

# Personal choices and associated emissions: Are “modern” lifestyles really sustainable?

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# Relevance of Sustainable Lifestyles

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- 2 aspects of sustainable consumption
  - Improved products → less resources, less environmental impact; but possibility of rebound effect
  - Sustainable lifestyles → less strain on economy & move away from social disparity; addresses the rebound effect
- Levels and choices of energy use vary significantly among regions.
- Are energy consumption patterns headed in the right direction
- Do our lifestyles reflect 'responsible consumption', or environmental sustainability

# Select Indicators

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- ❑ **Energy inputs per unit of output energy delivered through food**
- ❑ **Waste generation and recycling**
- ❑ **Energy & emissions per unit of transportation movement**
- ❑ **Energy & emissions in the residential sector**

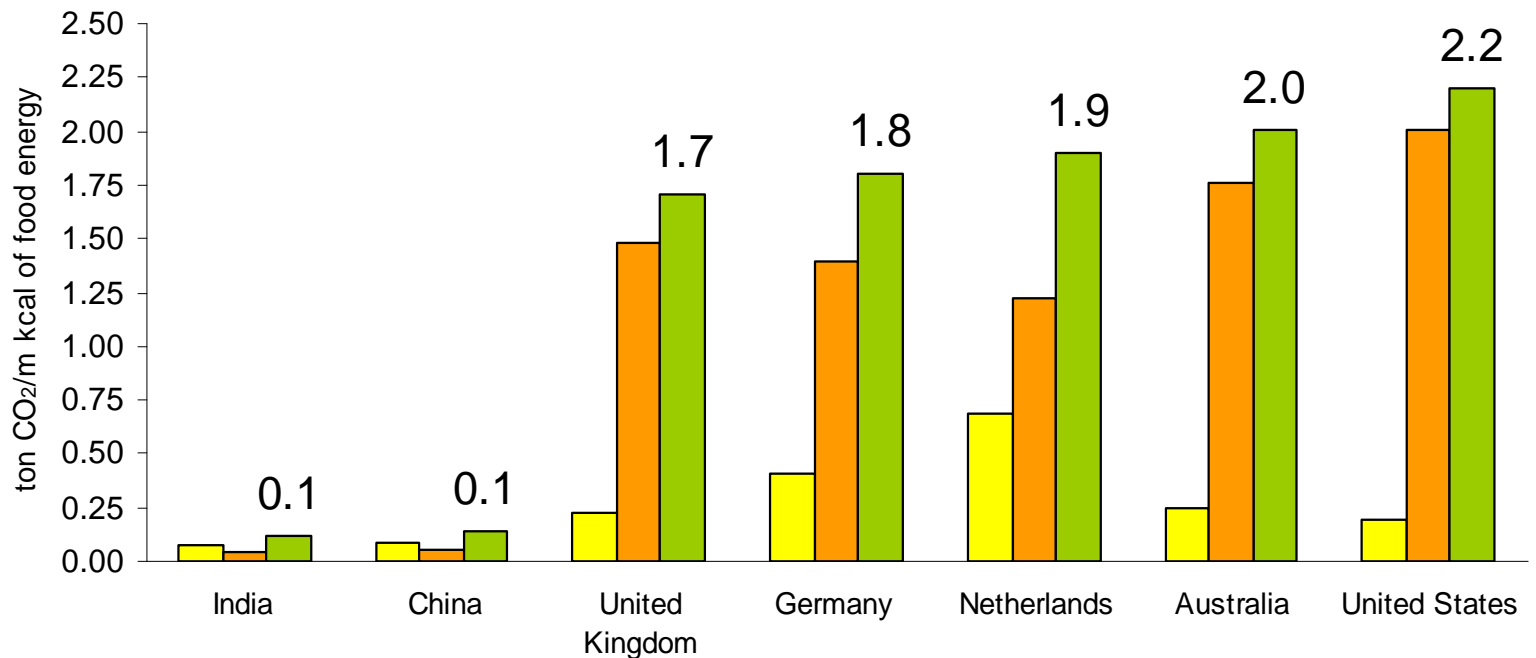
# Energy inputs per unit of output energy delivered through food

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the energy inputs and resultant emissions in the cycle of growing the food, transporting, processing, packaging and preserving it till it reaches the table

