

US EPA ARCHIVE DOCUMENT

ARA – PRODUCER RESPONSIBILITY PUT INTO PRACTICE

USEPA dialogue on the sustainable
financing of municipal recycling

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RECYCLING DONE RIGHT

ARA 
Altstoff Recycling Austria

AUSTRIA: FACTS AND FIGURES

– Capital	Vienna
– Area	84,000 km ²
– Population	8.4 million
– EU Member State	since 1995
– GDP 2009 ¹⁾	275.5 billion €
– GDP per capita	29,700 €
– Post-consumer waste (MSW and other) ²⁾	3.7 million tons
– Packaging waste ³⁾	1.1 million tons
– Current exchange rate	1 EUR = 1,35 US-\$

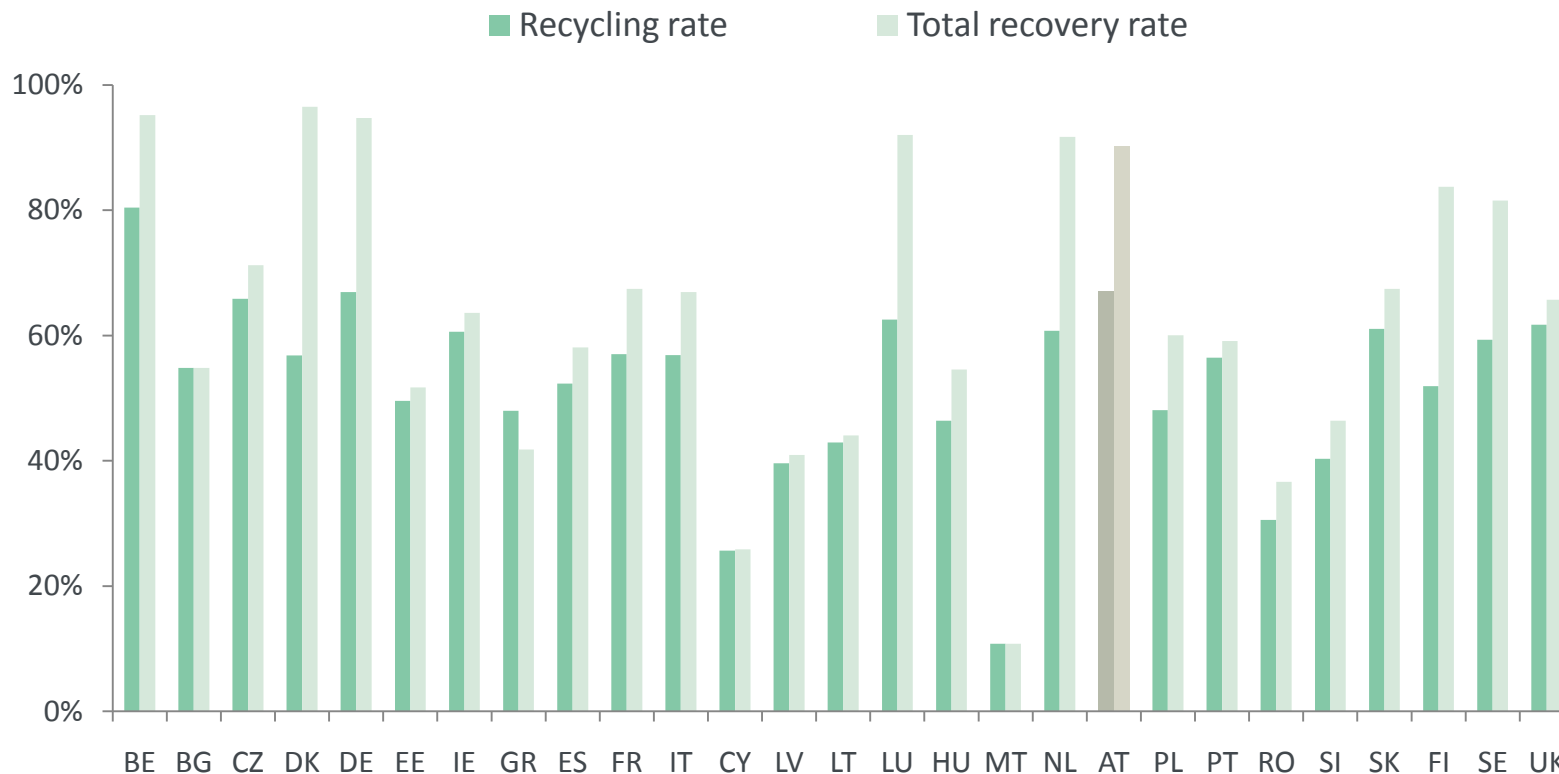


¹⁾ Eurostat, as of November 2009.

²⁾ Federal Ministry of Environment, 2008.

³⁾ Federal Ministry of Environment, 2007.

PACKAGING WASTE RECOVERY: AUSTRIA AMONG BEST EU COUNTRIES



Source: EUROSTAT, 2009.

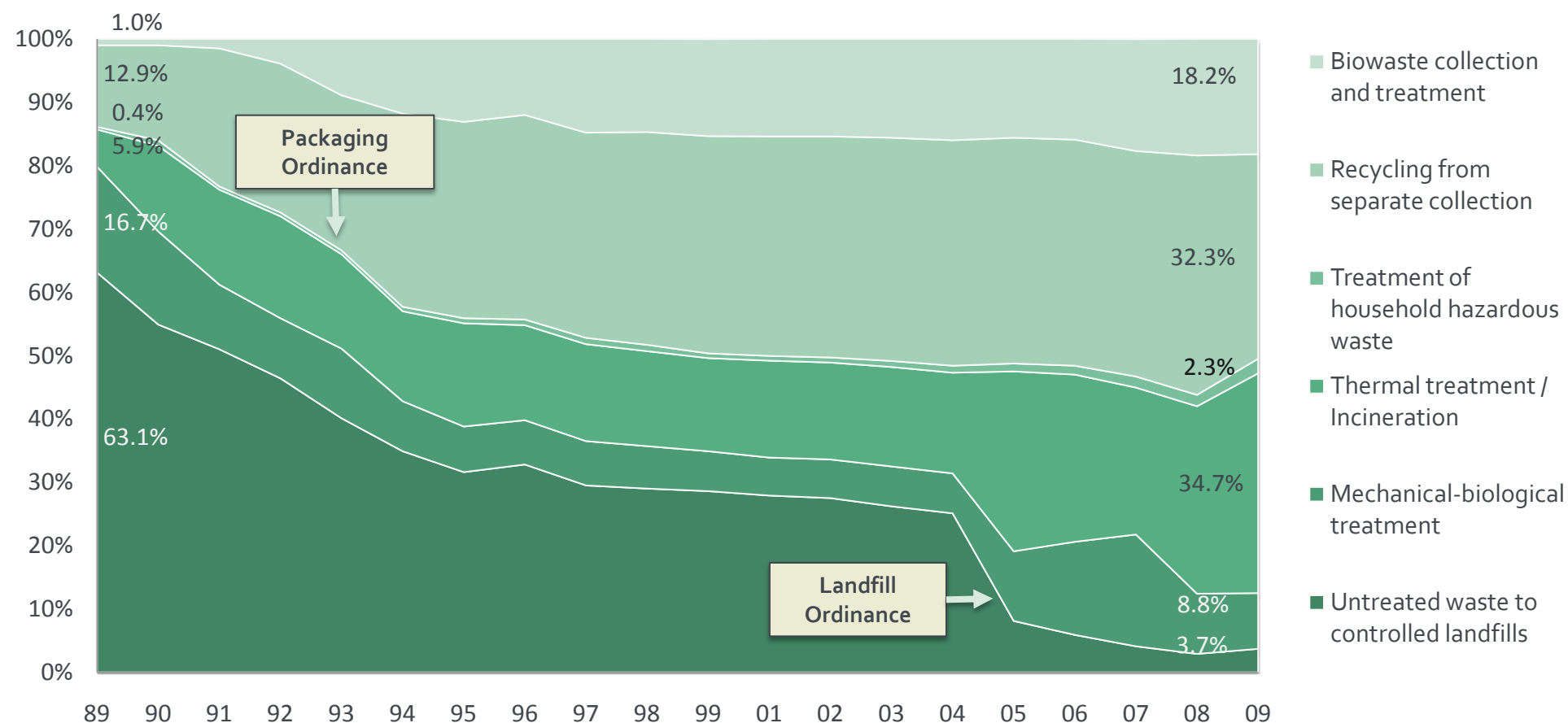
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- 1 The framework
- 2 ARA's solution in practice
- 3 System operation
- 4 Financing
- 5 Effects and achievements – a review

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THE FRAMEWORK

MSW IN AUSTRIA: TWO REGULATIONS FOCUS ON ENVIRONMENTAL PROTECTION AND RESOURCE CONSERVATION



SEPARATE PACKAGING COLLECTION : STAKEHOLDERS AND THEIR OBJECTIVES

Ministry of Environment

- National targets according to the EU Packaging Directive
- Macroeconomic feasibility

Consumers

- Convenient, comprehensible and credible collection systems
- Minimal total financial burden from waste fees and charges

Municipalities

- Waste reduction
- Fair payment for services rendered
- Coordination with other waste management services

Economic agents

- License partners: transfer of duties at the lowest cost in the long run
- Waste generators: convenient and adequate collection service

Waste management companies

- Successful principal-agent relation
- Secondary raw materials

Compliance schemes/Collection systems

- Room for maneuver in the management of services and costs
- Level playing field for competition

THE AUSTRIAN PACKAGING ORDINANCE: GENERAL AIM

The Packaging Ordinance requires

- packaging producers
 - packers and fillers
 - wholesalers and retailers
- to assume responsibility for packaging material they put on the market by
- making economical use of packaging in general
 - developing full-scale collection systems and
 - improving reuse and recycling schemes.

