

Legal Analysis: Sustainability Criteria Compliance Review for *Jatropha curcas* Biofuels from the Dakatcha Woodland in Kenya

April 2011

Executive Summary

The European Union's Renewable Energy Directive contains a set of criteria designed to encourage the promotion of biofuels from sustainable sources. To count towards renewable energy targets in the EU and its Member States, and to receive financial support, biofuels must comply with these criteria. Current plans to produce biofuels from the *jatropha* feedstocks grown at the Dakatcha woodland, Kenya, would result in a number of breaches of the sustainability criteria. This is because:

1. Greenhouse gas emissions savings from Dakatcha biofuels would be insufficient, failing to meet savings targets.
2. The Dakatcha woodland is an area of high biodiversity value, inappropriate for conversion to biofuel production.
3. The Dakatcha woodland is land with high carbon stock, again, inappropriate for conversion to biofuel plantation according to the sustainability criteria.

Introduction

The Dakatcha woodland spans 32,000 hectares of land on the coast of Kenya, approximately 30 kilometres north-west of the town of Malindi. It is a gently undulating landscape of mainly dry forest, plus patches of dense thicket, and open woodlands, interspersed in places with active and abandoned farmlands.¹ The climate is arid and the rainfall is sparse.²

The site is one of two known habitats worldwide for the Clarke's weaver, an endangered bird species. Found in the Dakatcha woodland and in the Arabuko-Sokoke forest to the south, the Clarke's weaver is thought to nest only in Dakatcha. Several other threatened and endangered bird species also exist in the area, including the southern banded snake-eagle, Fischer's turaco, and the Sokoke pipit. The site is frequented by the African elephant and the golden-rumped sengi and it hosts at least 11 plant species known to be globally or nationally rare.³ The area performs important functions of water regulation and flood control.⁴ It is recognised as a critical conservation area.

The local Dakatcha communities rely on the woodland for several purposes. Selective logging—both commercial and subsistence—is a longstanding practice. Felling also occurs for charcoal production and, in some places, to clear lands for agricultural plots. Nature Kenya, an organisation promoting sound management and sustainable use of natural resources, has been operating in the area since 2006. Working with local community groups, Nature Kenya develops sustainable livelihood alternatives, including conservation agriculture, beekeeping and guided bird tours.⁵ ActionAid Kenya’s work in Dakatcha has focused on organizing and mobilizing communities, as well as informing them of their rights and how to make government institutions more accountable.

In 2009, Kenya Jatropha Energy Limited—owned by Italian company Nuove Iniziative Industriali Srl—proposed clearing 50,000 hectares in the Dakatcha area. The purpose was to develop a plantation for the biofuel crop *Jatropha curcas*. The Dakatcha Woodland Important Bird Area, a designation by BirdLife International, lies entirely within the proposed plantation. Although the destination of the jatropha biofuel is not confirmed, potential uses include: transport fuel in Kenya or either transport fuel or bioliquid for electricity generation purposes in the European Union, most likely in Italy.

The plantation is a divisive issue. The County Council of Malindi, which holds the Dakatcha land in trust for local communities, has broadly welcomed the plantation proposal (though it should be kept in mind that under on-going constitutional reforms, local communities are to be better included in land-use decisions so that authorizing use of the site for the plantation will not be within the power of the County Council).⁶ The Kenyan National Environmental Management Authority and the Kenyan Environment Minister have objected to the damage to an important habitat and requested that the project be scaled down to a pilot project pending further scientific evidence of jatropha viability. At the present time, local planning and environmental consent procedures are on-going. An environmental impact assessment has been prepared by a consultant on behalf of the developer, and made available for stakeholder consultation.

The following analysis considers whether jatropha biofuel produced at the Dakatcha site would meet sustainability criteria established under the European Union’s Renewable Energy Directive (RED).⁷ RED requires Member States overall to use renewable energy sources to meet 20% of all their energy needs and 10% of their transport demand by 2020. Under Article 17 of RED, only those biofuels meeting the sustainability criteria will qualify for these targets and associated subsidies (such as tax exemptions and direct support schemes):

“Irrespective of whether the raw materials were cultivated inside or outside the territory of the Community, energy from biofuels and bioliquids shall be taken into account for the purposes referred to in points (a), (b) and (c) only if they fulfil the sustainability criteria set out in paragraphs 2 to 6 [of Article 17]:

- (a) measuring compliance with the requirements of this Directive concerning national targets;
- (b) measuring compliance with renewable energy obligations;
- (c) eligibility for financial support for the consumption of biofuels and bioliquids.”

