retention of Funds) Act, 2007 (Act 735) and the Financial Administration Act, 2003 (Act 654). Activities for which internally generated funds may be used are also stated in this clause.

Clause 38 deals with tax exemption for the Fund. The administrative expenses of the Fund, accounts and audit and annual and other reports are the content of clauses 39, 40 and 41 respectively.

Clause 42 to 45 represents the group of clauses on the control and management of biofuel and wood fuel. *Clause 42* requires a licensee who has a licence to produce biofuel to obtain a permit from the Ministry of Food and Agriculture for the production of the biofuel.

Clause 43 empowers the Minister responsible for Energy to designate biofuel as a petroleum product in accordance with the National Petroleum Authority Act, 2005 (Act 691). This clause places a duty on the National Petroleum Authority to price biofuel in accordance with the prescribed petroleum pricing formula provided in Act 691.

Clause 44 provides an explanation for what a biofuel blend is and mandates the National Petroleum Authority to determine the proportion of biofuel in the biofuel blend offered for sale to consumers at the point of sale.

Clause 45 requires the Energy Commission to consult with the Forestry Commission and other relevant institutions to develop programmes to sustain wood fuel production.

The miscellaneous provisions of the Bill are *clause* 46 to 53. *Clause* 46 places a duty on all renewable energy producers that have licences. Each licensee is obliged to maintain equipment and property used in the provision of a service in a good condition and to comply with technical standards and guidelines established by the Commission.

The Bill takes cognisance of the fact that renewable energy projects must be integrated into the power system. In effect, the Public Utilities Regulatory Commission and the Energy Commission are required to take into account the particular nature of the electricity generated from renewable energy sources to ensure that renewable energy projects are integrated into the power system in developing regulations and guidelines for the provision of electricity.

Provision is made in *clause* 48 for offences and in *clause* 49 for the modification of existing enactments. *Clause* 50 empowers the Board to issue guidelines for the development and utilisation of renewable energy sources, connection of electricity generated from renewable energy sources to transmission or distribution systems and technical standards for the use of renewable energy sources. Fines up to the limit of one thousand penalty units are imposed for the non compliance with guidelines. The Board is also empowered in this *clause* to issue a code of practice.

Clauses 51 and 52 provide for Regulations and interpretation respectively. *Clause* 53 deals with consequential amendments to the Energy Commission Act, 1997 (Act 541) and the National Petroleum Authority Act, 2005 (Act 691).

Given the fact that a Renewable Energy Fund is established by this Bill, the provision in Act 541 which has one of the objects of the Energy Fund to be the promotion of projects for the development and utilisation of renewable energy resources, including solar energy is redundant. The funds for this are provided for in this Bill by the Renewable Energy Fund. The amendment to Act 541 also provides for a definition for 'biofuel'.

The National Petroleum Authority Act, 2005 (Act 691) has been amended to expand the mandate of the National Petroleum Authority enable it establish producer prices for biofuel and review these. Currently, since biofuel does not fall within the ambit of Act 691, it is important to amend Act 691 to ensure that the National Petroleum Authority's responsibilities are in tandem with the provisions of this Bill in particular *clauses* 43 and 44. A further amendment also provides for an additional definition of 'biofuel' in Act 691.

HON. DR. JOE OTENG ADJEI
MINISTER RESPONSIBLE FOR ENERGY

Date:

RENEWABLE ENERGY BILL, 2011

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RENEWABLE ENERGY BILL, 2011

AN ACT to provide for the utilisation, sustainability and adequate supply of renewable energy for electricity and heat generation and for related matters.

PASSED by Parliament and assented to by the President:

Preliminary provisions

Object of the Act

1. The object of this Act is to provide for the utilisation of renewable energy sources for electricity and heat generation in an efficient and sustainable manner.

Utilisation of renewable energy

2. The utilisation of renewable energy shall encompass
- (a) the provision of
 - (i) a framework to support the development and utilisation of renewable energy sources; and
 - (ii) an enabling environment to attract investment in renewable energy sources;
 - (b) the promotion for the use of renewable energy;
 - (c) the diversification of supplies to safeguard energy security;
 - (d) improved access to electricity through the use of renewable energy sources;
 - (e) the building of indigenous capacity in technology for renewable energy sources;
 - (f) public education of renewable energy production and consumption; and

- (g) the regulation of the production and supply of woodfuel and biofuel.

