Technology Fact Sheet for Mitigation

Technology	Description	Benefits	Challenges
Wind Energy [i]	Off shore and On-shore wind technologies are commercial technology with global application and are suitable for Zambia. For them to operate optimally, they needs to have an average wind speed of more than 7 metres per second at 50m height (or approximately 5.6m/s at 10m height). Zambia has some hotspots which have been with wind speeds between 6-9 m/s, and warrant further investigations. The corresponding investment costs, O+M costs, and levelised cost are 3200-5000 US$/kW, 2.0-4.0 US$ cents/kWh, and 7.7-19 US$ cents/kWh, respectively for off-shore technologies. Whilst for On-shore technologies the costs are investment costs (1200-2100US$/kW), O+M costs (1.2-2.3US$ Cents/kWh), and levelised costs (4.4-14 US$ Cents/kWh	Although wind energy has a net positive impact on climate change mitigation, local environmental impacts must also be considered. The price is relatively becoming competitive with conventional technologies such as hydro power. Capacity factor 35-45%	It can generally be said that, the level of acceptance of wind parks onshore is high if appropriate measures are taken to ensure the limited noise and shadow effects do not affect local communities. In certain instances, there have been objections to projects on the basis of people disliking the sight of the wind park or because it could affect tourism or nature values in a region. Lack of detailed wind maps in Zambia

[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/**