## CO<sub>2</sub> emission from agricultural sector--from Field (production) to Table (processed food)-*excluding cooking*

- Production related CO<sub>2</sub> emission (tonne CO<sub>2</sub>/million kcal of food energy)
- Processing related CO<sub>2</sub> emissions (tonne CO<sub>2</sub>/million kcal of food energy)
- Total CO<sub>2</sub> emissions (tonne CO<sub>2</sub>/million kcal of food energy)



Source: TERI analysis (various data sources)

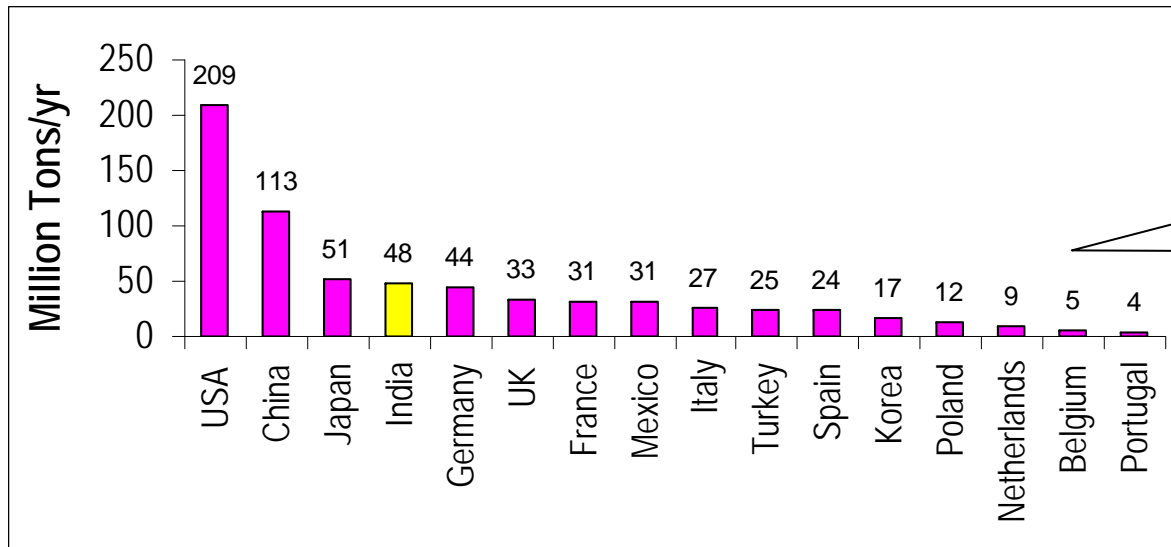


# Waste generation & recycling

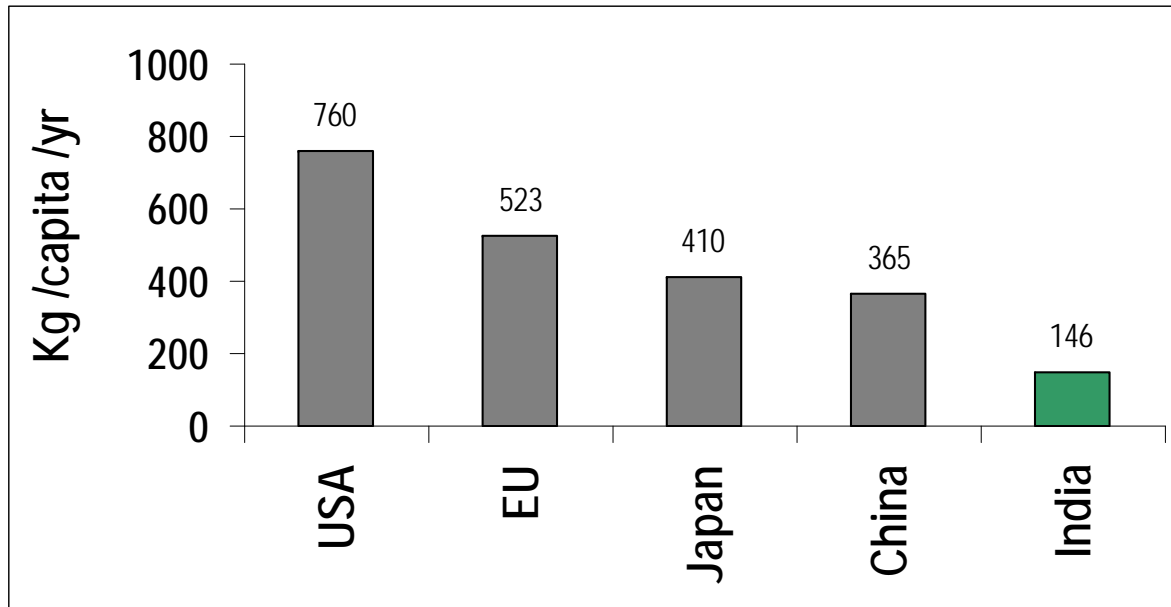
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- ❑ No de-linking of effluence and affluence → Growth in municipal waste in industrialized countries similar to economic growth rate (~40% over the past 30 years) (OECD, 2001)
- ❑ Impact of consumption patterns on waste generation → in several of the more developed societies not only is there higher waste generation but also relatively lower recycling.
- ❑ Can we move to a lifestyle that entails lower packaging and hence lower usage of plastics, glass and paper? What does it imply for GHG emissions?

