Technology Fact Sheet for Mitigation

Technology	Description	Benefits	Challenges
Biomass combustion [i]	This technology involves use of biomass for electricity production and if required heat for various process applications. Biomass comes in various forms such as wood from conventional and short-rotation forestry, other energy crops, residues from forestry and agricultural A wide range of technologies and corresponding investment cost, O+M costs and levelised costs exist to include co-firing with coal (760-900 US$/kW, 18 US$/kW, 2.6-7.1 US$ cents/kWh), low pressure boiler(2600-4000 US$/kW, 84 US$/kW, and 6.7-15 US$ cents/kWh), high pressure boilers(4100-6200 US$/kW, 54 US$/kW, and 8.3-24 US$/kWh), internal steam reciprocating engines (6500-9800 US$/kW, 59-80 US$/kW, 12-32 US$/kWh)	Biomass is an interesting option for electricity and heat production in Zambia where supplies of residues from agriculture or the forest products industry are abundant. In addition to creation of employment at the plant, more jobs and increased income generation will be created for farmers including small and medium as providers of biomass feedstock. Biomass combustion generally does not compete with food production, as they rely mostly on agricultural or wood residues. Economic and environmental benefits include : Increasing energy security, diversifying the industrial sector, supporting rural electrification with all its developmental benefits, reduced GHG emissions from Zambia's power sector. Capacity factor 70-80%.	The challenges for biomass supply side are related to securing quantity, quality, and price of biomass feedstock irrespective of the origin of the feedstock

[i] **This fact sheet has been extracted from TNA Report – Technology Needs Assessment and Technology Action Plans For Climate Change Mitigation– Zambia. You can access the complete report from the TNA project website http://tech-action.org/**