Meaning of renewable energy

3. In this Act, “renewable energy” means energy obtained from non-depleting sources including

- (a) wind;
- (b) solar;
- (c) hydro;
- (d) biomass;
- (e) biofuel;
- (f) landfill;
- (g) sewage gas;
- (h) municipal solid waste;
- (i) industrial waste;
- (j) geothermal energy;
- (k) ocean energy; and
- (l) any other energy source designated in writing by the Minister.

Ministerial responsibility

4. The Minister has responsibility for the formulation of the National Renewable Energy Policy and for providing policy direction for the achievement of the object of this Act.

Responsibilities of institutions

Responsibilities of Energy Commission

5. The Energy Commission shall

- (a) advise the Minister on renewable energy technologies;
- (b) create a platform for collaboration between government and the private sector and civil society for the promotion of renewable energy sources;
- (c) prepare in collaboration with relevant stakeholders, the educational curriculum on efficient use of renewable energy sources and evolve programmes for its mainstreaming on the educational curriculum of educational institutions;
- (d) recommend for exemption from customs, levies and other duties, equipment and machinery necessary for the development, production and utilisation of renewable energy sources;
- (e) recommend financial incentives necessary for the development, production and utilisation of renewable energy sources;
- (f) promote the local manufacture of components to facilitate the rapid growth of renewable energy sources;
- (g) promote plans for training and supporting local experts in the field of renewable energy;
- (h) promote the technical benefits of biofuel to facilitate its utilisation; and
- (i) implement the provisions of this Act.

Responsibilities of Public Utilities Regulatory Commission

6. The Public Utilities Regulatory Commission shall for the purpose of the implementation of this Act, approve

- (a) rates chargeable for the purchase of electricity from renewable energy sources by public utilities;
- (b) charges for grid connection; and
- (c) rates chargeable for wheeling of electricity from renewable energy sources.

Public utilities

7. A public utility licensed under the Energy Commission Act, 1997 (Act 541) to transmit or distribute electricity, shall comply with the relevant provisions of this Act and in general, facilitate the attainment of the object of this Act.

Collaboration of relevant institutions

8. (1) The relevant institutions responsible for the development, promotion, management and utilisation of renewable energy sources shall collaborate with the Commission in the exercise of its powers and performance of its functions under this Act.

(2) For the purposes of subsection (1), relevant institutions include

- (a) the Ghana Standards Board;
- (b) the Forestry Commission;
- (c) the Lands Commission;
- (d) the Environmental Protection Agency;
- (e) the Ministry of Food and Agriculture;
- (f) Metropolitan, Municipal and District Assemblies of Local Government;
- (g) the National Petroleum Authority; and
- (h) any other institution designated by the Minister by publication in *Gazette*.

Licensing provisions

Requirement for licence

9. (1) A person shall not engage in a commercial activity in the renewable energy industry without a licence granted under this Act.

(2) For the purposes of this Act, the commercial activities in the renewable energy industry are

- (a) importation;
- (b) exportation;
- (c) re-exportation;
- (d) production;
- (e) shipment;
- (f) transportation;
- (g) manufacturing;
- (h) assembling;
- (i) maintenance;
- (j) processing;
- (k) refining;
- (l) storage;
- (m) distributions;
- (n) installation;
- (o) marketing; and
- (p) sale.

(3) The Commission may by legislative instrument limit or expand the scope of activities under subsection (2).

Qualification for licence

10. A licence under this Act may only be granted to

- (a) a citizen,
- (b) a body corporate registered under the Companies Act, 1963 (Act 179) or under any other law of Ghana; or
- (c) a partnership registered under the Incorporated Private Partnerships Act, 1962 (Act 152).

Application for licence

11. (1) An application for a licence shall be made to the Commission in the prescribed form accompanied with the prescribed fee and information required by the Commission.

(2) The Board shall

- (a) acknowledge receipt of an application within ten working days after receipt, and
- (b) inform the applicant in writing of the decision of the Board within sixty days after the ten days.

Grant of licence

12. (1) Where an applicant meets the conditions required by this Act for a licence to engage in commercial activity in the renewable energy industry, the Board shall grant the application and issue the applicant with the licence.

(2) Despite subsection (1), the Board may for compelling reasons founded on

- (a) technical data;
- (b) national security;
- (c) public safety;
- (d) food security;
- (e) health; and
- (f) environmental safety

reject the application for a licence to engage in commercial activity in the renewable energy industry.