The Union legislature designed the sustainability criteria to ensure biofuels reduce greenhouse-gas (GHG) emissions while also preventing production on certain natural lands.

Although biofuels in breach of the sustainability criteria may still be imported into the European Union, those biofuels do not count toward national targets or renewable energy obligations and are ineligible to receive financial support. Such biofuels are unsustainable.

For purposes of this analysis, the relevant sustainability criteria are found in Articles 17(2), (3) and (4). Article 17(2) sets out minimum GHG emissions savings obligations. Article 17(3) precludes biofuels produced from lands deemed to be of high biodiversity value, namely certain forest lands, protected areas, and grasslands. Article 17(4) excludes biofuels produced on land with high carbon stocks.

The European Commission has issued a Communication on the practical implementation of the sustainability criteria, containing further details and interpretations.⁸ While not legally binding, the guidance contained in this Communication carries persuasive weight. Where relevant, the contents of the Communication are cited below.

The following discussion draws on a lifecycle analysis of projected GHG emissions savings commissioned by BirdLife International, the Royal Society for the Protection of Birds (RSPB) and ActionAid. It is further informed by details about the Dakatcha site and its fauna and flora provided by BirdLife International, RSPB and Nature Kenya.

Social issues, such as the implications of the proposed plantation for approximately 20,000 local people, are not addressed in the discussion below. This is because the sustainability criteria of the RED do not currently cover social issues - a major flaw of the Directive which severely undermines the credibility of its sustainability claims. Limitations of the biodiversity sustainability criteria are likewise a serious issue but beyond the immediate scope of this report, which will focus on existing breaches.

Breaches of the Sustainability Criteria

According to the current proposal, biofuels produced from *Jatropha curcas* in the Dakatcha area violate several sustainability criteria. Since the sustainability criteria operate individually, not cumulatively, any breach renders the biofuel ineligible for national targets, renewable energy obligations, and financial support.

Breach of Article 17(2) – The GHG-Savings Criterion

Article 17(2) outlines the GHG-savings criterion, requiring biofuels to meet certain GHG emissions savings compared to fossil fuels. The GHG-saving criterion promotes biofuels that achieve greater GHG savings over those that achieve less or none. Under RED, the required GHG-saving threshold increases over time, starting at 35% in 2009 before ratcheting up to 50% in 2017 and 60% in 2018 for new installations:

Article 17(2)

“The greenhouse gas emission saving from the use of biofuels and bioliquids taken into account for the purposes referred to in points (a), (b) and (c) of paragraph 1 shall be at least 35%.

With effect from 1 January 2017, the greenhouse gas emission saving from the use of biofuels and bioliquids taken into account for the purposes referred to in points (a), (b) and (c) of paragraph 1 shall be at least 50%. From 1 January 2018 that greenhouse gas emission saving shall be at least 60% for biofuels and bioliquids produced in installations in which production started on or after 1 January 2017.

The greenhouse gas emission saving from the use of biofuels and bioliquids shall be calculated in accordance with Article 19(1).”

Article 19(1) contains the rules for calculating total emissions from biofuel use. The overall approach compares total emissions from biofuels against the average emissions from fossil fuels—known as the fossil fuel comparator—to determine GHG emissions savings. For certain biofuel feedstocks, default values of their GHG emissions savings exist for the purposes of determining Article 17(2) compliance. For other feedstocks, however, it is necessary to calculate actual values using a methodology provided for in Annex V of RED. No default values currently exist⁹ for biofuels made from *jatropha*, so actual values must be calculated for the *jatropha* biofuels produced at the proposed Dakatcha plantation. The methodology includes consideration of emissions from the end use of the fuel plus emissions from its cultivation, processing and distribution. The GHG emissions released during the conversion of natural areas—referred to as direct land-use change—are also included, meaning those GHG emissions are factored into total GHG emissions from biofuel use. Fossil fuel comparator values for different end uses (including cogeneration and transport fuel) are provided in Annex V also.¹⁰

