EUROPEAN TYRE & RUBBER
manufacturers'association

END OF LIFE TYRES MANAGEMENT IN EUROPE

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Contemporary approaches to Rubber Goods & Tyres Recycling

Moscow, 1 June 2011

LEADING VOICE OF THE EUROPEAN TYRE & RUBBER MANUFACTURERS

TYRE CORPORATE members are

- ~4200 companies, 12 Tyre Corporate HQs, 91 tyre plants, 15 R&D centers
- In 2009, sectoral turnover € 43 bn of which tyre companies € 24 bn
- Sectoral employment 360 000, tyre companies 200 000 (indirect ~1 mio)
- 7 out of top 10 global tyre companies ETRMA Members, generating worldwide 59 % of the world tyre industry turnover (Bridgestone, Michelin, Goodyear, Continental, Pirelli, Hankook, Cooper)
- In 2010, tyre export € 4,0 bn – tyre import 5,0 bn

Content

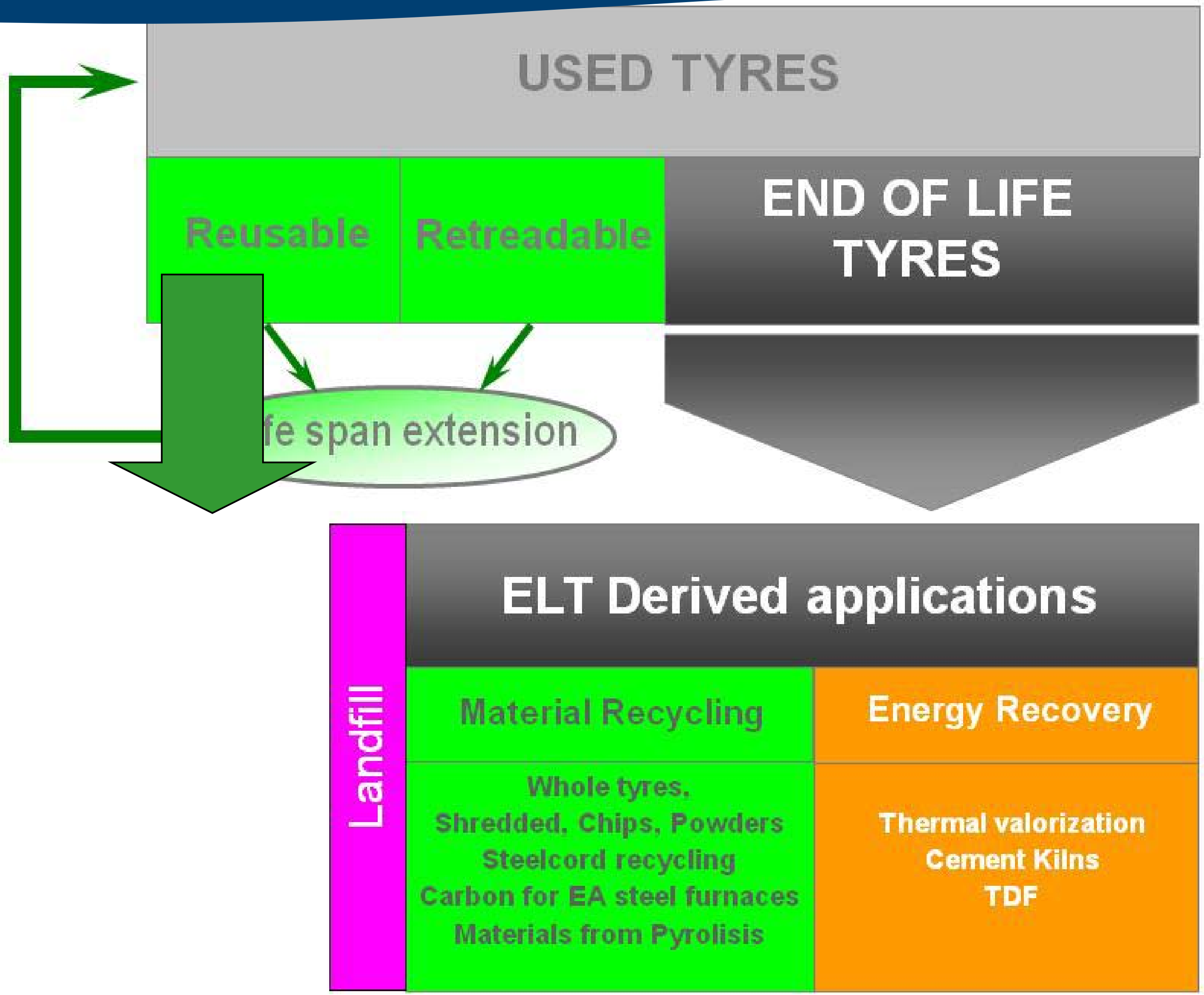
1. Used Tyres: some key data

2. Focus: European Union

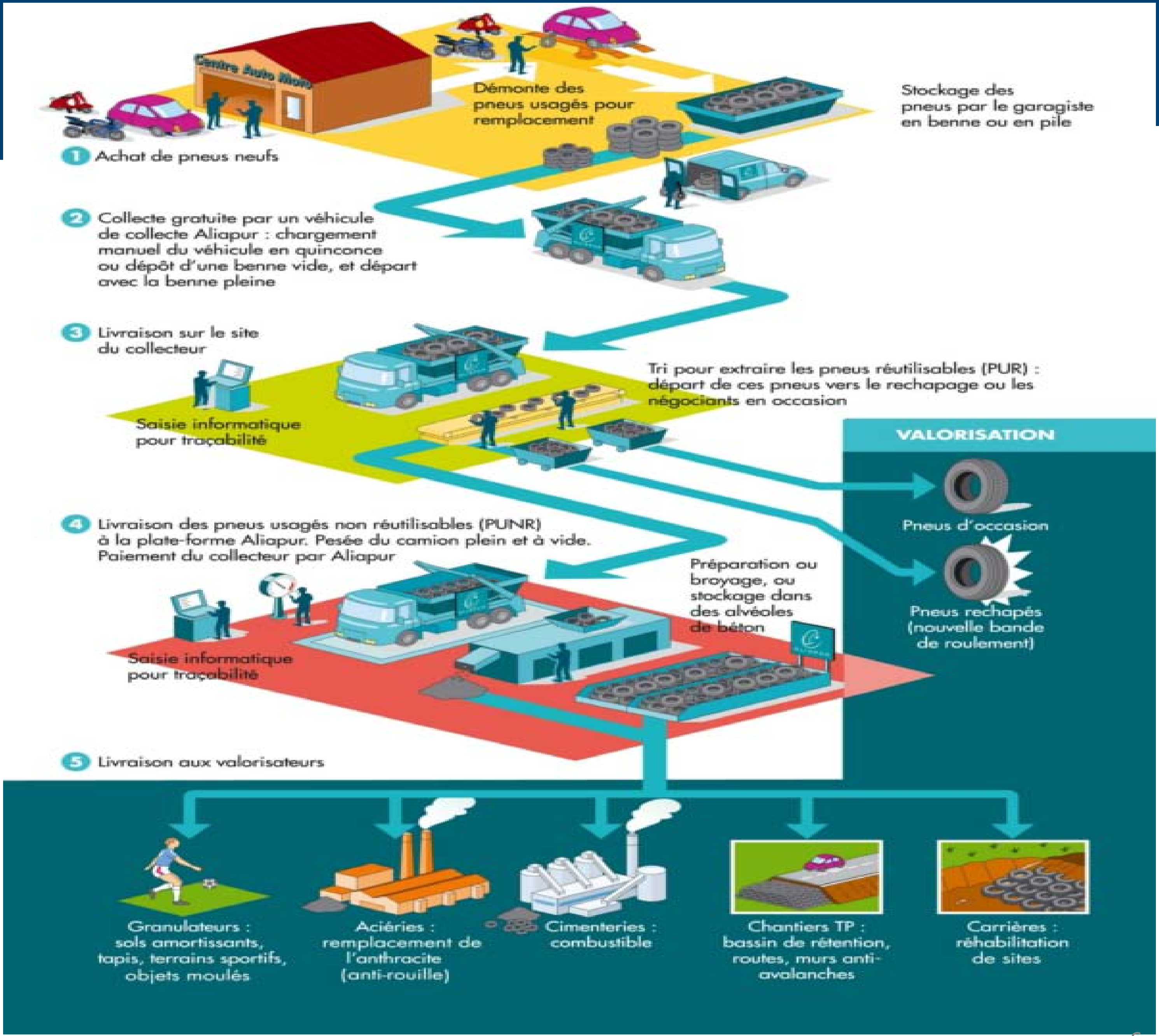
3. Tyre Producers Strategy in E.U. and the framework conditions for a successful deployment

