

# WORLD OF WASTE

One person's trash, the saying goes, is another person's treasure. But when it comes to waste statistics, there's a big difference: While governments tend to tally treasure down to the last penny, they aren't so meticulous about accounting for rubbish. As a result, the scope and reliability of waste statistics vary widely around the world. In general, poorer, developing nations have the softest numbers. But even wealthy, developed countries can have big data

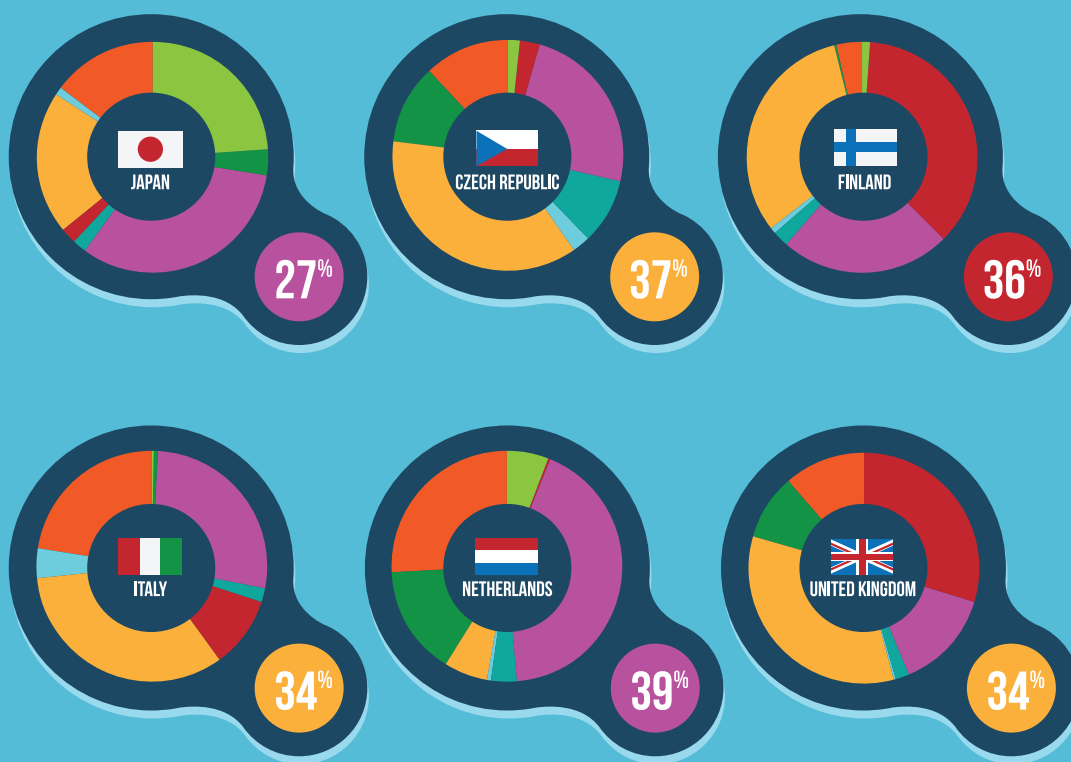
gaps. In the United States, for example, battles over waste policy have complicated government efforts to document some waste streams, and budget cuts threaten programs that try to calculate how materials flow through the economy. Further complicating matters, nations sometimes use different waste definitions, making meaningful comparisons difficult. Still, enough data exist to draw some insights into where the world's waste is coming from, where it is going, and how waste streams are changing. And the numbers suggest that local economic, social, and geographic factors can play a big role in waste management, leading nations to often take very different approaches.

## THE COMPOSITION OF WASTE STREAMS CAN VARY WIDELY BY COUNTRY

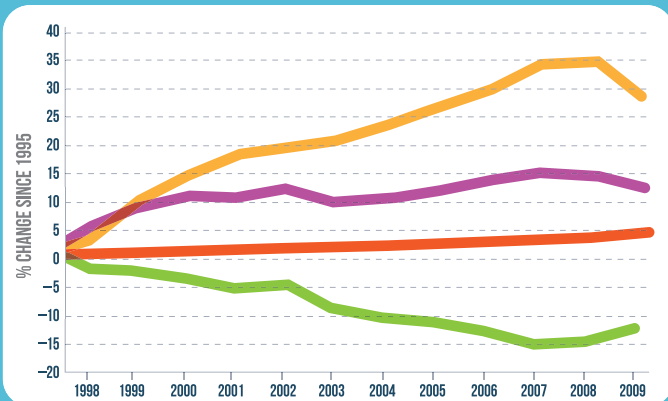
When you think of waste, piles of manure next to a farm or heaps of sludge from a water-treatment plant may not immediately come to mind. In some nations, however, agriculture or water treatment can generate a sizable proportion of the overall estimated waste stream (*right*). In others, the biggest waste producers might be construction, mining, or municipal waste—the hodgepodge of household and business waste produced by people living in cities and towns.