Similar regulations in place for :

- waste electric and electronic equipment, batteries, lamps and end-of-life-vehicles

TWO OPTIONS FOR COMPLIANCE

Companies that do **not participate** in a collection and recovery system

- Recovery through dedicated **own collection schemes**
- **Reuse or recovery** of collected packaging in state-of-the-art facilities
- **Minimum recycling ratio** for each packaging material
- **Annual documentation** to the Ministry (incl. breakdown by packaging materials)
 - Packaging volume put on the market
 - Volumes collected
 - Collection ratio in percent
 - Volume and transferee company

Companies that **participate** in a collection and recovery system

- **Sign** a license agreement
- **Report** the packaging volumes put on the market
- **Pay** the material-specific fees

KEY LEGAL REQUIREMENTS FOR COMPLIANCE SCHEMES

- **Formal approval** by the Ministry of Environment
- Prove contractual provisions and logistics basis for **nationwide** collection services
- Prove adequate **financial resources**
- Provide **separate** household and commercial systems
- Meet **information and communication requirements**
- Support **waste minimization** programs
- **Regulatory supervision** by the Ministry
- Meet **collection standards** as well as **collection and recycling targets**
- **Report annually** to the Ministry
- **Audit procedure** for all fees charged by systems with monopolistic characteristics

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ARA'S SOLUTION IN PRACTICE

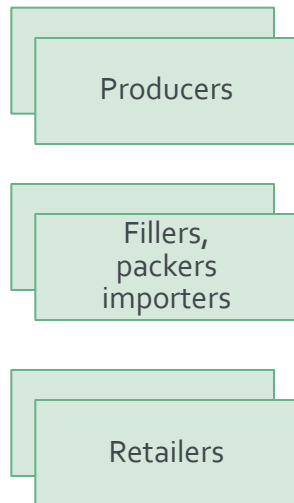
ARA: RELIABLE COLLECTION AND RECOVERY OF PACKAGING WASTE SINCE 1993

- Founded by Austrian packaging manufacturers, fillers, packers, importers and trade companies **to ensure compliance** with the Austrian Packaging Ordinance
- Relies on **public tendering** every 3 to 5 years to select private-sector and municipal contractors for the collection, sorting and recovery of packaging waste
- Organizes the **nationwide collection of packaging waste** from households, public events, businesses and industry in line with the provisions of the operating permit
- **Municipalities** provide collection infrastructures and communication services
- ARA **specifies collection systems** at municipality level, on-demand annual updates
- ARA becomes the **owner** of the collected material and bears the market risks
- **No cross-subsidies** between household and commercial systems or between materials
- **Non-profit orientation**: Unplanned revenue surpluses are used to lower tariffs, thus benefiting businesses and consumers

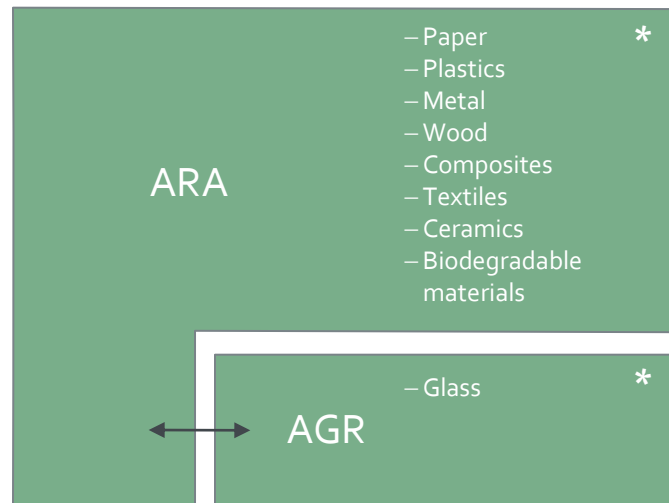


PRODUCER RESPONSIBILITY FOR PACKAGING: ARA SYSTEM

More than 15,000 licensees transfer to ARA their obligations arising under the Packaging Ordinance



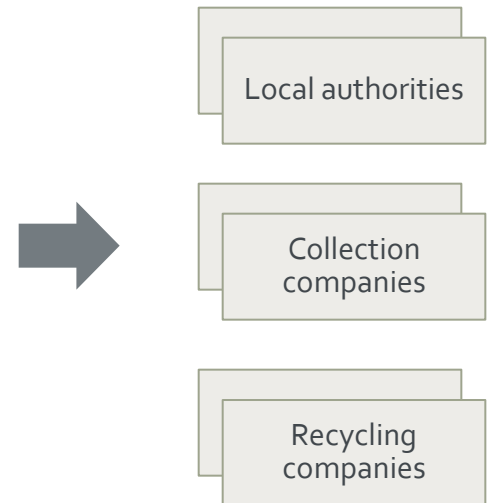
ARA System organizes the nationwide collection and recovery of packaging waste from households, businesses and industry and meets the targets set by the Ministry of Environment



ARA
AGR

Altstoff Recycling Austria AG
Austria Glasrecycling GmbH

Local authorities and more than 200 collection and recycling companies are the operational backbone



* System operators according to Art. 29 Waste Management Act for each packaging material

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STAKEHOLDERS' BENEFITS AND DISADVANTAGES ALONG THE VALUE CHAIN (SIMPLIFIED)

	Consumption / retail	Collection / sorting	Recovery / recycling
Consumers	- Fee for packaging recovery in retail prices + Lower MSW fee	- Source separation + Additional collection capacity	+ Environmentally sound solution
Municipalities		+ Less MSW + Payment for services - Less influence	+ Avoid recycling market risk
Waste management companies		+ Payment for services	+ Payment for services
Packers / fillers	- Pay compliance scheme + Transfer of take-back obligation	+ Collection services for transport packaging	+ Secondary raw materials for increased recyclable content
Compliance scheme	+ Fee income from producers, packers, fillers	- Cost of collection and sorting	+ Revenues from recycling - Cost of recovery - Market risks - Risk of target ratios

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SYSTEM OPERATION

MINISTRY REQUIREMENTS FOR PACKAGING WASTE COLLECTION SYSTEMS

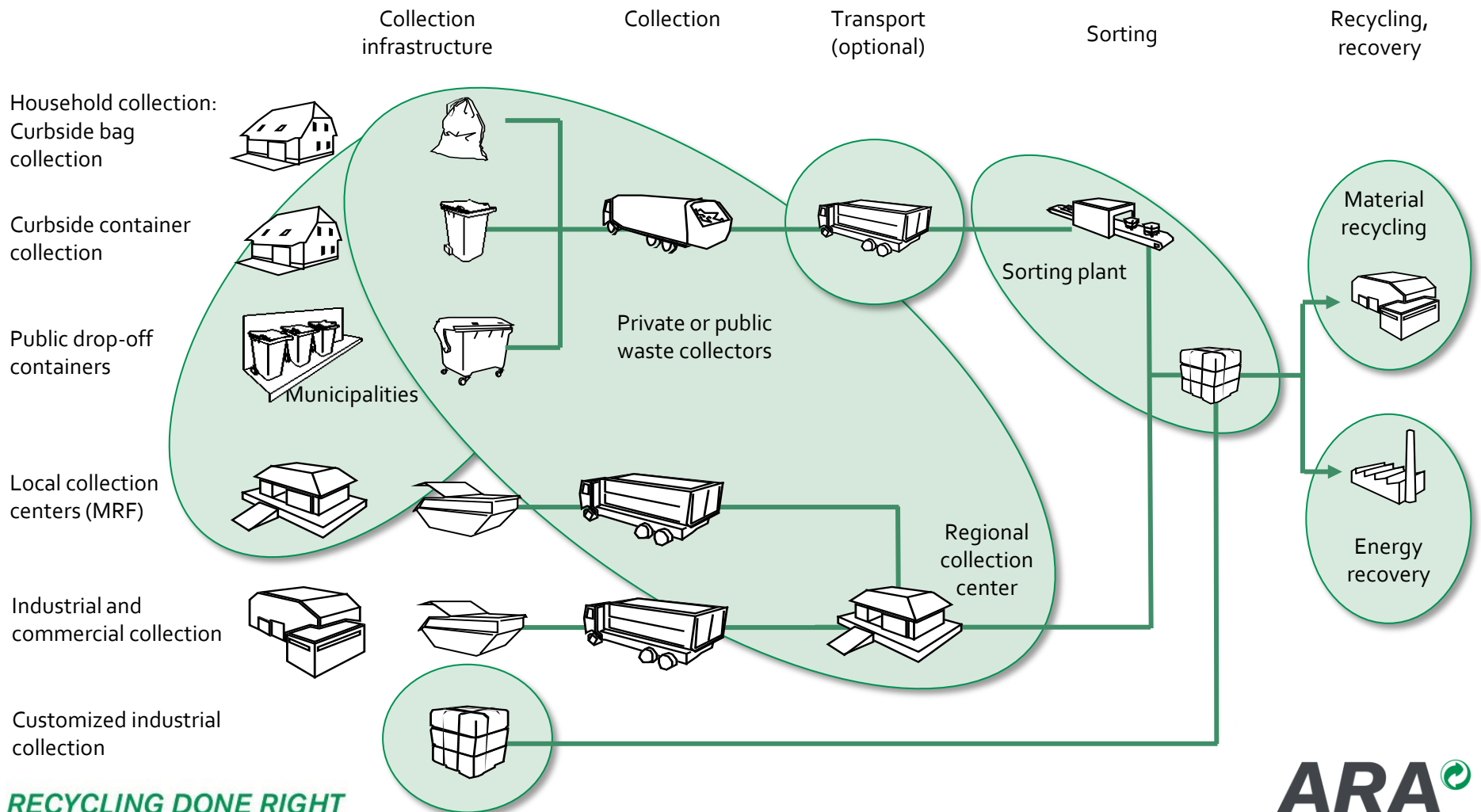
- **Recovery ratios**
 - Material-specific percentage of the licensed packaging volume for household and commercial systems (> 50 mass percent each)
- Minimum ratios for **material recycling**
 - Material-specific percentage of the licensed packaging volumes (> 15 mass percent)
 - Overall ratio across all packaging materials of the volumes licensed by collection and recovery systems (> 25 mass percent)
- **Adequate capacity of collection and recovery systems**
 - National average (l/capita)
 - Regional minimum and maximum standards (l/capita)

