

Table S1: Data on AI packaging and waste treatment within selected EU Member States

Country	Year	Population		GDP (€ / cap / yr)		t
		2015/2016	Source	2015/2016	Source	
AT	2015	85,76,261	EUROSTAT	36,200	EUROSTAT	17,851
BE	2016	1,12,87,842	EUROSTAT	34,500	EUROSTAT	24,143
CZ	2016	1,05,53,840	EUROSTAT	16,500	EUROSTAT	13,260
DE	2016	8,21,49,537	EUROSTAT	34,900	EUROSTAT	1,14,600
FR	2016	6,66,61,621	EUROSTAT	31,800	EUROSTAT	70,000
GR	2016	1,07,83,748	EUROSTAT	17,100	EUROSTAT	21,700
IT	2016	6,07,66,935	EUROSTAT	26,000	EUROSTAT	66,500
NL	2015	1,69,00,726	EUROSTAT	39,200	EUROSTAT	28,250
PT	2016	1,03,41,334	EUROSTAT	17,000	EUROSTAT	8,800
SE	2016	98,49,725	EUROSTAT	42,500	EUROSTAT	26,756
UK	2016	6,53,82,556	EUROSTAT	31,800	EUROSTAT	1,77,234
Total		35,32,54,125		3,27,500		5,69,094
Ø				30,943		

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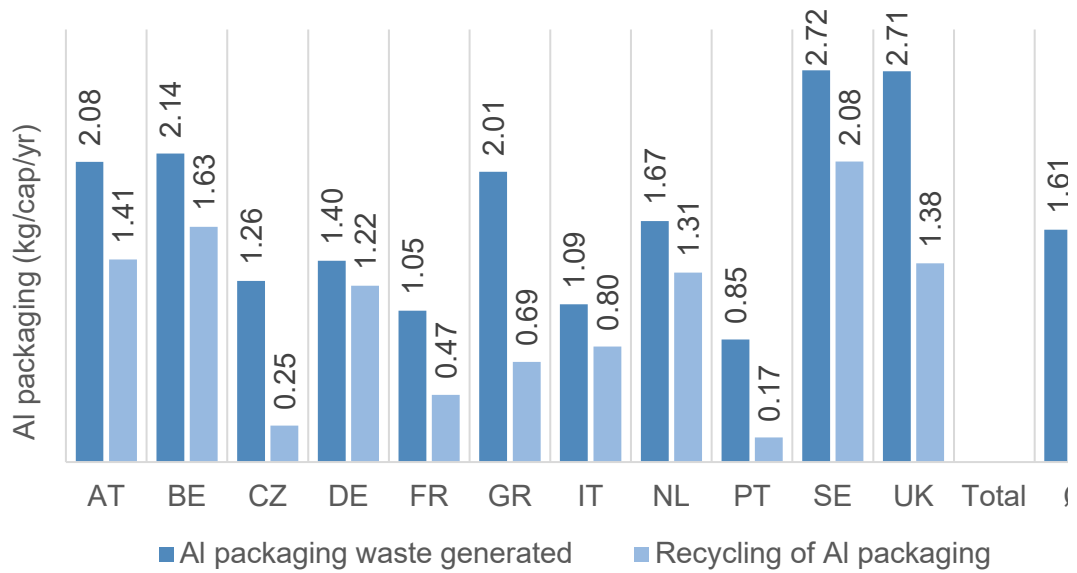


Figure S1: Al packaging waste generation and recycling rate (kg/cap/yr)