Conditions of licence

13. (1) A licence granted by the Commission is subject to the conditions specified in the licence having regard to the functions of the Commission and the nature of the licence

required.

(2) Without limiting subsection (1), a licence granted under this Act may include conditions requiring the licensee to provide the Commission with the documents, accounts, estimates, returns, environmental impact assessment and management plans or any other information that the Board may require for the purpose of performing its functions under this Act in the manner and at the times as may be reasonably required.

Non-transferability of licence

14. A licence granted under this Act is not transferable except with the prior written approval of the Board.

Duration and renewal of licence

15. (1) A licence granted under this Act is for the period specified in the licence and may be renewed.

(2) An application for the renewal of licence shall be made to the Commission not later than sixty days before the licence expires.

(3) The procedure for the renewal of a licence granted under this Act shall be the same as that applicable to the granting of the original licence.

(4) A licensee who fails to renew the licence or that has the application for the renewal of the licence rejected by the Board shall cease to provide the services to which the licence relates.

Power to modify licence

16. (1) Subject to this Act and Regulations made under it, the Board may modify a licence granted under this Act if the modification is in accordance with terms of the licence or is required in the public interest.

(2) A modification shall not be made unless the Board has given the licensee and the general public at least sixty working days notice

(a) stating that the Board proposes to make the modification;

(b) setting out the effect of the modification; and

(c) inviting representations or objections regarding the modification for consideration.

(3) The Board shall consider the representations or objections that are made to it before the modification is made.

(4) The notice shall be given by

(a) publication, in the manner that the Board considers appropriate, for the purpose of bringing the matters to which the notice relates to the attention of persons likely to be affected by it; and

(b) sending a personal copy of the notice to the licensee

for the purposes of bringing the matters to which the notice relates to the attention of persons likely to be affected by it.

(5) The expense incurred or damage caused as a result of a modification to a licence shall be considered as part of the capital expenditure of the licensee.

Suspension or cancellation of licence

17. (1) Where the Board is satisfied that a licensee is not complying with or has not complied with any of the conditions of the licence, the Board may suspend or cancel the licence.

(2) A suspension or cancellation shall not be made unless the Board has given the licensee

(a) written notice specifying in it, the cause of dissatisfaction of the Board requiring the suspension or cancellation of the licence,

(b) the directions for the rectification of the breach, and

(c) the action proposed to be taken by the Board in the event of non compliance with the notice.

(3) The Board shall

(a) not suspend or cancel a licence without first giving the licensee an opportunity of being heard, and

(b) where considers it appropriate, give a period that the Board considers reasonable for the compliance with the directions of the Board.

(4) The Board shall consider the extent to which a person is likely to sustain loss or damage as a result of the suspension or cancellation of the licence in determining whether it is necessary to suspend or cancel the licence.

(5) A licence which is not utilised within one year after the date of its grant may be cancelled by the Board after notice of not less than thirty days has been served on the licensee.

Complaint to the Minister

18. (1) A person aggrieved by the refusal of the Commission to grant or renew the licence or by a modification, suspension or cancellation of a licence may lodge a complaint with the Minister who shall within thirty days after receipt of the complaint, make a decision on it.

(2) A person may pursue the matter in Court if that person is dissatisfied with the decision of the Minister or where the thirty days has expired without a decision made by the Minister.

Settlement of disputes by arbitration

19. (1) The Board shall set up an arbitration panel under the Alternative Dispute Resolution Act, 2010 (Act 798) at the request of a licensed person.

(2) The arbitration panel is to arbitrate and settle any dispute that arises between licensees where the parties concerned cannot reach an agreement.

Special requirements relating to licences

Application

20. Without limiting the provisions of section 12, sections 20 to 24 shall apply to licences for the following activities:

- (a) production;
- (b) transportation;
- (c) storage;
- (d) marketing; and
- (e) installation and maintenance.

Production and supply licence

21. Where the Board grants a licence to an applicant to produce and supply a renewable energy product, the licensee shall

- (a) manufacture and assemble that renewable energy product;
- (b) install, generate and supply electrical energy; or
- (c) produce biofuel or woodfuel

in accordance with the directives of the Commission.

Bulk storage licence

22. (1) Where the Board grants a licence to an applicant to store renewable energy products in commercial quantities, the licensee shall install a facility for the storage of the renewable energy products.