TARGETS FOR ARA SYSTEM

	Household system		Commercial system	
	Recovery	Recycling	Recovery	Recycling
Paper, board, cardboard	80%	75%	90%	85%
Glass	80%	80%	80%	80%
Plastics	95%	30%	85%	65%
Composites	95%	15%	50%	15%
Metals	65%	65%	65%	65%
Wood	-	15%	-	15%
Textiles	-	-	-	-
Ceramics	-	-	-	-
Packaging made of biodegradable materials	95%	-	95%	-
Total	60%	55%	60%	55%

The ratios according to Packaging Ordinance Art. 11(1) and (2) refer to compliance quantities.

ARA'S RECYCLING VALUE CHAIN



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TYPES OF LIGHTWEIGHT PACKAGING COLLECTION



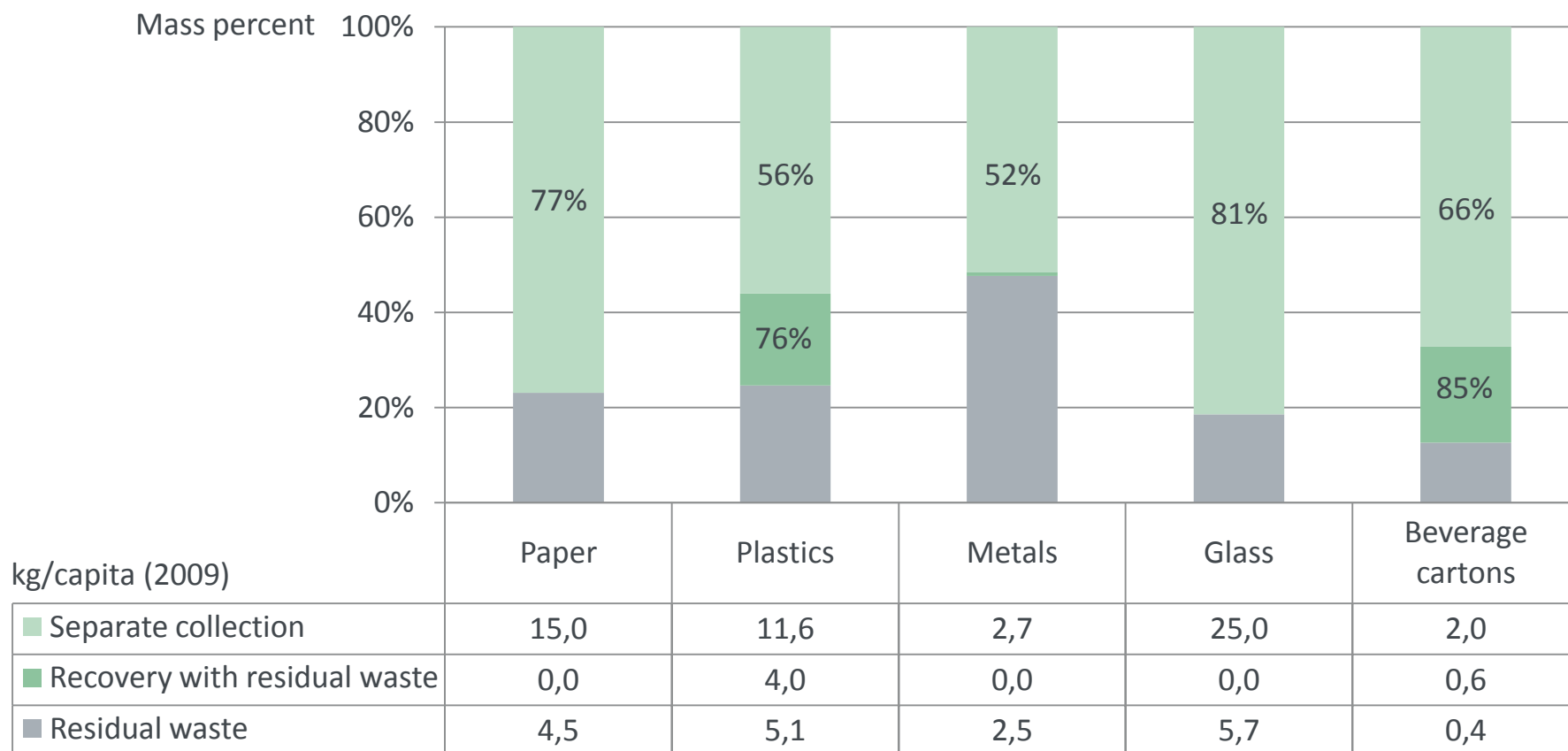
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COLLECTION AND RECOVERY IN 2010

Packaging material	Collection containers	Collection (est.) [tons]	Recovery ¹⁾ (est.) [tons]
Paper, cardboard	 1,044,000	344,000	344,000
Glass	 80,000	216,500	210,000
Plastics and lightweight packaging (container collection)	 230,000	212,500	177,000
Households serviced by curbside (bag) collection	 1,433,000		
Metals	 50,000	40,000	32,300
Wood	--	18,500	18,500
Total	2,837,000	830,500	781,800

¹⁾ Net figures.

SEPARATE COLLECTION AND RECOVERY OF PACKAGINGS REDUCE RESIDUAL WASTE

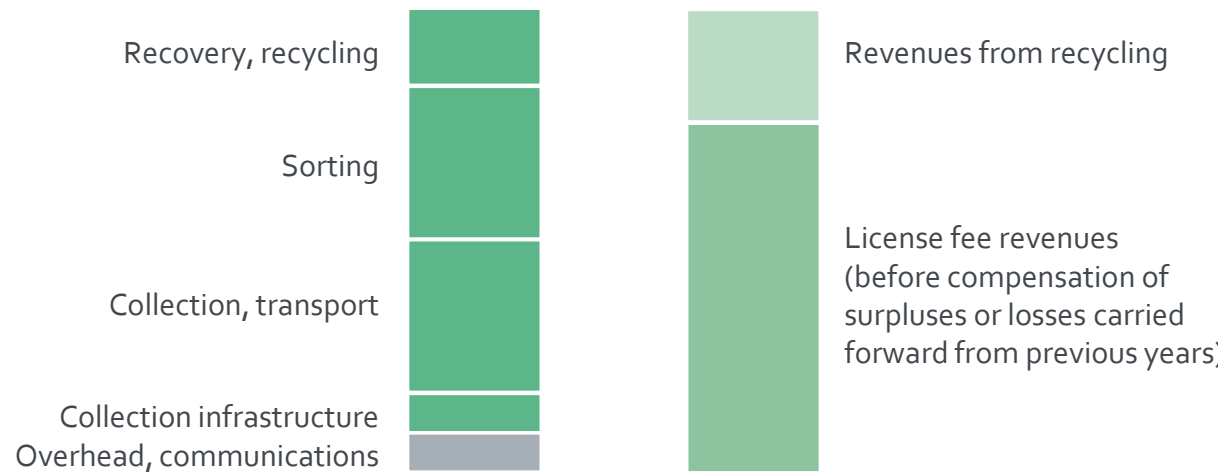


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FINANCING

FULL-COST APPROACH WITHOUT CROSS-SUBSIDIES

- Calculation for each packaging material
- Separate calculation for consumer packaging and industrial/commercial packaging
- Revenues from recovery and recycling reduce fees

