

No Compromise on Quality is Critical to Solid Recovered Fuel Production in Cyprus

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Cyprus joined the European Union in May 2004. Cyprus has one of the highest per capita waste generation rates among the EU member states equivalent to 770 kg/year. According to the Waste Framework Directive (2008/98/EC) recycling rates in EU member states should increase to 50 % by 2020. However, recycling rates in Cyprus are less than 20 % and the majority of municipal solid waste (MSW) is disposed to landfill. The European Landfill Directive (1999/31/EC) aims to reduce environmental and health impacts related to waste disposal to landfill and special targets are set for the biodegradable fraction of MSW (By 2015 disposal of biodegradable waste should reduce to 35 % of the quantities disposed in 1995). Currently only one mechanical biological treatment (MBT) facility operates in Cyprus producing a poor quality Compost Like Output (CLO) that is utilized as landfill daily cover. Production of Solid Recovered Fuel (SRF) in MBT facilities and co-combustion in the cement Industry can be an alternative environmentally sound solution as part of an integrated waste management plan for the island. Vassiliko Cement Works Ltd (VCW) has operated a new clinker production line since 2011 using the best available technology with an annual capacity equivalent to 2 million t. VCW has extensive experience in the utilization of alternative fuels and the recycling of alternative raw materials in rotary kilns. In 2014 a state of the art feeding system was installed dedicated to handling alternative fuels. VCW utilizes a broad range of alternative fuels including: tyres derived fuel, imported RDF/SRF, meat and bone meal and sewage sludge. In addition, ash from alternative fuels combustion and waste glass is recycled as raw material in the clinker production process. Thermal substitution with alternative fuels in the VCW kiln has increased from 9 % in 2014 to more than 20 % in 2015 and is expected to increase further to more than 30 % in 2016. SRF quality is crucial to enable higher substitution rates in the cement industry and at the same time achieve significant diversion of waste from landfill disposal and this strategy would enable Cyprus to comply with the European Directives and achieve a sustainable solid waste management system.