Technology Fact Sheet for Mitigation

H. Waste- to- Energy (Biomass)[i]

Sector: Energy	
Subsector: Power	
Technology characteristics	
Introduction	Solid waste is used as an alternative fuel to operate thermal power plants.
Technology characteristics/highlights	• Anaerobic digestion of organic waste, which produces biogas (mainly methane) that is used for power generation. • Dendro Liquid Energy (DLE) technology, a recent one, where all sorts of mixed waste, including plastics and large size wooden logs are treated in a reactor to produce CO and H2?? for generating electric power.
Institutional and organizational requirements	• Relevant regulations for waste collection needed. • Capacity building is also required. • Private sector should be encouraged to adopt the technology.
Operation and maintenance	• Capacity building and training needed. • Municipalities should be brought in.
Endorsement by experts	• Included in the MOEW policy paper.
Adequacy for current climate	Solves the solid waste problem in the country.
Scale/Size of beneficiaries group	The whole power network will benefit.
Disadvantages	Emissions could be a problem if anaerobic technology is adopted.
Capital costs	
Cost to implement mitigation technology	USD 1,900/kW
Additional cost implement mitigation technology, compared to "business as usual"	USD 900/kW, according to MOEW policy figures.
Development impacts, direct and indirect benefits	
Direct benefits	80%- efficient conversion process.
Reduction of vulnerability to climate change, indirect	• GHG emissions reduction. • Smaller solid waste management problem.
Economic benefits, indirect	• New jobs. • Better solid waste management.
Social benefits, indirect Income Education	• New expertise to be developed. • Additional income for municipalities.
Environmental benefits, indirect	• Zero waste. • No emissions.

	• GHG emissions reduction, from the sector
Local context	
Opportunities and Barriers	Lack of awareness could pose a problem.
Market potential	Private sector involvement would result in goo market potential for the technology.
Status	Yet to be adopted.
Timeframe	Short term (3-4 years)
Acceptability to local stakeholders	Should be acceptable by stakeholders due to GHG emissions reduction and waste cost benefits.

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