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SHORT ABSTRACT

Abstract title: Addressing air quality co-benefits of planned mitigation actions in the frame of the Covenant of Mayors initiative

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Abstract text *(maximum 350 words.)*

The European Union has set targets for progressively reducing its greenhouse gas (GHG) emissions up to reaching climate neutrality by 2050. In 2008, acknowledging the role of local authorities in implementing successful climate policies, Covenant of Mayors (CoM) initiative was launched.

The Joint Research Centre (JRC) provides methodological guidelines, technical and scientific support to CoM signatories in developing their own GHG emission inventories and scenarios, making then comprehensive GHG datasets available to the whole CoM community (Baldi et al., 2023).

Since 2018, the JRC is also bringing to the attention of city administrators the importance of properly tuning climate change mitigation and air quality policies, to maximize synergies and avoid trade-offs. For this goal, we have made available to CoM signatories methodologies (Peduzzi et al., 2020) and tools (Monforti-Ferrario et al., 2023) to evaluate *ex-post* the consequences of their mitigation policies on the air pollutants emissions taking place in their territory, using data provided by signatories themselves in their baseline and monitoring GHG emission inventories.

We have now started to develop a new methodology, for evaluating *ex-ante* the air quality impact of planned mitigation policies. To do this, baseline and monitoring inventories, referring to past years, are complemented with data extracted from the Sustainable Energy and Climate Action Plans (SECAPs) that CoM signatories are requested to develop. SECAPs indeed contain the list of actions expected to be deployed by the signatories to achieve their mitigation commitments and, since 2015, must be related to the target of decreasing city's GHG emissions of at least 55% by

2030 in comparison with their baseline inventory. More recently, signatories are also invited to present SECAPs targeting climate neutrality by 2050.

We will present the methodology developed to estimate the air quality impact of the overall SECAP and of the most relevant key actions planned by signatories, together with the assumptions taken to overcome the intrinsic limitations of the information contained in the SECAPs. A special emphasis will be given to our effort in reaching a common and harmonized perspective in modelling greenhouse gases and pollutants emissions throughout the CoM initiative.

References

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