The Communication provides further information about the GHG-savings criterion. In Annex II, it describes additional considerations relevant to the calculation of actual values, including further details on determining where there has been direct land-use change. In addition, default values for carbon stocks in above- and below-ground vegetation—relevant to the

calculation of GHG emissions from direct land-use change—are set out in a Commission Decision of 10 June 2010.¹¹

Analysis:

North Energy Associates Limited produced a lifecycle analysis for the proposed jatropha biofuel grown at Dakatcha. The analysis calculates the total GHG emissions from use of the jatropha biofuel to ascertain compliance with Article 17(2). The results are presented in a report dated February 2011.¹² The report details the calculation of actual values for GHG emissions savings from jatropha biofuel grown at Dakatcha, measured against the fossil fuel comparator in accordance with legal obligations.¹³

Certain details regarding cultivation and processing operations at the jatropha plantation, relevant to the calculation of total GHG emissions from the fuel, have not been made available by the developer in the environmental impact assessment or elsewhere.¹⁴ This includes details regarding irrigation levels, nitrogen fertilizer application, and processing methods for turning the jatropha crop into biofuels. As a result, the North Energy report has used informed judgments and assumptions based on published sources to set parameters for these variables. In addition, the end use of the jatropha biofuel has not been categorically confirmed – so the North Energy report has considered a number of likely options. Overall calculations based on all these variants have been considered to ensure that all potentially possible combinations of likely production and use are covered.¹⁵ Elsewhere, the values specified in Annex V of RED have been used. The overall methodology employed by North Energy Associates complies with the requirements in RED, the Communication, and the Commission Decision.

For the calculation of emissions resulting from direct land-use change through conversion of the current Dakatcha landscape to plantation, the analysis uses the default carbon stock values for above- and below- ground vegetation provided in the Commission Decision. For this purpose, it was necessary to categorise the current land type at Dakatcha, and this was done using map data and local information about existing vegetation and land use provided by Nature Kenya. For completeness, three scenarios were modelled based on this information: (i) African dry scrubland; (ii) African dry forest with greater than 30% canopy cover and shifting cultivation with shortened fallow; and (iii) African non-degraded dry forest with greater than 30% canopy cover.¹⁶ Further details of the vegetation characteristics at Dakatcha and its categorisation for the purposes of RED are discussed below in relation to Article 17(4). For the GHG emission calculations, consideration of this range of alternative classifications provides coverage of all potentially relevant designations, and as will be seen, results in breaches of the GHG emissions savings criteria in all cases.

It was also assumed that the most likely jatropha yield would be 2.38 tonnes of dried seed per hectare per year, similar to that experienced in India where jatropha is more established. The North Energy report concludes that, if direct land-use change is included in the calculation of GHG emissions savings from jatropha biofuel, as required under existing law, the jatropha biofuel would violate the 35% GHG-savings threshold in Article 17(2) of RED under almost all of the tested scenarios. In fact, under most scenarios, not only would the jatropha biofuel fail to achieve GHG emission reductions, it would release more GHG emissions than fossil fuels:

“[F]or the basic results which assume an annualised dried seed yield of 2.38 t/ha.a, net GHG emissions savings are significantly negative in all instances. This means *that biofuels produced from this particular source have higher total GHG emissions than their fossil fuel alternatives*. The principal reason for

this is that substantial GHG emissions from the destruction of carbon stocks during conversion from either scrubland, or dry forest with greater than 30% canopy cover, subjected to shifting cultivation and shortened fallow, or undegraded, are spread over a relatively small output of biofuels resulting from the assumed yield of jatropha.¹⁷

North Energy Associates further subjected their calculations to sensitivity testing according to differing assumptions on jatropha yield. Yield was identified as the most influential parameter in the assessment of net GHG emissions when direct land-use change is taken into account.¹⁸ The sensitivity testing looks at a range of scenarios involving different fertilizer application rates, process energy sources and end-use applications, with and without direct land-use change, and identifies what yield of jatropha would be necessary in each of those scenarios to achieve the 35% target. The majority of the scenarios tested would require a jatropha yield greater than the highest yield projected by the developer - 11.9 t/ha.a - to reach the target.¹⁹ When direct land-use change is considered, only two sets of scenarios out of a total of twelve are feasible within this yield range:

“The current EC RED target of 35% for net GHG emissions savings might only be achieved for electricity generation in Kenya and cogeneration in Italy, if refined vegetable oil, for fuel use, rather than biodiesel was produced from jatropha grown with the developer’s highest expected annualised yield of 11.9 t/ha.a on land previously designated as dry scrubland in the Dakatcha woodlands of Kenya.”²⁰

A jatropha yield of 11.9 t/ha.a is described by North Energy Associates (based on their professional experience and reviews of current practice with jatropha cultivation) as “very high”.²¹ The developer’s environmental impact assessment does not specify clearly how this yield is expected to be obtained, lacking details such as specific irrigation parameters, and whether the yield estimates refer to dried jatropha seed or the fresh fruit (dried seed is assumed in the North Energy report).²²

It should also be noted that the sensitivity testing demonstrates that jatropha biofuel would fail to meet the more stringent 50% and 60% RED thresholds under any of the scenarios tested.²³

Breach of Article 17(3)(b) – The Biodiverse-Lands Criterion

Article 17(3) outlines the biodiverse-lands criterion preventing raw material from being obtained from land with high biodiversity value. In subsection (b), biodiverse lands include areas designated by law, by relevant competent authorities, and for the protection of threatened species recognized by international agreements or the International Union for the Conservation of Nature (IUCN):

Article 17(3)

“Biofuels and bioliquids taken into account for the purposes referred to in points (a), (b) and (c) of paragraph 1 shall not be made from raw material obtained from land with high biodiversity value, namely land that had one of the following statuses in or after January 2008, whether or not the land continues to have that status...

(b) areas designated:

- (i) by law or by the relevant competent authority for nature protection purposes; or
- (ii) for the protection of rare, threatened or endangered ecosystems or species recognised by international agreements or included in lists drawn up by intergovernmental organisations or the International Union for the Conservation of Nature, subject to their recognition in accordance with the second sub-paragraph of Article 18(4);

unless evidence is provided that the production of that raw material did not interfere with those nature protection purposes;”

Article 18(4) contains a procedure for EU recognition of voluntary national schemes, voluntary international schemes, and bilateral agreements with third countries as compliant with the biodiverse-lands criterion. It also states that:

“The Commission may also recognise areas for the protection of rare, threatened or endangered ecosystems or species recognised by international agreements or included in lists drawn up by intergovernmental organisations or the International Union for the Conservation of Nature for the purposes of Article 17(3)(b)(ii).”

Article 17(3)(b)(ii) therefore gives the Commission additional possibilities to recognize highly biodiverse lands notwithstanding that they have not been expressly designated by legislation or by the relevant competent authorities. To date, no such schemes or agreements have been recognised by the Commission, making Article 17(3)(b)(ii) inapplicable at the moment. It can be expected, however, that this will be remedied in the near future. Article 17(3)(b)(i) is immediately relevant for the present analysis. Each is addressed below.

Analysis:

The International Union for the Conservation of Nature (IUCN) recognises the Dakatcha woodland as a critical conservation area hosting several endangered, threatened, and vulnerable species. The IUCN Red List of Threatened Species contains the following fauna and flora which are present at the Dakatcha site:²⁴

- *Clarke's weaver*. This species of bird is listed as "endangered" by IUCN. The Dakatcha woodlands represent one of only two known habitats worldwide for the Clarke's weaver. Although no nest of the Clarke's Weaver has ever been discovered, specialists consider it most likely that the bird nests in Dakatcha.²⁵ The destruction of the Dakatcha woodlands would almost certainly lead to the extinction of this species.
- *Sokoke pipit*. This species of bird is listed as "endangered" by IUCN.
- *Malindi pipit*. This species of bird is listed as "near threatened" by IUCN.
- *Fischer's turaco*. This species of bird is listed as "near threatened" by IUCN.
- *Southern banded snake-eagle*. This species of bird is listed as "near threatened" by IUCN.
- *Golden-rumped sengi*. This mammal, more commonly known as the elephant shrew, is listed as "endangered" by IUCN.
- *African elephant*. This mammal is listed as "vulnerable" by IUCN.
- *Warburgia stuhlmannii* (mhirihiri tree), *Pavetta linearifolia*. These two tree species are listed as "vulnerable" by IUCN.²⁶

Under Article 17(3)(b)(i), areas designated by law or the relevant competent authority for nature protection purposes are precluded from conversion to biofuel production. A review did not reveal any nature protection laws under any international or domestic legislation covering the Dakatcha area. This criterion therefore turns on the question of designation by the relevant competent authority, which term is not defined under the Directive or associated guidance. The wording of Article 17(3)(b)(i) is significant, namely the reference to areas designated by law *or* by the relevant competent authority. It permits a broader interpretation than only areas designated under legislation.

