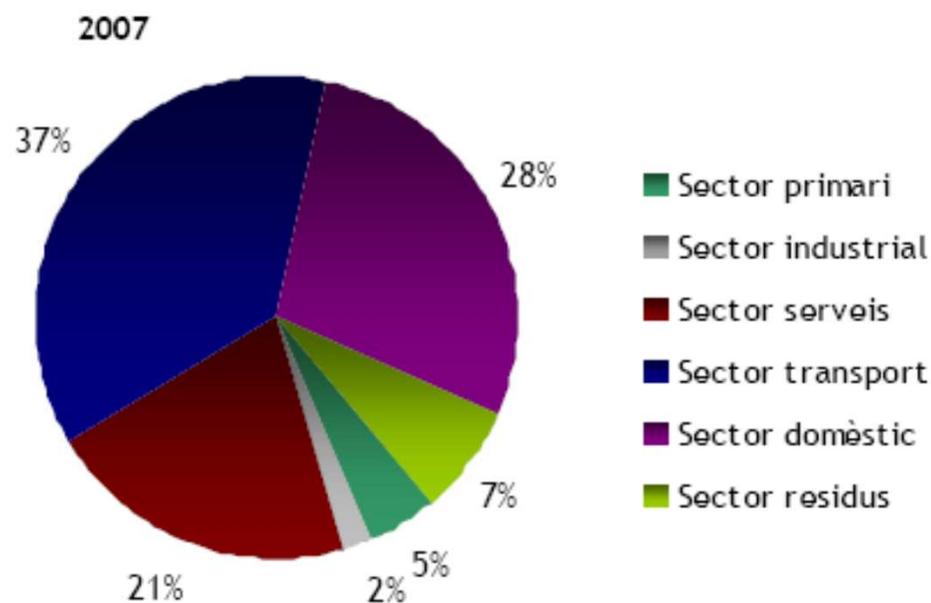


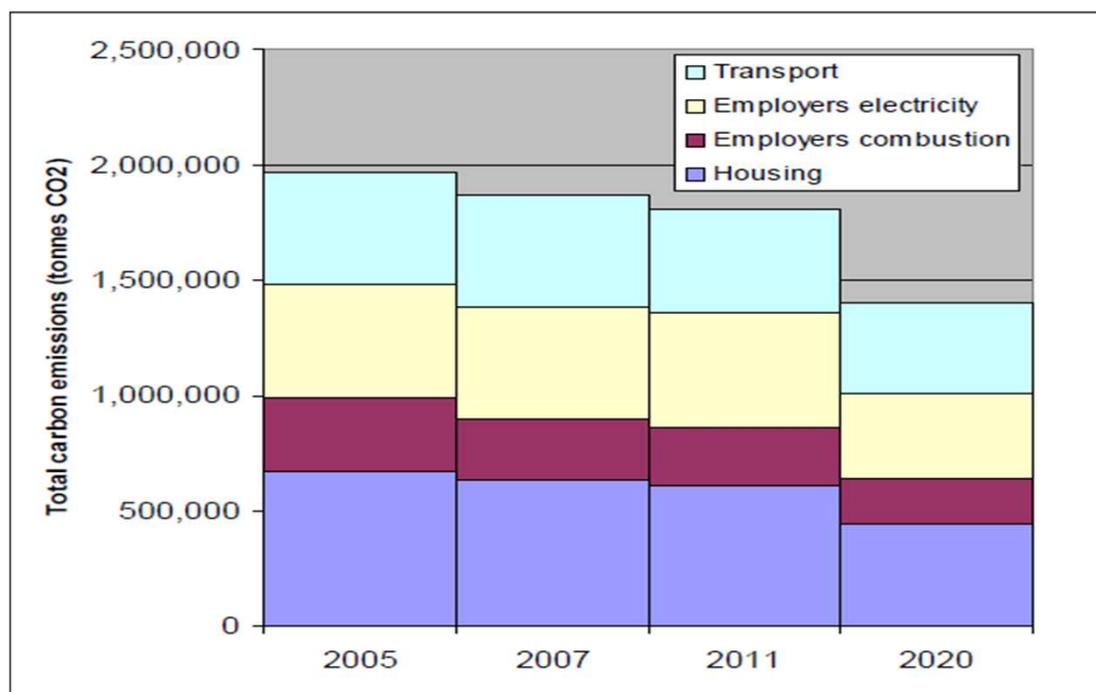
## 4. The Baseline Emissions Inventory (BEI)

1. The BEI allows to identify the main CO<sub>2</sub> sources on the municipality's territory, and will thus help select the appropriate actions



2. The BEI allows to measure the impact of the SEAP actions: it shows where the local authority is at the beginning, and the successive monitoring inventories will show the progress towards the objective.

