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Fee-rebate scheme in the metropolitan Area of Barcelona

FEE-REBATE SCHEMES

- | Municipalities tend to group themselves to provide services jointly, and optimize costs.
- | A feebate (fee + rebate) system is an economic tool whereby an association of municipalities fosters its members to advance towards recycling and prevention, by means of creating a set of fees and rebates.
- | Fees and rebates would add up to zero, thus being neutral for the association of municipalities, but not for the municipalities themselves.

FEE-REBATE SCHEMES

For each municipality and each treatment, fees and rebates would be defined as:

$$fb_{ij} = n_j * \left(\frac{t_{ij}}{pop_i} - \frac{\sum_{i=1}^p t_{ij}}{\sum_{i=1}^p pop_i} \right) * pop_i$$

p municipalities (i)
q treatments (j)

t_{ij} tonnes from the municipality *i* treated with system *j*
pop_i population of municipality *i*
n_j constant defined for each treatment

These *feebate* would be added to the amount that municipalities would otherwise have paid. Some would pay more, some would pay less, but the proposed system is neutral for the association.

THE CASE IN THE METROPOLITAN AREA OF BARCELONA

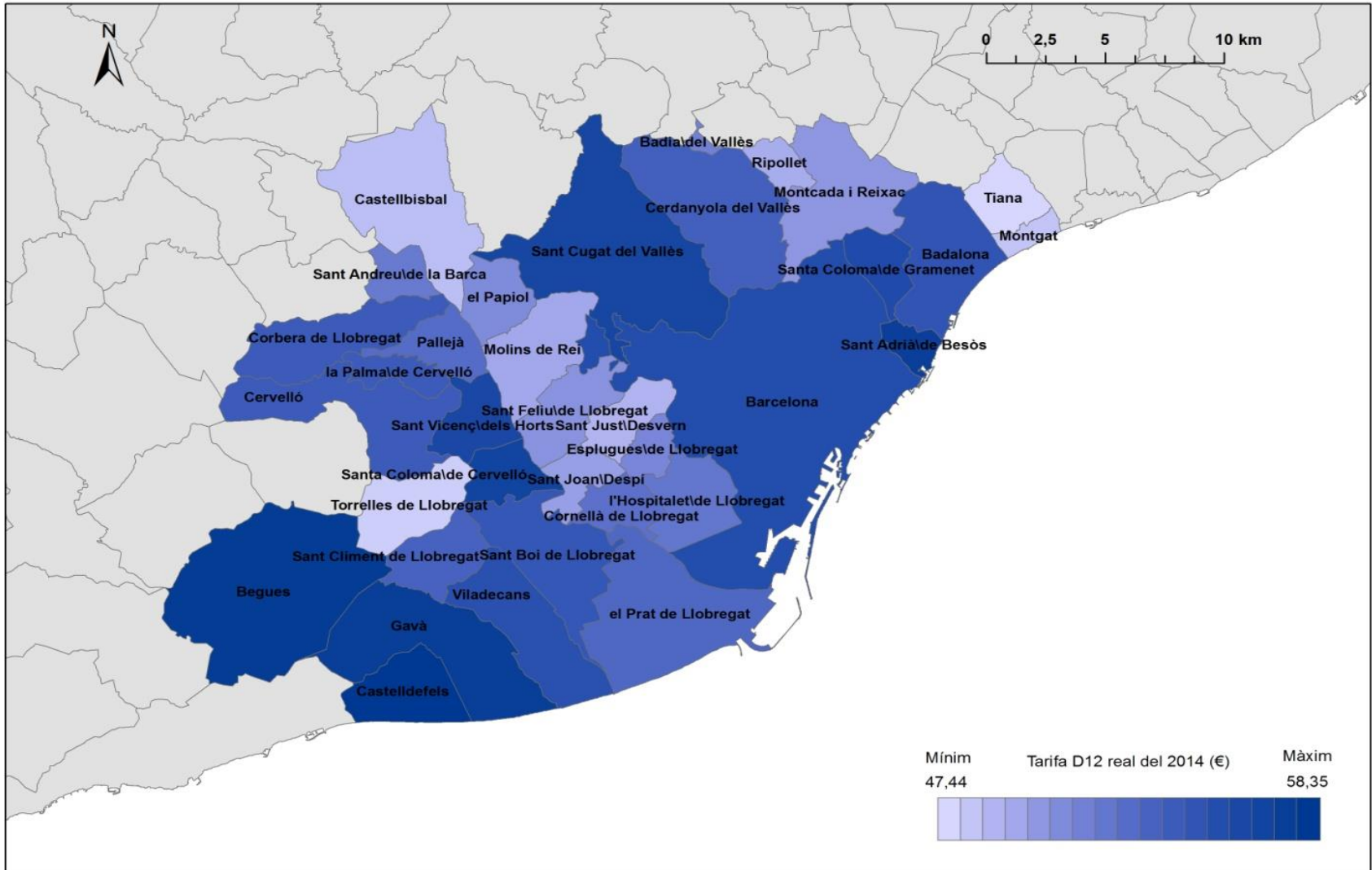
Brief explanation of the Metropolitan Tax on Waste Treatment (TMTR)

- On basic tariffs defined for households and commercial activities, a municipal coefficient is applied, which depends on the per capita generation of unsorted waste.
- Calculation of the coefficient:

	2009-2013	2014-2016
Formula to calculate the municipal coefficient (Cfm_i)	$(1 - n) + n \times \left(\frac{T_i}{T_t} \frac{hab_i}{hab_t} \right)$	$(1 - n) + n \times \left(\frac{\sum_{a=2010}^{2012} T_{i a}}{3 \cdot hab_{i 2011}} \frac{\sum_{a=2010}^{2012} T_{t a}}{3 \cdot hab_{t 2011}} \right)$
Years of reference for the calculation of the generation index per capita of refuse	Last year available	Average of the previous three years available
n	15%	20%

- Changes in *n* affect the standard deviation of the coefficient.

RESULTS



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**Thanks for your
attention**