



# GREENBOOK

*adapting settlements for the future*

## GUIDELINES FOR THE SELECTION & PRIORITISATION OF ADAPTATION ACTIONS

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## INTRODUCTION

The purpose of the adaptation actions is either to avoid or minimise the expected impacts of climate hazards, restore and maintain systems to be more resilient to future changes, or to retrofit infrastructure to reduce future impact or loss. The Green Book does not prioritise adaptation actions for each settlement and it is the responsibility of each local municipality to select the most appropriate actions to be integrated into its local planning strategies and plans. Solutions to climate change adaptation need to be tailored to local and regional conditions, current and projected future climate risks, and local capacities.

## PURPOSE

The purpose of these guidelines is to provide information to support decision-makers on appraising the effectiveness of the adaptation actions provided in the Green Book and selecting those that are most suitable. These guidelines aim to assist planners to identify the harmful impacts of climate change, particularly the associated risks, while simultaneously exploiting potentially beneficial changes wherever possible. However, it is critical that climate drivers also be considered when evaluating developments and thus the guidelines also identify strategic linkages back to mitigation for longer-term benefits. Recognizing that in the urban environment mitigation and adaptation involve complex and complicated interactions among citizens, government and non-governmental organizations, and businesses, the guidelines provide a roadmap for implementation both in terms of decision-making and timelines.

## HOW TO IDENTIFY AND PRIORITISE ADAPTATION ACTIONS

Identifying and prioritising the appropriate adaptation actions for a specific settlement requires a number of key considerations. Climate change will likely have impacts across scales (i.e. neighbourhoods, suburbs, cities and regions), and thus require adaptation of a range of spatial planning instruments appropriately positioned to address the risks and impacts associated with climate change induced hazards and settlement vulnerabilities within the respective impact areas. Single adaptation actions are less likely to be effective and municipalities will



have to select and develop a basket of measures suitable to local contexts (e.g. geographic, topographic, population profiles) in collaboration with relevant role players.

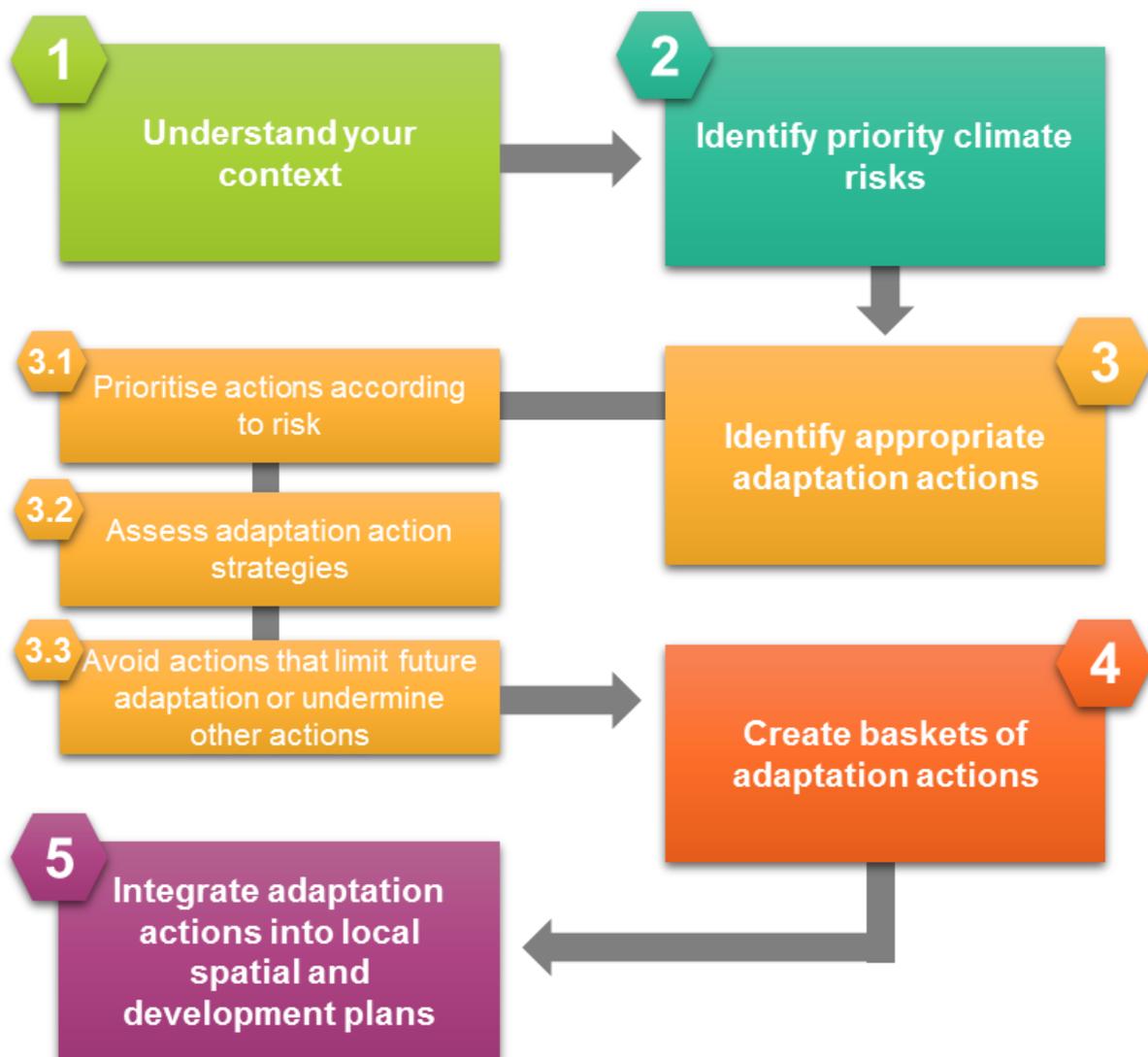
The criteria used to select the actions should consider the potential risk of the hazard, financial feasibility, the potential synergies and co-benefits with initiatives already underway at the local level, and the need from a social, economic and environmental dimension. Priority should be given to actions that can be realistically achieved in terms of cost and expected beneficial outcomes.

