



Benchmarking Report

Household Waste Collection Costs

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global **environmental** and **advisory** solutions



1. INTRODUCTION TO SLR – 2018 Operating Locations

We deliver global environmental and advisory solutions from a network of offices in five regions covering Europe, the US, Canada, Asia-Pacific and Africa.



1. INTRODUCTION TO SLR – *Resources and Services*



SLR delivers global **environmental** and **advisory** solutions

We provide advice and services to clients in the oil and gas, mining and mineral infrastructure, built environment, industry, and power sectors.



CONTENTS

1. INTRODUCTION TO SLR

2. OVERVIEW OF THE REPORT

3. PRICES IN IRELAND

4. SELECTION PROCESS

5. DEMOGRAPHICS

6. COLLECTION DIFFERENCES

7. WASTE COLLECTION COSTS

8. HISTORICAL COSTS

9. CONCLUSIONS

2. Overview of the Report

- There was a perception in some quarters that the cost of waste collection must be high in Ireland due to the efficiency losses associated with several companies serving some areas.
- IWMA members were confident that costs (and prices) are competitive by international standards and by comparison with historic costs when the local authorities controlled the market.
- SLR was commissioned to review the costs of household waste collection in comparable EU countries and to review historic costs in Ireland.

3. Prices in Ireland (1)

- Prices for kerbside household waste collection in Ireland are generally between €200 and €400 per household per annum, depending on location.
- Prices are generally between €200 and €300 in cities and generally more expensive in rural areas.
- We estimated that the average is **c.€275** per annum, so this was used as the base figure for Ireland.
- The recently published CCPC report found an average price of **€228** in areas surveyed, which it says was skewed towards Dublin.
- Behaviour & Attitudes (B&A) carried out market research on behalf of the CCPC and found an average price of **€278** per annum in Ireland.

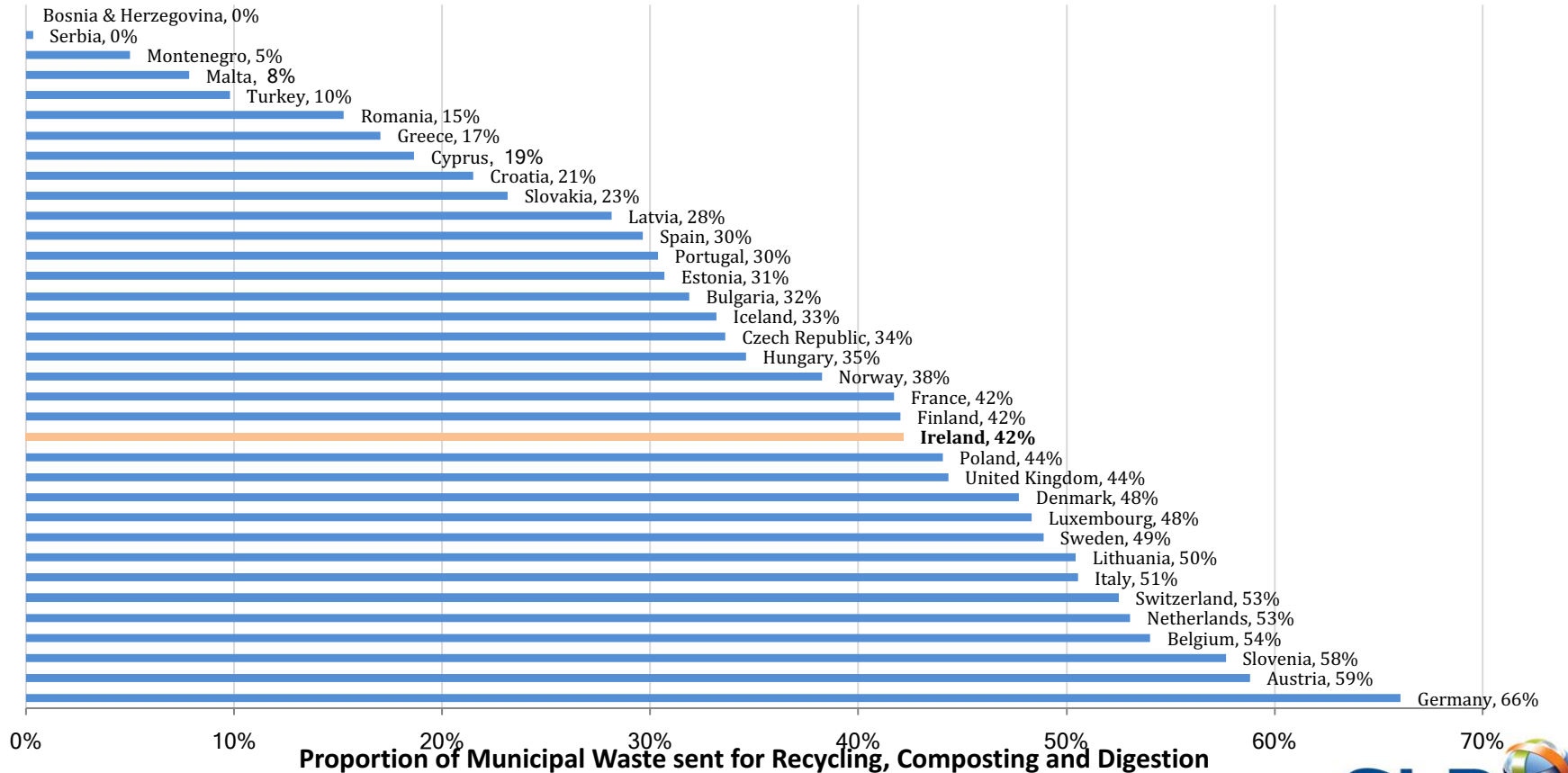
3. Prices in Ireland (2)

- SLR used €275 as an average and removed 13.5% VAT = €242.29
- With an average of 2.9 occupants per house, this works out as €83.50 per capita.
- From waste industry data, we estimated that the cost of waste collection in Apartments (7.3% of people) in Ireland is €56 per capita.
- The weighted average cost per capita is therefore estimated at **€81.50 per capita**.