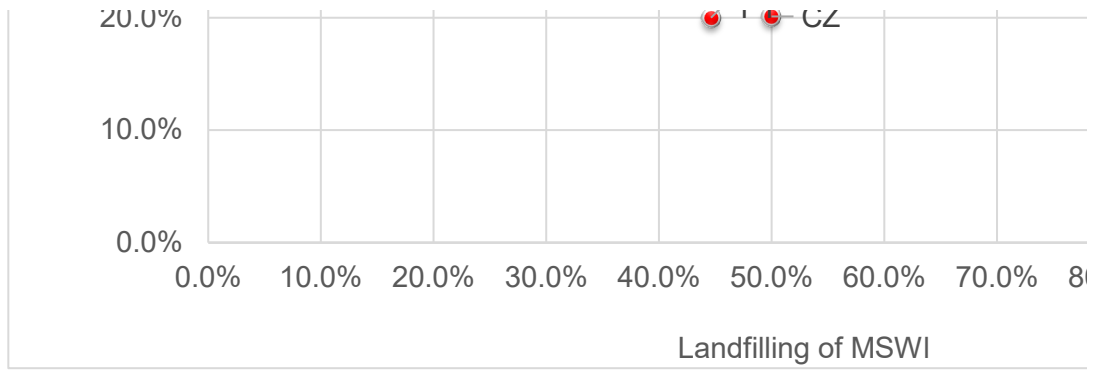


Figure S3: Recycling of Al packaging and landfilling of MSW (%)

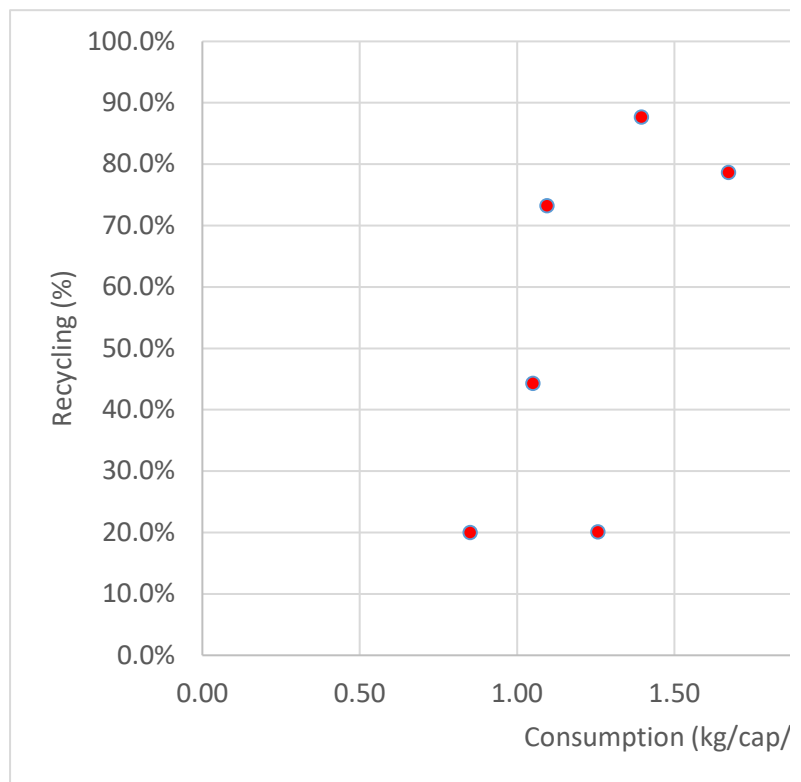


Figure S4: Correlation between consumption (kg/cap/yr) and recycling ra

Al packaging waste generated			Recovery Al packaging through DRS			
kg/cap	Info	Source	t	kg/cap	%	Info
2.08	Market volume	ARA, 2017	0	0.00	0.0%	
2.14	Market volume (only households)	OVAM, 2018	0	0.00	0.0%	
1.26	Waste generation	EUROSTAT	0	0.00	0.0%	
1.40	Market volume	GVM, 2017 EUROSTAT	39,360	0.48	34.3%	Return rate 96%
1.05	Market volume (only households) Waste generation according to EUROSTAT: 56,289 t	CITEO, 2017 EUROSTAT	0	0.00	0.0%	
2.01		EOAN, 2017	0	0.00	0.0%	
1.09	Households + hotels, restaurants, catering	CiAl, 2017	0	0.00	0.0%	
1.67	Market volume Assumption: 114,000 t Metals (28,000 t Al + 86,000 t Fe) + 85,000 t LHM (= Logistic tools = Fe)	AFV, 2015 Nedvang, 2014	0	0.00	0.0%	
0.85	Market volume	Ponto Verde, 2018	0	0.00	0.0%	
2.72	Market volume	EUROSTAT	11,500	1.17	43.0%	Return rate 86.2%
2.71	Market volume	EUROSTAT DEFRA, 2018	0	0.00	0.0%	
			50,860			
1.61				0.14		

