The global warming factor (GWF; CO2-eq. tonne—1 waste) performance of municipal waste management has been investigated for six representative European Member States: Denmark, France, Germany, Greece, Poland and the United Kingdom. The study integrated European waste statistical data for 2007 in a life-cycle assessment modelling perspective. It is shown that significant GWF benefit was achieved due to the high level of energy and material recovery substituting fossil energy and raw materials production, especially in Denmark and Germany. The study showed that, despite strong regulation of waste management at European level, there are major differences in GWF performance among the member states, due to the relative differences of waste composition, type of waste management technologies available nationally, and the average performance of these technologies. It has been demonstrated through a number of sensitivity analyses that, within the national framework, key waste management technology parameters can influence drastically the national GWF performance of waste management.