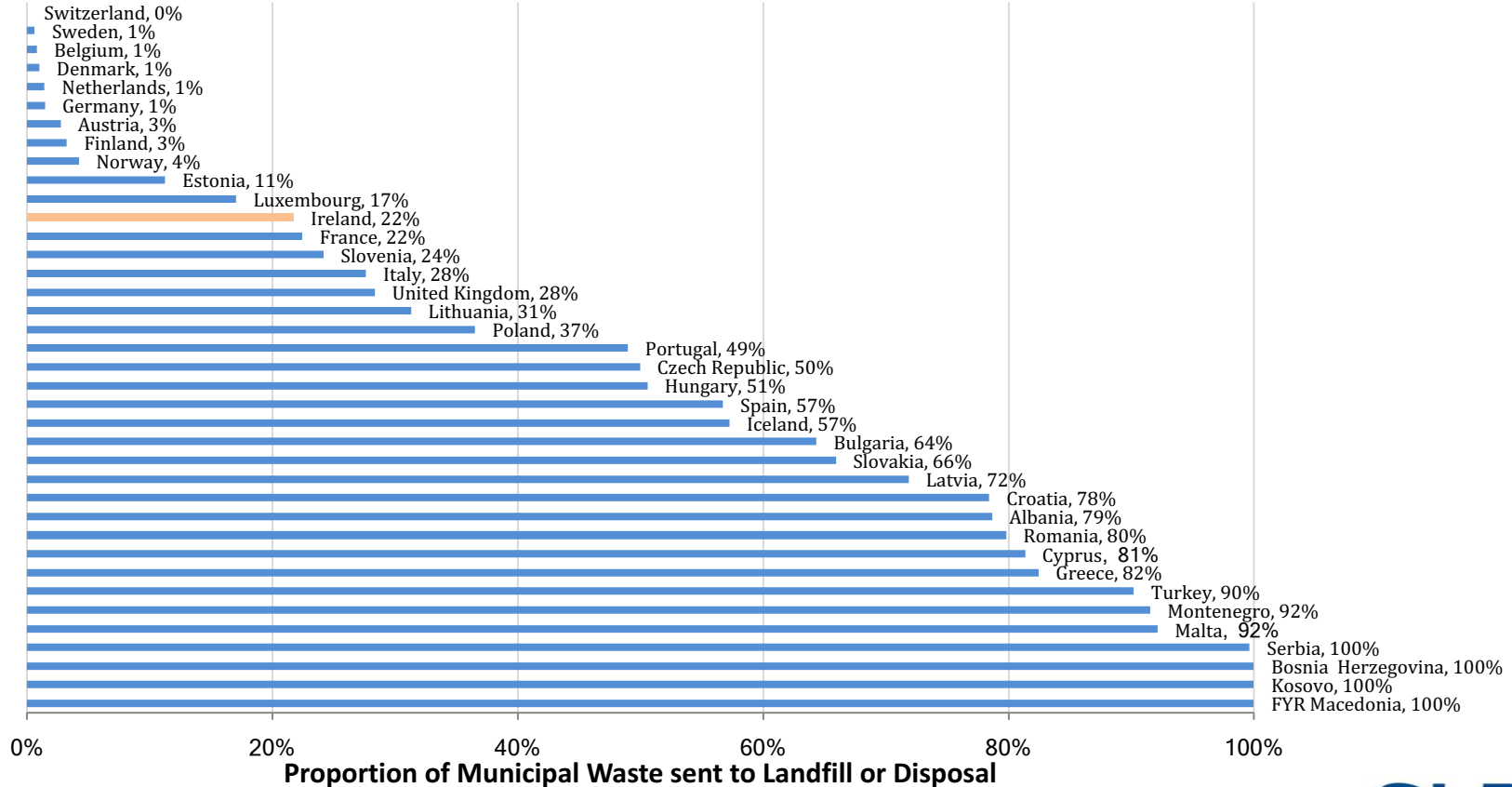
4. Selection Process - Eurostat Data Available for 35 Countries – Long List



