



Indian Auto Component Industry and ELV Directive

Presented by

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NetPEM Profile

NetPEM's mission

To help develop and promote the implementation of Preventive Environmental Management (PEM) strategies for Sustainable Development

Primary Focus

To promote the implementation of PEM strategies through Education, Training & Research in the Asian Region

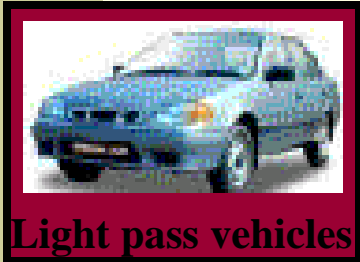
Services Offered

- Research & Advisory
- Education & Training
- Information Dissemination & Networking



Indian Automotive Market

Indian Automobile Industry



Light pass vehicles

PCs/MUVs/SUVs



Commercial vehicles

LCVs/M&HCVs/
Buses



Tractors

Farm Earthmoving
& Construction
Equipment



Two Wheelers

Motorcycle/
Scooter/ Moped



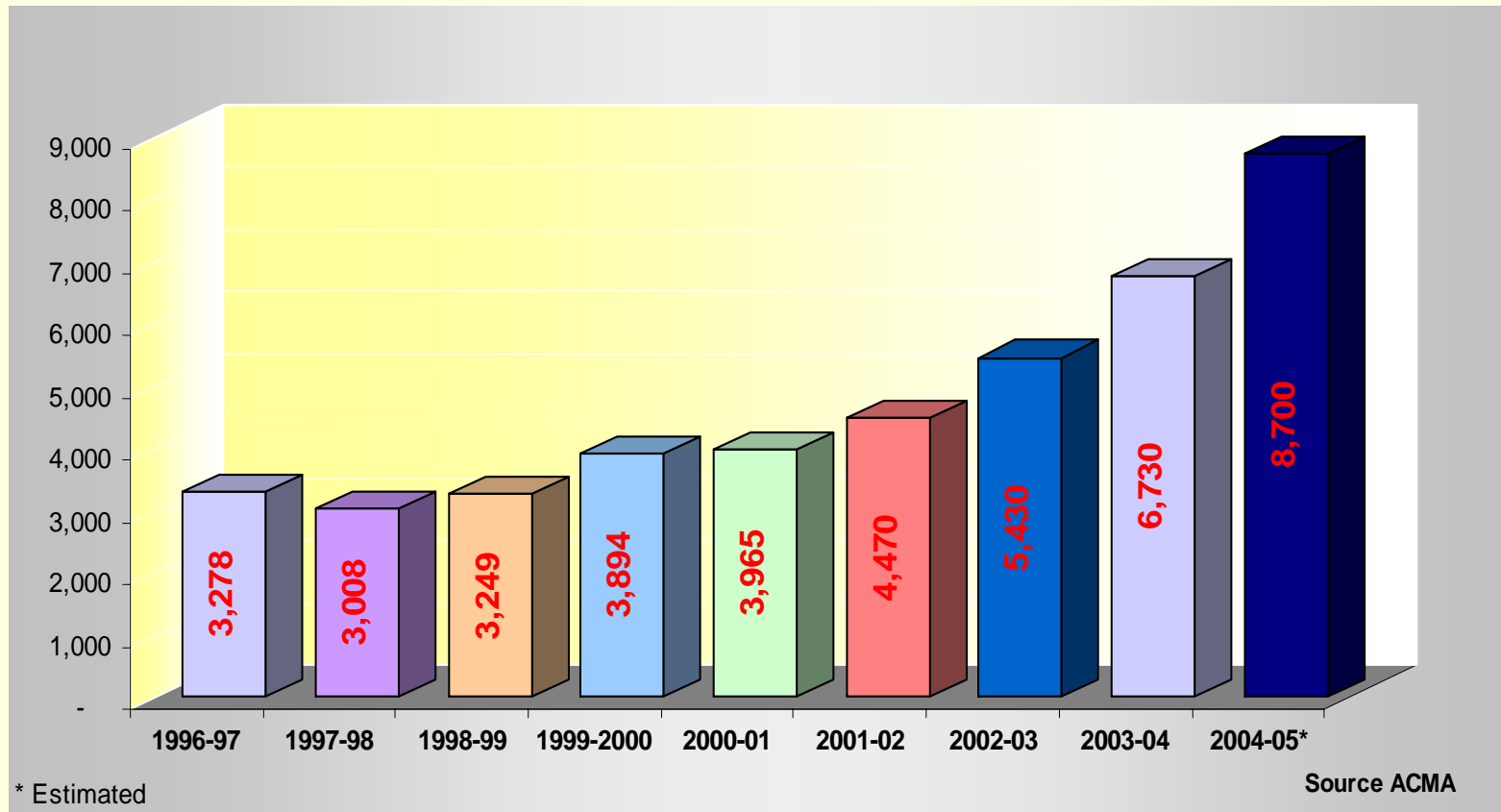
Three Wheelers

Passenger
Carriers/ Goods
Carriers

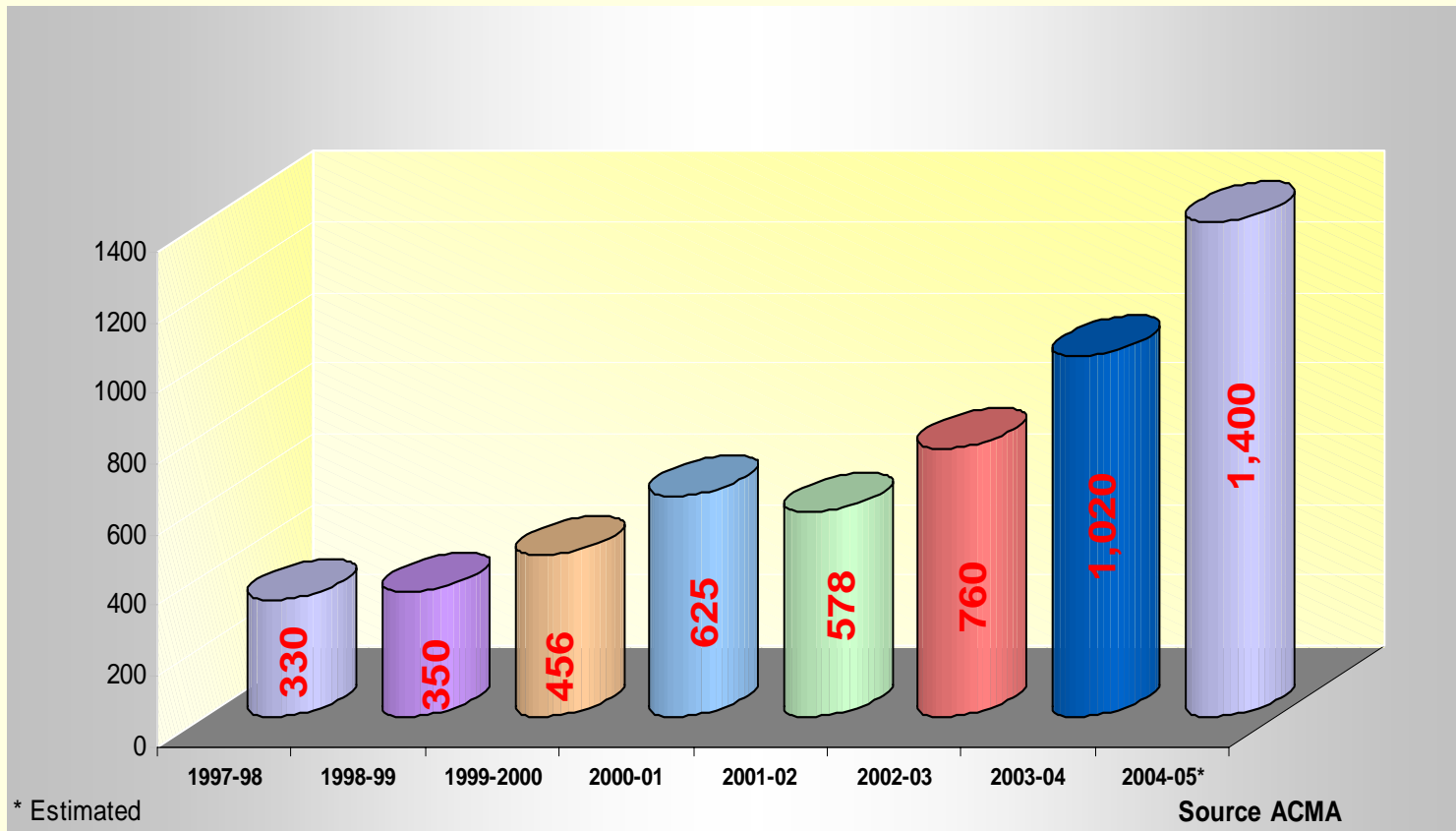


AUTO COMPONENT INDUSTRY PRODUCTION

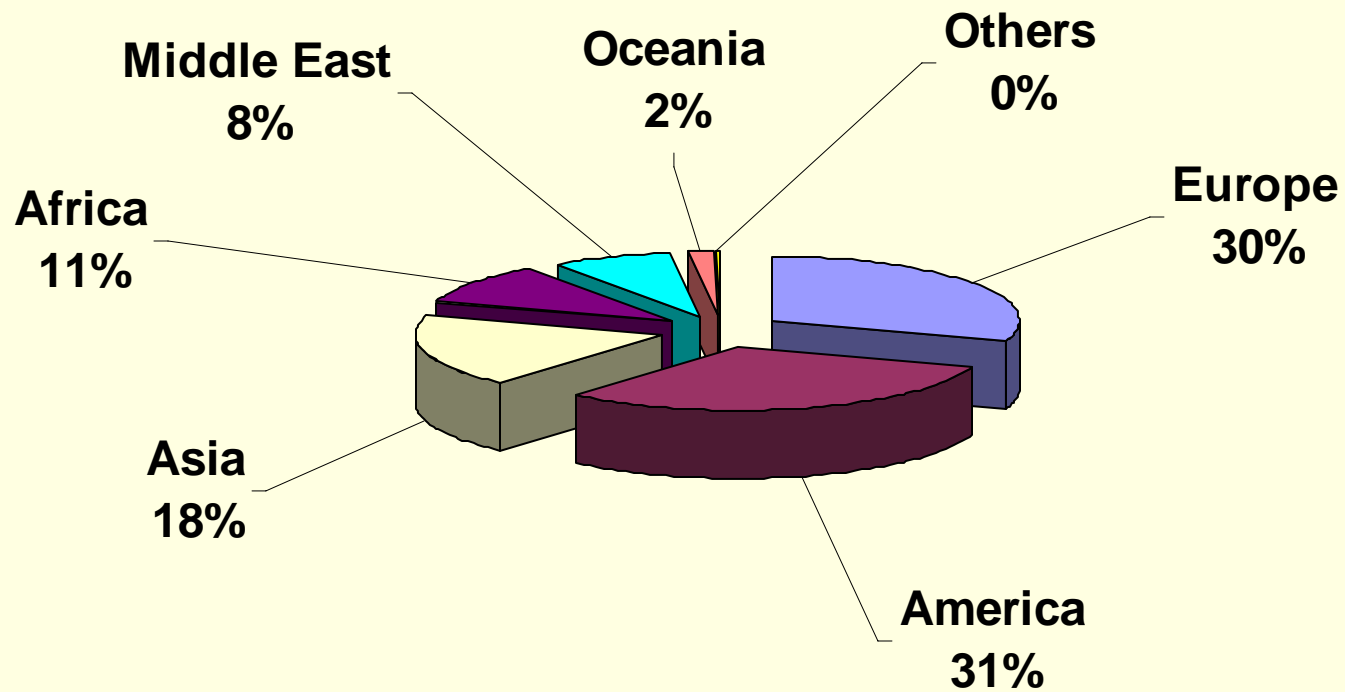
(IN US \$ MLN.)



AUTO COMPONENT INDUSTRY EXPORT (IN US \$ MLN.)