The adaptation actions presented in the Green Book should not be performed or implemented decoupled from existing policies (e.g. legislation, funding systems) and the actions should support or contribute to sustainability, resilience and spatial transformation (refer to Box 1).

<b>Box 1: Key aspects that adaptation actions should contribute to or support</b>	
<b>Spatial justice</b>	Ensures people have access to social and economic services, opportunities and choices.
<b>Sustainable settlement patterns</b>	Growth and development within fiscal, institutional and administrative means of the authority. Careful consideration should be taken of special agricultural land and environmental protection in the development of land.
<b>Efficiency</b>	Fit into existing structures/processes/instruments by optimising the use of existing resources and infrastructure, and not be additional burdens.
<b>Resilience</b>	Modify the urban form to reduce risk and vulnerability and increase the ability to recover from shocks.
<b>Good administration</b>	Integrated approach and intergovernmental alignment, such as the enforcement of by-laws.
<b>Spatial transformation</b>	Redress of past spatial inequalities.
<b>Anticipatory planning</b>	Planning that considers the future and is anticipatory rather than reactive and takes into consideration long-term planning.
<b>Flexibility</b>	The ability to change and evolve to changing conditions and allow for multiple uses or functions (e.g. multi-function infrastructure such as retention ponds/parks).



*The goal of this process, outlined below, should be to develop a suite of adaptation actions that will result in effective adaptation whilst minimising the associated costs (financial and other) even in cases of uncertainty in climate change projections.*





## **1. Understand your context**

To understand your local context you need to study your risk profile to understand what contributes to your municipal and household vulnerability. For instance, if you have a growing or declining population, what hazards you are exposed to, and how climate change will impact on local water resources, agriculture and other economic sectors in future. It is important to understand the uncertainty associated with climate change projections (see more information below).

## **2. Identify priority climate risks**

From your local risk profile, you need to identify the climate hazards and impacts that pose the greatest risk. You can identify these risks by determining which hazards pose high and extreme risk in your municipality and settlements based on your risk profile and your local knowledge of the municipality.

## **3. Identify appropriate adaptation actions**

### **3.1 Prioritise actions according to risk**

Once you know which hazards and climate impacts pose the greatest risk in your municipality, you need to identify and prioritise the adaptation actions that will manage these risks. You can filter the list of adaptation actions by the identified priority hazards and climate impacts.

### **3.2 Assess adaptation actions strategies**

You would need to further prioritise your list of adaptation actions by assessing no-regret, low-regret and win-win actions in terms of their cost-effectiveness, the financial and human resource capacity available to implement these, and the multiple benefits or co-benefits these actions would have. You will need to understand what each of these strategies means (see Box 2), and then you can filter your list of adaptation actions by the strategy or strategies that are most appropriate to your context.



**Box 2: Low-regret, no-regret and win-win adaptation actions provide benefits (economic, social or environmental) no matter the level of climate change**

<b>Low-regret actions</b>	Adaptive measures for which the associated costs are relatively low and for which the benefits, although primarily realised under projected future climate change, may be relatively large. These measures require an initial investment.
<b>No-regret actions</b>	Adaptive measures that are worthwhile and deliver net benefits whatever the extent of future climate change. These options are cost-effective and further justified by the high risk of future climate impacts. No-regret actions are often appropriate in the near-term.
<b>Win-win actions</b>	Adaptive measures that contribute to adaptation whilst also having other social, economic and environmental benefits including mitigation.

**3.3 Avoid actions that limit future adaptation or undermine other actions**

Adaptation actions that limit future adaptation to changing risks need to be avoided as they can increase vulnerability or undermine future efforts to address climate change (i.e. maladaptation). Study the costs of the identified adaptation actions to understand the potential negative impacts or implications that specific adaptation actions may have on each other. Climate change adaptation outcomes and goals need to be weighed against one another to manage any conflict between actions.

**4. Create baskets of adaptation actions**

Once you have identified your list or menu of adaptation actions to manage the prioritised risks and climate impacts (and that have other co-benefits beyond managing risk, are cost-effective in your context and that have limited or no negative impacts or implication), you can combine actions with one another to ensure short- and long-term adaptation outcomes. Mutually beneficial or supporting adaptation actions can be grouped together for implementation. Rarely will implementing one action sufficiently address a particular risk or multiple risks. Adaptation actions need to be implemented alongside others that will support and reinforce them. For example, to address the risk of flooding a municipality would need to “determine flood lines”, “enforce flood lines” through land-use management, “visibly demarcate flood lines”, as well as “maintain stormwater systems”.



## **5. Integrate adaptation actions into local spatial and development plans**

To ensure that adaptation actions are implemented, the risk is managed, and local resilience to climate change and its impacts are increased, climate change adaptation needs to be integrated into local planning and projects. Climate change adaptation actions should be included in dedicated climate change response plans, as well as disaster management plans, but they should also form part of IDPs, SDFs, and SDBIPs. By integrating climate change adaptation into existing planning documents, processes and budgets, climate response outcomes can be achieved while achieving developmental outcomes. The adaptation actions in this tool have been designed to be integrated within local planning documents and processes since they align with specific local government mandates and planning functions (such as spatial planning, land-use management, landscape and urban design, environmental planning, and infrastructure and engineering services).