

Technology Fact Sheet for Mitigation

Technology		Benefits	Challenges
Land use change and forestry -Forest enhancement Sub Sector			
Afforestation and Reforestationⁱ	Afforestation and reforestation are defined as: "the direct human-induced conversion of non-forest to forest land through planting, seeding, and/or the human-induced promotion of natural seed sources". Planting, seeding or the promotion of natural seed sources leads to increases in biomass, dead organic matter carbon pools, and soil carbon pools. On locations which have low initial soil carbon stocks, Afforestation can yield substantial soil carbon accumulation rates. However, sites with high initial soil carbon stocks can show a decline in soil carbon following afforestation.	Not only does forest management options for mitigation: Afforestation/ reforestation result in reduced greenhouse gas emissions, it also results in a variety of socio-economic development and environmental protection benefits to include enhanced biodiversity conservation; increase in the connectivity of forests for instance those adjacent to nature reserves, and therefore increase the mobility options for species through habitat expansion to allows for higher biodiversity levels in the different sections of the forests and prevents genetic degradation of species in too small habitats; conserve water resources; reduce river siltation; protect fisheries and investments in hydroelectric power facilities; provision of forest products(fuelwood, fibre, food and construction material), creation of employment (when less intense land- use is replaced)	Challenges include; absence of an enabling environment to implementation of forest management mitigation activities; economic constraint due to the high initial investment to establish new stands coupled with the several-decade delay until afforested areas generate revenue; efficiency of forest policies are influenced by many factors such as land tenure, institutional and regulatory capacity of governments, the financial competitiveness of forestry and a society's cultural relationship to forests.

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/>