4. Challenges

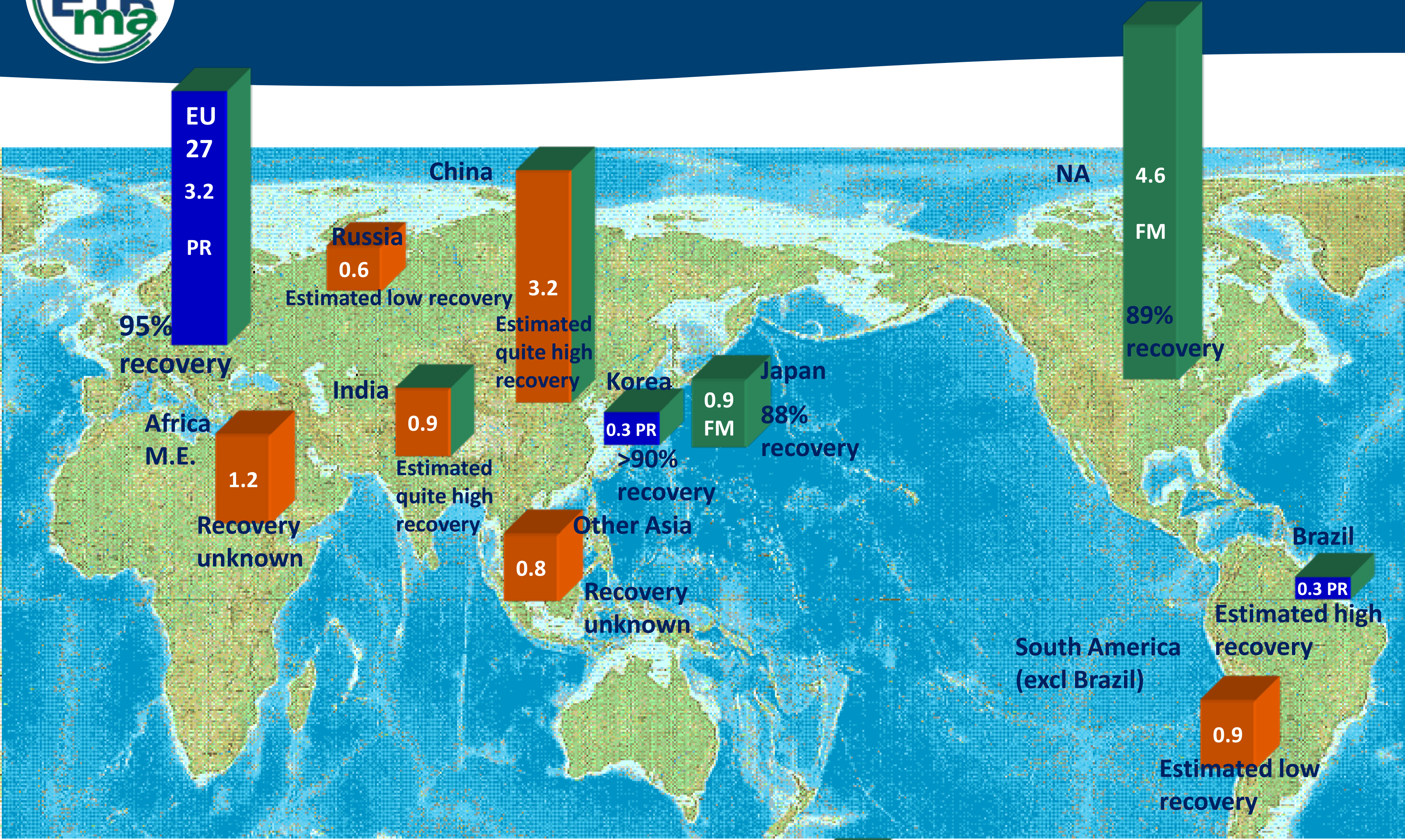
BASIC DEFINITIONS



U T F L O W


Centre Auto Moto
Démonte des pneus usagés pour remplacement
Stockage des pneus par le garagiste en benne ou en pile
1 Achat de pneus neufs
2 Collecte gratuite par un véhicule de collecte Aliapur : chargement manuel du véhicule en quinconce ou dépôt d'une benne vide, et départ avec la benne pleine
3 Livraison sur le site du collecteur
Tri pour extraire les pneus réutilisables (PUR) : départ de ces pneus vers le rechapage ou les négociants en occasion
Saisie informatique pour traçabilité
VALORISATION
Pneus d'occasion
4 Livraison des pneus usagés non réutilisables (PUNR) à la plate-forme Aliapur. Pesée du camion plein et à vide. Paiement du collecteur par Aliapur
Préparation ou broyage, ou stockage dans des alvéoles de béton
Pneus rechapés (nouvelle bande de roulement)
Saisie informatique pour traçabilité
5 Livraison aux valorisateurs
Granulateurs : sols amortissants, tapis, terrains sportifs, objets moulés
Aciéries : remplacement de l'anthracite (anti-rouille)
Cimenteries : combustible
Chantiers TP : bassin de rétention, routes, murs anti-avalanches
Carrières : réhabilitation de sites