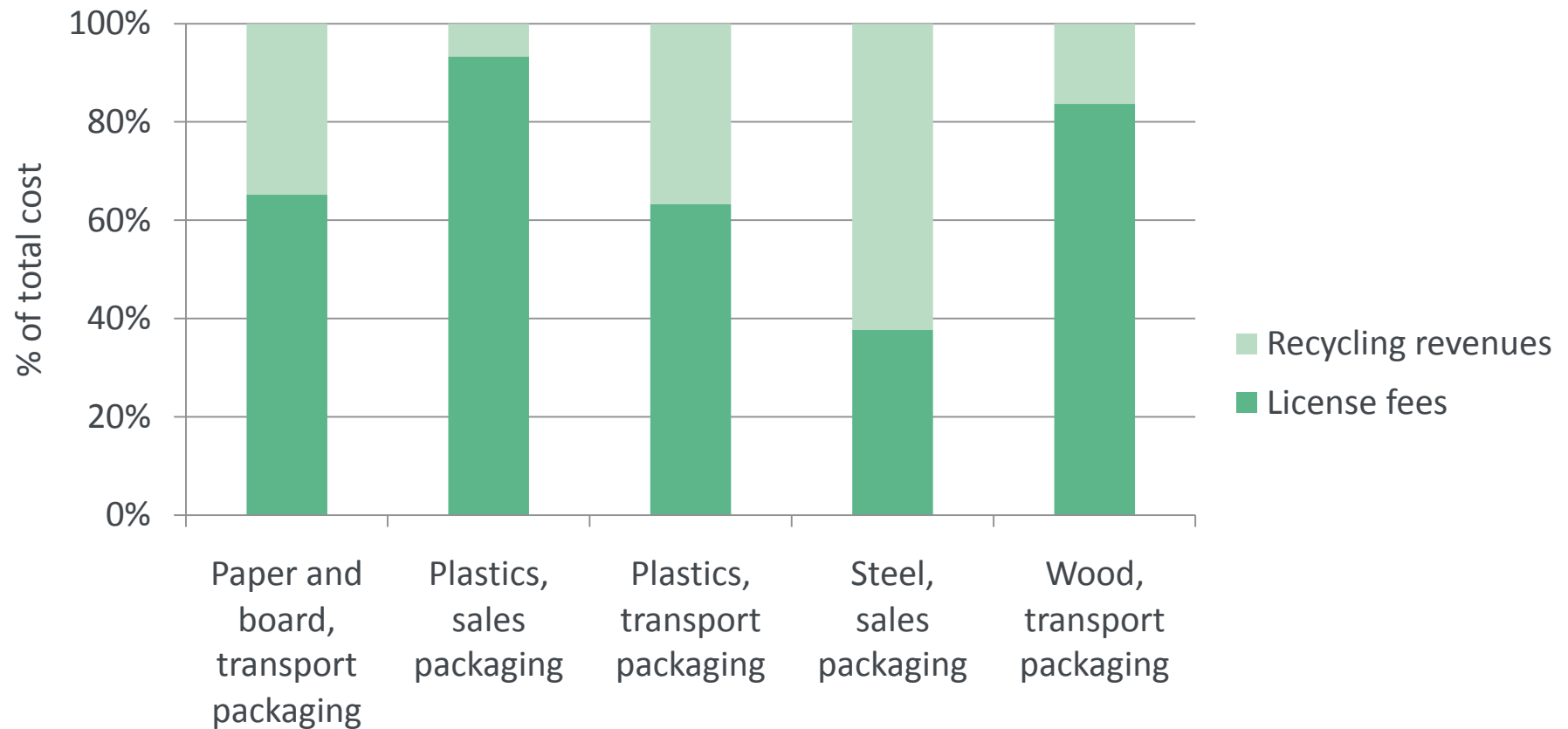


ARA'S LICENSE TARIFFS 2010 / 2011

Packaging materials	2010 in EUR/ton	2011 in EUR/ton	Change 2010/2011
Paper, cardboard, corrugated board			
Sales packaging ¹⁾	130	120	-8%
Transport packaging	50	45	-10%
Glass			
Disposal	71	71	0%
Reusable			
Wood	14	14	0%
Ceramics	170	170	0%
Ferrous metals			
small (< 3 l)	270	270	0%
large (≥ 3 l) and metal hoops	130	130	0%
Aluminium	500	450	-10%
Textiles	265	265	0%
Plastics			
small ¹⁾	760	670	-12%
EPS (e.g. Styrofoam®) ≥ 0.1 kg / sales unit	200	200	0%
Composite materials (excl. beverage cartons)	670	630	-6%
Industrial, commercial & large plastic packaging (ICP) ²⁾			
Foils ≥ 1.5 m ² ²⁾ , tray foils ≥ 0.25 m ² , hoops, adhesive strips, containers ≥ 5 l, bags ≥ 10 l ³⁾ , net bags ≥ 25 l ²⁾ , cartridges ²⁾ , molded containers > 0.15 kg	162	120	-26%
Packaging made of biodegradable materials	580	560	-3%

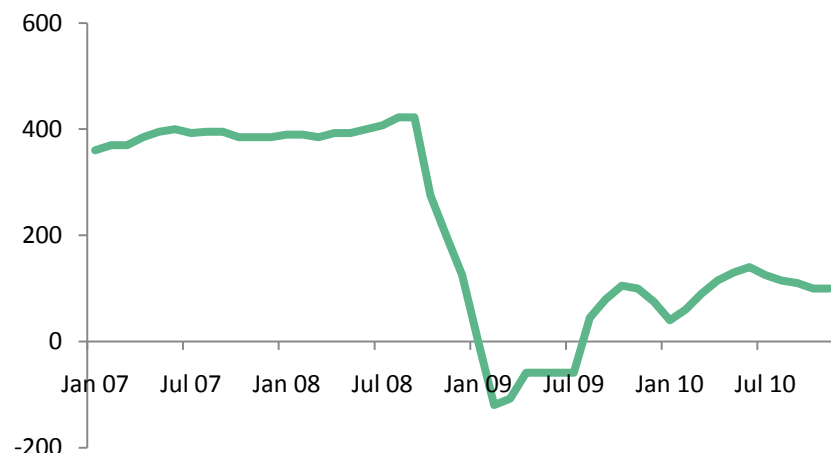
¹⁾Incl. shopping bags ²⁾Changed/new as of Jan. 1, 2004 ³⁾Changed/new as of Jan. 1, 2007

REVENUES FROM RECYCLING REDUCE LICENSE FEES BUT INCREASE DEPENDENCY FROM MATERIAL MARKETS

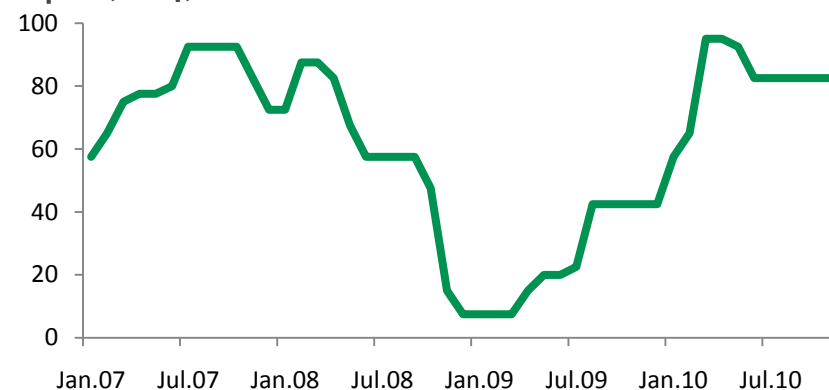


SECONDARY RAW MATERIALS MARKET 2007–2010 (€/t)

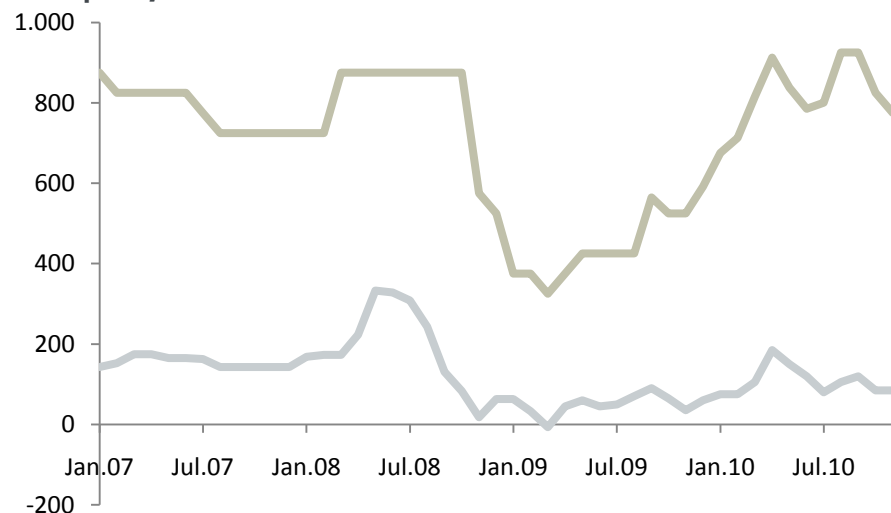
PE foil



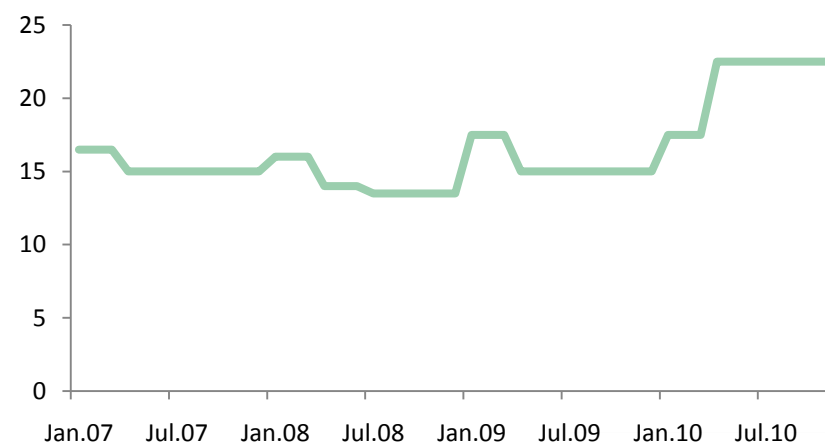
Paper (1.04)