# MSW generation Total & Per capita



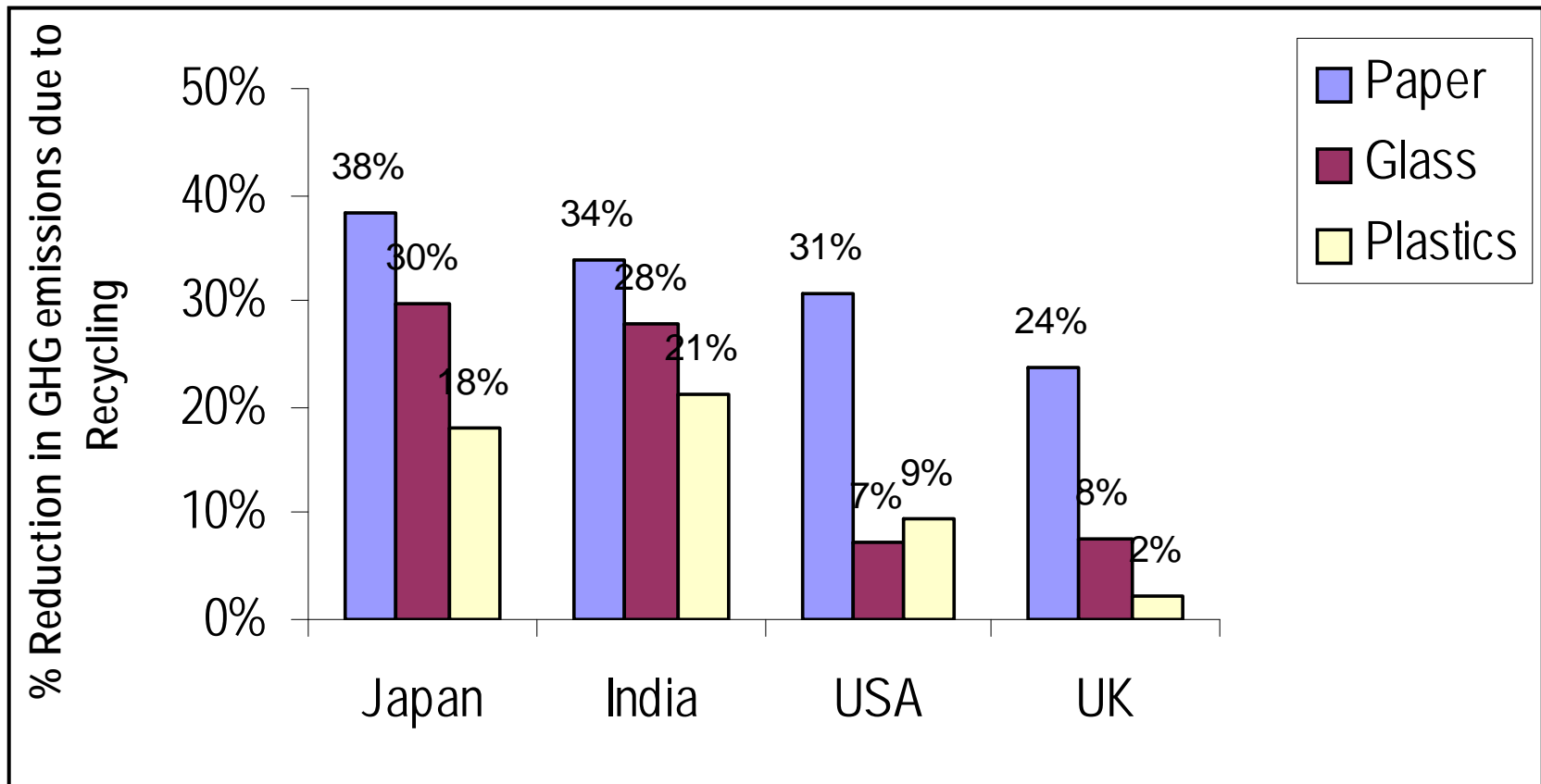
India lower than USA China, Japan



Source : World Bank 2005, Wang et al, 2001, Climate change 2001; World Development Indicators 2005



# Reduction in GHG emissions due to recycling/reuse



# Energy & emissions per unit of transportation movement

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Sustainable mobility: shift from personalized modes of transportation to public modes of transportation, greater