

# Discarding mastodons

Bulky waste is a major challenge for the recycling industry, in no way comparable to everyday household waste. One comes in large, steady streams, the other is an occasional occurrence. We only replace mattresses, cupboards and fridges from time to time, whereas we empty the bin most days. In many countries local authorities organise special collection days. Residents may also take bulky items to waste collection centres. As a rule these centres are not open to industry, which must use professional services specialising in their particular type of waste (solid, liquid, chemical waste, etc.).

Hyperbulk waste, i.e. very large items, ranging from cars to boats and aircrafts, is a complex form of waste, containing large numbers of different components, some of which may be dangerous (batteries, asbestos, etc.). They must be dismantled with great care to ensure each waste category is processed separately and recovered. Separation demands expensive technical know-how. If we made allowance for dismantling at the design stage it would be easier and less expensive. Consequently hyperbulk waste is often sent from one country to another in order to find the cheapest dismantling facilities.

## Jumbo recycling

At the end of their service life airliners may prove useful in many ways. They often fly as freighters for several years. When finally grounded they are scavenged for spare parts for other aircrafts, or used for training aircrews and firefighters. Sometimes sheet metal is cut off and melted down. But many of them end up rusting at the end of an airstrip or in desert storage in Arizona, where US airlines have taken to dumping their old planes.

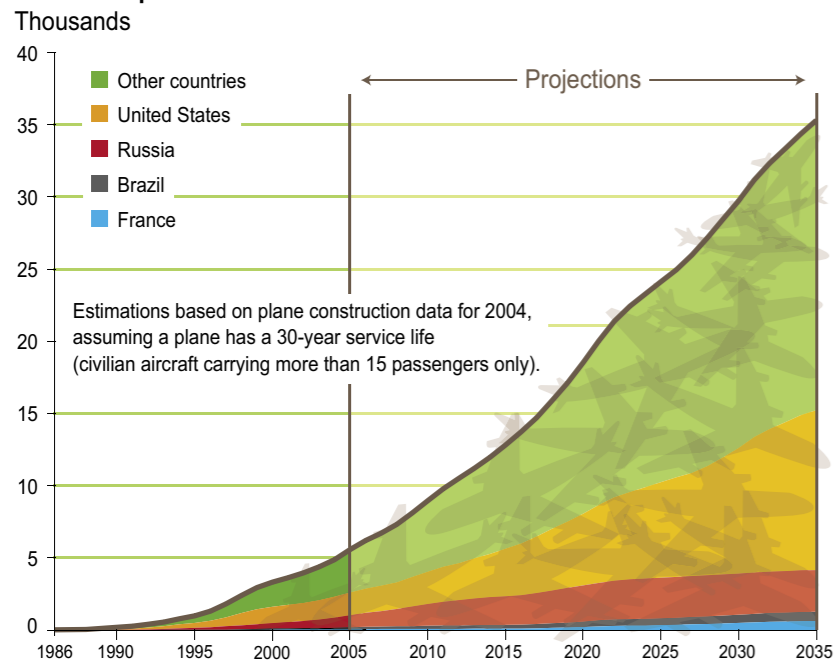
The first purpose-built recycling platforms are appearing in Europe and the US – Bartin Aero Recycling at Châteauroux-Déols airport in France, and

the Evergreen Aircenter, at Marana, Arizona. At present they are processing planes built in the 1970s that have been in service for 30 years.

The recycling centres strip off any parts that can be sold (landing gear, instruments, etc.), “depollute” the aircraft (removing fuel, brake fluid, batteries, neon tubes, etc.) then cut it up. The scrap metal is ground up, automatically sorted by density and magnetism, then sold to the trade. It takes about two months to dismantle an aircraft.

