REGULATIONS FOR THE EVALUATION AND REVIEW OF APPLICATIONS PERTAINING TO RENEWABLE ENERGY ON AGRICULTURAL LAND

A. INTRODUCTION

Agriculture and its related activities is the cornerstone of any developing country. Not only is agriculture an economic asset, as it assists in the creation of jobs and alleviation of poverty, but it is also crucial in feeding a nation, which is essential for the well being and growth of its citizens.

In determining the role of agriculture in any country, it should be taken into consideration that agricultural production is influenced by global trends and production factors, international and local prices, and fluctuations in domestic supply and demand. Most often these impacts can not be seen immediately but are only visible over the long term. The impact of climate change on agricultural production further needs to be mitigated and managed. It is critical for a country to manage these fluctuations and work towards retaining its production capability to adhere to its food requirements. No country can afford to be too reliant on imports, or it could become a “hostage” to the demands of the supplying nation.

South Africa is a beautiful country with a diversity of fauna and flora not found elsewhere in the world. It is also a country characterized by extreme climatic conditions, with an annual rainfall varying from less than 200 mm in the western parts to more than 1000 mm in the eastern parts. The variance in the climate and types of soil places heavy demands on the producers, bearing in mind that the country has a limited amount of high potential agricultural land for sustained crop production.

Only approximately 4% of South Africa’s land is classified as having a high agricultural production potential. Many of this land has already been lost to non-agricultural land uses. The loss of agricultural land, in especially rural areas, undermine the economic base of the municipality as agriculture is the primary economic activity in most of these areas.

South Africa is also regarded as a developing country with a large urbanized population. There is tremendous pressure for current and future developments and the expansion of industries to facilitate the current growth. Through this growth requirement, heavy demands are made on the continued supply of electrical energy.

It is acknowledged that the continuous supply of energy and thus energy security is of great importance for the development of a country. Greenhouse – gas intensive electricity, derived from coal is unsustainable with an additional negative impact on agricultural production. South Africa has been promoting renewable energy through the White Paper on Energy (1998), the White Paper on Renewable Energy (2003), the South African Wind Energy Programme (2008 – 2010) and the South African Renewables Initiative (2010).

In managing the pressures on land, it is important to conduct land use in a way that it optimally adheres to the potential of the land. Consequently, it is imperative that all available land with the potential for producing sustained high crop yields, thus land with a high agricultural production potential, as well as land with a potential carrying capacity for livestock, be effectively utilized and protected for agricultural use. This will result in the continuous production of food, thereby addressing food security, and will further contribute to job creation, generation of income, and the upliftment of the community in general. Agricultural production or the use of land for any other purpose should nevertheless not be conducted in a way that it could result in the degradation or loss of the available natural resources.

The conflict between the potential of the land for production purposes and food security versus the pressure for land that can be used for other land uses makes heavy demands on the availability of land. The effective and sustainable utilization of land should therefore be based on its potential.

Knowledge of the land, the shortcomings and possibilities forms the basis of any successful and sustainable farming production. Over the years research in agriculture together with the practical experience gained by farmers has enabled South Africa, notwithstanding the harsh environmental conditions, to become largely self-sufficient in its agricultural production.

The Department of Agriculture, Forestry and Fisheries (DAFF) has the mandate to protect and manage the natural agricultural resource base of the country through current legislation, acts and policies. This especially has reference in ensuring that high potential and unique agricultural land is preserved for current and future production thereby ensuring sustainable utilization of the country's natural resource base and adhering to food security.

Two major acts are of relevance to this document namely the Conservation of Agricultural Resources (CARA) Act, 43 of 1983 and the Sub-division of Agricultural Land (SALA) Act, 70 of 1970.

CARA is regarded as one of the principal Acts governing the protection of agricultural natural resources. The main aim of the Act is to control the utilization of natural agricultural resources to ensure the conservation of soil, water and vegetation, as well as the combating of alien and invasive plants. According to Section 1 of the Act, conservation of natural agricultural resources includes the protection, recovery as well as the reclamation thereof.