Scrap E1, aluminium

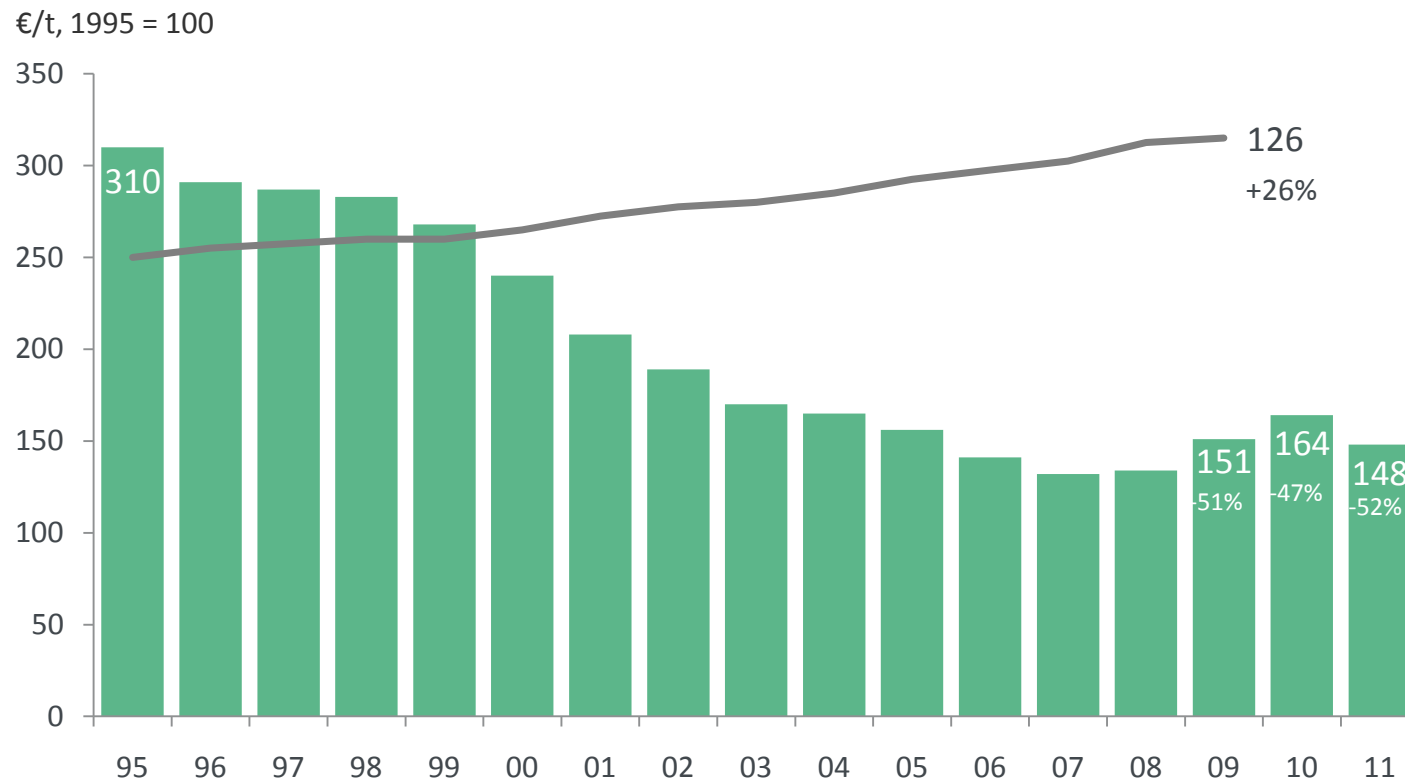


Wood



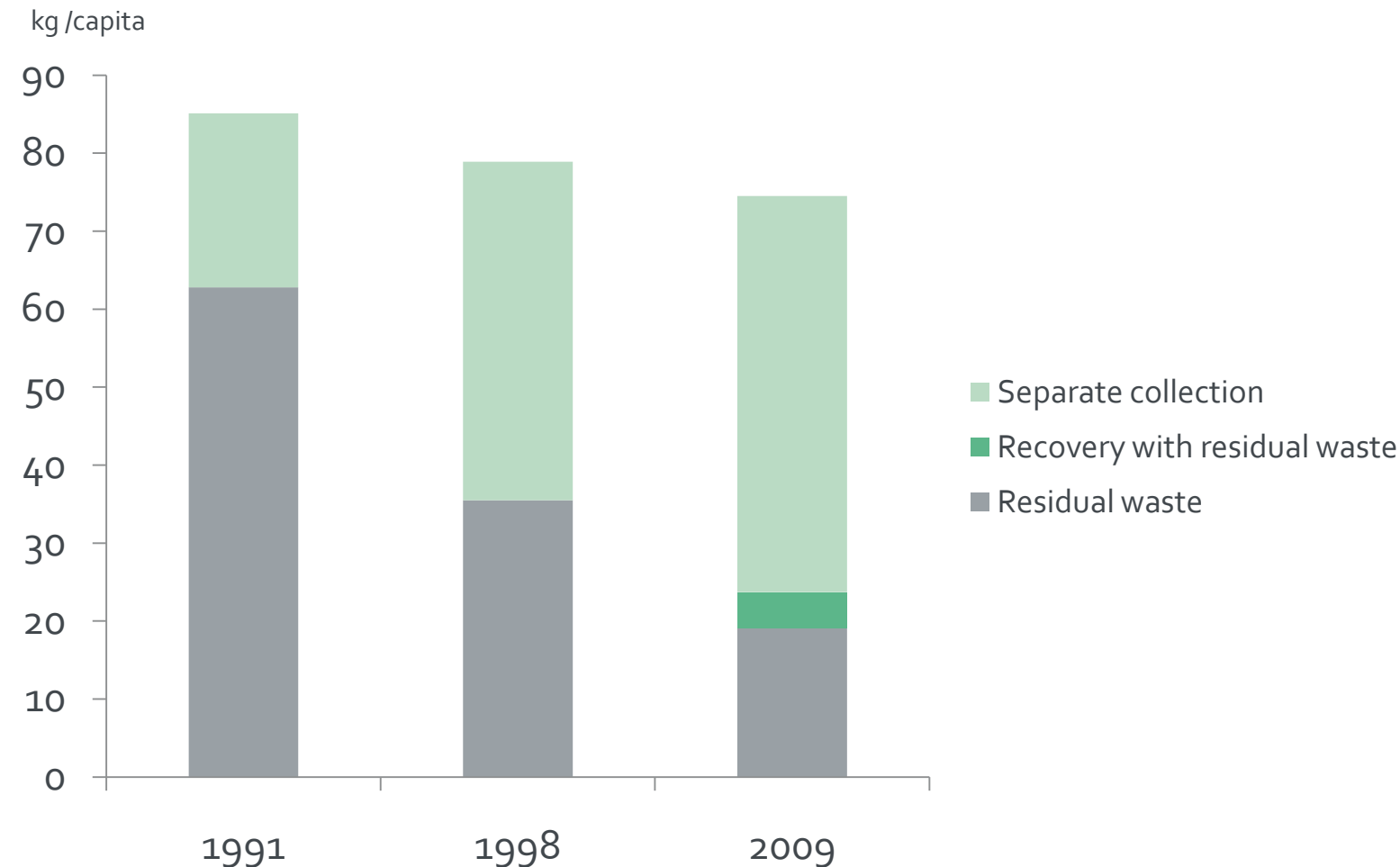
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AVERAGE ARA LICENSE FEE COMPARED TO THE CONSUMER PRICE INDEX



Sources:
ARA, 2010, and
Statistics Austria.