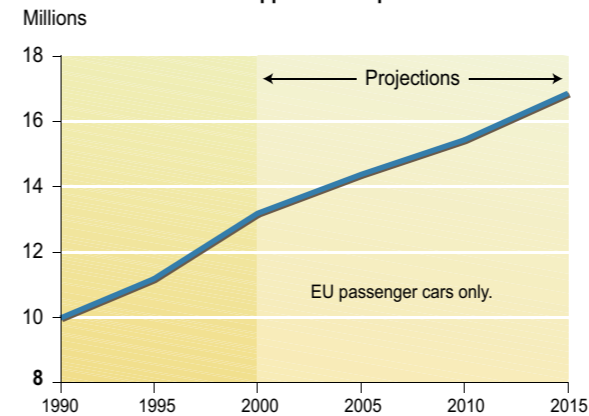
Such platforms, when properly equipped, can recover the whole of a plane. The question is will they take the trouble to do so. There are 25 000 large civil aircraft (airliners, freighters and private jets) worldwide, with 7 or 8 000 of them probably being dismantled over the next 10 to 15 years. Furthermore the materials used to build planes are constantly changing. The airframe of the Airbus A380 contains 40 per cent composite materials, some of which are brand new, in particular Glare, a complex mixture of fibreglass and aluminium. Does anyone know how to recycle such materials? And what will happen to old aircraft stranded in developing countries, unable to reach a properly operated recycling centre?

## Number of planes to be dismantled worldwide



Sources: Institut du Transport Aérien; ENAC (French National School of Civil Aviation), 2006.

## Number of cars to be scrapped in Europe



Source: Kilde, Larsen, 2000 as cited by the European Environment Agency.

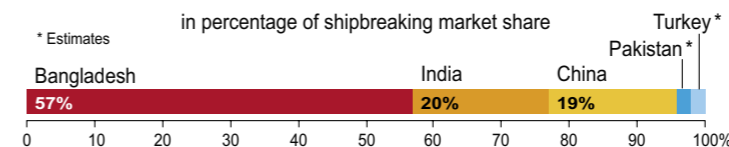
Scrapped cars or “end-of life vehicles” are not collected as bulky waste, but they too pose problems because of their size and disparate components. Given car production trends this is an issue that demands serious consideration.

## Construction and demolition

Building work is particularly common in emerging economies such as China, where skyscrapers are replacing entire traditional neighbourhoods, and places such as the United Arab Emirates, where the travel industry is booming, driving spectacular growth in the construction sector. In Abu Dhabi alone, the tourist board aims to develop about 100 new hotels over the next ten years. This is expected to cause a 25 per cent annual increase in building activity. Landfill in Abu Dhabi is already taking an estimated 800 tonnes of construction waste a day from the city and its surroundings.

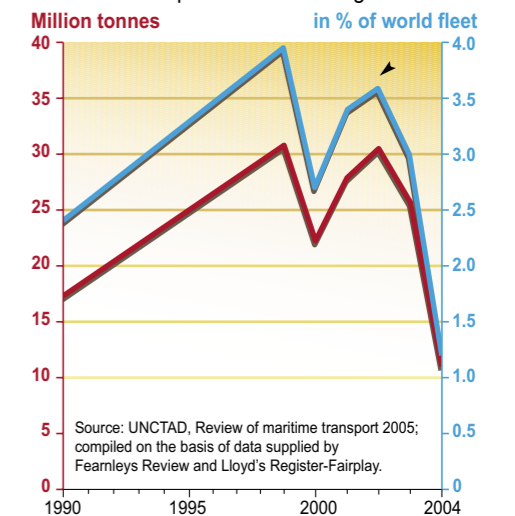
In developed countries construction waste represents 10 to 15 per cent of total waste. Spain produces 35 million tonnes of building and demolition waste annually. Of that 25 million tonnes end up in uncontrolled tips and only 1 million tonnes are reused. This is all the more inexcusable now that we know how to crush and recycle concrete blocks, recover steel girders (see page 28 on BedZED), reuse bricks. If carried out systematically we could substantially reduce the environmental impact of building all over the world.

## Shipbreakers of Asia



A few recent changes in national and international regulations provoked a massive drop in the tonnage of ships being broken up and major shifts in the shipbreaking market. Bangladeshi shipbreaking yards are, for example, gradually gaining ground on their Indian counterparts because Bangladesh does not enforce mandatory “gas-free for hot work” certification for oil tankers (Greenpeace). In 2004 a Basel Convention decision officially classified old ships as “toxic waste”, preventing them from leaving a country without the permission of the importing state.

## Ships sold for breaking



## Ships broken up at Alang, India