4. Selection Process - Recycling Performance >30%



4. Selection Process - Reliance on Landfill <40%

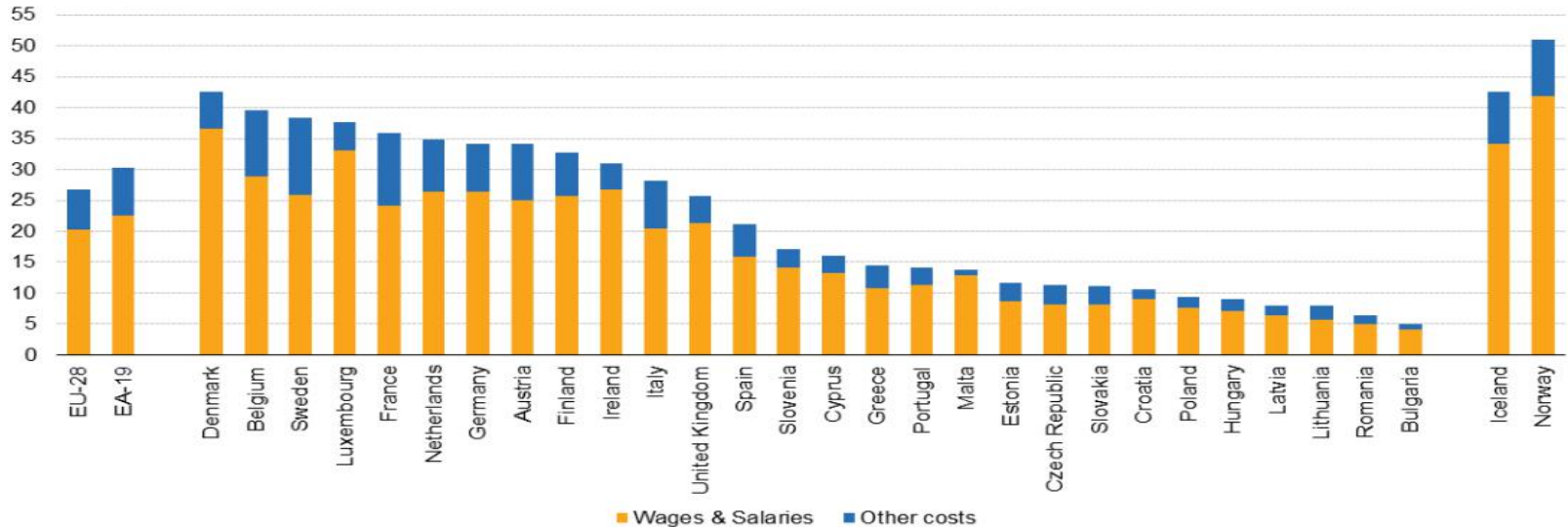


4. Selection Process - Initial Shortlist of 20 Countries

- Austria;
- Belgium;
- Denmark;
- Estonia;
- Finland;
- France;
- Germany;
- Italy;
- Lithuania;
- Luxembourg;
- Switzerland;
- Netherlands;
- Norway;
- Poland;
- Slovenia;
- Sweden;
- United Kingdom (4 countries as England, Wales, Scotland and Northern Ireland considered separately).

4. Selection Process – Labour Costs

Estimated hourly labour costs, 2017
(EUR)



Note: whole economy (excluding agriculture and public administration); in enterprises with 10 or more employees. Provisional data.

Source: Eurostat (online data code: lc_lci_lev)

4. Selection Process – Labour Costs

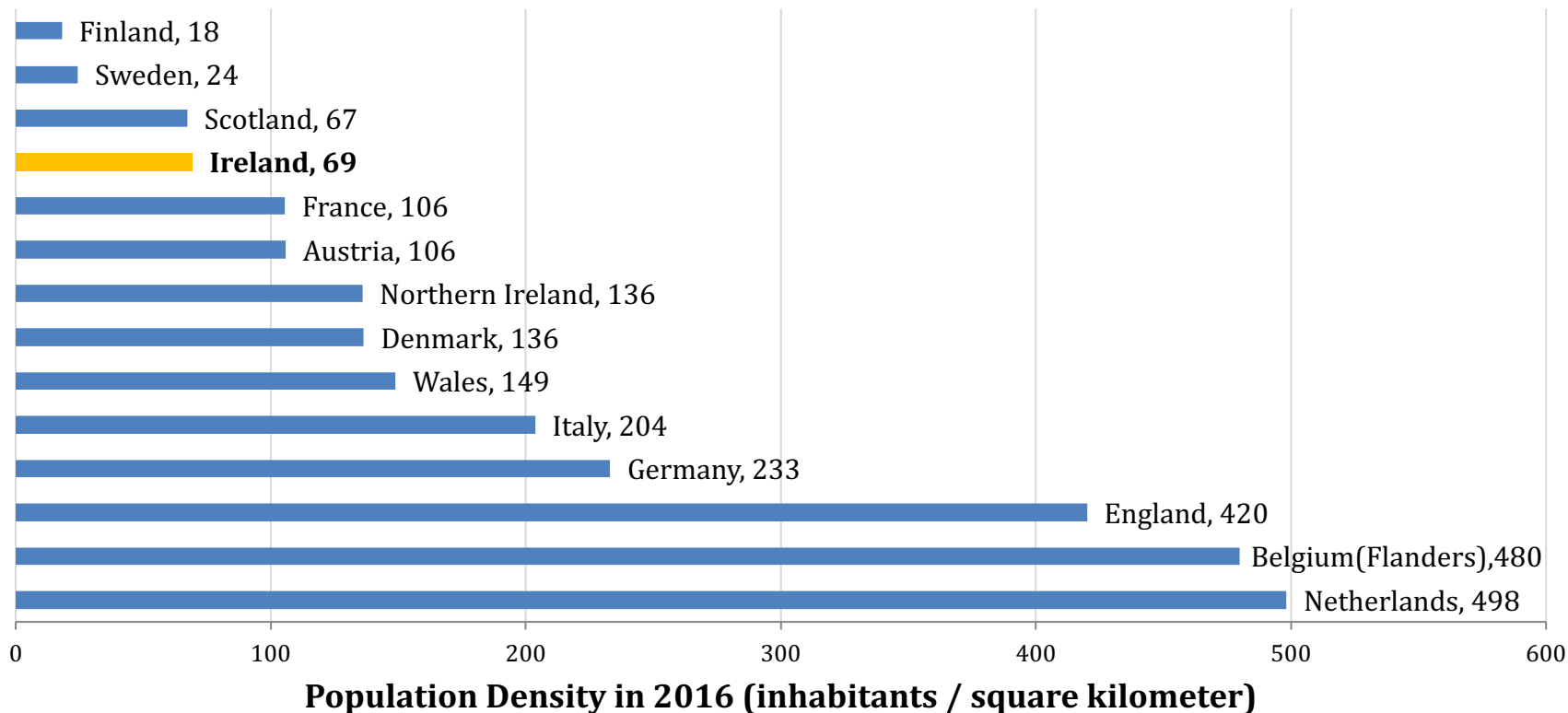
Country	2017 labour Costs (€ per employee per hour average)	
Switzerland	51.3	Eliminated
Norway	51.0	Eliminated
Denmark	42.5	Retained
Belgium	39.6	Retained
Sweden	38.3	Retained
Luxembourg	37.6	Retained
France	36.0	Retained
Netherlands	34.8	Retained
Austria	34.1	Retained
Germany	34.1	Retained
Finland	32.7	Retained
Ireland	31.0	Retained
Italy	28.2	Retained
European Union (EU28)	26.8	Retained
United Kingdom	25.7	Retained
Slovenia	17.0	Eliminated
Estonia	11.7	Eliminated
Poland	9.4	Eliminated
Lithuania	8.0	Eliminated