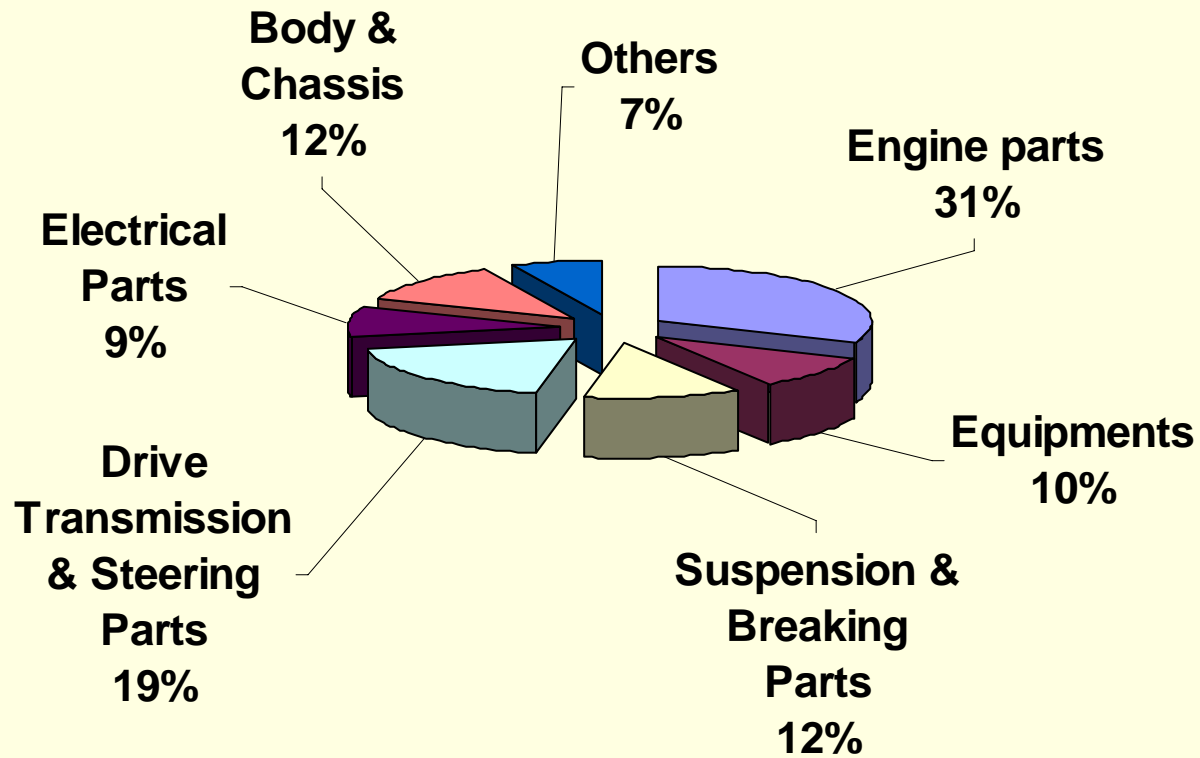
Auto Component Export Destinations



Scours ACMA



Component Production Range



Rational

- In the year 2000, 13.4 million cars were scraped in the EU
- This is projected to increase by 21% by 2015 to 17 million.

ELV DIRECTIVE

- The EU End-of-Life Vehicle Directive (The ELV Directive) is enacted by the European Commission (EC) to address pollution resulting from vehicles that have reached the end of their useful life, also known as End of Life Vehicles (ELVs).
- This End-of-Life Vehicles Directive, a regulatory framework for vehicles was officially adopted by the European Parliament (EP) and EC in September 2000, and came into force on the 21 October 2000.

Definitions

- **‘producer’** means the vehicle manufacturer or the professional importer of a vehicle into a Member State

- **‘prevention’** means measures aiming at the reduction of the quantity and the harmfulness for the environment of end-of life vehicles, their materials and substances

- **‘treatment’** means any activity after the end-of life vehicle has been handed over to a facility for Depollution, dismantling, shearing, shredding, recovery or preparation for disposal of the shredder wastes, and any other operation carried out for the recovery and/or disposal of the end-of life vehicle and its components;

Definitions Cont.