The Dakatcha woodland is designated a Key Biodiversity Area (KBA), a system of sites of worldwide significance for biodiversity conservation originally developed by the IUCN. A KBA is identified using standard criteria and thresholds, designed to respond to the needs of species and populations requiring safeguards at the site scale. The criteria are based on a framework of vulnerability and irreplaceability factors widely used in systematic conservation planning.²⁷ Dakatcha's designation as a KBA reflects the fact that the area plays host to globally threatened species requiring in situ protection measures to prevent their extinction. The protected areas work developed by the IUCN is recognized in decisions of the Parties to the Convention on Biological Diversity.²⁸

The identification and designation of Dakatcha as a KBA was achieved through a consultative process involving government and non-governmental organisations in Kenya. The process was coordinated by the National Museums of Kenya, Conservation International, and the International Centre of Insect Physiology and Ecology. The National Museums of Kenya is a state agency mandated by an Act of Parliament for several purposes, including the identification, protection and conservation of Kenya's natural heritage.²⁹ In particular, the National Museums of Kenya is the government authority responsible for ornithological conservation in Kenya. It manages national databases on the conservation status of plant and animal species and coordinates KBA monitoring programmes, including Dakatcha, in

conjunction with other government agencies, namely the Kenya Wildlife Service, the Kenya Forest Service, and the National Environment Monitoring Authority.³⁰

The exclusion under Article 17(3)(b)(i) extends to areas designated for nature protection purposes by relevant competent authorities, such as the National Museums of Kenya, the Kenya Wildlife Service, the Kenya Forest Service, and the National Environmental Monitoring Authority. Dakatcha is identified and designated as a KBA by the Kenyan statutory authorities dealing with nature conservation, in general, and ornithological conservation, in particular. Conservation monitoring and protection measures reflecting this designation are operational, involving governmental and non-governmental agencies. Recognition of science-based designations of crucial biodiversity areas endorsed by national governmental authorities is consistent with the objectives underpinning the sustainability criteria.

In addition to the KBA designation, the Dakatcha woodland has been designated an Important Bird Area (IBA). IBAs are a designation created by BirdLife International identifying areas according to set criteria based on the occurrence of selected bird species that are vulnerable to global extinction.³¹ The Dakatcha site hosts several vulnerable species, triggering its designation as an IBA.³² As with KBAs, the IBA designation, management and monitoring process involves co-ordination between non-governmental agencies and government agencies including the National Museums of Kenya, Kenya Forest Service and Kenya Wildlife Service. In practice, the designation and management of the Dakatcha site as an IBA and a KBA operate in parallel.³³

Under Article 17(3)(b)(ii), sites not designated for nature protection purposes by a process involving law or the relevant authorities, but which nonetheless are important for the protection of recognized threatened species, including IUCN listed species, may be recognized by the Commission as highly biodiverse land under the Article 18(4) procedure. The Commission has not published any site recognitions under this procedure at the current time. As Dakatcha contains such threatened species, it is to be expected that it would be so recognized, and from that point would also be excluded from conversion to biofuel plantation by virtue of Article 17(3)(b)(ii) in addition to 17(3)(b)(i).

On the basis of the above, it can be concluded that Dakatcha's designation as a KBA and an IBA means that biofuels grown on the site would breach the sustainability requirements of Article 17(3)(b) protecting biodiverse lands from conversion.