UT :17Million tons ww; Europe : 3,2 Million ton

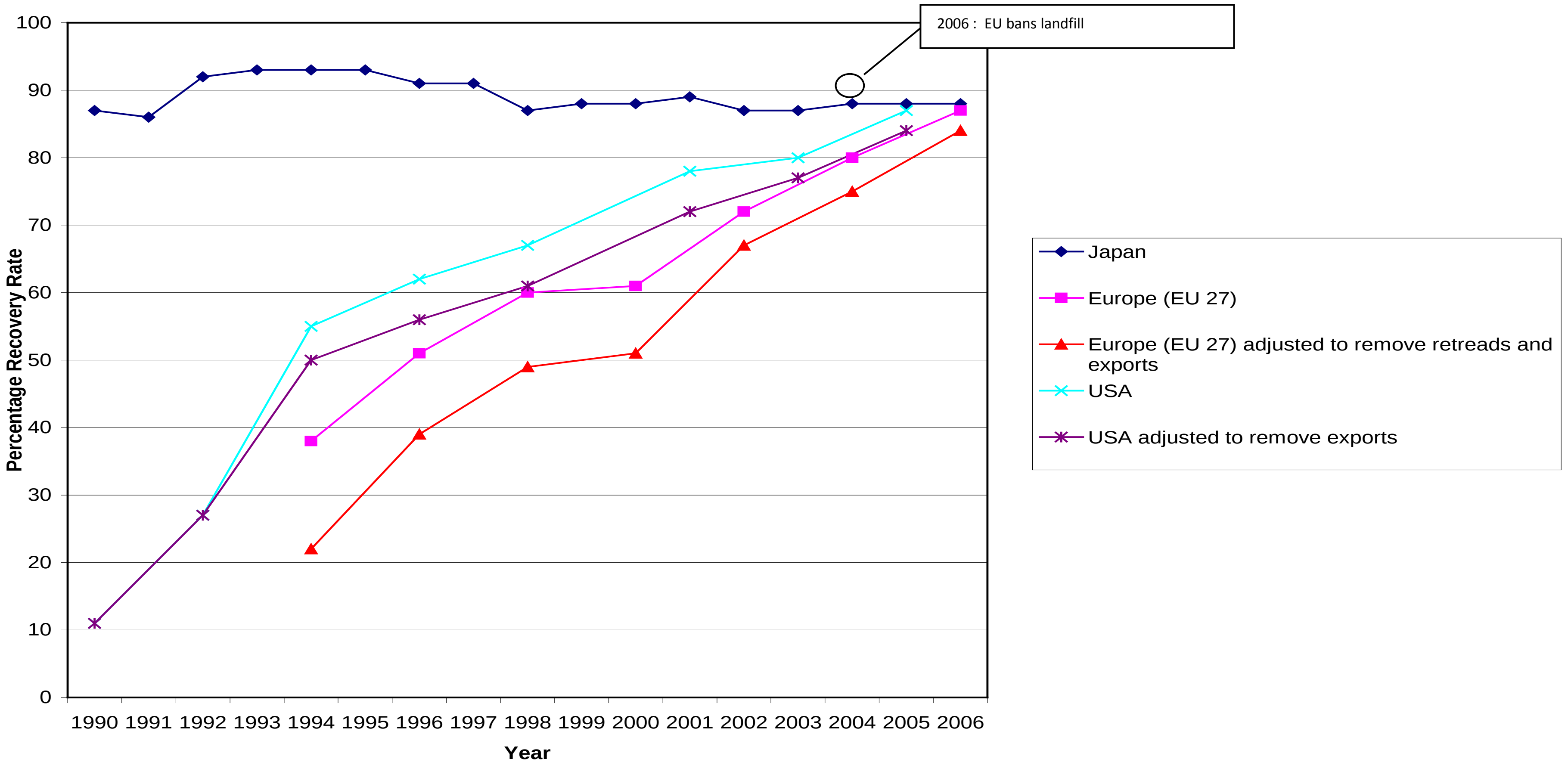


Generation rates: million tonnes (2007)
Recovery rates: % usefully recovered (2008)

high recovery rates
low recovery rates

Mature regions: a real progress … towards 100%