'reuse' means any operation by which components of end-of life vehicles are used for the same purpose for which they were conceived

'recycling' means the reprocessing in a production process of the waste materials for the original purpose or for other purposes but excluding energy recovery.

'recovery' means any of the applicable operations provided for in Annex IIB to Directive 75/442/EEC

'disposal' means any of the applicable operations provided for in Annex IIA to Directive 75/442/EEC

Objectives

- To reduce the use of hazardous substances when designing vehicles
- Design and produce vehicles which facilitate the dismantling, re-use, recovery and recycling of end-of-life vehicles
- Increase the use of recycled materials in vehicle manufacture
- Ensure that components of vehicles placed on the market after 1 July 2003 do not contain mercury, hexavalent chromium, cadmium or lead, except in the cases listed in Annex II.

Scope of ELV Directive

The ELV covers only new and end-of-life vehicles, including their components and materials:

- ❖ Any end-of-life vehicle designated as category M1 or N1:
 - Category M1: Vehicles used for the carriage of passengers and comprising no more than eight seats in addition to the driver's seat
 - Category N1: Vehicles used for the carriage of goods and having a maximum weight not exceeding 3.75 metric tons.

- ❖ Three-wheel motor vehicles, excluding motor tricycles, must comply only with the collection and treatment requirements of the ELV. Limited requirements also apply to special purpose vehicles such as motor caravans, ambulances and hearses which are exempt from the recycling and recyclability targets.

The Various Articles of the ELV Directive

Article 4: Prevention

Article 5: Collection

Article 6: Treatment

Article 7: Reuse and Recovery

Article 8: Coding standards/dismantling information

Article 9: Reporting and Information

Prevention

Vehicle manufacturers, in liaison with material and equipment manufacturers, *to limit use of hazardous substances* in vehicles and prevent their release into the environment, make recycling easier, and avoid the need to dispose hazardous waste

- Design and production
- Integrate increasing quantity of recycled material
- Member states shall ensure that vehicle materials and components put on the market after 1 July 2003, *do not contain lead, mercury, cadmium or hexavalent chromium* other than in cases listed in Annex II.

Annex II

Material and Component	New expiry date of the exemption
<i>Lead as alloying element (Maximum 1000 ppm tolerated)</i>	
Steel for machining purposes and galvanised steel containing up to 0,35 % lead by weight	
Aluminium for machining purposes with the lead content up to 1.5 % by weight	1 st July 2008
Aluminium for machining purposes with the lead content up to 0.4 % by weight	
Copper alloy containing up to 4 % lead by weight	
Bearing shells and bushes	1 st July 2008
<i>Lead and lead compounds in components (Maximum 1000 ppm tolerated)</i>	
Batteries	
Vibration dampers	
Vulcanising agents and stabilisers for elastomers in fluid handling and powertrain applications containing up to 0,5 % lead by weight	1 ST July 2006
Bonding agents for elastomers in powertrain applications containing up to 0,5 % lead by weight	
Solder in electronic circuit boards and other electric applications	
Copper in friction materials of brake linings containing more than 0,4 % lead by weight	1 st July 2007
Valve seats	Engine types developed before 1 July 2003; 1 July 2007

Material and Component	New expiry date of the exemption
<i>Hexavalent chromium (Maximum 1000 ppm tolerated)</i>	
Corrosion preventive coatings	1 July 2007
Corrosion preventive coatings related to bolt and nut assemblies for chassis applications	1 July 2008
Absorption refrigerators in motorcaravans	
<i>Mercury (Maximum 1000 ppm tolerated)</i>	
Discharge lamps and instrument panel displays	
<i>Cadmium (Maximum 100 ppm tolerated)</i>	
Thick film pastes	1 July 2006
Batteries for electrical vehicles	After 31 December 2008, the placing on the market of NiCd batteries shall only be allowed as replacement parts for vehicles put on the market before this date
Optical components in glass matrixes used for Driver Assistance Systems	1 July 2007

Collection and Treatment

- There should be Authorized Treatment Facility (ATF) Available
- System should be developed for issuing the Certificate of Destruction (CoD) with the help of ATF so that ELV can be transferred to ATF.
- End of life vehicles are stored (even temporarily) and treated in accordance with the general requirements laid down in Article 4 of Directive 75/442/EEC
- Any establishment or undertaking carrying out treatment operations have to obtain a permit from or be registered with the competent authorities.
- End of life vehicles shall be stripped in ATF before further treatment.