4. Selection Process – Final Shortlist

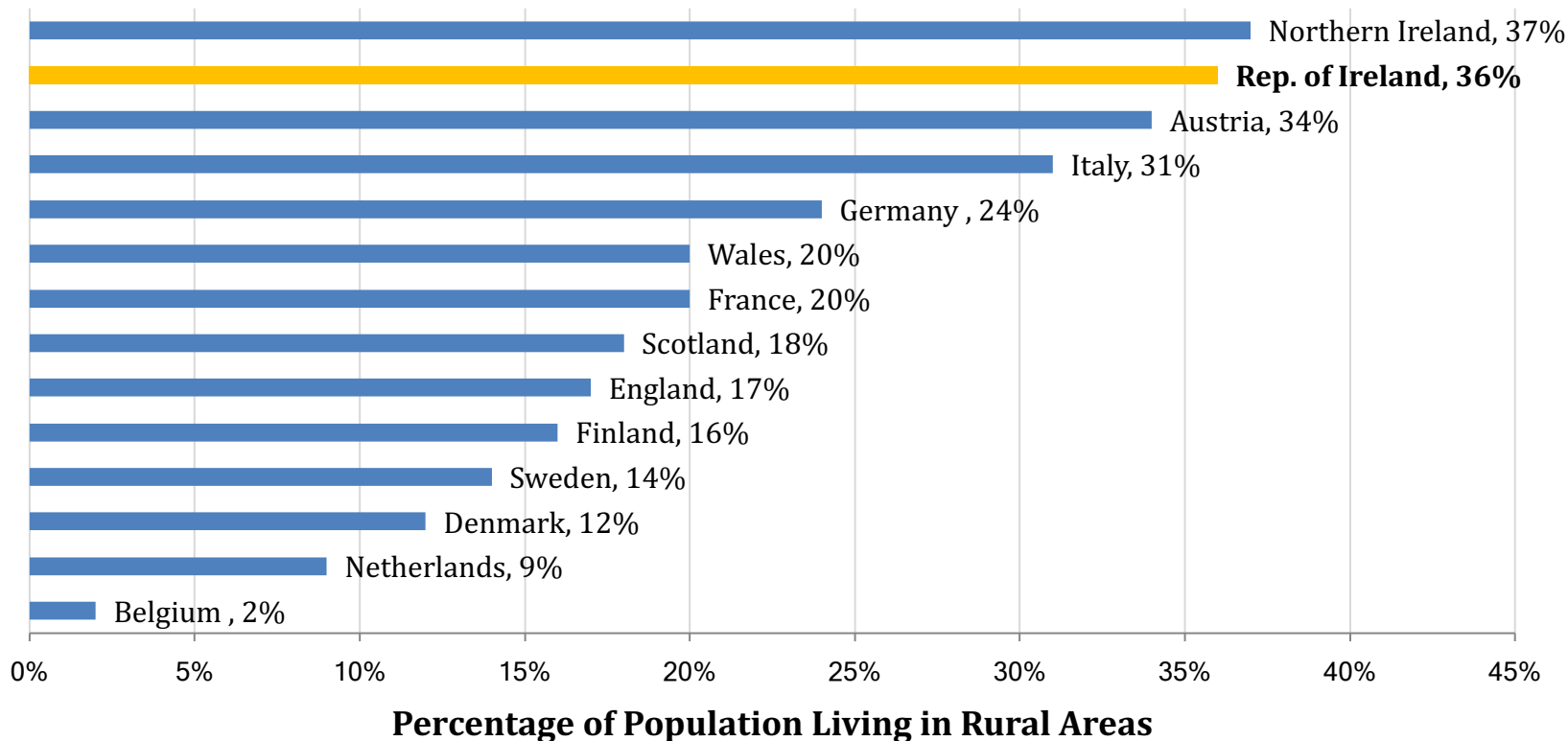
1. Republic of Ireland
2. Denmark
3. Belgium
4. Sweden
5. France
6. Netherlands
7. Austria
8. Germany
9. Finland
10. Italy
11. England
12. Scotland
13. Wales
14. Northern Ireland