- (2) The suitability of a facility shall be determined by the Commission.
- (3) The Commission shall determine what constitutes commercial quantities.

Marketing licence

23. Where the Board grants a licence to an applicant to market a renewable energy product, the licensee shall obtain approval from the Commission approval for the export of each consignment of woodfuel and biofuel.

Installation and maintenance licence

24. (1) Where the Board grants a licence to an applicant to provide for the installation and maintenance services for a renewable energy system, the licensee shall engage in a commercial activity that correlates to the specific renewable energy technology.

(2) For the purpose of this section, a 'specific renewable energy technology' includes technologies for solar, wind, mini hydro, biogas digester, charcoal kilns and a biofuel processing plant.

Bulk transportation licence

25. (1) Where the Board grants a licence to an applicant to transport renewable energy products, the licensee shall

- (a) transport biofuel products, or woodfuel, and
- (b) use a registered vehicle to transport the biofuel product or woodfuel product

in accordance with the directives of the Commission.

(2) For the purpose of this section, 'a registered vehicle' is a vehicle that has been registered with the Commission to transport biofuel and woodfuel products.

Requirements for electricity generation

Feed-in-tariff scheme

26. (1) There is established by this Act a feed-in-tariff scheme for the purpose of guaranteeing the sale of electricity generated from renewable energy sources.

(2) The feed-in-tariff scheme consists of

- (a) the renewable energy purchase obligation;
- (b) the feed-in-tariff rate; and
- (c) a connection to transmission and distribution systems.

Renewable energy purchase obligation

27. (1) An electricity distribution utility shall procure a specified percentage of its total purchase of electricity from renewable energy sources.

(2) The Public Utilities Regulatory Commission shall specify the percentage level of electricity to be purchased by the electricity distribution utility in consultation with the Energy Commission.

(3) The Public Utilities Regulatory Commission shall take into account the

- (a) technology being used to generate electricity from renewable energy sources;

- (b) assurance of the financial integrity of public utilities; and
- (c) net effect of the cost of renewable energy on the end user tariff,

in specifying the percentage level of electricity.

- (4) A bulk customer permitted by the Commission, shall
 - (a) purchase a specified percentage of its total purchase of electricity from renewable energy sources; or
 - (b) pay to the Commission a premium as determined by the Commission.

(5) The premium payable shall be paid by the Commission into the bank account opened for the purpose under section 34.

- (6) For the purposes of this section
 - (a) a 'premium' means the amount payable by the bulk customer instead of the purchase of electricity required under subsection (4) (a); and
 - (b) 'bulk customer' means a customer that purchases or receives electricity in the amount or level specified by the Board.

Feed-in-tariff rates

28. (1) An electricity distribution utility shall not buy or negotiate a Power Purchase Agreement with a generator of electricity from renewable energy sources unless it is in accordance with guidelines provided by the Public Utilities Regulatory Commission.

(2) The Public Utilities Regulatory Commission shall prepare and provide public utilities with guidelines on the level of rates that may be charged by the public utility for electricity generated from renewable energy sources.

- (3) The Public Utilities Regulatory Commission shall take into account the
 - (a) technology being used in the renewable energy industry;
 - (b) location of the generation facility;
 - (c) operating norms for the specific technology under consideration;

- (d) costs associated with construction, commissioning, operation and maintenance of the plant;
- (e) the reasonable rate of return; and
- (f) the balance between the interest of the consumer and the investor,

in preparing the guidelines.

(4) The feed-in-tariff rate fixed for electricity from renewable energy sources shall be guaranteed for a period of ten years and subsequently be subject to review every two years.

(5) The Public Utilities Regulatory Commission shall, in determining the mechanism for the regulated electricity market, factor into the tariff the price differential between the purchase price of electricity generated from renewable energy sources and the price of electricity purchased from other sources.

Approval of feed-in-tariff rates

29. (1) A public utility shall not demand a feed-in-tariff rate for electricity generated from renewable energy sources unless the feed-in-tariff rate chargeable has been approved by the Public Utilities Regulatory Commission.

(2) A public utility shall not directly or indirectly demand or receive a feed-in-tariff rate higher than the feed-in-tariff rate approved by the Public Utilities Regulatory Commission in relation to electricity generated from renewable energy sources.