=> Emission inventories are very important to maintain the motivation of all stakeholders, allowing them to see the results of their efforts.



“ WE, THE MAYORS, COMMIT TO:

Go beyond the objectives set by the EU for 2020, reducing the CO2 emissions in our respective territories by at least 20%, through the implementation of a Sustainable Energy Action Plan for those areas of activity relevant to our mandates. The commitment and the Action Plan will be ratified through our respective procedures; ”

=> 2 principles

The Covenant follows essentially (but not exclusively) a territorial approach, looking at the emissions occurring on the territory of the local authority

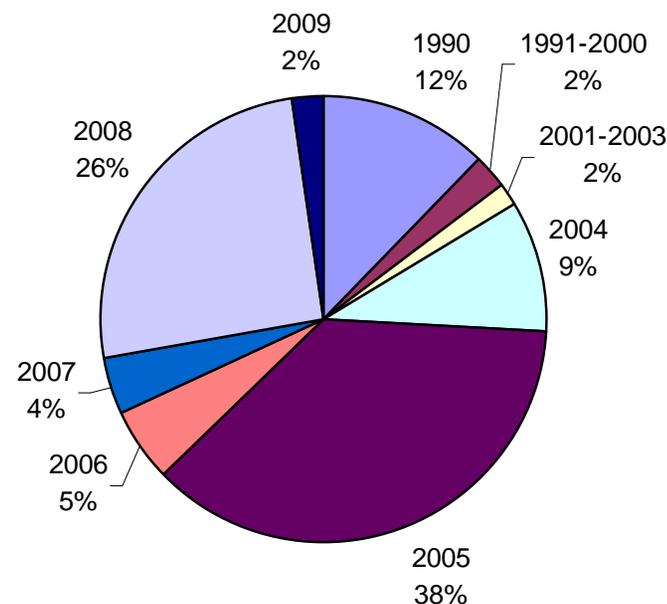
The focus of the Covenant is on energy

**The Baseline year is the reference year for setting the objective.**

The Covenant's goal is to contribute to the EU commitment to reduce the emissions 20 % by 2020 compared to **1990**. Therefore 1990 is the recommended baseline year.

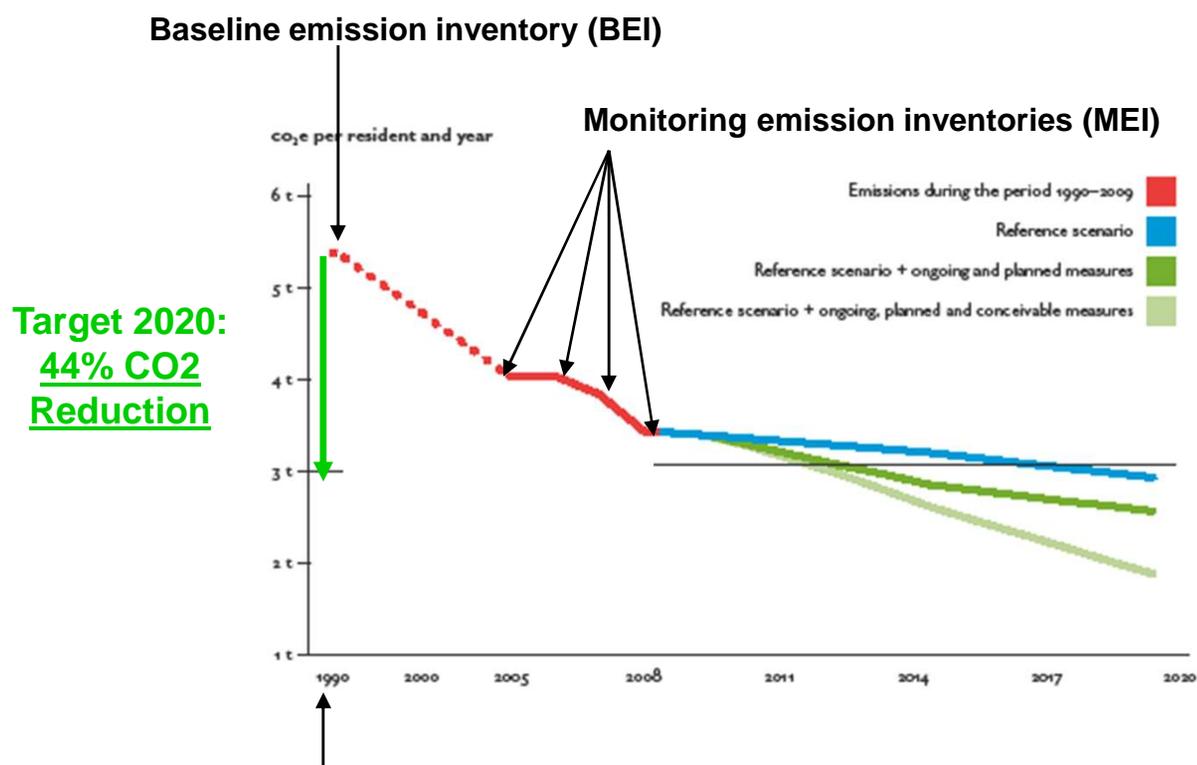
However, if data availability is insufficient, then a subsequent year must be chosen.