reliance on clean fuels and cleaner technologies, a shift towards IT based societies

# Passenger Transport

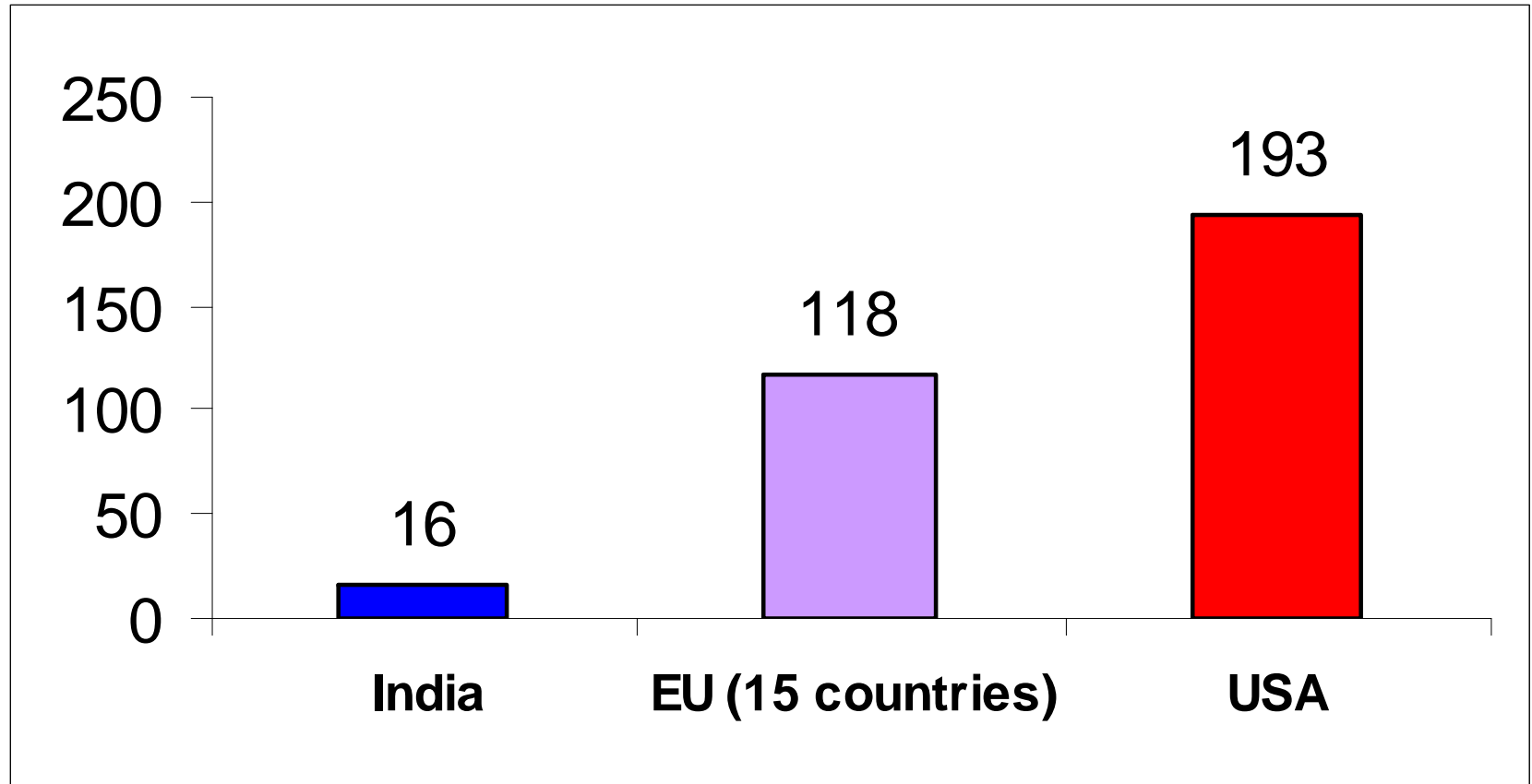
Country/Region	Percentage distribution of different mode of passenger transport						
	Two Wheeler	Passenger Car	Light Truck	Bus	Rail	Air	Bicycle
India	8	14	-	52	17	-	9
USA	-	55	31	3	-	11	-
EU (15 countries)	-	79	-	8	6	7	-
Denmark	-	75	-	11	7	7	-
France	-	80	-	5	8	7	-
Sweden	-	78	-	8	7	7	-
United Kingdom	-	82	-	6	5	7	-
Norway	-	82	-	7	4	7	-