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tics on waste managed by local authorities in England in 2016/17: Departement for Environment, Food & Rural Affairs.

y local authorities in England in 2016/17: Departement for Environment, Food & Rural Affairs.

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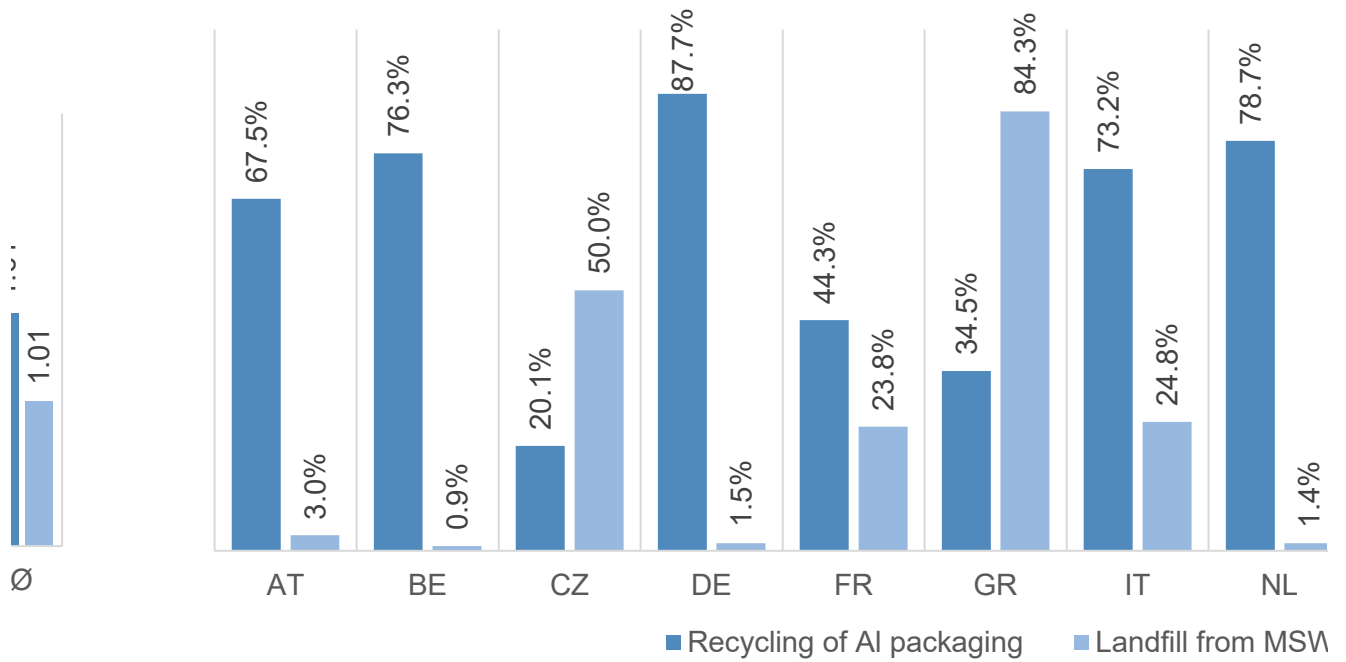


Figure S2: Recycling of Al packaging and landfilling of MSW (%)