(3) Despite section 26 (2), a public utility may demand and receive from a consumer a higher feed-in-tariff rate agreed to by both the public utility and the consumer with the written permission of the Public Utilities Regulatory Commission.

(4) The power to approve a rate under this section shall not apply to the export of electricity generated from renewable energy sources.

Publication of feed-in-tariff rates

30. Feed-in-tariff rates approved by the Public Utilities Regulatory Commission for electricity generated from renewable energy sources shall be published by the Commission in the *Gazette* and the mass media.

Connection to transmission and distribution systems

31. (1) An operator of a transmission or distribution system shall connect a generator of electricity from a renewable energy source within the coverage area of the transmission or distribution system where a generator of electricity from renewable energy sources so requests.

(2) An operator of a transmission or distribution system shall

- (a) upgrade the transmission or distribution system at reasonable economic expense to feed in the electricity from the generator of electricity from renewable energy sources; and
- (b) upgrade the transmission and distribution system as soon as practicable if so requested by a generator interested in feeding in electricity.

(3) The cost of upgrading the transmission or distribution system shall be shared equally between the operator of the transmission or distribution system and the generator of electricity from renewable energy sources.

(4) The costs associated with connecting installations to the metering point shall be borne by the generator of electricity from renewable energy sources.

(5) For the purposes of subsection (1), the operator of a transmission or distribution system shall enter into a connection agreement with a generator of electricity from renewable energy sources within the coverage area of the transmission or distribution system.

Establishment and management of the Renewable Energy Fund

Establishment of the Renewable Energy Fund

32. There is established by this Act the Renewable Energy Fund.

Object of the Fund

33. (1) The object of the Fund is to provide financial resources for the promotion, development and utilization of renewable energy sources.

(2) For the purposes of achieving the object of the Fund, moneys from the Fund shall be applied to the relevant activities that the Board of the Commission may determine including

- (a) the promotion of
 - (i) grid interactive renewable electricity by means of financial incentives, feed-in-tariffs and capital subsidies;
 - (ii) scientific and technological research into renewable energy;
 - (iii) research into the establishment of standards for the utilisation of renewable energy;
 - (iv) the production of equipment for the development and utilisation of renewable energy in the country;
 - (v) programmes to adopt international best practices;
 - (vi) mini grid and off grid renewable power systems for remote areas and islands; and
 - (vii) renewable energy projects for non-electricity purposes;
- (b) the development of
 - (i) infrastructure for renewable energy;
 - (ii) renewable energy projects; and
 - (iii) capacity building for the energy sector;
- (c) the provision of production based subsidies for renewable generation; and
- (d) equity participation in renewable energy projects.

(3) For the purposes of this section, 'equity participation' means the participation in the ownership of an organisation or venture through an investment for renewable energy.

Sources of money for the Fund

34. The sources of money for the Fund are

- (a) moneys provided by Parliament,
- (b) the premium payable under section 26 (4) (b),
- (c) donations, grants and gifts received for renewable energy activities,
- (d) money generated from the provision of services for renewable energy activities;
- (e) moneys lodged in the Energy Fund established under the Energy Commission Act, 1997 (Act 541) for the promotion of projects for the development and utilisation of renewable energy resources, including solar energy, and
- (f) any other moneys that are approved by the Minister responsible for Finance.

Bank account for the Fund

35. (1) The moneys for the Fund shall be paid into a bank account for the purpose, opened by the Commission with the approval of the Controller and Accountant-General.

(2) The bank account for the Fund shall be kept separate from the bank account for any other Fund that relates to energy resources.

(3) Any person in possession of money intended for the Fund shall pay the money into a bank account opened under subsection (1) on the next working day after receipt of the money.

Management of the Fund

36. (1) Moneys for the Fund shall be vested in the Board.

(2) The Board of the Energy Commission is responsible for the management of the Fund subject to the Financial Administration Act, 2003 (Act 654).

(3) The Board shall

- (a) pursue policies to achieve the object of the Fund;
- (b) collect or arrange to be collected, moneys lawfully due to the Fund, through procedures determined by the Minister;

- (c) ensure accountability of the Fund by defining appropriate procedures for the Fund;
- (d) with the approval of the Minister prepare and publish the criteria for the disbursement of moneys from the Fund;
- (e) disburse moneys from the Fund;
- (f) receive and examine reports from designated persons or institutions in respect of financial assistance granted those persons or institutions; and
- (g) perform any other function assigned to it under this Act or incidental to the achievement of the object of the Fund.

