



# Nature Based Solutions - Financing Assessment

The challenge of financing is a widely recognised barrier to the increased implementation of Nature-based Solutions (NBS) in cities. The ambition to upscale the use of NBS is understood to be associated with higher costs of establishment and maintenance, in comparison to traditional approaches. As this investment is usually assumed to be borne by the city budget, this can result in lower ambition for developing NBS strategies.



GrowGreen analysis has identified a great variety of policy instruments that cities can use to deliver on their NBS ambition – many of which do not impose high financial costs for the city. [Financing of NBS in cities](#) developed by Trinomics for GrowGreen gives more information.

GrowGreen proposes a series of steps to effectively plan the financing of NBS Strategies in cities. The

process starts by clearly identifying the scale of costs associated with the different aspects of a city's NBS strategy, followed by an assessment of any avoided costs resulting from the implementation of the strategy, identifying any financing gaps, and finally identifying policy and financing instruments to address those gaps.

## 1. Identify the marginal increase in action

The first step in the process is to identify the increase in NBS implementation proposed by the NBS Strategy, in comparison to what would have occurred in the absence of the Strategy. This includes verification of the number and type of NBS that will be implemented with the delivery of the NBS Strategy. This is best assessed annually considering the Strategy implementation period (e.g. 10 years).

It is important to compare this information against a baseline of the number and type of NBS that would be delivered without the Strategy. For example, if new suburbs are expected to be developed over this time period with NBS included as part of the 'status quo', this should be considered as part of the baseline and will not be attributed to the NBS Strategy. Similarly, continued maintenance of the

current green open space estate is part of the baseline activities and is not a reflection of the strategy.

In contribution to establishing a baseline related to existing NBS in the city, it is a good practice to identify the entity responsible for each additional action, such as the city, the water authority, or residents – however, this may not be known at this stage (and will be considered in later steps). This will assist in developing policy and financing options for the additional actions.

The output of this step is a clear understanding of the change in NBS implementation that the strategy will produce, compared to what would have occurred in the absence of the strategy.



## 2. Cost calculation of the increase in NBS

Following the identification of increased implementation of NBS that the Strategy will produce, the next stage is to estimate the costs associated with that increased implementation. This includes the costs of any capital works (up-front costs such as for constructed wetland earthworks) and property purchases, as well as operating and

maintenance costs including staff costs. As with Step 1, it would be useful to assess this annually over the strategy duration.

The output of this step is a clear estimate of the increased direct costs that the NBS Strategy will produce.

## 3. Assessment of avoided costs through NBS

The implementation of the NBS strategy may provide a range of avoided costs to the city and other entities. It is important to identify and estimate these when considering the financial costs of the Strategy. For example, if investment in NBS can avoid (or even defer) flood mitigation hard infrastructure, the avoided costs should be considered as a saving resulting from the NBS strategy. Similarly, if NBS is resulting in reduced stormwater entering the sewage network and therefore avoiding treatment costs, these avoided costs should be estimated.

Analysis should focus on costs incurred by the City (including identifying which departments benefit and by how much), as these directly affect city budgets and can be directly accounted for. However, it is possible to extend the assessment to calculate savings to other entities (such as private water businesses), particularly if financial transfers from these entities for savings incurred may be possible.

As with previous steps, estimation of avoided costs per year should be undertaken.



## 4. Identification of financing gap

Once a clear understanding of additional actions resulting from the NBS Strategy is made, along with costs and any avoided costs, an estimation of the actual gap between current 'business as usual' funding and the total additional costs of the Strategy can be made.

This is an estimate of total additional costs minus any avoided costs in each year of the Strategy. Adding these over the duration of the Strategy gives an estimate of the total financing gap associated with the Strategy (per year, or in total).

Once this information is established, a proposal for financing the NBS Strategy can be developed.

## 5. Match key actions with policy and financing instruments

The financing proposal for the NBS Strategy will depend on both the scale of the financing gap identified in previous steps, and the types of NBS investments that are expected under the strategy. For example, a small increase in costs produced by the Strategy may be incorporated into city expenditures without a specialised financing strategy. Alternatively, if it is recognised that the Strategy will increase investment costs beyond those that can be incurred by the City, a more proactive investment strategy will be required.

In such cases, it is useful to consider the types of policy instruments that may be used to implement different types of NBS. GrowGreen gives examples of the range of policy instruments used in cities

around the world (including regulatory, market-based and voluntary instruments). For example, if the Strategy proposes an increase in green roofs, a subsidy for green roof construction might be considered to incentivise additional green roof area, sharing additional costs between the city (through the subsidy) and property owners. Alternatively, a regulatory instrument may also be used which requires green roofs on new dwellings or renovations – this option will impose all costs on affected property owners.

A range of financing options may be considered for the different types of investments needed, and an implementation and financing strategy produced to match the scale and nature of the financing gap.



## 6. Implementation of financing strategy

After the identification and selection of policy options for financing the NBS strategy, they must then be implemented. In the case of regulatory measures, these first need to be developed and approved through city decision-making processes. If selected, market-based instruments must also be developed and formalised. The time, cost and

expertise required to develop these instruments will depend upon the options selected and the current regulatory and governance settings of the city. These should not be underestimated however, simple financing solutions are unlikely to be abundantly available to most cities.

## Concluding thoughts

Cities around the world are grappling with the challenges of financing the expanded use of NBS for climate adaptation and many other purposes. However, developing a financing strategy requires a more detailed understanding of the scale and type of NBS proposed for implementation in a city. This

clear understanding of expanded NBS can then be matched with policy and financing instruments, which must be developed to deliver on the ambition. The steps proposed will allow cities to develop a clear and coherent financing response to their NBS Strategies.



Grow Green

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