Breach of Article 17(4) – The High-Carbon-Stocks Criterion

Article 17(4) outlines the high-carbon-stocks criterion, designed to prevent raw material from being obtained on land with high carbon stock. The high-carbon-stocks criterion protects wetlands, continuously forested areas, and lands with trees of certain height and canopy coverage:

Article 17(4)

“Biofuels and bioliquids taken into account for the purposes referred to in points (a), (b) and (c) of paragraph 1 shall not be made from raw material obtained from land with high carbon stock, namely land that had one of the following statuses in January 2008 and no longer has that status:

- (a) wetlands, namely land that is covered with or saturated by water permanently or for a significant part of the year;
- (b) continuously forested areas, namely land spanning more than one hectare with trees higher than five metres and a canopy cover of more than 30%, or trees able to reach those thresholds in situ;
- (c) land spanning more than one hectare with trees higher than five metres and a canopy cover of between 10% and 30% or trees able to reach those thresholds in situ, unless evidence is provided that the carbon stock of the area before and after conversion is such that, when the methodology laid down in part C of Annex V is applied, the conditions laid down in paragraph 2 of this Article would be fulfilled.

The provisions of this paragraph shall not apply if, at the time the raw material was obtained, the land had the same status as it had in January 2008.”

The Communication expands on the application of the high-carbon-stocks criterion. For present purposes paragraph 4.2.1 is relevant:

4.2.1. Continuously forested areas

“The term ‘continuously forested area’ is defined in the Directive as land spanning more than one hectare with trees higher than five metres and a canopy cover of more than 30%, or trees able to reach those thresholds in situ. It does not include land that is predominantly under agricultural or urban land use.

Certain categories of land with high carbon stocks will never be appropriate for conversion to biofuel plantations under the sustainability criteria. Others, namely those with 10-30% canopy coverage, may be if biofuels produced on those lands can otherwise meet the GHG-savings criterion. In the Communication, the Commission confirms this, stating that “[l]and use change that is not captured by this criterion [17(4)] still has to be taken into account in the calculation of the greenhouse gas impact.”³⁴

Analysis:

The vegetation at the Dakatcha site is dominated by *Brachystegia spiciformis* trees in its valleys and slopes and *Brachylaena huillensis*–*Cynometra webberi* on the low hills.³⁵ It is

identified by the IUCN as a "Forest Category" landscape.³⁶ This was also the status of the site in January 2008.

With respect to Article 17(4)(b), the Dakatcha woodland spans more than one hectare with trees of the requisite height and canopy coverage to qualify for protection as continuously forested land. The primary vegetation is *Brachystegia* woodland, composed of trees over 5 metres high and spreading broadly.³⁷ The canopy cover is above 40%.³⁸ There are also some patches described as scrub and dense broad-leaved thicket, which may be less than 5 metres high.³⁹ However, the former vegetation category comprising trees above 5 metres and with a canopy cover of over 40% is dominant – estimated to cover 70% of the site.⁴⁰ Conversion of more than one hectare of this dominant vegetation type to jatropha plantation at any one point would constitute a breach of Article 17(4)(b). Taking the Dakatcha site as a whole (and bearing in mind that the entire 32,000 hectares is threatened with conversion), neither the RED nor any of its associated guidance give any indication how the categorization of a landscape should be approached where tracts of land clearly covered by the high carbon land stock description are interspersed in places with other vegetation types. However, given the dominance of land meeting the 17(4)(b) description, the only practical interpretation is to treat the entire Dakatcha site as continuously forested.

Although parts of the Dakatcha landscape contain farms and homes,⁴¹ their presence is not sufficient to qualify it as predominantly under agricultural or urban use.⁴² The Communication clarifies that agricultural use refers to tree stands in agricultural production systems, such as fruit tree plantations, oil palm plantations and agroforestry systems when crops are grown under tree cover.⁴³ Urban use is given its normal meaning. Given the above, the Dakatcha woodland is best described as a continuously forested area in which some homes and farms are interspersed.⁴⁴ It cannot be described as land predominantly under agricultural or urban land use. Its conversion would constitute an impermissible change in status in violation of Article 17(4)(b).

The Dakatcha woodland therefore qualifies as land with high carbon stock. It may not be converted to a jatropha plantation without violating Article 17(4).

Conclusion

Biofuels produced from jatropha grown on the site of the Dakatcha woodland according to current proposals from Kenya Jatropha Energy Ltd violate several sustainability criteria in the RED.

- First, once the direct land-use change consequences of the plantation are included, the biofuels do not achieve required GHG savings thresholds. It therefore violates Article 17(2).
- Second, the relevant competent authorities have designated the Dakatcha woodland an area for nature protection purposes. It therefore qualifies as highly biodiverse lands whose conversion violates Article 17(3)(b)(i).
- Third, the Dakatcha land is a continuously forested area. It therefore qualifies as land with a high carbon stock whose conversion would violate Article 17(4)(b).