Internally generated funds

37. (1) Subject to the Ministries, Departments and Agencies (Retention of Funds) Act, 2007 (Act 735), the Fund is authorised to retain moneys realised in the performance of its functions.

(2) The preparation and submission of estimates and the reporting and accounting of estimates are subject to the Financial Administration Act, 2003 (Act 654).

(3) The provisions of Article 187 of the Constitution which relate to the Auditor-General shall apply to the moneys retained under this Act.

(4) Despite any other provision in any enactment to the contrary, internally generated funds

- (a) can only be utilised when the activities on which the expenditure will be incurred have been programmed and approved in the expenditure budget of the Fund;
- (b) shall not be used for the payment of salaries, staff benefits and other allowances except where the allowances are directly related to the provision of services that will lead to increased revenue.

Tax exemption

38. The Fund is exempt from payment of tax.

Administrative expenses of the Fund

39. The administrative expenses of the Fund related to the management of the Fund shall be charged on the Fund.

Accounts and audit

40. (1) The Board shall keep books of account and proper records in relation to them in the form determined and approved by the Auditor-General.

(2) The Board shall submit the account of the Fund to the Auditor-General for audit within three months after the end of the financial year.

(3) The Auditor-General shall conduct the audit of the account exclusively for the Fund.

(4) The Auditor-General shall, not later than three months after the receipt of the accounts, audit the accounts and forward a copy of the audit report to the Minister.

(5) The financial year of the Commission shall be the same as the financial year of the Government.

Annual and other reports

41. (1) The Board shall within one month after the receipt of the audit report, submit an annual report to the Minister covering the activities and operations of the Fund for the year to which the report relates.

(2) The annual report shall include the report of the Auditor-General.

(3) The Minister shall within one month after receipt of the annual report submit the report to Parliament with a statement that the Minister considers necessary.

(4) The Board shall also submit to the Minister any other report which the Minister may require in writing.

Control and management of biofuel and woodfuel

Feedstock production

42. A licensee that has been granted a licence under this Act to produce biofuel from feedstock, shall obtain the relevant permit from the Ministry of Food and Agriculture and the

Environmental Protection Agency.

Designation and pricing of biofuel

43. (1) The Minister shall on the commencement of this Act, designate biofuel as a petroleum product in accordance with the National Petroleum Authority Act, 2005 (Act 691).
- (2) The National Petroleum Authority shall be responsible for the pricing of biofuel in accordance with the prescribed petroleum pricing formula provided for under the National Petroleum Authority Act, 2005 (Act 691).

Sale of biofuel blend

44. (1) For the purposes of this section, 'biofuel blend' is the combination of a proportion of biofuel and petroleum based fuel.
- (2) The proportion of biofuel in biofuel blend offered for sale to consumers at the point of sale, shall be determined from time to time by the National Petroleum Authority in consultation with the Energy Commission.
- (3) A person who sells biofuel at the point of sale shall display conspicuously the proportion of the biofuel contained in the biofuel blend.

Sustainability of woodfuel production

45. The Commission shall consult the Forestry Commission, the Environmental Protection Agency and any other relevant institution to develop programmes to sustain wood fuel production.

Miscellaneous provisions

Duty of renewable energy producers

46. A person licensed under this Act to produce renewable energy shall
- (a) maintain the equipment and property used in the provision of the service in a condition that would enable it to effectively provide the service;
 - (b) comply with technical standards and guidelines established by the Commission; and
 - (c) comply with the terms of the respective environmental impact assessment permit.

Integration of renewable energy projects into power system

47. The Public Utilities Regulatory Commission and the Energy Commission shall take into account the particular nature of the electricity generated from renewable energy sources to ensure that renewable energy projects are integrated into the power system in developing regulations and guidelines for the provision of electricity.

Offences and penalties

48. (1) A person who commits an offence under this Act is liable on summary conviction to

- (a) a fine of not more than two hundred and fifty penalty units or to a term of imprisonment of not more than two years or to both the fine and the imprisonment on the first offence; or
- (b) a fine of not more than five hundred penalty units or to a term of imprisonment of not more than four years or to both the fine and imprisonment for a subsequent offence.

