R4R
REGIONS FOR RECYCLING

EXTERNAL FACTORS

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ACR+
Samen maken we morgen mooier
Odense Renovation
Limerick•Clare•Kerry Managing Waste Better
Das Land Steiermark
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INTERREG IVC

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2. INTRODUCTION

The R4R project is a 3-year European project aiming to enable its partners to improve their recycling performances through consistent comparisons and an exchange of good practices. An online tool will be developed into which regions or municipalities from outside the partnership can enter their waste data and details of local instruments in use in order to compare themselves with others. It is most useful for a region to compare itself with regions sharing the same constraints. This document lists 'external factors' describing characteristics of a region, which were listed by R4R partners.

External factors are factors that have an impact on municipal waste generation, selective collection or recycling, or that potentially limit the efficiency of a local instrument, but which the region or municipality cannot influence itself. When comparing regions and municipalities, it is important to take these external factors into account. Indeed, local instruments that have been used by and proven to be successful in a region or municipality with a certain set of external factors, might not be as successful in regions or cities with other external factors. Besides this, certain external factors may prevent a region or municipality from implementing a specific local instrument at all. Furthermore, external factors might partly explain differences between several territories.

Considering the fact that external factors have different levels of influence and that a great number of factors can impact waste management, R4R partners have discussed external factors in order to identify those that are most significant. They have come up with a shortlist of external factors that will help local and regional authorities identify territories that share the same constraints. These external factors will be included in the R4R online tool to help users identify comparable territories. It will be mandatory to fill in several external factors in the online tool in order to establish comparisons. These mandatory external factors are underlined in this document (area, population). The others are not mandatory but will help with the identification of comparable data sets.

Sometimes one external factor is calculated based on another one. In this case a '→' is entered in front of the external factor that is calculated on the basis of another one. The factors that are needed in order to carry out the calculation are given in grey.

The Eurostat regional yearbook[1] and the related Statistical Atlas[2] contain regional information and most of the factors set out below. Based on these maps, the regions participating in the R4R project have already been divided into one of the choices from the dropdown lists as examples (given in italics in this document).

[1] http://epp.eurostat.ec.europa.eu/portal/page/portal/product_details/publication?p_product_code=KS-HA-13-001

[2] http://ec.europa.eu/eurostat/statistical-atlas/gis/viewer/

3. TYPES OF EXTERNAL FACTORS

3.1 Geographic

- Area (km²): number
- Urban-rural typology (Statistical Atlas Eurostat on NUTS3 level) : dropdown list
  - Predominantly urban regions (rural population: <20% of total population) *Ile-de-France, Flanders, Lisbon, Attica Region, Tallinn, Sofia, Zagreb, Ilfov*
  - Intermediate regions ((rural population: 20-50% of total population) *Odense, Catalonia*
  - Predominantly rural regions (rural population > 50% of total population) *Limerick, Styria*

3.2 Demographic

- Population: number
- → Population density(population divided by the geographical EF area): number of inhabitants/km²: number
- Number of persons born abroad resident in your region[3]: number
- → Foreign-borns: 'Number of persons born abroad resident in your region'/'population': number (%)
- Tourism intensity: nights spent in hotels, campsites and other collective tourist accommodation per thousand inhabitants (Statistical Atlas Eurostat on NUTS2 level). Dropdown list:
  - ≤2000 *Attica Region, Sofia, Zagreb, Ilfov*
  - 2000-3000 *Flanders*
  - 3000-5000 *Lisbon, Tallinn*
  - 5000-7000 *Ile-de-France, Odense*
  - >7000 *Limerick, Styria, Catalonia*

[3] On national level (EU27) Eurostat 'Total number of persons born abroad, usually resident in the reporting country on 1 January'. http://epp.eurostat.ec.europa.eu/portal/page/portal/population/data/main_tables Regional data probably available at statistical offices.

- Share of non-resident nights spent in hotels, campsites and other collective tourist accommodation (% of total nights spent by residents and non-residents) (Statistical Atlas Eurostat on NUTS2 level). Dropdown list:
    - ≤15
    - 15-20
    - 20-30
    - 30-50 *Flanders, Odense, Styria*
    - >50 *Ile-de-France, Lisbon, Attica Region, Limerick, Tallinn, Catalonia, Sofia, Zagreb, Ilfov*
- → Tourism intensity by non-residents: tourism intensity * share of non-residents: nights spent in hotels, campsites and other collective tourist accommodation by non-residents per thousand inhabitants. Dropdown list:
    - < 500
    - 500-999*Attica Region, Sofia, Zagreb, Ilfov*
    - 1000-1999 *Flanders*
    - 2000-3999 *Odense, Lisbon, Tallinn, Styria*
    - 4000-5999 *Ile-de-France*
    - ≥6000*Limerick, Catalonia*
- Average household size[4]: number
- Education degree : Persons aged 25-64 with tertiary education/persons aged 25-64 (Statistical Atlas Eurostat on NUTS3 level) : dropdown list
    - ≤ 20 % *Styria, Zagreb*
    - 20-25 % *Lisbon*
    - 25-30 % *Odense*
    - 30-35% *Flanders, Attica Region, Catalonia, Sofia, Ilfov*
    - > 35% *Ile-de-France, Limerick, Tallinn*