It provides control measures for the cultivation of virgin soil (soil that has not previously been cultivated or not cultivated for at least ten years), the utilization and cultivation of land, including irrigated land, and the protection of water sources such as vleis (marshes, small lakes) and wetlands. It also includes control measures on the use of water to prevent water logging and regulate water flow patterns, the protection of vegetation, grazing potential of the veld, prevention of erosion and land degradation, construction and management of soil conservation structures, as well as the combating of weeds and invasive plants.

SALA's main objective is to manage the sub-division of agricultural land to prevent injudicious fragmentation of agricultural land and the creation of uneconomical units and thus manage the use of agricultural land.

Section 1 of the Act defines agricultural land as any land, except land that falls within the jurisdiction of a local authority (municipality/town council), village council, health board or committee or land included in Ordinances or excluded by the Minister by a notice in the

Government Gazette. The Act also excludes land defined as a township under the *Deeds Registries Act, 47 of 1937*, but excludes a private township not situated in a development area or land belonging to the State or held in a trust by the State or the Minister. The Act also excludes land that the Minister, after consultation with the Executive Committee, has excluded from the Act by notice in the *Government Gazette*.

Actions that the Act regulates include:

- Sub-division of agricultural land
- Transfer of agricultural land into undivided shares
- Leasing of agricultural land for periods longer than 10 years
- The registration of a servitude over agricultural land if wider than 15 metres
- The registration of a usufruct or right of *habitatio* over agricultural land
- Establishment or extension of a township
- Registration of a share block scheme and a sectional title scheme.

The national norms applicable to Act 70 of 1970 include that a land unit, after sub-division, should be able to carry 60 large stock units per farm unit, calculated from the 1993 grazing capacity norms and standards regulated under CARA. In the case of dry land production, at least 100 ha of land should be available for production, whilst a minimum of 20 ha of arable land with 10 ha of water rights from a recognized water source will be permitted for irrigated land.

Renewable energy, read in the context of these regulations as wind and solar energy only, has the potential to compliment farming activities on farm, provided that it is done in the correct manner, with limited or no negative impact on existing or future farming activities and with limited or no negative impact on the status of the natural resource base. It creates the opportunity for a farmer to continue with its current farming operations, whilst making available parts of his farm land, not utilized for farming practices, for utilization by renewable energy related projects.

In view of the above it is therefore important that the establishment of renewable energy related structures and related supporting infrastructure be managed in such a manner that it will not negatively impact on agricultural land and its associated production practices, nor result in the loss of high potential and unique agricultural land.

B. REGULATIONS

The following regulations aim to adhere to the requirements and specifications as stated in the mentioned Act. The regulations should be seen in context with another and not as separate entities and should be adhered to or taken into consideration when establishing a renewable energy operation with its associated structures:

1. No renewable energy structure, its foot print, service area, supporting infrastructure or access routes in any form or for any purpose will be allowed on high potential or unique agricultural land as has been determined or identified by DAFF or the relevant provincial Department of Agriculture through its existing or future developed spatial information data sets and / or through a detail agricultural potential survey. Any area under any form of irrigation is also defined as high potential agricultural land

2. No renewable energy structure, its foot print, service area, supporting infrastructure or access routes in any form or for any purpose will be allowed on areas currently being cultivated (cultivated fields/ production areas) or on land that have been cultivated in the last ten years. This is relevant to cultivated land utilized for dry land production as well as land under any form of irrigation

3. No sub-division of agricultural land will be allowed to accommodate the establishment of any renewable energy structure, supporting infrastructure or access routes in any form or for any purpose unless the application adheres to the norms and standards for approval of the sub-division of agricultural land

4. Change of land use on demarcated agricultural land for the establishment of any renewable energy structure, supporting infrastructure or access routes in any form or for any purpose will be reviewed on merit and informed or guided by the relevant planning legislation applicable to the area concerned. The recommended change of land use will be temporarily, depended on the life span of the project where after the land should revert back to agriculture automatically. This exemption will be underwritten by specific conditions to ensure continued agricultural production and the protection of the natural agricultural resources, where applicable.