PRODUCER RESPONSIBILITY IN PRACTICE: 68% OF PACKAGING SOURCE-SEPARATED, 74% FINANCED

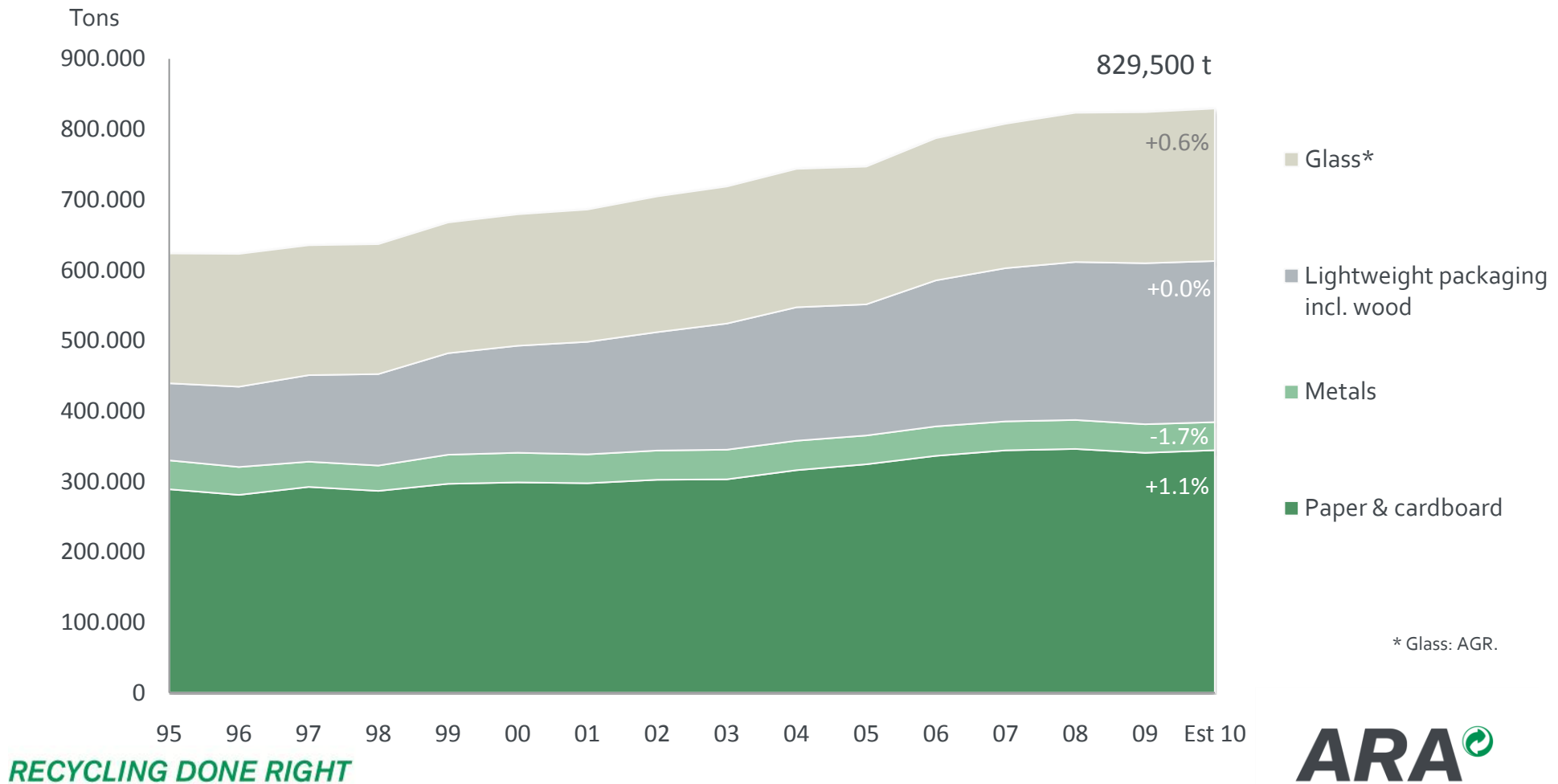


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EFFECTS AND ACHIEVEMENTS – A REVIEW

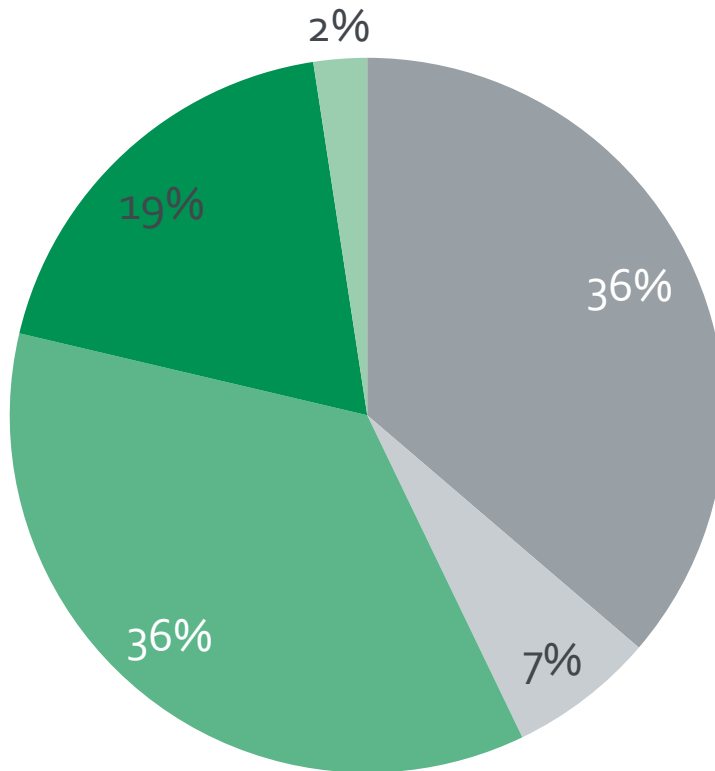
ARA PACKAGING WASTE COLLECTION 1995–2010: 33% GROWTH PROVIDES SECONDARY RAW MATERIALS AND SAVES 600,000 TONS CO₂ EQUIVALENTS PER YEAR



Data: 2011-04-01

* Glass: AGR.

COMPOSITION OF HOUSEHOLD WASTE



Residual waste	165 kg/capita
Bulky waste	30 kg/capita
Separately collected secondary raw materials	163 kg/capita
Separately collected biowaste	86 kg/capita
Separately collected hazardous waste and electronic waste	11 kg/capita
Total:	455 kg/capita

Total: 3.7 million tons

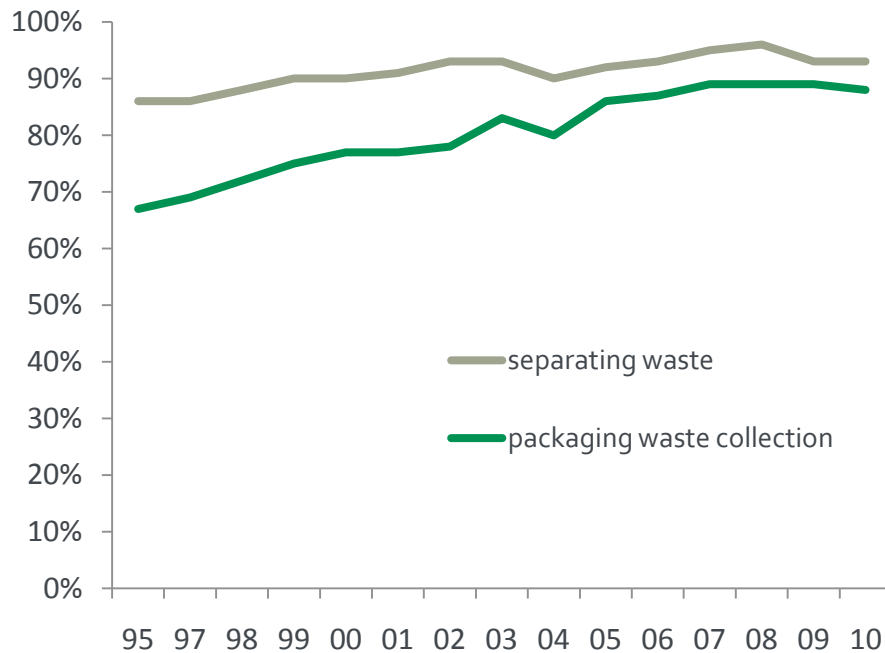
Fractions collected separately: 260 kg/capita = 57%

Ministry of Environment, 2009.

