

Output factsheet: Tools

Version 1

Project index number and acronym	CE1226 AWAIR
Lead partner	Regional Agency for the prevention, environment and energy in Emilia-Romagna Region
Output number and title	OT1.3 - Transnational method for the common measure of effectiveness of the actions in case of SAPEs
Responsible partner (PP name and number)	Helmholtz Zentrum München - German Research Center for Environmental Health
Project website	https://www.interreg-central.eu/Content.Node/AWAIR.html
Delivery date	February 2019

Summary description of the key features of the tool (developed and/or implemented)

In this document we present methods to verify the effectiveness of actions which could be implemented during SAPEs in order to reduce the air pollutant concentrations in the FUAs. The effectiveness of such actions can be verified in terms of drivers (for example by traffic counts in case of traffic flow reduction). A more common way of assessing the effectiveness of measures is the comparison of air pollutant levels between “normal days” and “mitigation action days” taking as many as possible confounding factors into account. This raises the question what parameters should be taken into account for monitoring effectiveness. As $PM_{10}/PM_{2.5}$ are regulated by limit values, both parameters are obviously key parameters. However, there are reasons for considering other parameters in addition, for example Ultrafine Particles (UFP) or Black Carbon. These parameters are not included in the air quality set of parameters to be monitored by official network. By now no limit values were set by EU for those parameters. Nevertheless both parameters have a relevant impact on health and are strictly linked to combustion sources in general and traffic related air pollutants in particular. In addition to the choice of parameters, a second important step is the decision which approach should be used to assess effectiveness of actions. There are two main possibilities: spatial (comparison between monitoring sites within and outside the FUA) or temporal approach (comparison of period of operation of mitigation actions with periods without mitigation actions). Last but not least we described the methods for the assessment of effectiveness of mitigation actions aimed at reducing personal exposure. For this, personal

measurements in two groups of participants were proposed. The mitigation action will be applied only to one group (case group) and not to the other one (control group). Personal exposure measurements will be conducted in both groups and the results compared.

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NUTS region(s) where the tool has been developed and/or implemented (relevant NUTS level)

The concerned NUTS regions comprise the FUA of Parma (Italy), the FUA of Katowice (Poland) and the FUA of Zugló (Budapest, Hungary).

Expected impact and benefits of the tool for the concerned territories and target groups

In Chapter 7 of this document we described the methods for assessing the effectiveness of adaption and mitigation actions specifically for the AWAIR project. It is a portfolio of short-term measures (driving ban on certain vehicles, decrease in heating for offices and houses, free public transport during SAPEs, ban of secondary heating systems (e.g. wood burning stoves), speed limits on motorways) and indicators (NO/NO₂, UFP, BC) potentially useful for assessing the effectiveness of all possible mitigation and adaptation actions. Basically the added value of such methods is to run a broader vision over the mitigation measures (not only referred to PM₁₀), include further parameters close to population needs, especially for those more vulnerable and avail of spatial-referred situation to address decisions. All project partners have agreed on the common portfolio described in this report. In WPT2 the partners will choose the most appropriate method of verification of the proposed adaption and mitigation actions and select the best indicator for their respective FUA.

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Sustainability of the tool and its transferability to other territories and stakeholders

The proposed portfolio provides a basis for the selection of possible adaption and mitigations actions and methods to verify the effectiveness of those actions. The selection is site specific. The list is approved by all FUAs. In the next step the FUAs will choose the mitigation and adaption actions and a specific method as well the indicator for assessing the effectiveness of the selected actions. As the tool comprises a list of possible actions, it can easily be transferred to other territories, similar to the FUAs within this project which

choose the most convenient and appropriate measures for their territory.

The target groups associated to the present output benefitting of the transnational method approach are the urban and environmental units of the Municipalities and specific environmental agencies playing a role in pollution controlling system. Citizens, although not directly benefitting of such output, are the very end user of the decisions taken upon this method.

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Lessons learned from the development/implementation process of the tool and added value of transnational cooperation

The developmet of this deliverable showed that the impact of local measures in case of SAPEs is different for different pollutants. For more locally formed pollutants (such as UFP or NOx) there is more opportunity to influence peak levels on an urban (local) scale. For the secondary PM fraction, only permanent measures applied on a regional scale will reduce this fraction. Without such measures, only very large reductions in the primary fraction emissions on a local scale might achieve compliance with the limit value.

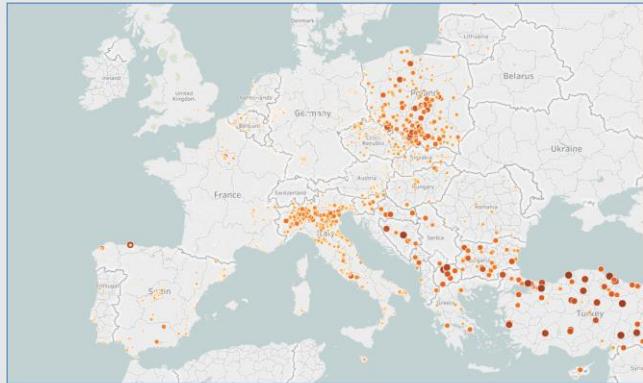
The second lesson we learnt is that it is not possible to simply transfer schemes between locations without consideration of local conditions which determine the effectiveness of selected mitigation actions (e.g. background pollutant levels, pollutant formation and transport mechanisms, frequency of emissions from various sectors).

In the end, the decision which specific actions could be implemented in a given FUA is the task of the politicians.

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References to relevant deliverables and web-links If applicable, pictures or images to be provided as annex

SAPE frequency is in particular high in Central Europe area, and PM₁₀ is the pollutant usually responsible for the activation of emergency actions.



The OT1.3 - Transnational method for the common measure of effectiveness of the actions in case of SAPEs is connected to the deliverable D.T1.3.3.

Web-reference: <https://www.interreg-central.eu/Content.Node/Output-factsheet-OT1.3-final.pdf>