5. No renewable energy structure, its foot print, service area, supporting infrastructure or access routes in any form or for any purpose should intervene with or impact negatively on existing or planned production areas (including grazing land) as well as agricultural infrastructure (silos, irrigation lines, pivot points, channels, feeding structures, dip tanks, grazing camps, animal housing, farm roads etc).

6. No renewable energy structure, its foot print, service area, supporting infrastructure or access routes in any form or for any purpose should result in a degradation of the natural resource base of the farm or surrounding areas. This include, but are not limited to, the limit of soil degradation or soil loss through erosion or any manner of soil degradation, the degradation of water resources (both quality and quantity) and the degradation of vegetation (composition and condition of both natural or established vegetation). It also should not impact negatively on:

   6.1. Wetlands (*land which is transitional between terrestrial and aquatic systems where the water table is usually at or near the surface, or the land is periodically covered with shallow water, and which land in normal circumstances supports or would support vegetation typically adapted to life in saturated soil*). No renewable energy structure, supporting infrastructure or access routes will be allowed on a wetland, vlei, pan, drainage line or any other water body unless otherwise approved by DAFF.

   6.2. Flow pattern of run-off water. No renewable energy structure, supporting infrastructure or access routes shall in any manner divert any run-off water from a water course to any other water course or obstruct the natural flow pattern of run off water, except with the permission from DAFF

   6.3. Utilization and protection of vegetation. Every care should be taken before, during and after the construction and future maintenance of the renewable energy structure, supporting infrastructure or access routes to protect the vegetation and veld condition against deterioration and destruction

7. No renewable energy structure, supporting infrastructure or access routes should result in soil loss as a result of erosion through the action of water or wind. It is the

responsibility of the owner of the renewable energy project to ensure that suitable soil conservation works be established on the site to limited or restrict the loss of soil.

8. No renewable energy structure, its foot print, service area, supporting infrastructure or access routes in any form or for any purpose should result in a degradation of existing soil conservation work. This includes but are not limited to:

    8.1. Established contour banks. Where possible every care should be taken not to erect a renewable energy structure, supporting infrastructure or access routes on an existing established contour bank. Should it however necessitate such an action (per approval from DAFF) all precautionary actions should be taken not to degrade the contour bank. The applicant has the responsibility to ensure that a contour bank should be re-establish in a suited standard, as approved by a qualified soil conservation specialist

    8.2. Waterways (*an artificial flow path constructed on land in order to carry away run-off water without causing excessive soil loss*). Where possible every care should be taken not to erect a renewable energy structure, supporting infrastructure or access routes on an existing established waterway. Should it however necessitate such an action (per approval from DAFF) all precautionary actions should be taken not to degrade the waterway. The applicant has the responsibility to ensure that a waterway should be re-establish in a suited standard, as approved by a qualified soil conservation specialist

9. Renewable energy structures or supporting infrastructure should, where possible, not be established on slopes (*the vertical difference in height between the highest and the lowest points of that portion of land, expressed as a percentage of the horizontal distance between those two points*) of more than 20%. Should there however be no other suitable site, every care should be taken not to cause erosion in any form on the site concerned. This may necessitate the establishment of contours, terraces, gabion structures or any other soil conservation feature that may deem to be necessary.

10. All access routes, existing or newly constructed and utilized during the construction and / or maintenance of the renewable energy structures should be restore to its original state after completion of the establishment of the structures. Ever care should be taken not to damage or degrade the status of the natural resources base of the farm during the construction phase of the mentioned or to impact negatively on the farming or production practices on the farm

11. All service routes that will be used to gain access to the renewable energy structures for maintenance purposes have to be covered in gravel, tarred or compressed in order to limit the possibility of degradation and erosion

12. The installation of the underground power cables should not negatively impact on the resource base of the site. During the installation no soil conservation structure should be disturbed, the soil texture should be restored, the work area should not be wider than 5 m, should not be directed through existing or future cultivated land nor impact negatively on existing farming infrastructure or any farming activity

13. A lease agreement under Act 70 of 1970 if granted and conceded to will be granted for a period of maximum 25 years or shorter period as may have been applied for by the Applicant

14. The lease agreement should be transferred to the new land owner, should the farmer decide to sell the property during the time period of the current lease agreement. DAFF needs to be informed of the transfer of the lease agreement upon which a new approval number will be issued. Supporting documentation should be provided that the new land owner concur with the specifications of the existing lease agreement

15. DAFF will comment and raise its concerns pertaining to the EIA Regulations operational under the National Environmental Management Act through the registration of an “Affected and interested party” and through formal interaction with the Department of Environmental Affairs.