Note that Luxembourg was eliminated as we failed to find relevant data

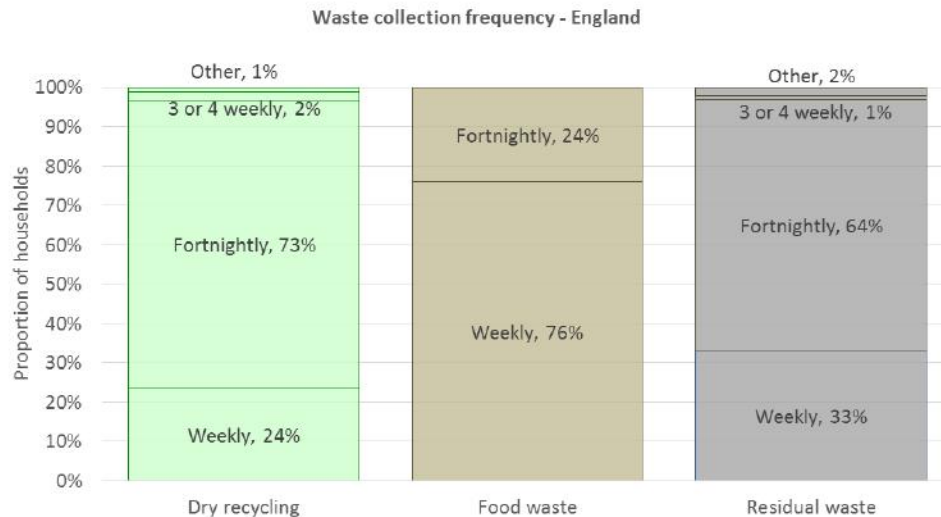
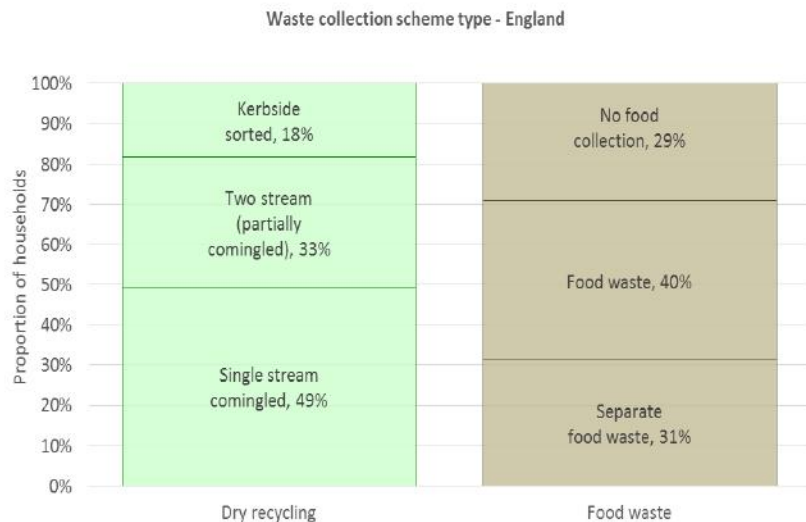
5. Demographics – Population Density in Shortlisted Countries



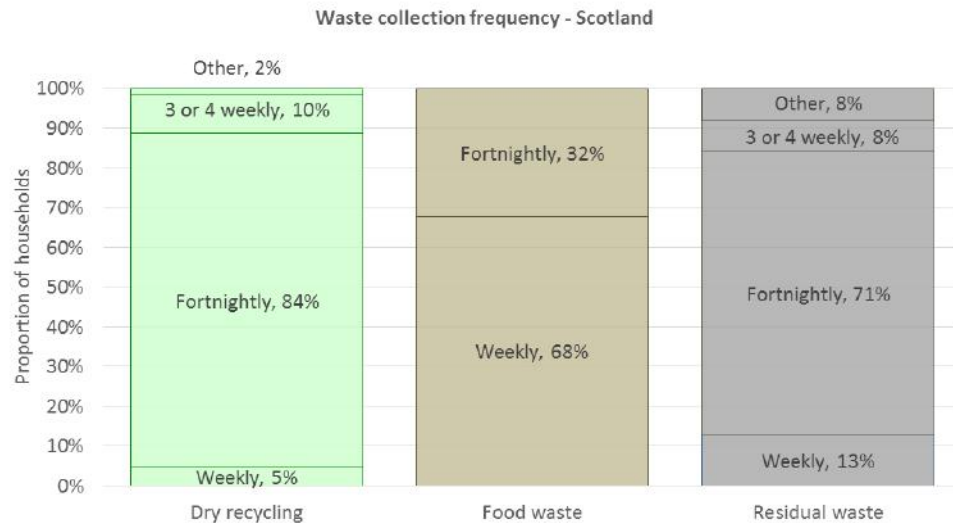
5. Demographics – Rural Population in Shortlisted Countries



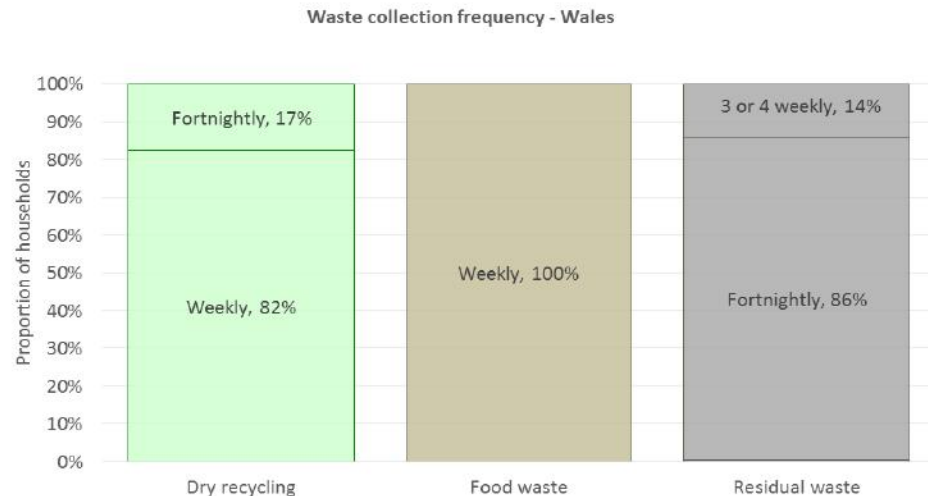
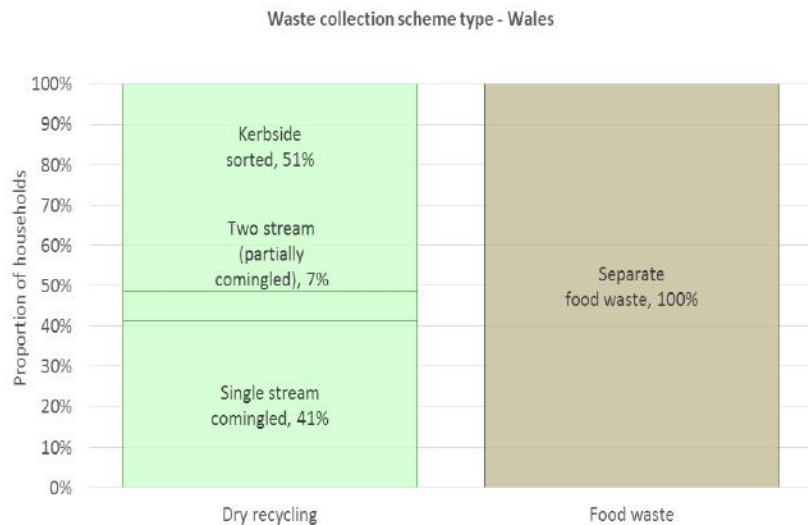
6. Collection Differences – England