SOURCE: OECD/OCDE



## WASTE & WEALTH: THERE APPEARS TO BE A LINK

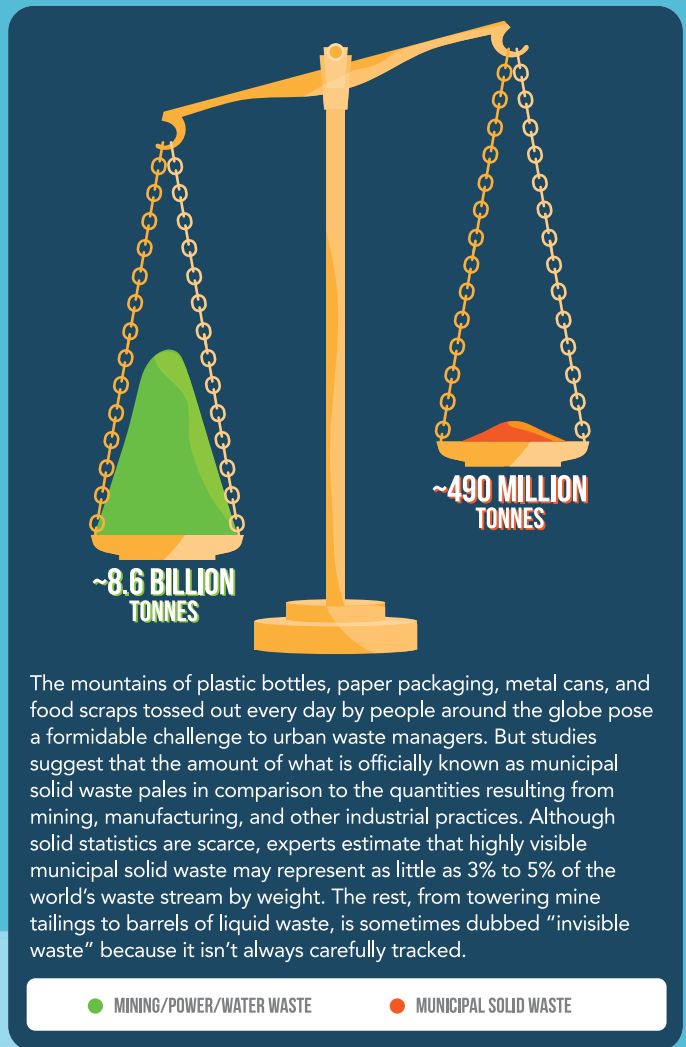


The richer you get, the more you can afford to waste. That's the general picture that emerges from studies of the links between population, wealth, and trash. Although a rising population can drive an increase in the amount of trash, the bigger factors appear to be wealth and consumption, with people in richer nations producing, on average, more waste per capita than those in poorer ones (*below*). But aggressive waste-minimization efforts in some regions, such as the European Union, are attempting to "decouple" waste from wealth, leading to lower waste generation per unit of GDP (*above*).

- GROSS DOMESTIC PRODUCT
- MUNICIPAL WASTE GENERATED
- POPULATION
- MUNICIPAL WASTE GENERATED PER EURO (GDP)

SOURCE: EUROSTAT

## WHAT MANY PEOPLE THINK OF AS TRASH IS A SMALL PART OF GLOBAL WASTE



The mountains of plastic bottles, paper packaging, metal cans, and food scraps tossed out every day by people around the globe pose a formidable challenge to urban waste managers. But studies suggest that the amount of what is officially known as municipal solid waste pales in comparison to the quantities resulting from mining, manufacturing, and other industrial practices. Although solid statistics are scarce, experts estimate that highly visible municipal solid waste may represent as little as 3% to 5% of the world's waste stream by weight. The rest, from towering mine tailings to barrels of liquid waste, is sometimes dubbed "invisible waste" because it isn't always carefully tracked.