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CONSUMERS IN FAVOR OF SEPARATE COLLECTION

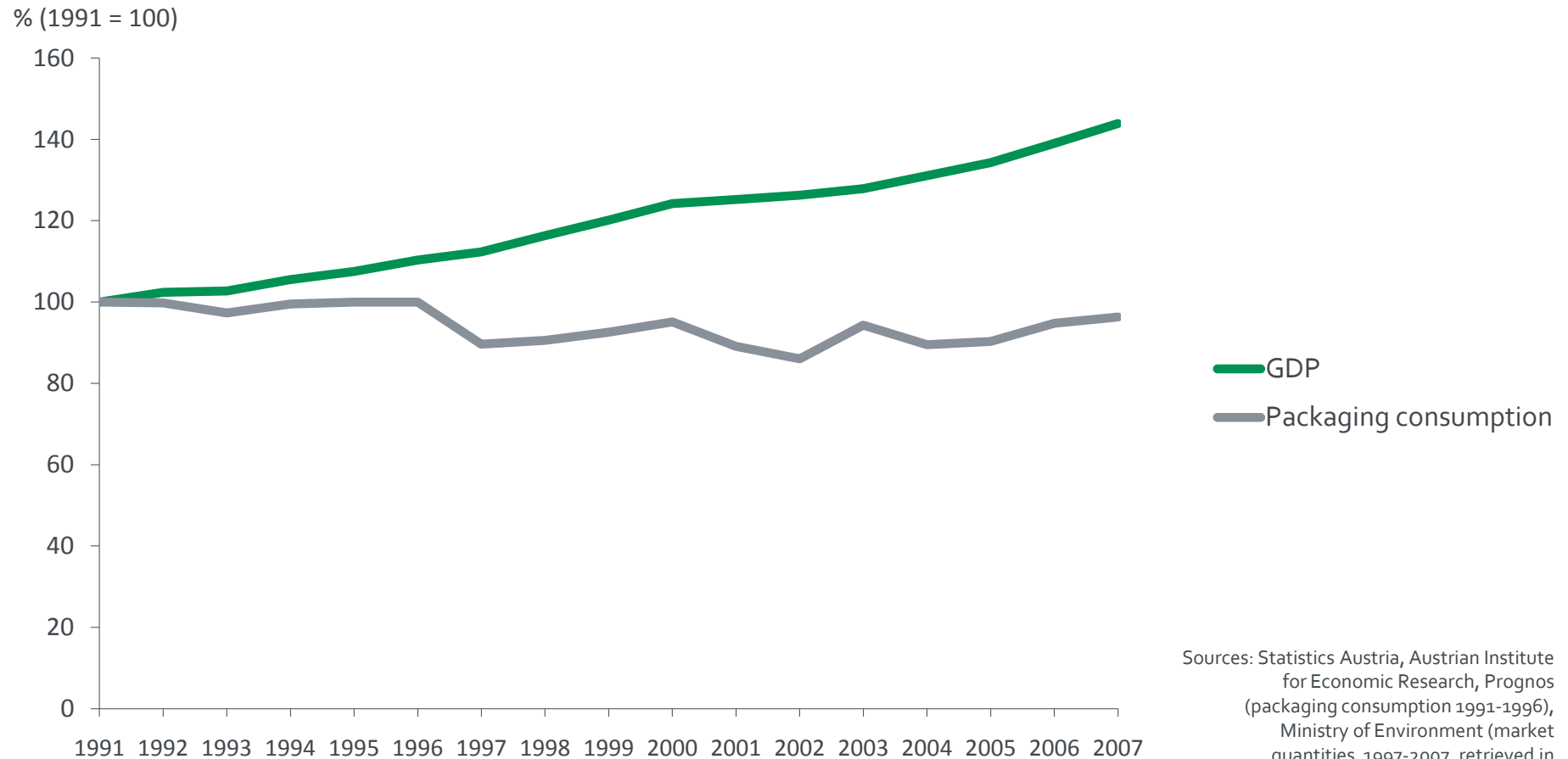
Consumers (aged 14+) who think that ... is a good or very good idea



	Paper	Lightweight packaging	Metal packaging
Satisfied or highly satisfied	92%	81%	87%
Do not request any changes	80%	73%	85%
Cumulative grade (1= best, 5= worst)	1.4	1.6	1.5

Source: IMAS, 2010.

GDP AND PACKAGING CONSUMPTION



Sources: Statistics Austria, Austrian Institute for Economic Research, Prognos (packaging consumption 1991-1996), Ministry of Environment (market quantities 1997-2007, retrieved in March 2008)

AUSTRIA'S SOLUTION IN A NUTSHELL

- Division of labor: Cooperation with municipalities and waste management companies
- Coordination of collection schemes with other waste management sectors
- Main driver of efficiency and cost reduction: parties affected by the Packaging Ordinance (i.e. businesses and industry) in full control of system implementation and operation
- Positive effects of competition and innovation
- Transparency
 - No cross-subsidies
 - Quantities and target ratios made public
 - Audits of licensees, waste collectors and recyclers
- Benchmarking
 - Ecologic effectiveness
 - Economic efficiency
 - Public acceptance

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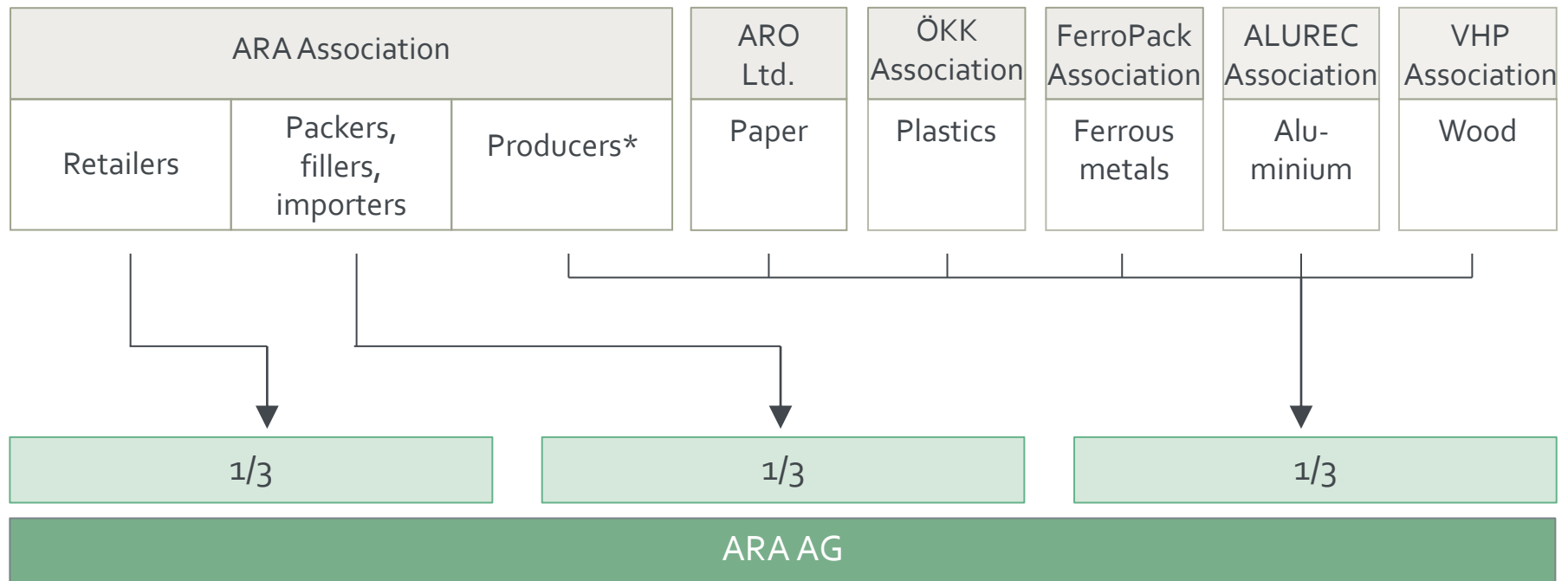
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BACK UP CHARTS

ARA'S SHAREHOLDER STRUCTURE

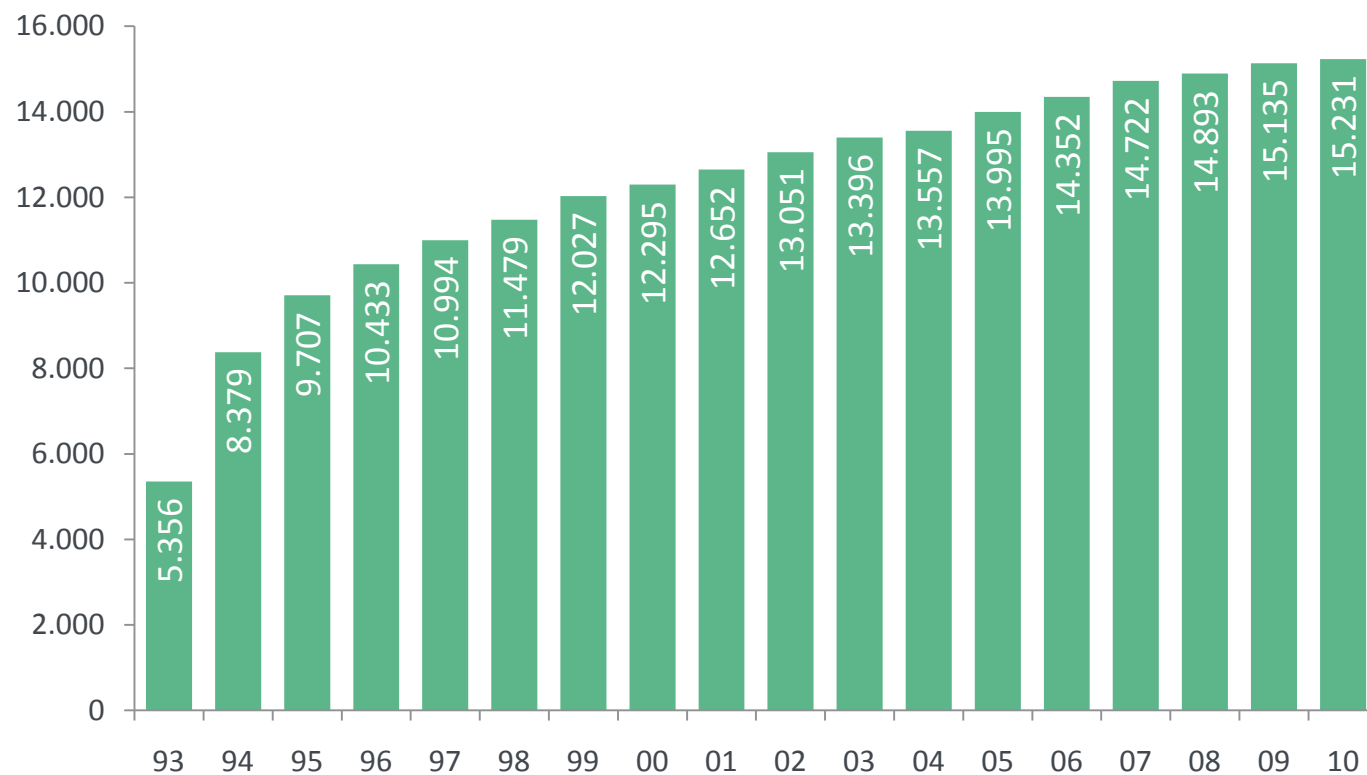


*Glass, ceramics, textiles, composites and packaging made of biodegradable materials.