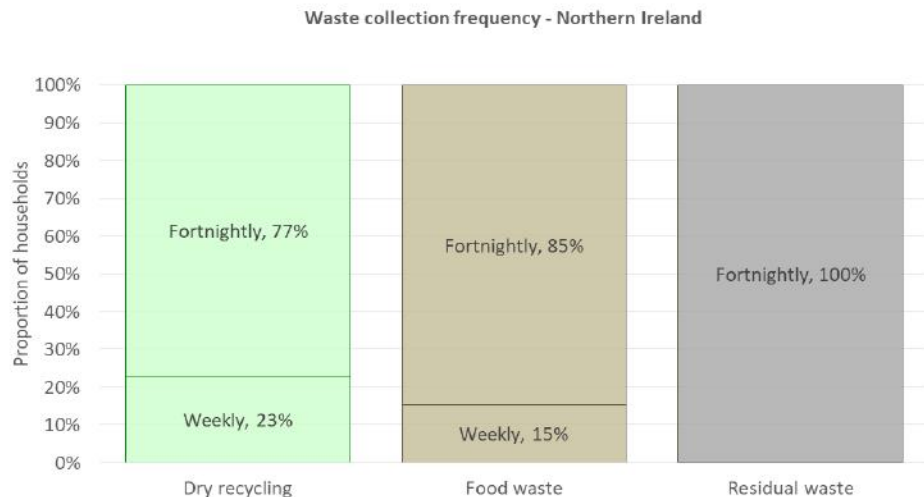
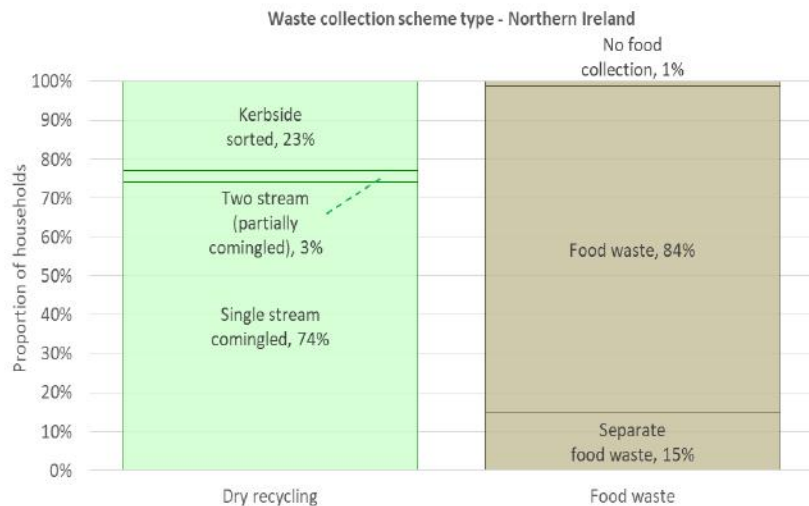
6. Collection Differences – Scotland



6. Collection Differences – Wales



6. Collection Differences – Northern Ireland



6. Collection Differences – Denmark

Legislation mandates specific minimum requirements for waste collection services.

These include:

- provision for the collection of recyclable metal and plastic waste;
- collection of paper and cardboard, where settlements exceed one thousand persons; and
- collection of glass packaging where settlements exceed two thousand inhabitants.

It is understood that collection of organic waste (i.e. food and garden waste) is not mandated, though this is a focus of the Danish National Waste Management Plan.

6. Collection Differences – Sweden

The following services are currently offered to facilitate the collection of recyclables:

- comingled collection of recyclables in two 4-compartment bins – one bin for paper, food waste, coloured glass and combustible material (emptied more frequently); and one bin for clear glass, metals, plastic packaging and newspaper (emptied less frequently);
- deposit return system for cans and recyclable PET bottles; and
- glass bottles with a deposit paid are returned to stores and supermarkets.
- 5,800 bring points plus CA sites.

6. Collection Differences – Italy

Residual waste is typically collected from door to door and in bags, with wheeled bins only used for apartment blocks and complexes with multiple households in the same building. Collections take place once a week in northern Italy and 2 – 3 times a week in central and southern Italy. Frequent collections are typically rolled out in areas where there are no separate food waste collections.

The collection of dry recyclables typically include:

- paper and biowaste collected separately via door to door collections;
- comingled collection of plastics and metals via door to door collections;
- separate glass, and comingled plastics and metals at bring sites; and
- provision of recycling facilities at civic amenity sites.

6. Collection Differences – Germany

Households typically have a four bin system including the following:

- residual waste bin collected fortnightly;
- biowaste bin collected fortnightly;
- waste paper bin collected weekly; and
- plastics or packaging bin.

6. Collection Differences – Netherlands

A collection scheme in the Netherlands typically comprises the following:

- A residual waste bin.
- A recycling bin for paper and cardboard can be issued to households upon request to the local authority.
- A food and garden waste bin.

A high density of drop-off points are provided for glass, textiles, paper, garden waste and plastics.

Apartment blocks have good recycling options with a lot of source segregation of individual waste streams.

6. Collection Differences – Austria

The systems typically generally comprises one of the following:

- Residual waste + biowaste + paper/cardboard collected separately in a 3-bin system,
- Residual waste + paper/cardboard collected separately in a 2-bin-system,
- Residual waste + paper/cardboard + plastic packaging (yellow bag or bin) in a 3-bin system.

In addition to direct household waste collections, there is also an extensive network of community recycling centres and collection points for a wider range of materials including textiles, yard waste, batteries and WEEE amongst other materials.