16. The Department reserves the right to visit the renewable energy site at any time without prior arrangement to review the status of the natural resource base and the impact of the renewable energy structures. Should it be found that a degradation of the resource base has occurred as a result of the renewable energy structures or

related activities, it will be the responsibility of the renewable energy structure lessee to restore the resource base at his / her own cost and within time frames as indicated by DAFF.

C. REQUIREMENTS AND SUPPORTING DOCUMENTATION

The following documentation should accompany an application for the establishment of a renewable energy project on land demarcated as agricultural land under Act 70 of 1970:

1. A complete application form required under Act 70 of 1970 should be completed with supporting documentation that may include, but are not limited to:
   1.1. Title deed of the farm concerned
   1.2. Power of attorney (if applicable)
   1.3. Locality plan of the site in question
   1.4. Site plan. This plan should include:
      1.4.1. The locality of the proposed renewable energy structures, its foot print, service area, supporting infrastructure, sub-stations or access routes in any form or for any purpose. It should clearly indicate the locality of the renewable energy structures, underground cables, generator room and connection to the national power grid
      1.4.2. Access routes that will be used or constructed during the construction phase. A rehabilitation plan to rehabilitate the roads after construction should be included
      1.4.3. Access routes that will be utilized during the maintenance of the structures as well as the upper layer / method that will be used to ensure limited degradation of the road and surrounding area as stated in the guidelines

2. Motivation as the reason for the selection of the site concerned

3. Approval letter from the land owner for utilizing the site and adhering to conditions as stated in the guidelines

4. A detailed agricultural study comprising of the following:
   4.1. Detailed soil assessment of the site in question, incorporating a radius of 50 m surrounding the site, on a scale of 1:10 000 or finer. The soil assessment should include the following:
      4.1.1. Identification of the soil forms present on site
      4.1.2. The size of the area where a particular soil form is found
      4.1.3. GPS readings of soil survey points
      4.1.4. The depth of the soil at each survey point
      4.1.5. Soil colour
      4.1.6. Limiting factors
      4.1.7. Clay content of the top and sub soil layers
      4.1.8. A detailed map indicating the locality of the soil forms within the specified area, on a scale of 1: 10 000 or finer
      4.1.9. Slope of the site
      4.1.10. Size of the affected site
      4.1.11. Current activities on the site, developments, buildings
      4.1.12. Surrounding developments / land uses and activities in a radius of 500 m of the site
      4.1.13. Current status of the land (including erosion, vegetation and a degradation assessment)
      4.1.14. Possible land use options for the site
      4.1.15. Impact of the change of land use on the surrounding area
      4.1.16. A shape file containing the soil forms and relevant attribute data as depicted on the map

   Such a study needs to be conducted by a registered agricultural specialist, as required by the *Natural Scientific Professions Act, 27 of 2003* through the South African Council for Natural Scientific Professions, in order to ensure the integrity of the report.

5. A copy of the Scoping report submitted to the relevant Department of Environmental Affairs under the National Environmental Management Act

6. A copy of the documentation submitted to the National Energy Regulator

7. A commitment letter from the renewable energy contractor accepting the responsibility for adhering to maintaining the status of the natural resource base of the area concerned

D. REFERENCES

1. ARC - ISCW. 2004. *Overview of the status of the agricultural natural resources of South Africa*. ARC-ISCW Report No GW/A/2004/13. Pretoria: ARC-ISCW.
2. Collett, A. 2008. *The determination, protection and management of high potential agricultural land in South Africa with special reference to Gauteng*. Unpublished MSc dissertation. Pretoria: University of Pretoria.
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5. South Africa (Republic). 1970. *Sub-division of Agricultural land Act, 70 of 1970*. Pretoria: Government Printer.