

An apparatus, system, and method for processing hydrocarbon-containing wastes are described. The system and method include the use of a gasification apparatus comprising a rotary kiln reactor and a gas distributor. The rotary kiln reactor and gas distributor are configured to generate multiple reaction environments within the gasification apparatus. Each of the reaction environments has unique temperature reaction conditions to suit various physical and chemical properties associated with processing of the varied-source hydrocarbon-containing wastes.