(2) Where an offence under this Act or Regulations made under this Act is committed by a body of persons

- (a) in the case of a body corporate, other than a partnership, every director, manager, secretary or officer of similar status of that body corporate shall be deemed to have committed that offence;
- (b) in the case of a partnership, every partner or officer of similar status shall be deemed to have committed that offence

and is liable on summary conviction to a fine of not more than five thousand penalty units.

(3) A person shall not be convicted of an offence by virtue of subsection (2) if it is proved that

- (a) due diligence was exercised to secure compliance with the provisions of this Act, and
- (b) the offence was committed without the knowledge, consent or connivance of that person.

Modification of existing enactments

49. The provisions of the Energy Commission Act or any other relevant enactment shall have effect subject to the modifications necessary to give effect to this Act and to the extent that the provisions of an enactment are inconsistent with this Act, the provisions of this Act shall prevail.

Guidelines and codes of practice

50. (1) The Board may issue guidelines for the

- (a) development and utilisation of renewable energy sources;
- (b) connection of electricity generated from renewable energy sources to transmission or distribution systems; and
- (c) technical standards for the use of renewable energy sources.

(2) The Board may publish guidelines in the *Gazette* or in another print media determined by the Board.

(3) Where the Board amends or revokes a guideline, it shall publish the amendment or revocation in the *Gazette* or in another print media determined by the Board.

(4) A person shall not incur a civil or criminal liability for the contravention of a guideline issued under this section.

(5) Despite subsection (4), the Board may impose the following sanctions for deliberate refusal to apply the guidelines:

- (a) imposition of a fine not exceeding one thousand penalty units,
- (b) suspension or revocation of a licence, and
- (c) another administrative sanctions determined by the Board.

(6) In any proceedings, where the Court is satisfied that a guideline is relevant to the determination of a matter

- (a) the guideline shall be admissible in evidence, and

- (b) proof as to whether or not a person contravened a guideline may be relied on by any party to the proceedings to establish or negate the matter.

(7) The Board may issue a code of practice for the purpose of giving effect to the provisions of this Act.

Regulations

51. The Minister may on the recommendation of the Board, by legislative instrument make Regulations

- (a) to prescribe standards for construction, operation and maintenance of facilities and installations in respect of biofuel and electricity from renewable energy sources;
- (b) to prescribe standards of performance for the development and utilisation of renewable energy resources;
- (c) to prescribe technical standards for the use of renewable energy sources;
- (d) for the control and management of
 - (i) biofuel, and
 - (ii) woodfuel;
- (e) to establish a scheme for creating, trading and extinguishing of renewable energy certificates;
- (f) to review the
 - (i) percentage level of the proportion of biofuel referred to in section 43 (2); and
 - (ii) producer prices for biofuel; and
- (g) to provide for any other matter necessary for the effective implementation of the provisions of this Act.

Interpretation

52. In this Bill unless the context otherwise requires

“animal waste” means livestock, manure or any other material like bedding, milk house waste, soil, hair, feathers or debris normally included in animal waste handling operations;

“Auditor-General” includes an auditor appointed by the Auditor-General;

“biodegradable” means material that has the

- (a) ability to break down safely and relatively quickly by biological means, into the raw materials of nature; or
- (b) proven capability to decompose into non-toxic soil, water, carbon dioxide or methane;

“biofuel” includes fuel, biodiesel, bioethanol and fuel produced from crops and plants;

“biofuel production” means the process and method employed to transform energy crops and plants into biofuel;

“biogas” means gas that comprises primarily of methane and carbon dioxide produced by the biological breakdown of organic matter in the absence of oxygen and produced by anaerobic digestion or fermentation of biodegradable materials like biomass manure sewage, municipal waste, green waste and energy crops;

“biogas digester” means an equipment that has the capacity to degrade organic matter to produce biogas;

“biomass” means organic matter like agricultural crops and residue, wood and wood waste, animal waste, aquatic plants and organic components of municipal and industrial waste;

“Board” means the governing body of the Energy Commission;

“Commission” means the Energy Commission established under the Energy Commission Act, 1997 (Act, 541);

“distribution system” means the portion of the equipment used to deliver electricity between the distribution utility and the customer or consumer;

“distribution utility” means a company that owns or operates the equipment or facilities that transmit or distribute electricity to the end-use customer and is the company indicated on the electricity bill;

“energy crop” includes a plant

- (a) that can be directly exploited for its energy content,
- (b) that is grown for the sole purpose of energy production but not for food production, or
- (c) that is grown specifically for its fuel value;

