

Energy Crop (Bio-ethanol)

Nigerian Government initiates a mandated biofuel blending programs in 2005 under the National Biofuels Policy. These programs specify blending of bio-ethanol (E10) with gasoline. The National Policy on Biofuels was released in 2007. The feedstocks identified for bio-ethanol productions are; cassava, sugarcane and sweet sorghum. However, for now cassava is the main feedstock cultivated for bio-ethanol production in Nigeria while sugarcane and sweet sorghum government have set up a committee for feasibility studies on their production. Nigeria produces more than 41 million tonnes of cassava yearly with the average yield of 15 tonnes/hectare of tubers and ethanol production of 100litres per tonne of cassava (i.e. 4.1billion litres/year). The plan to blend ethanol with petroleum for domestic use is driven by the need to reduce the cost of fuel importation, since Nigeria's refineries are not working at optimum capacity and to respond to climate change.

Level 1

Cassava cultivation area is 2.8 Mha. Sugarcane and sweet sorghum cultivation areas are at 0.1Mha (by 2050). Bio-ethanol production from cassava crops reaches 0.50 Mtoe by 2020 and zero from Sugarcane and sweet sorghum.

Level 2

Cassava cultivation area is at 3.0 Mha. Sugarcane and sweet sorghum cultivation areas are projected to increase gradually to 0.8 Mha by 2025. Total bio-ethanol production from cassava crops reaches 1.50 Mtoe by 2030. Bio-ethanol production from Sugarcane and sweet sorghum is 2.20 Mtoe. Total bio-ethanol production reaches 3.70 Mtoe/year by 2050.

Level 3

Cassava cultivation area is increase to 3.8 Mha. Sugarcane and sweet sorghum cultivation areas are projected to increase gradually to 1.3Mha by 2030. Total bio-ethanol from cassava crops reaches 2.8 Mtoe by 2040. Bio-ethanol production from Sugarcane and sweet sorghum is 3.8 Mtoe. Total bio-ethanol production reaches 6.6 mtoe/year by 2050.

Level 4

Cassava cultivation area now reached 4.0 Mha. Sugarcane and sweet sorghum cultivation areas are projected to increase to 3.5Mha by 2050. Total bio-ethanol production from cassava crops reaches 4.6 Mtoe by 2050. Bio-ethanol production from Sugarcane and sweet sorghum is 7.6Mtoe/year. Total bio-ethanol production reaches 12.20 Mtoe/year by 2050.



Cassava tubers
(www.cropsforbiofuel.blogspot.com)

