2.GUIDE FOR DEVELOPING THE MULTI-CRITERIA POLICY ASSESMENT

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1. Guide for developing the Multi criteria policy assessment

The Multi criteria policy assessment has been developed in order to identify the most suitable interventions to be included in the Mitigation and Adaptation plan, it aims at:
• evaluating the local environmental, social and economic impacts linked with the implementation of policies and interventions to be included in the Mitigation and Adaptation Plan;
• helping authorities to select the best option interventions;
• driving the path from the inventory to the plan by helping municipalities in thinking about different possible options by taking into account environmental, social and economic impacts;
• Creating an useful database of possible policies to reduce CO_2 emissions at local level.

1.1 The Process

The multi-criteria policy assessment has been built in different steps in order to facilitate the analysis of possible policies by following each step in chronological order using the tools developed. It can be carried out following the 4-steps methodology:

STEPS	DESCRIPTION
1. Relevance to local context	You have to decide if the policy suggestions make any sense in your local context or if, for some specific context-related reasons, it is not applicable.
2. Multi-criteria analysis of the outcomes of the actions	For those policies that are applicable you have here to analyse three main aspects in order to make an evaluation of different consequences in terms of financial costs, emissions, and potential economic savings.
3. Assessment of other secondary benefits	For those policies that have obtained a positive evaluation in step 2, you have here to analyse other different aspects related to social, economic and environmental benefits that have not been taken into consideration before and that can help to make a more comprehensive evaluation of the indirect consequences of the policy.
4. Final Evaluation	This part shows you a comprehensive result of your ratings for each policy analyzed. The results are represented by two cells coloured in red, yellow and green depending on the evaluation made. In particular, the green cell represents a good result, the yellow cell medium, and the red cell a negative result.

1.2 The Tools

Two operative tools have been developed to assist municipalities during this phase:

TOOL	FORMAT	WHAT IT IS	HOW TO USE IT
Multi-criteria policy assessment tool	Excel document	• This tool is an Excel file that has been developed to assist partners in analyzing a list of policies that can reduce emissions at local level that might be included in your mitigation and adaptation plan; • All policies are divided in sectors of intervention that are the same segment in which is divided the GHG inventory: government operation and community operations. Moreover they are listed taking into account the same sectors of the inventory (public buildings, public lighting, residential sector etc). This facilitates the comprehension of which kind of policy can be applied in each of the sectors more responsible of CO_2 emissions	For each proposed intervention you have to assign different rates (from 1 to 3) to a series of aspects in order to have an overview of possible environmental, social and economic benefits deriving from certain emission reduction policies.
Multi-criteria policy assessment report	Word document	This tool includes a brief introduction on the methods employed for the multi criteria analysis.	It can be useful to attach the excel file to this document in order to communicate results to your municipality and explain the rationale under the multi criteria policy assessment

2. How to compile the Multi criteria policy assessment tool

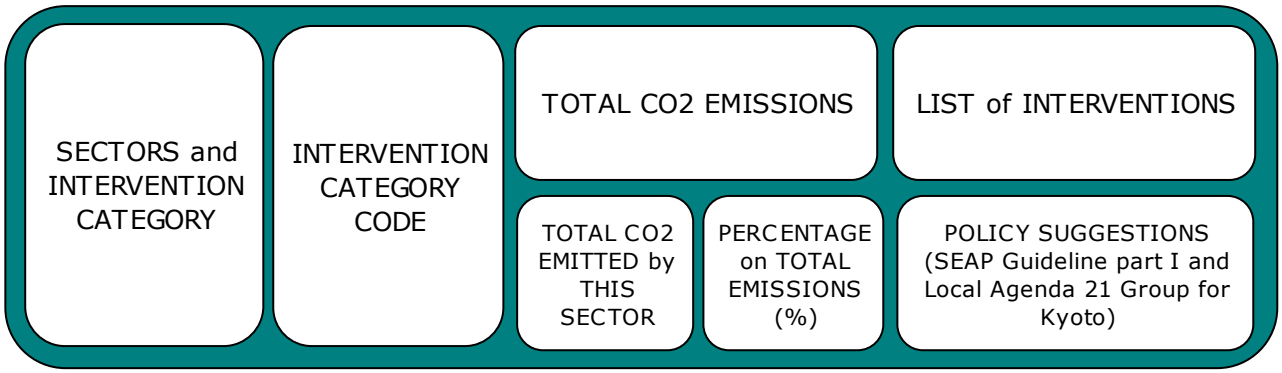
The document is divided in three main sections:

A. Government segment
B. Community segment
C. Other policies

Each city is required to fill the first two sections (A and B) and use the third one only if other policies not easy to include in the two other contexts are identified in the Mitigation and Adaptation Plan[1].