[4] Regional data probably available at statistical offices. On national level (EU27) Eurostat: http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=ilc_lvph01&lang=en

3.3 Climatic conditions

- **Köppen climate classification**[5]:

Main Climates	Precipitation	Temperature
A: equatorial	W: desert	a: hot summer
B: arid	S: steppe	b: warm summer
C: warm temperate	f: fully humid	c: cool summer
D: snow	s: summer dry	d: extremely continental
E: polar	w: winter dry	h: hot arid
	m: monsoonal	k: cold arid
		F: polar frost
		T: polar tundra

dropdown list:

  - Temperate oceanic climate (Cfb) *IDF, Flanders, Limerick*
  - Warm Mediterranean climate (Csa) *Lisbon, Attica Region, Catalonia*
  - Temperate Mediterranean climate (Csb)
  - Warm continental climate/humid continental climate (Dfa)
  - Temperate continental climate/humid continental climate (Dfb) *Odense, Zagreb, Styria, Ilfov, Sofia, Tallinn*
  - Cool continental climate/subarctic climate (Dfc)
  - Tundra climate (ET)
  - Other

- **Precipitation**: dropdown list:
  - W: desert
  - S: steppe
  - f: fully humid *IDF, Flanders, Limerick, Odense, Zagreb, Styria, Ilfov, Sofia, Tallinn*

[5] http://en.wikipedia.org/wiki/K%C3%B6ppen_climate_classification
http://en.wikipedia.org/wiki/File:Europe_Koppen_Map.png#file

http://koeppen-geiger.vu-wien.ac.at/

- s: summer dry *Lisbon, Attica Region, Catalonia*
- w: winter dry
- m: monsoonal

- **Temperature**: dropdown list:
  - a: hot summer *Lisbon, Attica Region, Catalonia*
  - b: warm summer *IDF, Flanders, Limerick, Odense, Zagreb, Styria, Ilfov, Sofia, Tallinn*
  - c: cool summer
  - d: extremely continental
  - h: hot arid
  - k: cold arid
  - F: polar frost
  - T: polar tundra

3.4 Economic factors

- **Gross domestic product (GDP) per inhabitant in purchasing power standard (PPS) as a percentage of the EU-27 average**: GDP is initially calculated in national currencies, and then converted by purchasing power parities (PPPs) which take account of different price levels between EU Member States, allowing for a more accurate comparison. By using PPPs (rather than market exchange rates), these indicators are converted into an artificial common currency called a purchasing power standard (PPS). The use of a PPS makes it possible to compare purchasing power across the regions of EU Member States that use different currencies and where price levels are different. (Statistical Atlas Eurostat on NUTS 2&3 level.) Dropdown list:
  - <50
  - 50-75: Tallinn, Zagreb
  - 75-100: Sofia
  - 100-125: Flanders, Odense, Lisbon, Attica Region, Catalonia, Ilfov
  - ≥125: Ile-de-France, Limerick, Styria

- **Employment rate, persons aged 20-64** (Statistical Atlas Eurostat on NUTS 2 level) dropdown list:
    - ≤60 : Zagreb
    - 60-65 : Attica Region
    - 65-70 : Lisbon, Catalonia, Ilfov
    - 70-75 : Ile-de-France, Flanders, Odense, Tallinn, Sofia
    - >75 : Styria, Limerick

3.5 Competences of your region

- **Is your region authorized to draft waste legislation**: yes/no
- **Is your region authorized to raise waste taxes or levies**: yes/no

3.6 Waste-related factors

- **Degree of non-household waste in the reported municipal solid waste**: dropdown list
    - 0-10%
    - 11-20%
    - 21-30%
    - >30%
- **% of households composting at home**: dropdown list
    - 0-10%
    - 11-25%
    - 26-50%
    - 51-75%
    - 76-100%
- **Deposit system for re-usable glass bottles**: dropdown list
    - For all glass bottles sold in the region
    - For 50-99% of glass bottles sold in the region
    - For 1- 50% of glass bottles sold in the region
    - No

- **Deposit system for re-usable plastic bottles**: dropdown list
    - For all plastic bottles sold in the region
    - For 50-99% of plastic bottles sold in the region
    - For 1- 50% of plastic bottles sold in the region
    - No

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