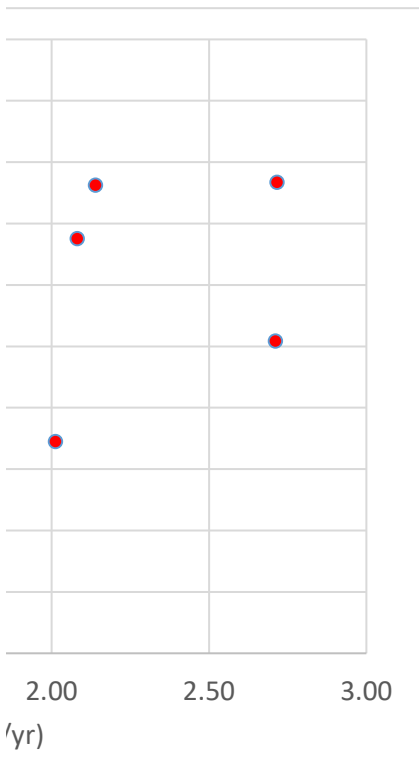
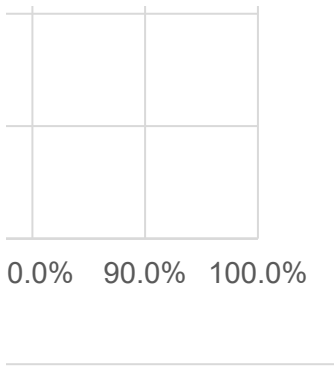


Table S2: Correlation between consumption (kg/cap/yr) and recycling rate (%) with

Country	Consumption kg/cap/yr	Recycling %
AT	2.08	67.5%
BE	2.14	76.3%
CZ	1.26	20.1%
DE	1.40	87.7%
FR	1.05	44.3%
GR	2.01	34.5%
IT	1.09	73.2%
NL	1.67	78.7%
PT	0.85	20.0%
SE	2.72	76.7%
UK	2.71	50.8%

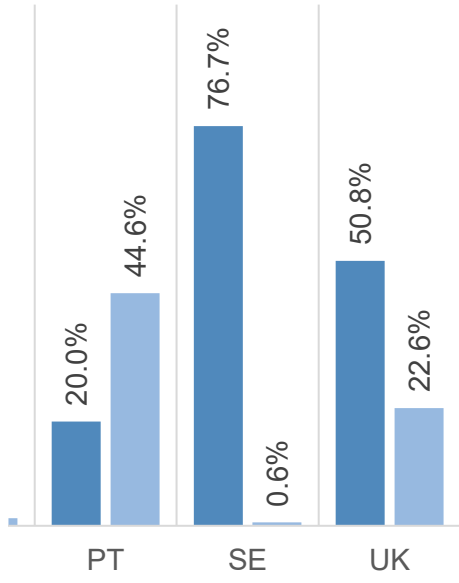
Correlation of coefficient

0.346169737



ite (%) within selected EU Member States

Recovery Al packaging through selective collection					
Source	t	kg/cap	%	Info	Source
	6,274	0.73	35.1%	Collection points, bring system, door-to-door collection	ARA, 2017
	10,830	0.96	44.9%	40% selective PMD-collection, 5% other selective collection	OVAM, 2018
	2,534	0.24	19.1%	Assessment: vast majority of recycled volume from selective collection (assumption: 95%)	MZP, 2018 EUROSTAT
Der Grüne Punkt, 2018	54,840	0.67	47.9%	Dual system, collection mostly via yellow bins/bags	Der Grüne Punkt, 2018
	10,000	0.15	14.3%		CITEO, 2017
	5,797	0.54	26.7%	Assumption: 75-80% from selective collection	Mavropoulos, 2018
	47,239	0.78	71.0%	Separate collection: 97%	CiAl, 2018
	2,032	0.12	7.2%	Proportion Fe/Al: 98/2; 85% collected (companies), 77/23; ; 90.3%/9.7% collected (households)	AFV, 2015 Nedvang, 2014
	968	0.09	11.0%	Assumption: 55% from selective collection	Ponto Verde, 2018
Returpack, 2018	9,023	0.92	33.7%	Assumption: recycled volumes minus DRS	
	71,121	1.09	40.1%	Assumption: recycled volumes minus BA	
	2,20,658				
		0.62			



