Addax Bioenergy

A New Model for Sustainable Bioenergy

Addax Bioenergy, a subsidiary of the diversified investment group, AOG, is developing a Greenfield renewable energy and agriculture project at Makeni, Sierra Leone, that will produce bio-ethanol for export to Europe and for domestic use, and “green” electricity for approximately 20 percent of the national grid. Initiated in 2008, the project will become operational in 2014.

The project aims to become a model for sustainable investment in Africa, through the respect of strict sustainability standards and the introduction of innovative social solutions. These include extensive and transparent stakeholder dialogue, helping landowners establish deeds of land ownership, enhancing local food security and agricultural productivity, and extensive infrastructure development.

Efficient and Sustainable Biofuels
The Addax Bioenergy project consists of a sugarcane estate, an ethanol refinery and a biomass power plant that will supply the refinery and provide electricity to Sierra Leone’s national power grid.

Sierra Leone’s tropical climate provides perfect conditions for sugarcane, which is widely recognized as the most efficient and sustainable crop for biofuel production, thanks to its highly fermentable sugar content, its residual fibers ideal for power generation and the recycling of by-products into fertilizer. The high quality bioethanol and green electricity will help replace fossil fuels and reduce Greenhouse gas emissions.

Addax Bioenergy has chosen to develop the project in partnership with eight European and African development finance institutions (DFIs), reflecting its ambition to become a benchmark in responsible investing. The project complies with the world’s highest social and environmental standards, including the African Development Bank’s safeguards policies, the World Bank’s International Finance Corporation (IFC) performance standards, the EU renewable energy environmental and social sustainability criteria, and those of the Roundtable for Sustainable Biomaterials.

Oversight & Accountability
The Addax Bioenergy investment model includes a thorough feasibility phase from 2008 to 2010. This included an extensive Environmental, Social, Health Impacts Assessment (ESHIA), which has been applauded as ‘the gold standard’ of impact assessments by industry professionals and the European Commission. Conducted by independent consultants, it included GIS (geographic information system) analysis and fourteen specialist studies. The process resulted in the most extensive stakeholder dialogue ever performed in Sierra Leone, according to the country’s Environmental Protection Agency and local NGOs. It involved engagement with local landowners and Chiefdom Councils, who welcome the benefits the project is bringing to their communities, as well as local and national authorities and civil society. The feasibility phase also served to ensure that all the requirements for certification for export to Europe were fully met or exceeded.

A Model for Responsible Investment in Africa
The Addax Bioenergy investment model includes a number of steps to ensure the project is truly sustainable in the long-term and improves the quality of life for local residents. The model is delivering on its promises:

- **Transparent Land Lease Process.** The Addax Bioenergy dual land lease format constitutes the first public, coherent and transparent land lease process in the country and is championed as a model for sustainable business in Africa. The 14,300 hectare project area has been leased, not purchased, from local landowners through the local chieftoms, in compliance with the laws of Sierra Leone, after a long, transparent and public consultation process, which took two years to complete. Landowners and local authorities were represented by a respected law firm of their choosing to ensure negotiations were held on a level playing field.

Addax Bioenergy has introduced a major innovation to enhance landowners’ rights by charting their lands and producing maps, which are used to register their property deeds with the Registrar-General’s Office in Freetown and serve to ensure they receive the annual lease payments. It has also introduced Acknowledgement Agreements, signed directly with traditional landowners. This is the first time that landowners’ rights have been contractually confirmed by a company in Sierra Leone. At July 2013, a total of US$ 1,324,006 has been paid to the District Council/District Offices (50% goes to the land owners),
plus an additional US$ 437'150 paid directly to landowners in lease payments under the Acknowledgment Agreements. So far, compensation payments totalling US$ 1,583,170 or 6.87 billion Leones have been paid directly to landowners for asset values on land developed by the project.

In line with Addax Bioenergy’s sustainable policy of returning land which it will not develop, Addax Bioenergy, to date, has relinquished 7,285 hectares to the landowners and Chiefdoms, and intends to relinquish additional land in 2013.

- Food Security and Livelihood Improvement. Addax Bioenergy has contributed to food security in the region by developing more than 2,000 hectares of community fields for crop cultivation and by training 1,892 farmers (with equal numbers of men and women) to increase their productivity with improved agricultural practices at no cost to the communities. This Addax Farmer Development Program (DFP) is eliminating “hunger months” for the first time in many years and has become the largest food production program in the country. It is organised together with the UN Food and Agriculture Organization (FAO) and the Ministry of Agriculture, Forestry and Food Security to sustainably improve food security through better adapted farming methods.

The FDP includes a 30 week Farmer Field & Life School (FFLS) training programme to educate smallholder farmers in better agricultural practices. At July 2013, Addax has established 75 FFLS schools in the project area from which 1,892 farmers have graduated. The first 120 participants graduated in February 2011, the majority were women. The FAO recently estimated that by 2050, after land needed for food security has been set aside, more than 2 million hectares of arable land will be available for commercial agriculture in Sierra Leone. Addax Bioenergy is planting 10,000 hectares or 0.5% of this figure.

- Real Development – the Premises of a Virtuous Circle. The project is bringing concrete, lasting and sustainable development to one of the poorest areas of Africa. Hundreds of people in Makeni have already seen their livelihoods improved in the form of jobs, social services, health services and clean drinking water, to mention just a few benefits, while local authorities have also seen their incomes increase substantially.