6. Collection Differences – Finland

Apartment Buildings:

Mixed/Residual waste – weekly collection – 600/660 litre bins
Biowaste – weekly collection - 240 litre bins
Paper – 30 times per year – 600/660 litre bins
Cartons – weekly collection – 600/660/1,000 litre bins
Glass – 8 times per year – 240/360 litre bins
Metal (cans) – 8 to 11 times per year – 240 to 660 litre bins
Plastics – weekly collection – 600/660 litre bins

Urban Flats /Apartments:

Mixed/Residual waste – weekly collection – 600/660 litre bins
Biowaste – weekly collection – 140/240 litre bins
Paper – 18 times per year – 600/660 litre bins
Cartons – 19 times per year – 600/660 litre bins
Glass – 6 times per year – 240 litre bins
Metal (cans) – 7 times per year – 240 litre bins
Energy Waste – monthly collection – 600/660 litre bins

Single Houses:

Mixed/Residual waste – 24 times per year – 240 litre bins
Biowaste – 20 times per year – 240 litre bins

6. Collection Differences – France

Assessing the five largest regions in the country, the typical waste services on offer are as follows:

- Residual waste – door to door collections;
- Plastics and metals – door to door comingled collections;
- Paper and glass – bring points and community recycling points; and
- Biowaste – not often collected.

6. Collection Differences – Belgium

- **Brussels** – the separate collection of paper, cardboard, metal, plastic, glass and organic waste is mandatory. Plastics and metals are often comingled.
- **Flanders** – the separate collection of paper, cardboard, metal packaging, plastic, glass, drinks cartons and organic waste is mandatory. Plastics and metals are often comingled. Furthermore, wood and metals must be separated and where it is not possible to do so, must be sorted and separated out following collection.
- **Wallonia** – the separate collection of paper, cardboard, metal, plastic and glass is mandatory. Plastics and metals are often comingled. There are also specific provisions within the guidance for reuse of materials. Notably, the collection of biowaste is not mandatory although is implemented in approximately a quarter of all municipalities in the region.

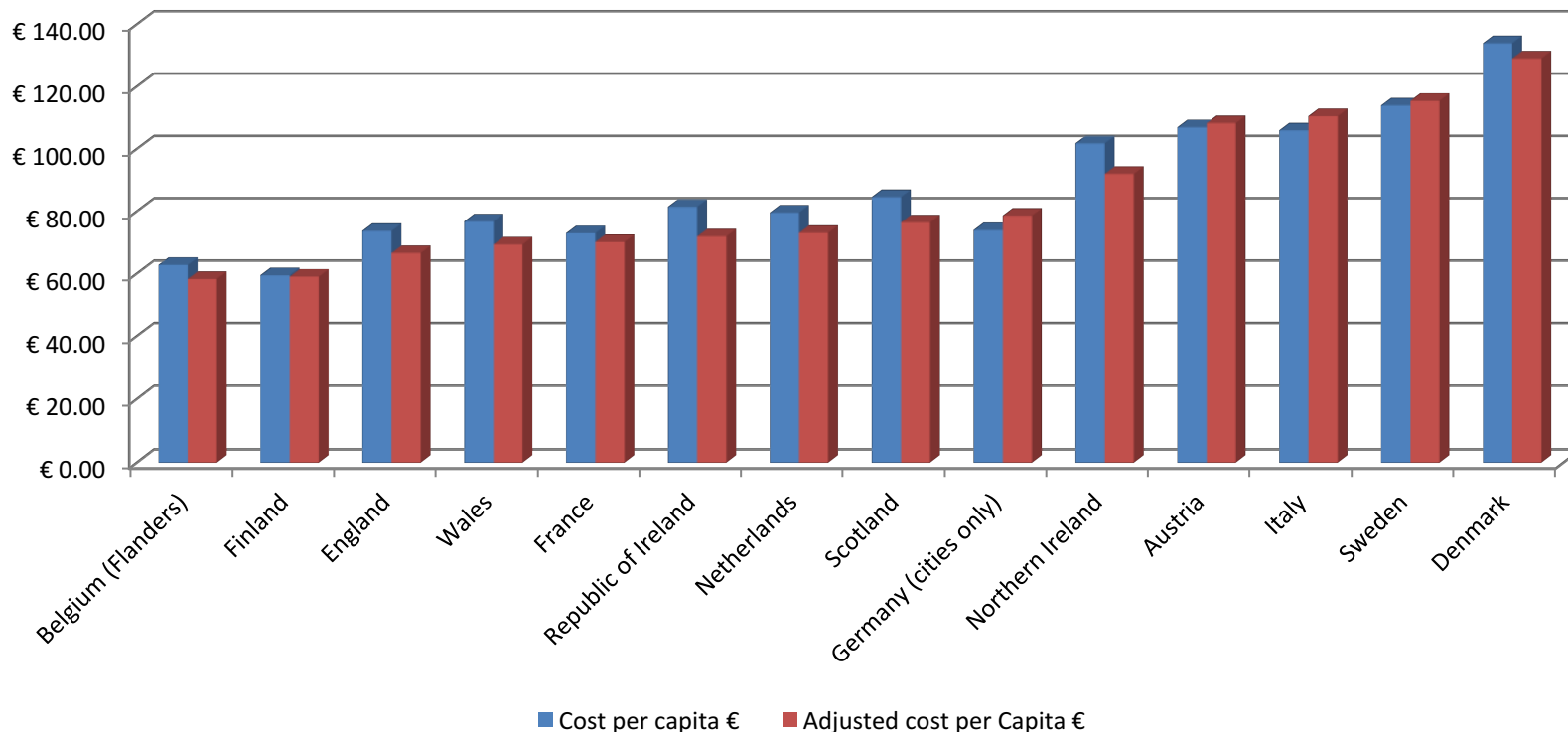
7. Household Waste Collection Costs – Per Capita