Source: India: Motor Transport Statistics of India, 2003, TERI internal study, personal communication with planning commission; EU: Eurostat, <http://epp.eurostat.ec.eu.int/portal/http://reports.eea.eu.int/signals-2000/en/page006.html/#fig5.3>

US: Transportation Statistics, Annual Report, September 2004, US Department of Transportation, Bureau of Transportation Statistics

# Estimated CO<sub>2</sub> emissions from passenger transport (gm/passenger-km)

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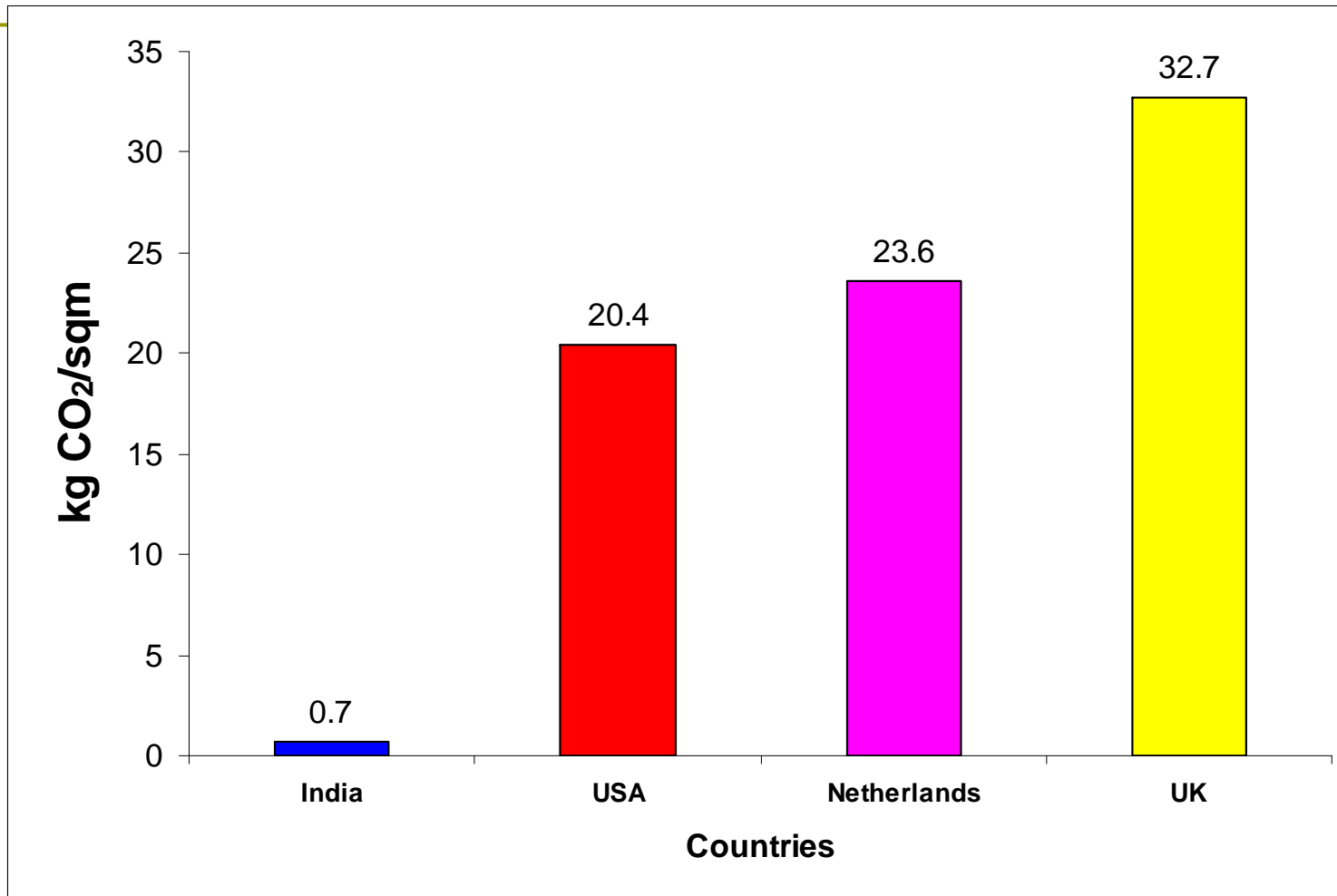
Source: TERI Analysis, various data sources