- MINING/POWER/WATER WASTE
- MUNICIPAL SOLID WASTE

SOURCE: CYCLOPE

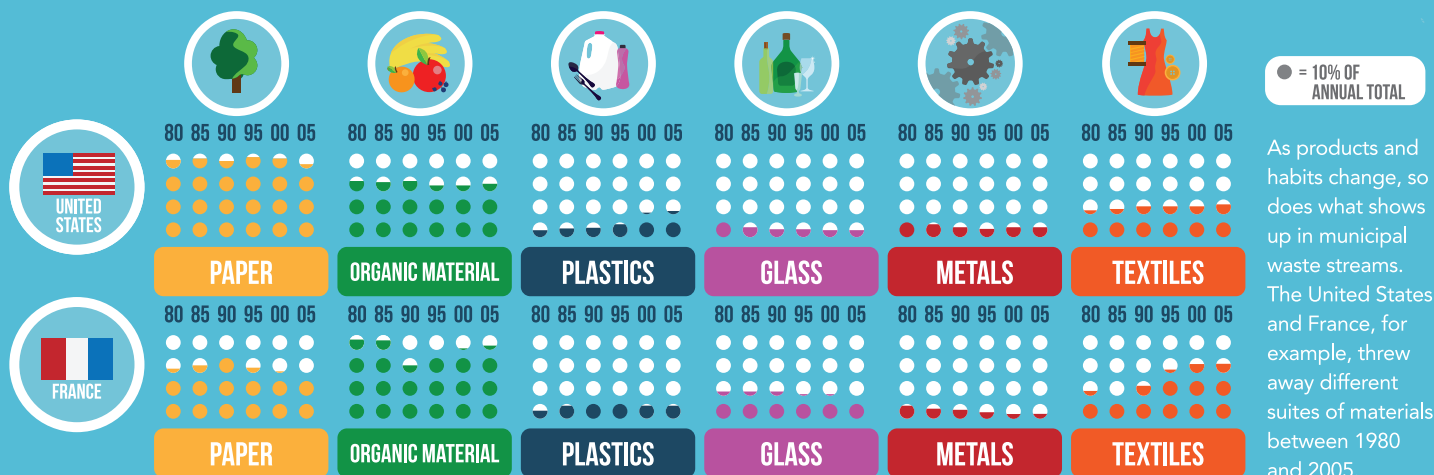
### WASTE GENERATION VARIES BY INCOME LEVEL

NATIONAL INCOME LEVEL	WASTE GENERATION PER CAPITA (KG/CAPITA/DAY)		
	LOWER BOUNDARY	UPPER BOUNDARY	AVERAGE
HIGH	0.70	14	2.1
UPPER MIDDLE	0.11	5.5	1.2
LOWER MIDDLE	0.16	5.3	0.79
LOWER	0.09	4.3	0.60

SOURCE: WHAT A WASTE: A GLOBAL REVIEW OF SOLID WASTE MANAGEMENT (2012)/THE WORLD BANK



## DIFFERENT SOCIETIES, DIFFERENT MUNICIPAL SOLID WASTE MATERIALS



## THE FATE OF MUNICIPAL SOLID WASTE: BURY, BURN, OR RECYCLE?

How nations deal with their municipal solid waste can come down to geography, economics, and politics. Live in a nation with lots of cheap, open land near big cities? Burying your municipal solid waste in a landfill might be the cheapest option. But if real estate is expensive, burning it in an incinerator—and possibly generating some electricity with the heat—might be the choice. Or if there's political support and a reliable market, the most valuable waste materials could end up being recycled. Such factors help explain why the fate of waste varies greatly among nations, with some burying a majority of their documented municipal solid waste in landfills (*top, right*), while others tend to burn (*middle*) or recycle it (*bottom*).