Rank	Country	Cost per capita	Comments
1	Finland	€ 59.54	No recyclables collected from single houses. Low rural population.
2	Belgium (Flanders)	€ 62.85	Flanders only. High population density & very low rural population.
3	France	€ 73.00	Biowaste not commonly collected at kerbside.
4	England	€ 73.75	Relatively low labour costs. High Population density. Low rural population.
5	Germany	€ 74.00	Costs are for 100 largest cities, so urban in nature.
6	Wales	€ 76.80	Relatively low labour costs.
7	Netherlands	€ 79.63	High Population density. Low rural population
8	Republic of Ireland	€ 81.50	Low population density. High rural population.
9	Scotland	€ 84.63	Low population density.
10	Northern Ireland	€ 101.84	Low population density. High rural population.
11	Italy	€ 106.00	High rural population.
12	Austria	€ 107.00	High rural population.
13	Sweden	€ 114.00	Low population density & relatively high labour costs
14	Denmark	€ 134.00	High labour costs. Relatively low population density
	Average	€ 87.75	

7. Household Waste Collection Costs – Percentage of Population Living in Apartments

Country	Percentage
Germany	57.1
Italy	52.5
Sweden	45.1
Austria	45.0
European Union (EU28)	41.8
Finland	34.2
France	31.5
Denmark	31.4
Belgium	21.9
Netherlands	18.8
United Kingdom	14.3
Ireland	7.3

7. Household Waste Collection Costs – Adjusted to EU Norm for Apartments Living



7. Household Waste Collection Costs – Factors To Be Considered

Rank	Country	Adjusted cost per Capita	Average Labour Costs € per hour	Population Density (people per km2)	Rural Population	Recycling Rate	Landfill Reliance
1	Belgium (Flanders)	€ 58.35	€ 39.60	480	2%	54%	0.8%
2	Finland	€ 59.08	€ 32.70	18	16%	42%	3.3%
3	England	€ 66.65	€ 25.70	420	17%	45%	15.6%
4	Wales	€ 69.41	€ 25.70	149	20%	61%	9.6%
5	France	€ 70.20	€ 36.00	106	20%	42%	22.4%
6	Republic of Ireland	€ 72.00	€ 31.00	69	36%	42%	21.7%
7	Netherlands	€ 73.12	€ 34.80	498	9%	53%	1.4%
8	Scotland	€ 76.48	€ 25.70	67	18%	43%	45.3%
9	Germany	€ 78.66	€ 34.10	233	24%	66%	1.5%
10	Northern Ireland	€ 92.04	€ 25.70	136	37%	43%	37.0%
11	Austria	€ 108.34	€ 34.10	106	34%	59%	2.7%
12	Italy	€ 110.58	€ 28.20	204	31%	51%	27.6%
13	Sweden	€ 115.48	€ 38.30	24	14%	49%	0.6%
14	Denmark	€ 129.09	€ 42.50	136	12%	48%	1.0%

8. Historical Waste Collection Costs – Recovery & Disposal in Ireland in 2004

- Recycling Rate for municipal waste was 32.6%
- Landfill disposal rate for municipal waste was 66.4%
- Recycling rate for household waste was 19.5%
- Landfill disposal rate for household waste was 80.5%

8. Historical Waste Collection Costs – Private Company Prices – mostly rural areas

County	Annual Price (€) 240 l bins
Carlow	420-444
Cavan	324
Clare	330
Cork	360-370
Donegal	360
Galway	350-375
Kildare	320-360
Kilkenny	456-480
Laois	320-384
Leitrim	380
Limerick	344
Longford	324-380

County	Annual Price (€) 240 l bins
Louth	270-372
Mayo	300-360
Meath	270-372
Monaghan	324-372
Offaly	312-324
Tipperary	380-384
Roscommon	350
Sligo	350
Waterford	480
Wexford	420-460
Wicklow	372

Source: 2005 Competition Authority Report

8. Historical Waste Collection Costs – Local Authority Cost – mostly urban areas

Rank	Local Authority	2004 Cost per Household	2005 Cost per Household	Comments
1	Waterford City	€ 242	€ 341	Operated Kilbarry Landfill but closed in 2004, so Costs increased for 2005
2	Fingal County	€ 299		Operated Balleally Landfill
3	South Tipperary	€ 341		Operated Donohill Landfill
4	South Dublin	€ 348		Operated Arthurstown Landfill
5	Dublin City	€ 368		No Operational Landfill
6	Dun Laoghaire Rathdown		€ 395	No Operational Landfill
7	Galway City	€ 402		Provided 3 bin system & Operated Carrowbrowne LF & Compost Facility
8	Waterford County	€ 384 to €448		Cost based on 2 scenarios of using residual bin only (lower) or recycling & composting (higher)
9	Kerry County		€ 387 to €448	Operated North Kerry Landfill. Costs are estimated by KCC as system was PBU. Lower cost required home composting
10	Wexford County		€420 to €557	Operated Killurin Landfill. Lower cost is New Ross

Source of data: SLR Analyses of Local Authority budgets and regional waste management plans.

8. Historical Waste Collection Costs – Local Authority Cost – mostly urban areas

Charges under a Flat-Rate Waste Collection System Quoted in TCD 2005 Study	Annual Charge (€)
Minimum Charge per Annum	€ 300
Maximum Charge per Annum	€ 520
Mean Charge per Annum	€ 374.81

9. Conclusions

The costs and charges for kerbside household waste collection in Ireland in 2004/2005 were roughly €100 per household more expensive than current prices.

The data shows that the prices charged for kerbside household waste collection in Ireland are below average when compared with other countries in Europe that fall within the same brackets for waste management performance and labour costs.

The prices in Ireland are significantly lower than in other countries that have a high percentage of the population living in rural areas, such as Northern Ireland, Austria and Italy, so the price performance in Ireland is considered to be very good in light of the demographics.

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