Each section is a different sheet in the excel file and they have the following common structure:

[1] Some example of actions to be included in section C might be: internal management activity (organizing municipality's database on emissions), information campaign not applicable to a particular sector but more general, etc.)



The following table describe the single columns:

COLUMN	NAME	DESCRIPTION
A	SECTORS and INTERVENTION CATEGORY	It comprises a list of Sectors and Intervention categories coherent with categories of the Inventory tool. It is possible to add categories not already included by filling in the "*You can add here other interventions categories*" section.
B	INTERVENTION CATEGORY CODE	A specific code could be defined for each category. This code helps in recognizing and easily identifying each intervention.
C-D	TOTAL CO_2 EMISSIONS	These two columns have to be filled in only for the Sectors (identified by the grey line) in order to highlight how much each sector is responsible for CO_2 emissions at local level. Column D, in particular, identifies the percentage of the sector on the total of emissions by the segment identified (e.g. Government segment, Community segment).
E	LIST of INTERVENTIONS - POLICY SUGGESTIONS	For each category of intervention a list of possible policies to reduce GHG emissions is suggested. These policies suggestions are taken from the SEAP Guideline (part I) developed by the JRC to implement the Covenant of Mayors and from the interventions included in Local Agenda 21 Group for Kyoto and from the policies that partners have already implemented and described during audit I. Each city can add any sort of policies that has not already been included in the list. For each category there are in fact two blank lines that can be used for this purpose. This part is a useful database of potential mitigation and adaptation actions that can be updated and used every year.

TIPS:

- *the first 8 lines of the tool are already filled in to give you an idea of how the differences in rates changes the final results, please remember to cancel these contents before starting your assessment;*
- *in order to make this action profitable select a group of people with different expertise (economics, social, environmental etc) and organize with them and with the representatives of different sectors one or more focus groups in order to discuss ratings;*
- *This action should end with a list of potential intervention that, adapted to your local context, can be included in your mitigation and adaptation plan.*

STEP 1 – RELEVANCE TO LOCAL CONTEXT

In column F each city should answer to the question "*Is the intervention relevant for local context?"* Answering YES/NO depends on the interest the municipality has in implementing that sort of action and on context-related conditions. For example, if in your municipality wind energy is not possible because is the wind is not constant or is weak, this policy suggestion is not applicable and you do not have to consider it.

TIPS:

- *If you answer NO: Stop here the evaluation and continue with the following intervention*
- *If you answer YES: Go and continue with Step 2*

STEP 2 – MULTI CRITERIA ANALYSIS of the OUTCOMES of the ACTIONS

This step rates each of three main aspects of this simplified cost benefit analysis in order to obtain a first result of the cost and benefits of the intervention. The following table shows the scaling rate you have to give to each aspect and the related colour code:

Rate	Description	Colour
1	Low rate	red
2	Medium rate	yellow
3	High rate	green

Give a rate from 1 to 3 to each aspect where 1 is "low", 2 is "medium" and 3 is "high". The cell becomes green, yellow or red depending on your choice to help a visual understanding of the results (1 is red, 2 is yellow, 3 is green).

In particular:

- **COLUMN H - How much is the intervention economically affordable**

If you give 1: the intervention is particularly expensive and needs relevant public financing (e.g. big infrastructure works)
If you give 2: the intervention is expensive but a budget can be found for this intervention (e.g. public buildings insulation etc.)
If you give 3: the intervention is not very expensive and a budget can be found for its implementation (e.g. some free or very low cost intervention e.g. communication and information campaigns, switching lamps with higher efficiency ones in offices etc.)

- **COLUMN I - Expected CO_2 reduction**

If you give 1: the intervention does not generate relevant CO_2 reductions
If you give 2: the intervention generates medium CO_2 reductions
If you give 3: the intervention is expected to generate relevant CO_2 reductions

- **COLUMN J - Economic savings**

If you give 1: the intervention does not generate relevant economic savings
If you give 2: the intervention generates medium economic savings
If you give 3: the intervention is expected to generate relevant economic savings (e.g. energy efficiency measures in public buildings, direct renewable energy production etc.)

- **COLUMN L - Summary result**

This column automatically calculates in a comprehensive assessment the average of ranking given in the previous three aspects. This cell is useful to decide which kind of intervention can be analyzed also in the other aspects included in Step 3 and eliminate those intervention that do not have a positive cost benefit analysis first evaluation.