Choice of baseline year



## Choice of Covenant signatories

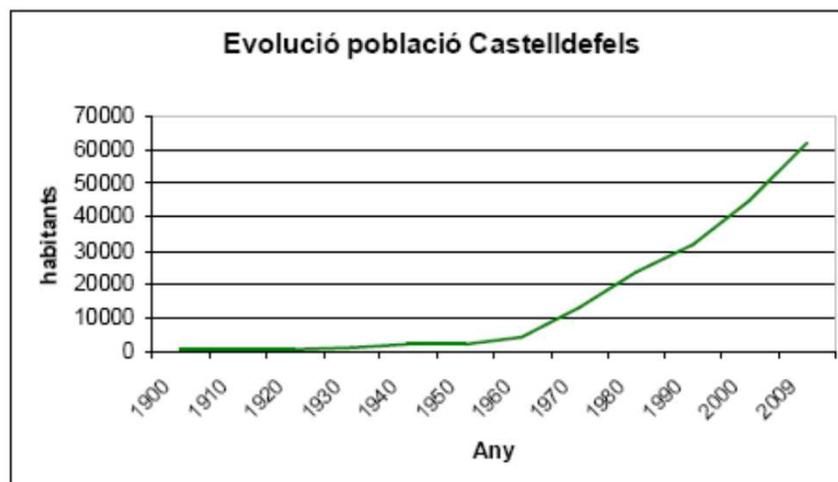
**NB: if you choose 1990, it is highly recommended to carry out a recent inventory**



Baseline year

**Example from Stocholm**

### ➤ Absolute (kton CO<sub>2</sub>) or per capita (ktonCO<sub>2</sub> / inhabitant) objective ?



**The choice is free, but in case of strong decrease of population, the spirit of the Covenant would command a per capita objective**

Reporting is divided in 4 main Sectors :

**Focus of the  
Covenant**

**Final energy consumption** in buildings, equipment/facilities  
and industries

**Final energy consumption** in transportation

Other emission sources (not related to energy consumption)

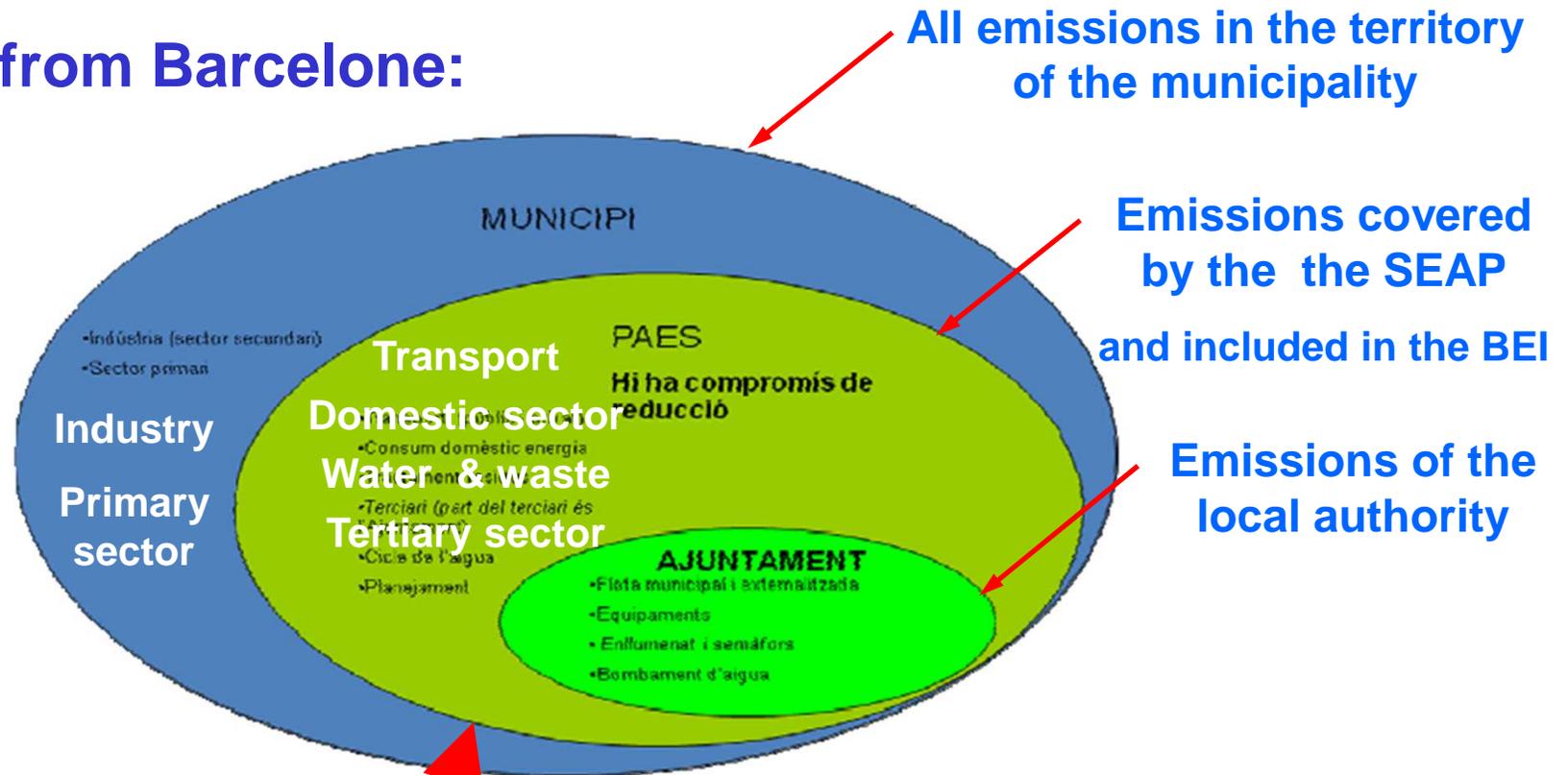
(e.g. agriculture, waste ...)