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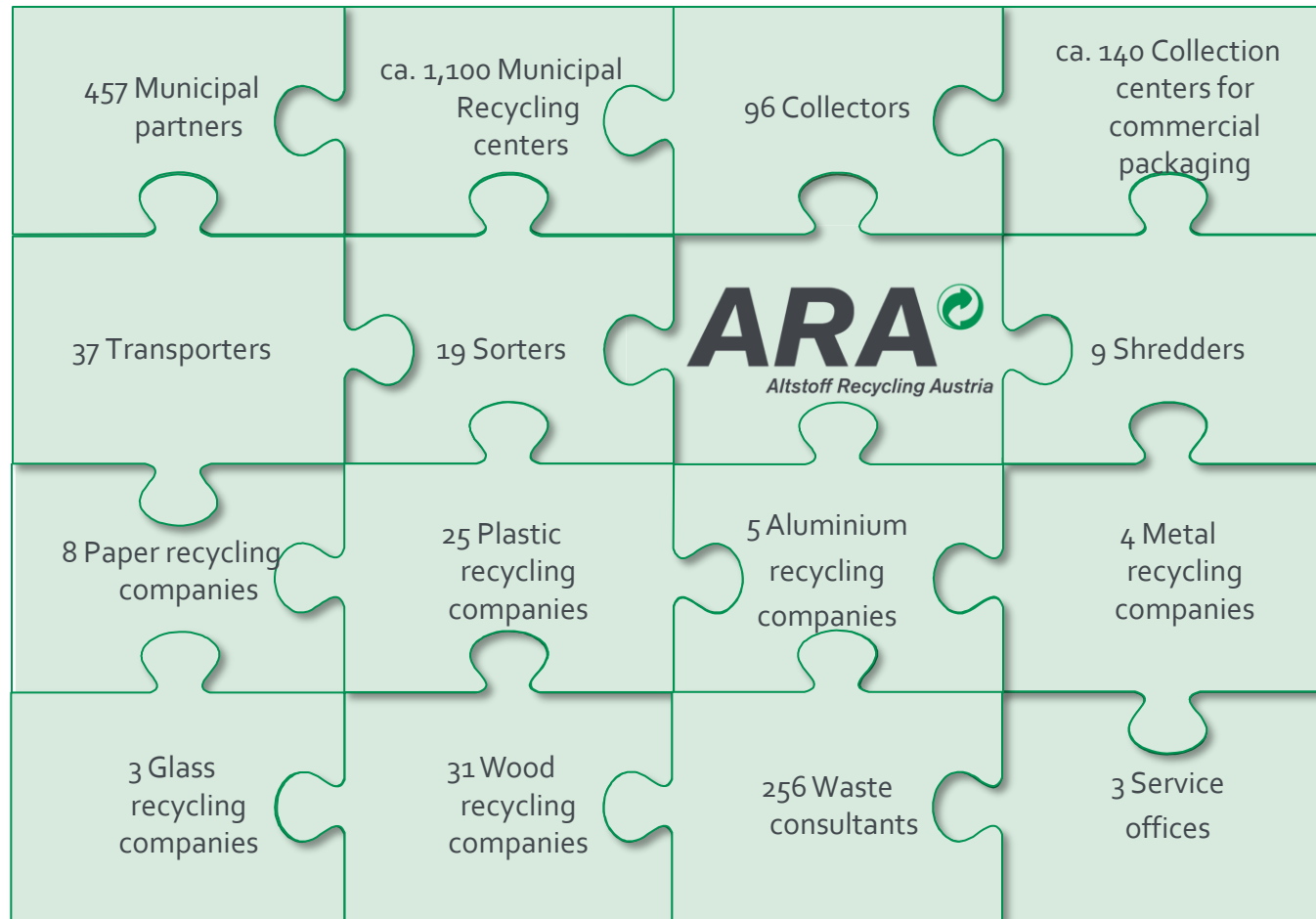
BUSINESSES AND INDUSTRY: FREE-RIDER SHARE BELOW 10%

Number of licensees



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ARA SYSTEM – RESOURCES AND PARTNERS



As of 1 January 2010.

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ARA
Altstoff Recycling Austria

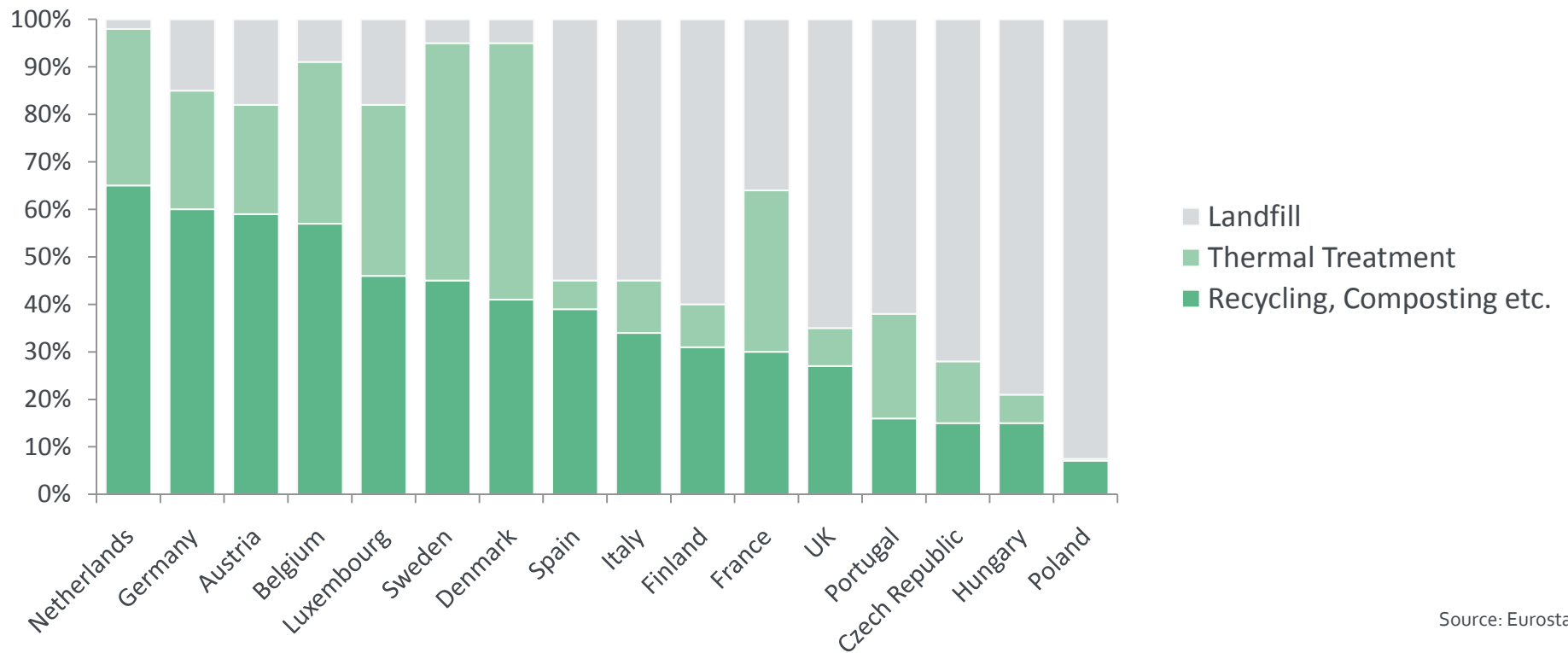
LEGAL TARGETS AND ACTUAL QUOTAS REACHED IN 2009

	Household system				Commercial system			
	Recovery		Recycling		Recovery		Recycling	
	Target	Actual	Target	Actual	Target	Actual	Target	Actual
Paper, board, cardboard	80%	83%	75%	83%	90%	103%	85%	103%
Glass	85%	85%	85%	85%	85%	85%	85%	85%
Plastics	95%	95%	30%	33%	85%	95%	65%	66%
Composites	95%	95%	15%	15%	50%	50%	15%	15%
Metals	65%	65%	65%	65%	65%	65%	65%	65%
Wood	-	40%	15%	22%	-	44%	15%	24%
Textiles	-	0%	-	0%	-	0%	-	0%
CeramicS	-	0%	-	0%	-	0%	-	0%
Packaging made of biodegradable materials	95%	9%	-	0%	95%	95%	-	0%
Total (excl. glass)	60%	86%	55%	60%	60%	91%	55%	83%

Ratios according to Packaging Ordinance Art. 11(1) and (2) refer to compliance quantities.

MSW TREATMENT IN EU

W2E GOES HAND-IN-HAND WITH RECYCLING



Source: Eurostat

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