- Employment and income: As of July 2013, the project employed 2'007 national staff. Recent surveys indicate that the average household income in the area has risen from US$ 8.01 in 2010 to US$ 24.39 in 2012, while the average income per capita is up over 70%. All employees - whether short term or permanent - receive formal contracts, are equipped with proper safety equipment and have access to health, transportation and housing benefits provided by Addax Bioenergy. Once the project becomes operational in 2014, it will have directly created over 2,000 jobs at more than twice the average minimum salary.

- Locally awarded contracts: In the period April 2010 – December 2012, the value of locally awarded contracts amounted to about US$ 9.92 million. As of July 2013, Addax Bioenergy has built about 344 km of roads, planted 2'901 hectares of sugarcane, and installed 75 center pivots.

- Total injection of cash and cash equivalents: In total during the period April 2010 – July 2013, Addax Bioenergy has injected US$ 51.39 million or 222.9 billion Leones in cash or cash equivalents into the local economy.

- Other developments: ongoing monitoring indicates that villagers are building new homes, are more likely to send their children to school, (as they are more able to pay school fees), that some village councils are planning to improve their schools and build new classrooms. These are a few indications of how the increased flow of money in the community as a result of the project is beginning to create a virtuous circle of self-sufficiency.

- Ongoing stakeholder engagement. Large-scale plantations can only be developed in close collaboration with local communities. Addax Bioenergy has thus adopted a bottom-up approach, cooperating in a close and transparent way with all stakeholders, particularly those in the project area. In parallel with the ESHIA and land lease processes mentioned above, the company has established Community Liaison Offices, Village Liaison Committees and District Liaison Committees and a formal grievance mechanism to receive and facilitate resolution of the communities’ concerns and grievances about the project. This mechanism ensures local people have the opportunity to make suggestions or lodge complaints, and it enables Addax Bioenergy to react to issues as they arise. All communities in the project area have Addax Bioenergy Fact Packs containing key project documentation.

The company has also initiated the Multi Stakeholder Forum (MSF), chaired by the University of Makeni, which organises quarterly meetings with a broad group of local stakeholders from the Bombali and Tonkolili Districts. Membership of the Multi Stakeholder Forum includes representatives of the District Councils, Chiefdom Councils, landowners, Civil Society Organisations, INGOs, women’s organisations, unions, government, and media amongst others. The MSF is a forum in which the participants are encouraged to express any issue they feel is of common interest and can discuss directly with Addax Bioenergy and other stakeholders. The MSF is also tasked to monitor the project and its developments.

July 2013
- **Protecting Natural Resources.** Sierra Leone is a tropical country with abundant rainfall of about 2'500mm per year. The project is irrigated by the Rokel River near Makeni, using just 2% of the annual rainfall flowing through the river. A hydroelectric dam built by the Italian government and put in operation in 2009 maintains the flow of water throughout the year and avoids any downstream impacts of the project. Indeed, Addax Bioenergy has become the first company in Sierra Leone to pay for water use. Where water sources have been affected by the project, Addax Bioenergy has replaced them with new wells or boreholes, significantly improving the local community’s access to clean, safe and reliable drinking water all year long.

Additionally, Addax Bioenergy has embarked on a program to protect 1,700 hectares of forest in the project area with the objective of establishing woodlots, expanding and developing buffer zones and eco-corridors and assist in meeting immediate needs of local communities as well as offset any potential impacts to natural forestry during the construction phase. In 2012, 56,000 seedlings of mixed variety were potted and 26,100 trees of mixed variety were planted.

**Broad Support**

Addax Bioenergy has already received numerous testimonies of support from the local population, in public meetings as well as through letters and petitions. The project is supported by the Government of Sierra Leone, whose parliament ratified the project in November 2010 with support from both government and opposition parties, recognizing its contribution to meeting the country’s development goals. Addax Bioenergy has signed Memorandum of Understanding with the UN FAO and the International Institute for Tropical Agriculture to collaborate on enhancing food security, commercial agriculture, and to share research findings. The project collaborates with several NGO’s, universities and academic research institutions.

The innovative project has won the support of a diverse group of development finance institutions to become co-shareholders and lend significant funds to the project:

- The Swedish Development Finance Institution Swedfund
- The Netherlands Development Finance Company (FMO)
- The African Development Bank (AfDB)
- The German Investment Corporation (DEG)
- The UK-based Emerging Africa Infrastructure Fund (EAIF)
- The Infrastructure Fund managed by Cordiant Capital
- The South African Industrial Development Corporation (IDC), and
- The Belgian Development Bank (BIO)

These development organisations analysed the risks and opportunities of the Addax Bioenergy investment model at Makeni and approved it after two years of a thorough due diligence process conducted by internal and independent industry, environmental and social experts. The implementation and operations of the project will continue to be monitored by the banks over the 12-year term of their loans.

**Project Timeline**

2008 – 2010: Feasibility studies and stakeholder dialogue
2010 – 2014: Initial sugarcane planting
Autumn 2011: Groundbreaking for sugarcane bioethanol refinery and biomass electricity plant
Late 2013: Completion of sugarcane bioethanol refinery and biomass electricity plant
2014: First production of biofuel and “green” electricity for production and National Grid
Late 2014: Full production

**Facts & Figures**

Location: Bombali and Tonkolili Districts, close to Makeni, Central Sierra Leone
Investment: Euros 267 million
Project area: 14,300 hectares
Processing capacity: 1 million tons of cane per year
Estimated ethanol output: 85,000 m3 per year
Excess power: 15 MW (for National Grid)
Workforce: 2,000 (2’007 people at July 2013)

For additional information on the project, please visit: [www.addaxbioenergy.com](http://www.addaxbioenergy.com)
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