Sample Certificate of Destruction (CoD)



Var god texta!/
Please use block letters!

SKROTNINGSSINTYG FÖR EES-LÄNDER/ CERTIFICATE OF DESTRUCTION FOR EEA COUNTRIES

Datum/Date

.....

Fordonsuppgifter/Vehicle data

Registreringsnummer/Registration number	Fabrikat och modell/Make and model
Fordonsslag/Category of vehicle	Fullständigt chassinummer/Vehicle identification number
Fordonets nationalitetsbeteckning/Nationally sign of the vehicle	

Personuppgifter/Personal data

Efternamn, förnamn/Last name, first name	Personnummer/Personal code number
Adress/Address	Nationalitet/Nationality
Ortnamn/Town	Land/Country
Fordonsgärens underskrift/Vehicle owner's signature	

Sample Certificate of Destruction (CoD)

Auktoriserad skrotare eller producent/Authorised car breaker or producer

Firmanamn/Company name		Org.nummer/Corporate identification no. 	
Adress/Address		Land/Country Sverige / Sweden	
Fordonets registreringshandlingar har förstörts/ The vehicle registration papers have been destroyed <input type="checkbox"/> Ja / Yes <input type="checkbox"/> Nej / No	Stämpel/Stamp		
Fordonets registreringsskyltar har förstörts/ The vehicle number plates have been destroyed <input type="checkbox"/> Ja / Yes <input type="checkbox"/> Nej / No			
Underskrift av behörig/Authorised signature			

Tillståndsmyndighet/Licensing authority

Länsstyrelsen i /County Administrative Board in
Adress/Address

Skrotningsintyget är utfärdat enligt EU kommissionens beslut 2002/151/EG / This certificate of destruction is issued in compliance with the EU commissions decision 2002/151/EC.

OBS! Detta intyg är inte avsett för svenskregistrerade fordon som skrotas i Sverige.