**Not mandatory**

Energy production (electricity, heat, cold)

**Considered indirectly,  
via emission factors (for  
heat electricity or cold)**

## Example from Barcelona:



Font: Diputació de Barcelona.

**The CO<sub>2</sub> emissions that have to be reduced by 20% or more**

**It is just a multiplication !**

**Emissions =**

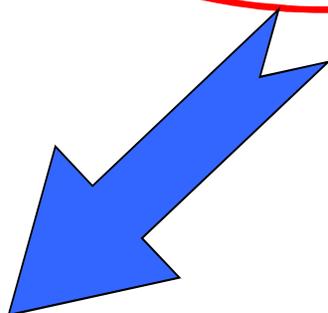
**Activity data**

quantity of natural gas consumed (in MWh)

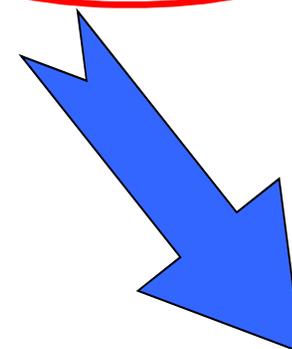
**x**

**Emission factor**

Value (in t CO<sub>2</sub> / MWh)



**Find the proper data  
related to your local  
authority**



**Most emission factors  
can be found in tables  
(cfr guidebook)**

- **The energy consumption data has to be relevant to the particular situation of the municipality (national averages will not help) !**
- **The data collection process may require some time and resources**
- **Sources of data**
  - Invoices (e.g. for the own buildings of the local authority)
  - Market operators (energy suppliers, grid operators, ...)
  - Ministeries (energy, statistics, environment, ), agencies, regulatory authorities
  - Inquiries addressed to energy consumers
  - Estimates based on partial data (! Get help of a statistician)
- **Recommendation : Pay attention to document the data sources and ensure consistency through the years !**

- The data has to be reported in the « Emission inventory » part of the SEAP template, which is divided in 4 parts:
  - Table A: Final energy consumption data
  - Table B: CO2 emissions
  - Table C: Local electricity production
  - Table D: local heat/cold production

## A. Final energy consumption

 Please note that for separating decimals dot [.] is used. No thousand separators are allowed.

Category	FINAL ENERGY CONSUMPTION [MWh]															Total	
	Electricity	Heat cold	Fossil fuels								Renewable energies						
			Natural gas	Liquid gas	Heating oil	Diesel	Gasoline	Lignite	Coal	Other fossil fuels	Plant oil	Biofuel	Other biomass	Solar thermal	Geothermal		
<b>BUILDINGS, EQUIPMENT / FACILITIES &amp; INDUSTRIES</b>																	
Municipal buildings, equipment/facilities	9793	43415	34162		3382										350		91102
Tertiary (non municipal) buildings, equipment/facilities	16519																16519
Residential buildings	408189	278785	418968		989788												2095730
Municipal public lighting	1096																1096
Industries (excluding industries involved in the EU Emission trading system, etc.)	119443		31361														150804

# THANK YOU!

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