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"Top-Down" and "Bottom-Up"

In order to assess emissions from several sources, two different approaches are often considered: the one is called "top-down", the other "bottom-up".

The "top-down" estimate is a methodology which starts from values of annual emissions assessed at national level, often within the European CORINAIR project, and detailed in several activities following specific SNAP codes. These emissions are spatially disaggregated at different levels, such as the provincial and municipal one, by means of statistical indicators (population, roads, land-use, ...). This methodology contemplates also temporal disaggregation, because the hour resolution of emissions is achieved from the annual level.

The "bottom-up" approach, begins instead from local data at municipal level or even from the specific object of the emission (as can be the road graph or the industry location) and, using this information and proper emission factors, assesses hour emissions directly at local level.

Approaches used for inventories are often intermediate between the two types, as for some emissions it is possible to find disaggregated data while for others an approach of disaggregation from aggregated data is unavoidable.