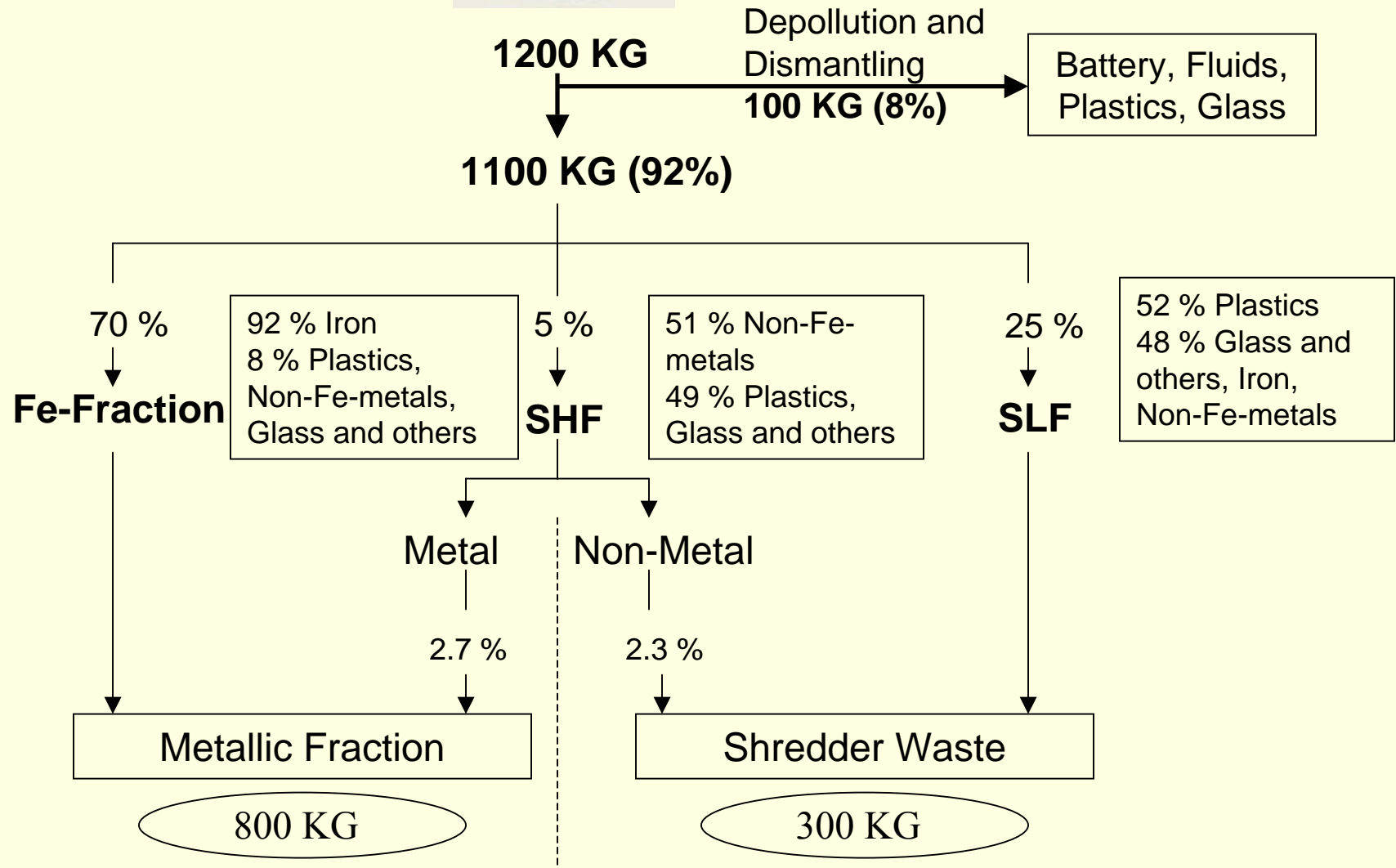
Reuse, Recovery and Recycling

Targets to be attained by Economic Operators				
	Total Reuse Recovery	Reuse and Recycling	Energy Recovery	Landfill
1 Jan 2006*	85%	$\geq 80\%$	$\leq 5\%$	$\leq 15\%$
1 Jan 2015	95%	$\geq 85\%$	$\leq 10\%$	$\leq 5\%$