ELT Recovery Rates[1]



Sources: ETRMA, RMA and JATMA

[1] Again, USA, Europe and Japan figures not exactly comparable due to differences in managing statistics.

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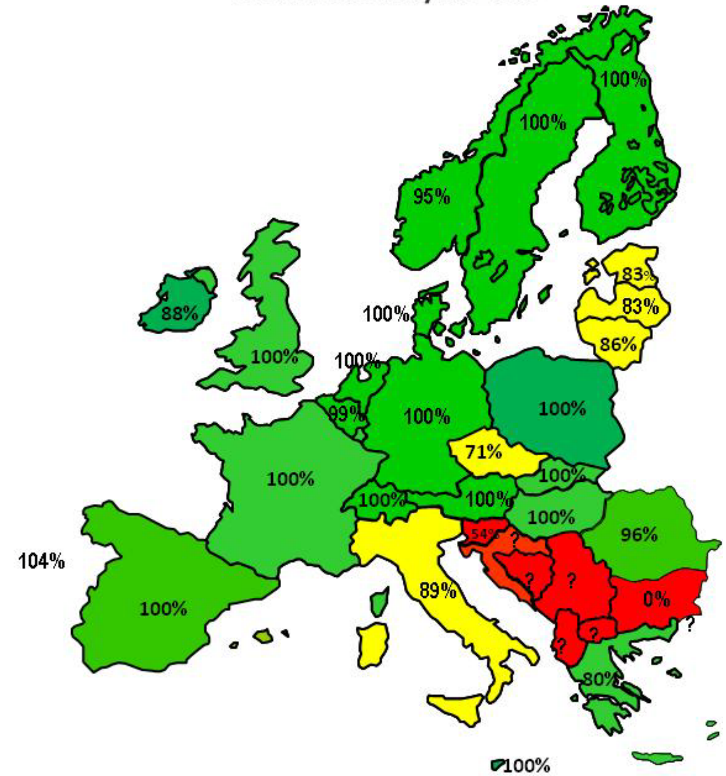
Europe : UT streams