54.3%



1.7%

74%



0.5%

49.2%

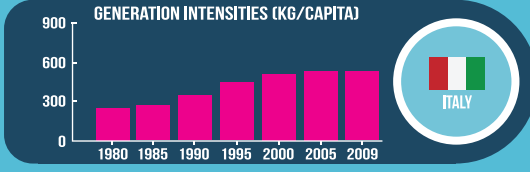
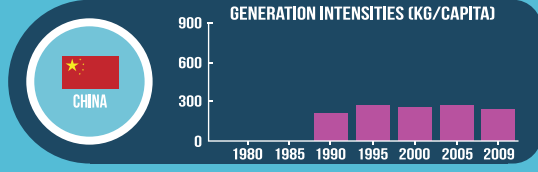
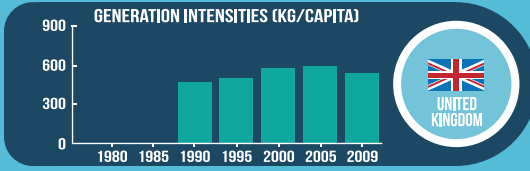
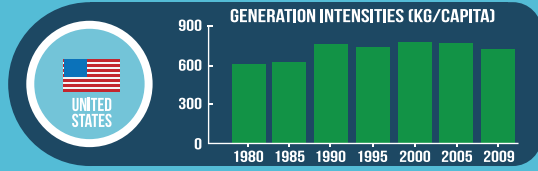
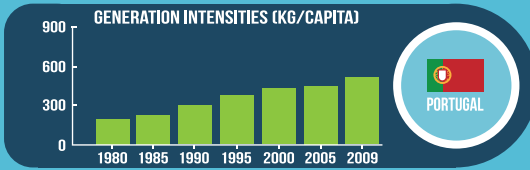
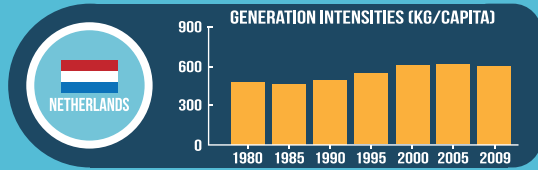
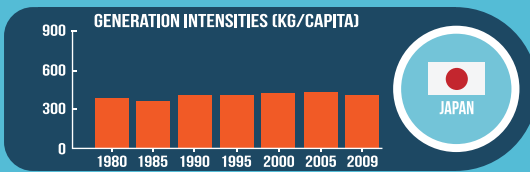
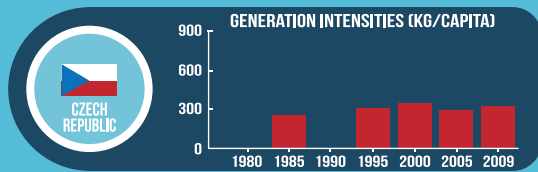


1.3%

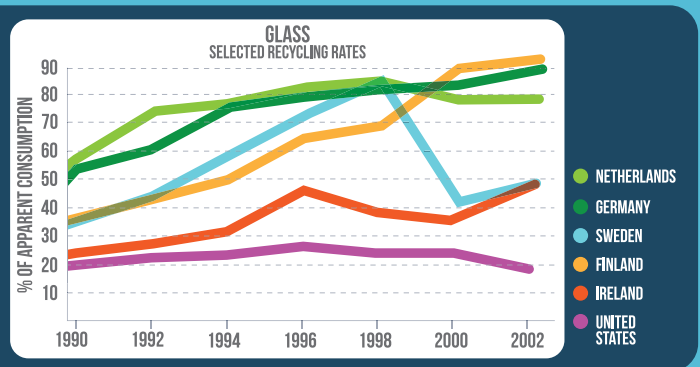
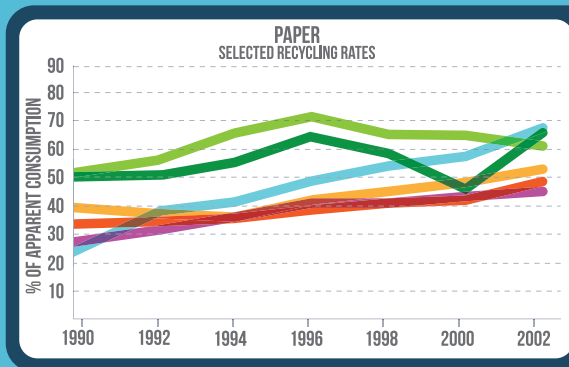
SOURCE: ALL DATA FROM OECD/OCDE



## AS TIME PASSES, THE PRODUCTION & FATE OF MUNICIPAL SOLID WASTE IS CHANGING



As waste management becomes a more pressing global issue, some nations are trying to reduce their "waste intensity"—the average amount of municipal solid waste produced per person—with mixed results (*top graphs*). Governments are also moving to adopt policies that create incentives to recycle more material, such as paper and glass (*below*). Although global economic trends can sometimes weaken markets for recycled materials, many nations are reusing more of their most valuable waste products than they did decades ago.



SOURCE: ALL DATA FROM OECD/OCDE



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