

Basic questionnaire

Task Identification

Title	Household waste (MSW), Czech Republic
Customer	MZP, Ministry of the Environment of the Czech Republic
Version, date	Version 0, 2/2017
Year, Project	2015, „Preparation of information for investment support in the field of waste management“
Description	Future amount of residual waste (RES) produced in different territorial units of the CZE. Increased separation of paper (PAP), plastics (PLA), glass (GLA) and kitchen bio-waste (BIO) is taken into account. The separation is limited by maximum separation efficiencies, which is subject to the region.

1. Investigated area

Level	L0	L1	L2	L3
Official name (Local/English)	Stát / Country	Kraj / Region	ORP / Micro-region	Obec / Municipality
Number of nodes	1	14	206	X
Average number of inhabitants (median)	10 mil.	700 000	30 000	3 000

X = this level was not included into the analysis

2. Task characteristics

		Note
Current values	YES	incomplete values in 2014 substituted by model
Future values	YES	2020
Multi-component system	YES	Interacting components

		Note
Considered components	RES- residual waste	Codes: 20 03 01
	SEP-PAP - separately collected paper	Codes: 20 01 01, 15 01 01
	SEP-PLA separately collected plastics	Codes: 20 01 39, 15 01 02
	SEP-GLA separately collected glass	Codes: 20 01 02
	SEP-BIO separately collected bio-waste	Codes: 20 02 01

3. Results

Expected result	Levels and Nodes	Year
Production of RES	L0, all L1, all L2	2020
Composition of RES	L0, all L1, all L2	2020
Yield of SEP-PAP	L0, all L1, all L2	2020
Yield of SEP- PLA	L0, all L1, all L2	2020
Yield of SEP-GLASS	L0, all L1, all L2	2020
Yield of SEP BIO	L0, all L1, all L2	2020
Separation efficiency of PAP	L0, all L1, all L2	2020
Separation efficiency of PLA	L0, all L1, all L2	2020
Separation efficiency of GLA	L0, all L1, all L2	2020
Separation efficiency of BIO	L0, all L1, all L2	2020

4. Input data overview

Available input data/ time series	Time interval	Completeness/ Data available for	Quality	Source	Remark
Production of RES	2009-2015	L0, all L1, all L2	Fine	ISOH	complete
Yield of PAP	2009-2015	L0, all L1, all L2	Fine	ISOH	complete
Yield of PLA	2009-2015	L0, all L1, all L2	Fine	ISOH	complete
Yield of GLA	2009-2015	L0, all L1, all L2	Fine	ISOH	complete
Yield of BIO	2009-2015	L0, all L1, all L2	Fine	ISOH	complete
RES analysis	Different years	Few locations, L3	Good/ Informative	several	incomplete
Housing character	2011	L3	Fine	ISOH	complete

5. Models

Description	Purpose
Step 1: for incomplete data	Getting guesses where missing
RES composition based on housing character	L2
PAP, PLA, GLA separation efficiency as a function of housing character	L2
MSW waste production as a function of GDP	L0
MSW waste production as a function of population	L0, all L1, all L2
Step 2: for complete data	Future projection
M1: Basic extrapolation of all time series	Initial values RES, PAP, GLA, BIO in 2020 for L0, all L1, all L2
M2: Yield of BIO from RES as a function of housing character	BIO in 2020 for L0, all L1, all L2
M3: Increased separation efficiency for Czech Republic (L0) - e.g goal is an increase of 10%	RES, PAP, GLASS, BIO in 2020 for L0, all L1, all L2

6. Constraints

Description	Purpose
Composition constraint	Applied to L0 and all L1, all L2 nodes
Areal constraint - mass balance	Applied to L0 and all L1 nodes
Maximum separation efficiency of PAP	Applied to all L2 nodes
Maximum separation efficiency of PLA	Applied to all L2 nodes
Maximum separation efficiency of GLA	Applied to all L2 nodes