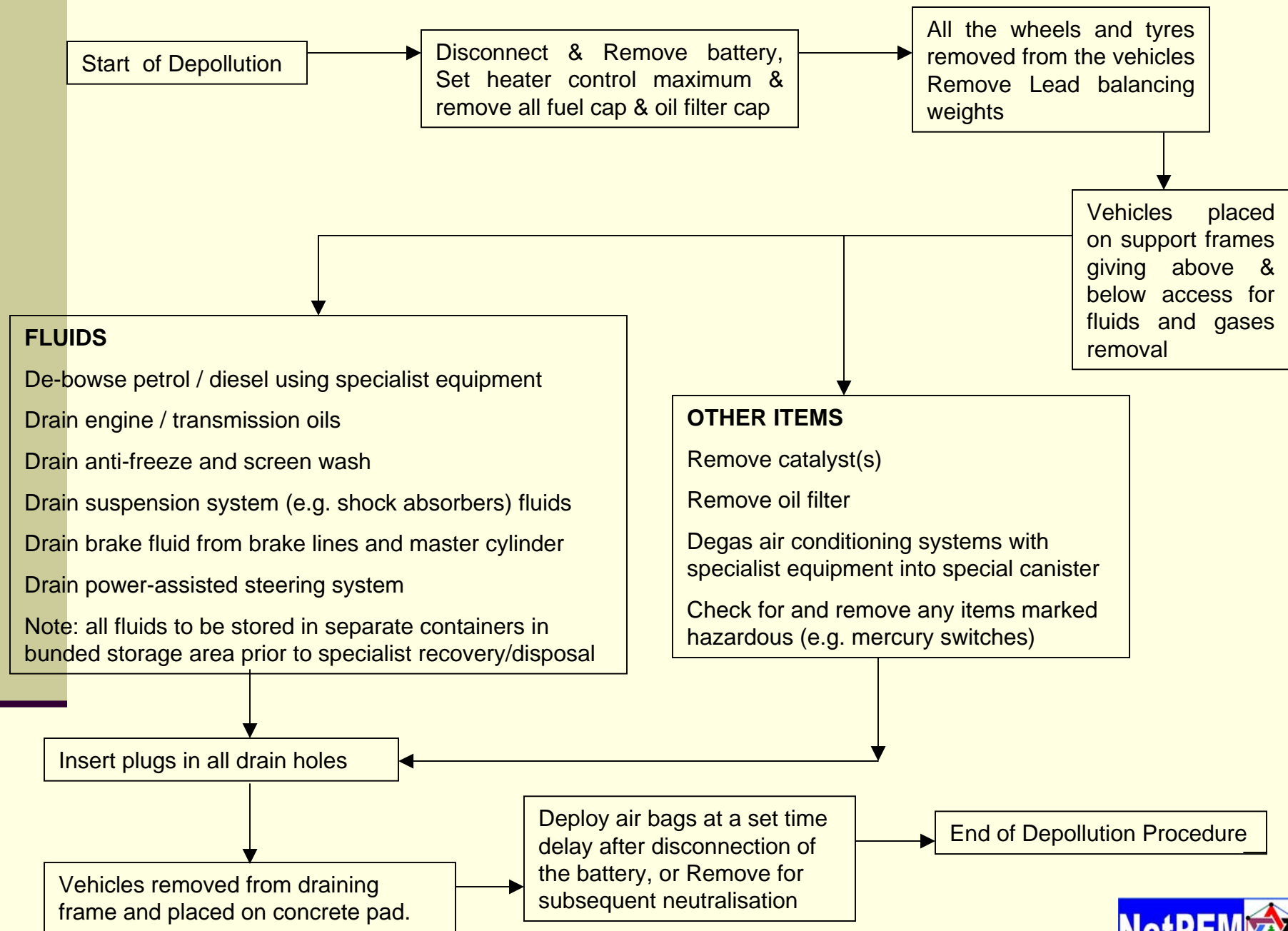
*for vehicles produced before 1 Jan 1980, lower targets may be laid down, but no lower than 75% for reuse and recovery, and 70% for reuse and recycling

- When a vehicle is “reused and recycled” it means that components are dismantled and used as they are, or that they are reprocessed so that they can re-enter a production process.
- If it is “reused and recovered” the process is the same, but recovery also includes energy recovery, meaning that certain components are incinerated with energy recovery.

The average cost for recycling of any ELV is US \$200/ ELV



Description of material flows in the car shredding process



Deadlines and Targets

- **01 Jan. 2006** - reuse and recovery of ELV to be at a minimum of 85% by average weight per vehicle, reuse and recycling of ELV to be at a minimum of 80% by average weight per vehicle.
- **01 Jan 2007** - ELV vehicles put on market before 01 July 2002 to be delivered to the authorized treatment facilities without additional cost to the last owner.
- **01 Jan. 2015** - reuse and recovery of ELV increased to a minimum of 95% by average weight per vehicle, reuse and recycling of ELV to be at a minimum of 85% by average weight per vehicle

Significant Impact on Various Players in Vehicle Value-chain



•Collection



•Vehicle and part design
and manufacturing



•De-pollution/
dismantling/ shredding



•Recycling/ recovery/ reuse

Opportunities & Threats

- Potential to gain a lead in new vehicle technologies.
- Future economies of scale and innovation through cooperative ventures.
- Improve in design and engineering.
- Export of re-cycling expertise.
- Some companies are in a weak position financially and lose market share.
- Smaller suppliers, lower in the supply chain, threatened with competition from low cost locations.
- Difficulties in recruiting the skills needed for the future, especially in the smaller supply companies.