96% recovery in 2009

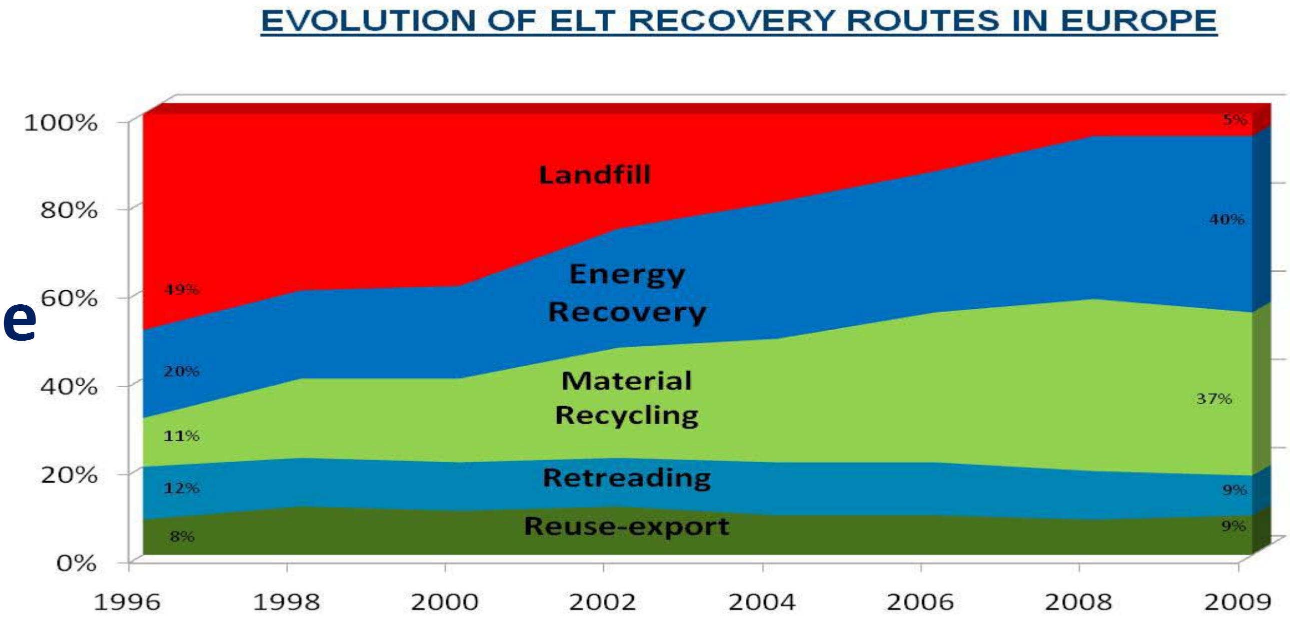


- 2009 : 3 200 000 tons / year
- Cost Center : about 600M€

(utilimately financed by the end consumers)

- 96% of recovery
  - 18% second hand tyres + retread
  - **37% material recycling**: the highest rate among the regions
  - **40% eneregy recovery**;
  - 4% landfill

UT Recovery Rate 1994-2009



Europe 2009:
ELT recovery routes

ELT Recovery & recycling potential

- Use of the properties of the tyres
  - Elasticity
  - Structural endurance
  - Drainage
  - Calorific power
  - Carbon
  - Polymers

  ….

- Criteria for evaluation of a recovery route
  - Technical properties of the product
  - Compliance with health & environnemental prescriptions
  - Contribution to the raw material economy
  - Economical value

