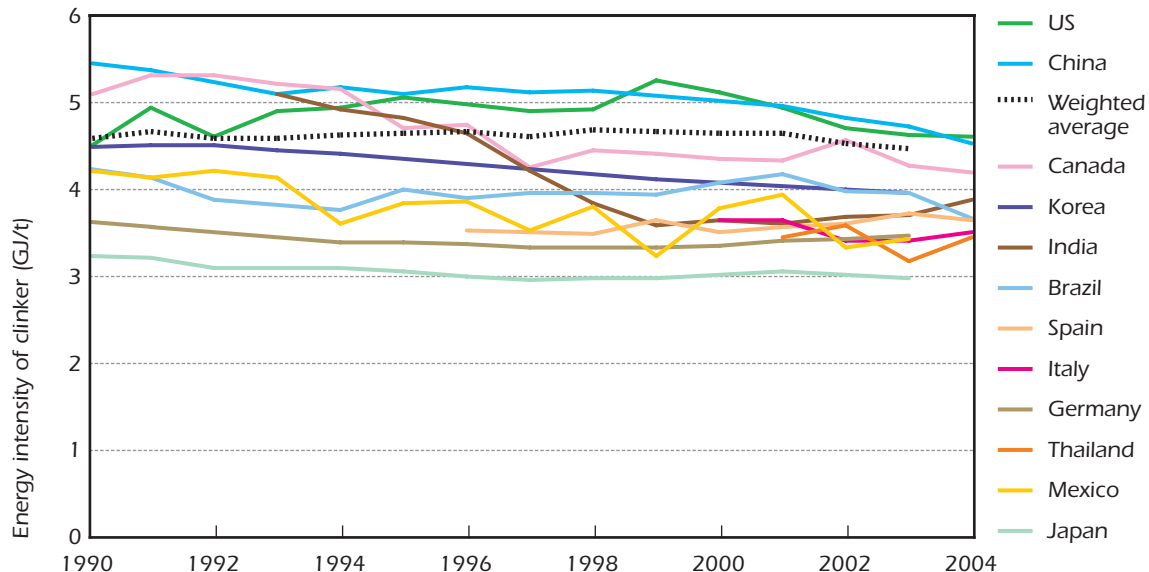


Figure 6.5 ▶ **Energy Requirement per tonne of Clinker by Country including Alternative Fuels**

Key point: Japan is the most efficient clinker producer, while most countries have achieved only modest reductions in the energy required to produce one tonne of clinker since 1990.



Note: Care must be taken in interpreting the absolute values of data in this figure, due to the possibility that different system boundaries have been used and that in some cases it is not clear whether LHV or HHV have been used.

Sources: Coal Statistics, India; ERI, 2004; Soares and Tolmasquim, 2000; Worrell, *et al.*, 2001; IBGE, 2006; CEMBUREAU, 2006; EEA, 2006; AITEC, 2005; USGS, 2006; PCA, 2005; NRCAN, 2006; Japan Cement Association, 2006; OFICEMEN, 2007; Siam Cement Company Ltd, 2005; INEGI, 2006; VDZ, 2006; Battelle 2002; LBNI, IEA and Tshinghua University estimates.