“energy security” means the availability, adequacy, reliability and environmentally sustainability of energy supply;

“energy sources” includes coal, wind, oil, gas or wood consumed in the generation of power;

“feedstock” means a material that can be used to produce biofuel;

“generator of electricity” means the person that generates electricity from renewable energy sources and supplies it to the general public;

“geothermal energy” means energy extracted from heat stored in the earth;

“grid connection” means the linkage between a renewable energy system and the utility grid;

“grid interactive renewable electricity” means a system which has the capacity to feed electricity from renewable energy source into the utility grid;

“hydro” means a project that has a generating capacity not exceeding 100 megawatts;

“industrial hazardous waste” means discarded solid or liquid waste from industrial activity that

- (a) contains any solvent, pesticide or paint stripper and one or more of 39 carcinogenic, mutagenic or teratogenic compounds at levels that exceed established limits; and that contained;
- (b) can catch fire easily like gasoline, paints and solvents;
- (c) is reactive or unstable enough to explode or release toxic fumes including acids, bases, ammonia and chlorine bleach, or
- (d) is capable of corroding metal containers like tanks, drums and barrels, industrial cleaning agents and oven and drain cleaners;

“industrial waste” means waste produced as a result of the industrial activity in a factory, mill or mine but that is neither hazardous nor toxic as waste fiber produced by agriculture and logging;

“landfill gas” means the gas produced in landfills due to the anaerobic digestion by microbes on any organic matter which can be collected and flared off or used to generate electricity in a thermal power plant;

“licensed facility” means a part of or the whole portion of a building, structure, equipment or plant that is licensed for the purpose of activities in the renewable energy industry;

“mini grid renewable power system” means a network of electricity supply from renewable energy technologies which is not connected to the grid;

“Minister” means the Minister responsible for Energy;

“municipal solid waste” includes waste that arises from domestic activity and is predominantly household commercial waste collected by a municipality within a given area in a solid or semi solid form but excludes industrial hazardous waste and toxic waste;

“non-depleting resources” means resources that replenish themselves or reproduce easily;

“ocean energy” means energy created by the power of ocean currents, waves and tides with the use of technology;

“off grid” renewable power system” means electricity supply from renewable energy technologies which is not connected to the grid;

“Power Purchase Agreement” means an agreement that sets out the rights and liabilities between the generator of electricity and the distribution utility;

“production based subsidy” means financial assistance given for the generation of electricity;

“public utility” means an institution which provides a basic service to the public, including water, electricity, transportation, or telecommunications;

“Public Utilities Regulatory Commission” means the Public Utilities Regulatory Commission established under the Public Utilities Regulatory Commission, Act 1997 (Act 538);

“renewable energy certificates” means a tradable environmental commodity that represents proof that electricity was generated from an acceptable source and which can be sold, traded or bartered by the owner of the certificate claiming to have purchased renewable energy;

“renewable energy product” means goods and service produced from renewable energy;

“renewable energy resources” means natural resources such as sunlight, wind, rain, tides and geothermal heat, which are renewable and naturally replenished;

“renewable energy sources” means renewable non-fossil energy sources like wind, solar, geothermal, wave, tidal, hydropower, biomass, landfill gas;

“renewable energy system” means equipment that transforms renewable energy sources into electrical or heat energy;

“sewage gas” means biogas produced by the digestion and incineration of sewage sludge which can be used to generate energy;

“thermal power plant” means a power plant that burns fossil fuels like coal, natural gas or petroleum to produce electricity;

“transmission system” means an interconnected group of electric transmission lines and associated equipment for moving or transferring electrical energy in bulk between points of supply and points at which it is transformed for delivery over the distribution system lines to consumers or is delivered to other electric systems;

“wheeling” means the use of the facilities of one transmission system to transmit power and energy from one power system to another; and

“woodfuel” includes firewood and charcoal.

Consequential amendment

53. (1) The Energy Commission Act, 1997 (Act 541) is amended in section 42 by the repeal of paragraph (b).

(2) The National Petroleum Authority Act, 2005 (Act 691) is amended in subsection (2)

(a) by the insertion after paragraph (m) of

“establish producer prices for biofuel and review these prices periodically”;
and

(b) in section 81 by the insertion of the definition of

“biofuel” means biodiesel and bio-ethanol fuels produced from crops and plants”

after “Base Convention”.