- ELT derived products not much recycled into new tyres

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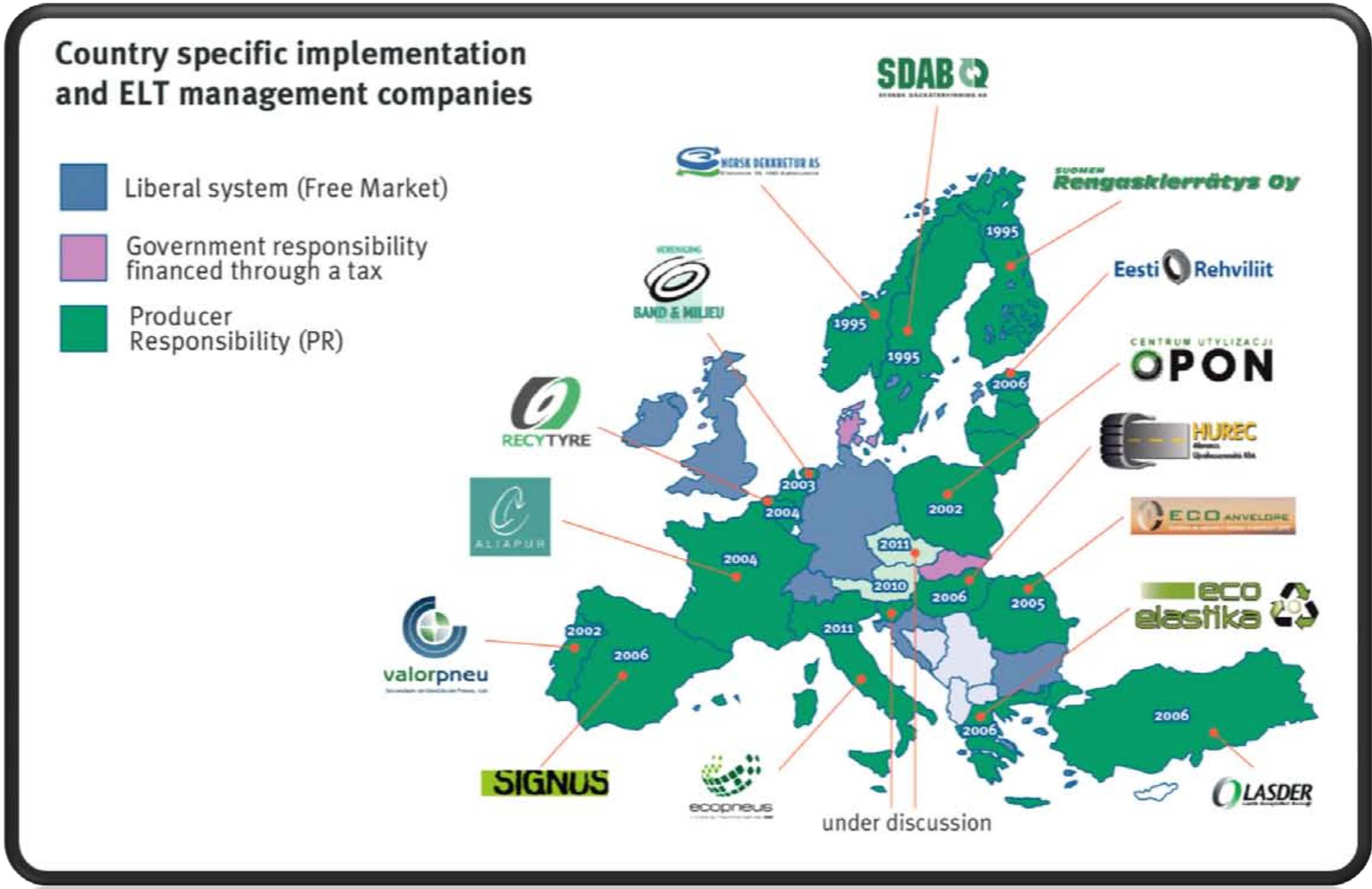
ELT management models in Europe

Producer Responsibility Model ***60%***
(of ELT arisings)

Free Market Model ***38%***
(of ELT arisings)

Tax Model ***2%***
(of ELT arisings)



EUROPE –BUSINESS MODELS

- EU 27: No landfill

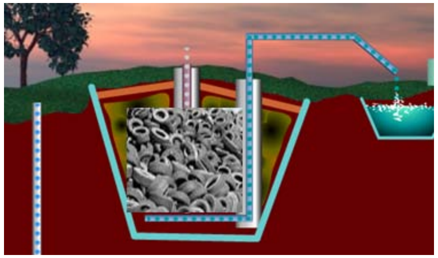
as from July 2006 !

(EC/1999/31)

Uncontrolled landfill

Never allowed

Controlled landfill



Not allowed anymore

➔ each EU country developed its own ELTmanagement model:

Producer Responsibility model (PR) : 60%

Free Market model (FM) : 38%

Tax model : 2%

- Secure economically viable solutions

- Control exports

- All Business models : the end consumer ultimately pays

The loop is closed when final recovery is documented

ESSENTIAL element in ELT management (as for any waste, and especially within a PR framework)

Collection only is not sufficient, nor is delivery to a subcontractor for processing.