TIPS:

- *If you see a red cell in summary results, stop here the evaluation and continue with the following intervention.*
- *If you see a green or yellow cell, go ahead and continue with Step 3*

STEP 3 - ASSESSMENT of OTHER SECONDARY BENEFITS

This part has been developed to offer a deeper analysis of other benefits coming from those interventions that have at least a yellow or green evaluation of step 2. This is useful to give more information on the possible effects of these interventions also to other aspect such as social and environmental benefits other than CO_2. Because this part should be an useful tool for each

municipality to assess other aspects not included in Step 2, you have the chance to change the issues considered or to add others that are not included here [2]. The assessment of each aspect is the same of Step 2, you have to give a rate from 1 to 3 where 1 is "low", 2 is "medium" and 3 is "high".

In particular:

1. Environmental benefits other than CO_2 reduction

- **COLUMN N - Air quality improvement**

The intervention might have positive effects not only on CO_2 reduction but also on other pollutant reduction such as mobility policies, tree planting etc.

- **COLUMN O - Reduction in other resources use (e.g. water, soil)**

This aspect relates to these intervention that can have positive effects in reducing the use of natural resource or the reduction of waste etc. A specific policy for the reduction of municipality's waste, intervention for the reduction of the use of water in sport facilities etc.

- **COLUMN P - Increase of urban environment quality**

This aspect aims at evaluating the relevance for urban environmental quality of a specific intervention, e.g. urban forestation, new cycle paths, expected traffic reduction etc.

- **COLUMN Q - Relevance for Adaptation**

This aspect refers to the potential relevance of the intervention in order to prevent or respond to effects of climate change in the urban context. Some examples are urban forestation to mitigate "hot islands" effects, development of particular infrastructures that can also increase urban resilience etc. Here you can add a positive evaluation for some intervention that foster research on the possible effects of climate change at local level.

2. Social benefits

- **COLUMN R - Promotion of social inclusion**

Some intervention can foster social inclusion if included in a more comprehensive political vision such as creation of green public spaces, facilitate cheap transportation from sub-urban areas, creation of public events open to all citizens to discuss on environmental issues etc.

- **COLUMN S - Creation of employment opportunities**

It refers to the intervention or policies that can also foster the creation of new jobs or that are a driver for new enterprises (e.g. renewable energy policies)

- **COLUMN T - Innovation and know-how exchange potential**

Intervention that can drive a know-how exchange of best practice with other local authorities or the diffusion of technologies that were not already common in the area, for example district heating, co-generation plants, new mobility solution etc.

3. Other Economic benefits

- **COLUMN U - Potential drive for local economic development**

Besides the CO_2 reduction and economic savings some interventions can foster the economic development of the local authority by creating a drive for new business (e.g. the promotion of green local products, policies to foster local sustainable tourism, environmental and sustainability research institutes within the university etc.).

4. Political commitment

- **COLUMN V - Level of political interest in the intervention**

The political interest in the intervention is another important aspect that can be evaluated positively if there is a precise commitment of the political level in implementing specific policies (e.g. new infrastructures for mobility, new energy plants etc.)

[2] If a city adds or eliminates any aspect it is necessary to be sure that the final result in column AA takes into account the number of aspects selected. In the default sheet the aspects considered are 10, therefore to obtain an average evaluation the total points are divided by 10, if you add or eliminate any aspect, please change also the number you divide the total for.

5. Demonstrative character of the intervention

- **COLUMN W - Level of demonstrative character of intervention from the Municipality**

This last aspect what will be evaluated is the possible demonstrative character of the intervention for citizen. E.g. photovoltaic panels on public buildings, special opening to public of energy efficiency buildings, use of local products in school canteens, etc.

TIPS

- *If you add or eliminate any aspect you have just to be sure that the final result in column AA takes into account the number of aspects you select. Now the aspects considered are 10, therefore to obtain an average evaluation the total points are divided by 10, if you add or eliminate any aspect, please change also the number you divide the total for.*

STEP 4 - FINAL EVALUATION

This section summarizes the overall results obtained in step 2 and step 3 evaluations to give a comprehensive understanding of the benefits of each intervention.

- **COLUMN Z - Summary result of main costs and benefits**

It just repeats the results obtained in the in the Cost and benefit analysis of the outcomes of the actions
(column L)

- **COLUMN AA - Summary results of other secondary benefits**

This column shows in a comprehensive assessment the average of ranking given in the aspects considered in the Assessment of other secondary benefits.

The colour of these two cells represents the final rate of each intervention for both primary and secondary benefits:

- **green = 3 (high benefits level)**
- **yellow=2 (medium benefits level)**
- **red=1 (low benefits level)**

TIPS

- *For those interventions that have yellow or green and yellow results, start to define how this policy suggestion can be tailored and adapted to your local context in order to make a first draft of possible interventions to be discussed with the relevant stakeholders during the mitigation and adaptation plan development.*