# Energy & emissions in the residential sector

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Cooking, lighting and space conditioning define the energy needs emanating from a household. While these are basic needs for survival, the wasteful and excessive use of these is questionable, especially given the fact there are over 2 billion people in the world without access to energy.

## CO<sub>2</sub> emissions from space conditioning per sqm of living space

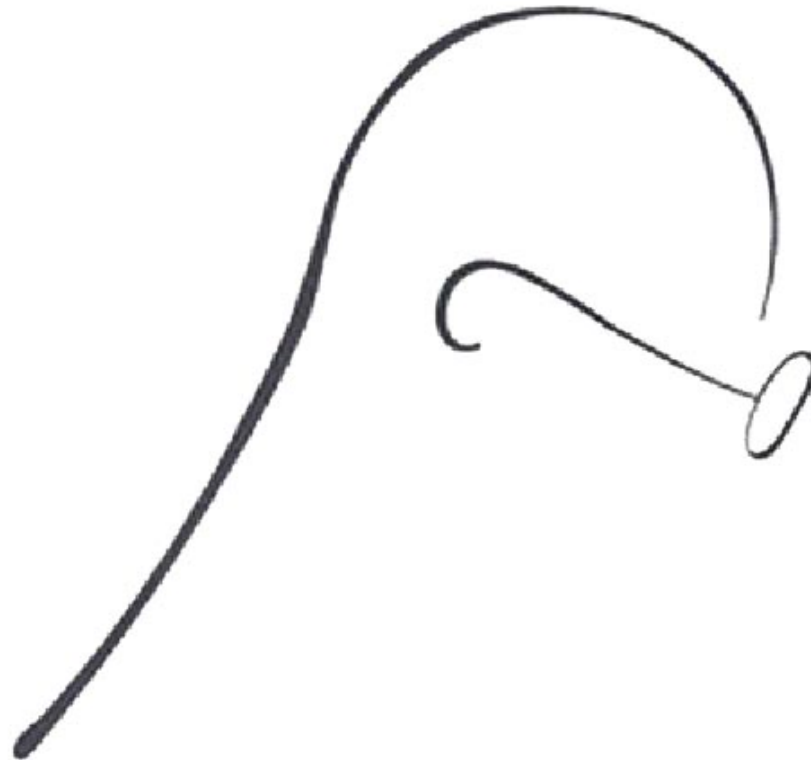


Source: TERI Analysis, based on Planning Commission, 2002. Tenth Five Year Plan: 2002-2007, Government of India, New Delhi. National Communications, UK ; NC3, 2001; US DOE, 2001; UN ESA, 1999; Trends in consumption and production: Household energy consumption. Dzioubinski, O. and Chipman, R. DESA Discussion Paper No. 6.

# Conclusion

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- The moot question is how to influence the personal activities and choices to a more sustainable pattern, and the willingness of individuals and Governments to exercise preferences to a more sustainable consumptive pattern.



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