When the ELT is turned either into a product, a commodity, a fuel or followed some other approved recoveryroute, ***with appropriate documentation***, the producer responsibility is then only fulfilled

FREE MARKET MODEL (39% of volumes)

➔ Responsibility coming from waste legislation and is the responsibility of downstream operators

- The operators operate under the market conditions
- Financing:
  - *Finally the consumer pays an environmental fee when buying a new tyre ; the dealers pay collectors for collecting the UT and the process goes on till the recovery companies , on a free market basis*
- Germany, Austria, UK, Ireland*, Switzerland

** P.R. model under consideration*

TAX MODEL (2% of volumes)

MARGINAL

- ➔ The producer/importers is subject to a government tax
- ➔ The government is responsible for the ELT management and is appointing and financing operators (collectors, recyclers)

- Management of the ELT chain:

  By the administration
- Financing:

  Tax paid by the producers 🡐 *end-consumers*
- Denmark, Slovakia

PR MODEL (60% of volumes)

The model promoted by the industry in Europe

The producers (manufacturers and importers) are the ones selling tyres on a national market; obliged by law to demonstrate that the volume sold on an annual basis is 100% collected and recovered

They can create jointly a national **ELT management co,** mandated by them to exercise respective obligations

ELTco structure : not for profit organization; in Europe **14 ELT** cos operating

ELTco financing

- The **environment fee** is <u>equal</u> and <u>visible</u> for everybody ;
  Western Europe : 1,5€ / Car tyre ; 10€ / truck tyre
- The fee is paid by the end consumer to the dealers when buying a new tyre ; then paid by the dealer to the producer and by the producer to the ELTco
- The ELTco is financed by each producer through the environmental fee , in line with its yearly sales

PR MODEL (60% of volumes)

Process managed by the ELTco

The consumer leaves the UT at the dealers shop , when purchasing a new tyre

The UTs are collected for free by the collectors

The ELTcos contracts with collectors, transformers , down to the recovery companies

Tracing system: management system, transparent towards the Administration

R&D : Promotion by the ELtcos of joint R&D projects towards new recovery routes

Results over the years

- ✓ Real progress of the recovery rate on a sustainable base
- ✓ A real boost for setting up a professionnal , organized & transparent ELT stream
- ✓ A reliable supply chain of ELts
- ✓ A decrease of the environmental fees overs years
- ✓ Credibility of the Industry

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ELT challenges for the next decade : from a waste to an asset

- The ELT derived products : an actual status of non dangerous waste

- The ELT derived products = a ressource :
  - as secondary raw materials or alternative energy

In a context of :

  - *scarcity & high cost of raw materials*
  - *strengthening of the environmental regulations*

A new context

Emergence of a recycling & recovery industry , with an on going consolidation

Implementation of an ELT program

- Preparation phase :
  - A **diagnosis** of the ELT actual management to be done
  - An **implementation plan** to be developed
  - **1,5 to 2 years**

- Key factors :
  - Statutory Regime – national law mandatory to define responsibility
    →The industry working with the Administration
  - A united and proactive industry
  - Existence of collecting , recovery-recycling co: maturity & capacities
  - Right balance between the different recovery routes
  - A positive factor : scarcity & high cost of raw materials
  - Using the support of other countries as benchmark for design, tools and training

Conclusion

The European Tyre Producers Strategy

- *Proactively play a primary role in achieving the EU "0 landfill" objective on a sustainable basis*
- *To promote the PR model (about 60% of the European ELT arisings) and to implement and manage ELT management companies jointly owned by ETRMA tyre manufacturers*
- *To decrease over years the environmental fee for the benefit of the consumers*
- *Not to discriminate between recycling processes and energy recovery options*
- *To promote R&D programs to develop new and more efficient recycling & recovery channels and to introduce standards for the ELT derived products*
- *To recognise the ELT derived products as a resource and not anymore a waste under certain conditions*
- *To develop guidelines to ensure that ELTs moving cross-border do not go into illegal reuse*

Drivers and challenges

Drivers

Legislation

Expansion of Producer Responsibility culture

Commitment within the Tyre Industry

Challenges

- **Anticipate** the implementation of the landfill ban
- **Promote** Producer Responsibility whilst **respecting** current **free market model**
- Support **sustainable recovery routes** & **standardization**
- **Credibility** of the industry!

THANK YOU

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