The Union legislature designed the sustainability criteria to protect natural areas precisely like the Dakatcha woodland. Any biofuels originating from the plantation as proposed may not count toward national targets or renewable energy obligations and are ineligible for financial assistance.

Annex

DIRECTIVE 2009/28/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

of 23 April 2009

on the promotion of the use of energy from renewable sources and amending and subsequently

repealing Directives 2001/77/EC and 2003/30/EC

Article 17

Sustainability criteria for biofuels and bioliquids

1. Irrespective of whether the raw materials were cultivated inside or outside the territory of the Community, energy from biofuels and bioliquids shall be taken into account for the purposes referred to in points (a), (b) and (c) only if they fulfil the sustainability criteria set out in paragraphs 2 to 6:

- (a) measuring compliance with the requirements of this Directive concerning national targets;
- (b) measuring compliance with renewable energy obligations;
- (c) eligibility for financial support for the consumption of biofuels and bioliquids.

However, biofuels and bioliquids produced from waste and residues, other than agricultural, aquaculture, fisheries and forestry residues, need only fulfil the sustainability criteria set out in paragraph 2 in order to be taken into account for the purposes referred to in points (a), (b) and (c).

2. The greenhouse gas emission saving from the use of biofuels and bioliquids taken into account for the purposes referred to in points (a), (b) and (c) of paragraph 1 shall be at least 35%.

With effect from 1 January 2017, the greenhouse gas emission saving from the use of biofuels and bioliquids taken into account for the purposes referred to in points (a), (b) and (c) of paragraph 1 shall be at least 50%. From 1 January 2018 that greenhouse gas emission saving shall be at least 60% for biofuels and bioliquids produced in installations in which production started on or after 1 January 2017.

The greenhouse gas emission saving from the use of biofuels and bioliquids shall be calculated in accordance with Article 19(1).

In the case of biofuels and bioliquids produced by installations that were in operation on 23 January 2008, the first subparagraph shall apply from 1 April 2013.

3. Biofuels and bioliquids taken into account for the purposes referred to in points (a), (b) and (c) of paragraph 1 shall not be made from raw material obtained from land with high biodiversity value, namely land that had one of the following statuses in or after January 2008, whether or not the land continues to have that status:

(a) [...]

(b) areas designated:

(i) by law or by the relevant competent authority for nature protection purposes; or

(ii) for the protection of rare, threatened or endangered ecosystems or species recognised by international agreements or included in lists drawn up by intergovernmental organisations or the International Union for the Conservation of Nature, subject to their recognition in accordance with the second subparagraph of Article 18(4);

unless evidence is provided that the production of that raw material did not interfere with those nature protection purposes;

(c) [...]

4. Biofuels and bioliquids taken into account for the purposes referred to in points (a), (b) and (c) of paragraph 1 shall not be made from raw material obtained from land with high carbon stock, namely land that had one of the following statuses in January 2008 and no longer has that status:

(a) wetlands, namely land that is covered with or saturated by water permanently or for a significant part of the year;

(b) continuously forested areas, namely land spanning more than one hectare with trees higher than five metres and a canopy cover of more than 30%, or trees able to reach those thresholds in situ;

(c) land spanning more than one hectare with trees higher than five metres and a canopy cover of between 10% and 30%, or trees able to reach those thresholds in situ, unless evidence is provided that the carbon stock of the area before and after conversion is such that, when the methodology laid down in part C of Annex V is applied, the conditions laid down in paragraph 2 of this Article would be fulfilled.

The provisions of this paragraph shall not apply if, at the time the raw material was obtained, the land had the same status as it had in January 2008.

¹ BirdLife International (2011) Important Bird Areas factsheet: Dakatcha Woodland. Downloaded from <http://www.birdlife.org> on 04/02/2011.

² RSPB Dakatcha casework summary at: <http://www.rspb.org.uk/ourwork/casework/details.aspx?id=tcm:9-263030>.

³ BirdLife International (2011) Important Bird Areas factsheet: Dakatcha Woodland. Downloaded from <http://www.birdlife.org> on 04/02/2011.