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in selected EU Member States

Recovery Al packaging from BA/MT					
t	kg/cap	%	Info	Source	t
5,783	0.67	32.4%	Assumption: recovery BA 50% of particles > 4mm, no recovery from MT	TBH, 2017	12,057
7,586	0.67	31.4%	Assumption: most of the metals in BA from metal packaging	OVAM, 2018	18,416
133	0.01	1.0%	Assessment: little recovery from BA (assumption: 5%), no recovery from MT	MZP, 2018	2,667
6,300	0.08	5.5%	Assumption: 30% recovery from BA	Der Grüne Punkt, 2018	1,00,500
21,000	0.32	30.0%	no recovery from MT	CITEO, 2017	31,000
1,683	0.16	7.8%	Assumption: 20-25% from selective collection	Mavropoulos, 2018	7,480
1,461	0.02	2.2%	BA: 2%, MT: 1%	CiAl, 2018	48,700
20,188	1.19	71.5%	Assumption: Proportion Fe/Al: 98/2 (companies), 77/23 (households); recovery BA: Fe/Al: 95%/77%	AFV, 2015 Nedvang, 2014	22,220
792	0.08	9.0%	Assumption: only 55% of Al from BA is originated from Al packaging Assumption: 30% from BA, 15% from MT	Ponto Verde, 2018	1,760
0	0.00	0.0%	Recovery from BA not considered for recycling rates	Returpack, 2018	20,523
19,000	0.29	10.7%	Assumption: proportion Al/Fe from BA 1/8 = Al: 19,000 t	Valpak, 2018 DEFRA, 2017	90,121
83,926					3,55,444
	0.24				

Recycling of AI packaging				MSW generated		
kg/cap	%	Info	Source	t	kg/cap	Info
1.41	67.5%		ARA, 2017	48,36,000	563.88	2015
1.63	76.3%		OVAM, 2018	47,35,000	419.48	2016
0.25	20.1%		EUROSTAT	35,80,000	339.21	2016
1.22	87.7%		GVM, 2017 EUROSTAT	5,16,33,000	628.52	2016
0.47	44.3%		CITEO, 2017	3,41,43,000	512.18	2016
0.69	34.5%		EOAN, 2017	52,49,000	486.75	2015
0.80	73.2%		CiAI, 2017	3,00,16,000	493.95	2016
1.31	78.7%		AFV, 2015 Nedvang, 2014	88,57,000	524.06	2016
0.17	20.0%		Ponto Verde, 2018	47,59,000	460.19	2016
2.08	76.7%		EUROSTAT	43,93,000	446.00	2016
1.38	50.8%		EUROSTAT DEFRA, 2018	3,15,67,000	482.80	2015
				18,37,68,000		
1.01					520.21	

Landfill from MSW					
Source	t	kg/cap	%	Info	Source
EUROSTAT	1,44,000	16.79	3.0%	2015	EUROSTAT
EUROSTAT	43,000	3.81	0.9%	2016	EUROSTAT
EUROSTAT	17,89,000	169.51	50.0%	2016	EUROSTAT
EUROSTAT	7,63,000	9.29	1.5%	2016	EUROSTAT
EUROSTAT	81,19,000	121.79	23.8%	2016	EUROSTAT
EUROSTAT	44,26,000	410.43	84.3%	2015	EUROSTAT
EUROSTAT	74,32,000	122.30	24.8%	2016	EUROSTAT
EUROSTAT	1,27,000	7.51	1.4%	2016	EUROSTAT
EUROSTAT	21,23,000	205.29	44.6%	2016	EUROSTAT
EUROSTAT	28,000	2.84	0.6%	2016	EUROSTAT
EUROSTAT	71,24,000	108.96	22.6%	2015	EUROSTAT
	3,21,18,000				
		90.92			