⁴ RSPB Dakatcha casework summary at: <http://www.rspb.org.uk/ourwork/casework/details.aspx?id=tcm:9-263030> and "Dakatcha woodland Important Bird Area", published by Nature Kenya, available at http://www.rspb.org.uk/Images/brochure_tcm9-264091.pdf.

⁵ Ibid.

⁶ See constitution of August 2010 which recognizes land ownership rights of local communities – currently undergoing implementation.

⁷ Directive 2009/98/EC on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC.

⁸ Communication from the Commission on the practical implementation of the EU biofuels and bioliquids sustainability scheme and on counting rules for biofuels (160/02) 2010/C.

⁹ Annex V, Parts A. and B.

¹⁰ Annex V, Part C.

¹¹ Decision 2010/335/EU on guidelines for the calculation of land carbon stocks for the purpose of Annex V of RED.

¹² Life Cycle Assessment of Refined Vegetable Oil and Biodiesel from Jatropha grown in Dakatcha Woodlands of Kenya, N.D. Mortimer, North Energy Associates Limited (February 2011).

¹³ I.e. in accordance with the methodology set out in Annex V section C of the RED, plus further guidance in section 3.3 and Annex II of the Communication and in accordance with Commission Decision of 10 June 2010.

¹⁴ Life Cycle Assessment, page 2.

¹⁵ Life Cycle Assessment, page 3.

¹⁶ Life Cycle Assessment, page 8.

¹⁷ Life Cycle Assessment, page 9 (emphasis added).

¹⁸ Life Cycle Assessment, page 11.

¹⁹ Life Cycle Assessment, see table page 13.

²⁰ Life Cycle Assessment, page 14.

²¹ Life Cycle Assessment, page 3.

²² Life Cycle Assessment, pages 3 and 13.

²³ Life Cycle Assessment, page 15.

²⁴ BirdLife International (2011) Important Bird Areas factsheet: Dakatcha Woodland. Downloaded from <http://www.birdlife.org> on 04/02/2011.

²⁵ "Dakatcha Woodland Important Bird Area", published by Nature Kenya, available at http://www.rspb.org.uk/Images/brochure_tcm9-264091.pdf.

²⁶ See www.iucnredlist.org/apps/redlist/search.

²⁷ IUCN *Identification and Gap Analysis of Key Biodiversity Areas, 2006* <http://data.iucn.org/dbtw-wpd/edocs/PAG-015.pdf>.

²⁸ See for example COP VII/28 of the Convention on Biological Diversity.

²⁹ National Museums and Heritage Act 2006 available at <http://www.kenyalaw.org/klr/index.php?id=7>.

³⁰ See <http://www.museums.or.ke/content/view/125/82/> Additional information provided by Nature Kenya.

³¹ It is worth noting that the scientific value of IBA designation criteria is judicially recognized in the EU (see - *Commission v Netherlands*, C-3/96, and *Commission v France* - "Basses Corbieres", C-374/98).

³² BirdLife International (2011) Important Bird Areas factsheet: Dakatcha Woodland. Downloaded from <http://www.birdlife.org> on 04/02/2011.

³³ Information provided by Nature Kenya (Matiku and Ngari), January 2011.

³⁴ Communication (160/02) 2010/C at Section 4.2, fourth paragraph.

³⁵ Ibid.

³⁶ BirdLife International (2011) Important Bird Areas factsheet: Dakatcha Woodland. Downloaded from <http://www.birdlife.org> on 04/02/2011

³⁷ Information provided by Nature Kenya, (Ng'weno) January 2011.

³⁸ Information provided by Nature Kenya, (Matiku) February 2011.

³⁹ Information provided by Nature Kenya, (Ng'weno) January 2011.

⁴⁰ Information provided by Nature Kenya, (Matiku) February 2011.

⁴¹ Ibid.

⁴² Communication (160/02) 2010/C at section 4.2.1.

⁴³ See footnote 6 to section 4.2.1 of Communication (160/02) 2010/C.

⁴⁴ BirdLife International (2011) Important Bird Areas factsheet: Dakatcha Woodland. Downloaded from <http://www.birdlife.org> on 04/02/2011; "Dakatcha woodland Important Bird Area", published by Nature Kenya, available at http://www.rspb.org.uk/Images/brochure_tcm9-264091.pdf.

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