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Nature-Based Solutions Business Model Canvas Guidebook



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Introduction

What is the Nature-Based Solutions Business Model Canvas?

The Nature-Based Solutions Business Model Canvas is an easy-to-use tool to help you capture in a visual format the business model of your Nature-Based Solution (NBS).

What is a business model? A business model is quite simply the story of your NBS project. 'Business model' is a common term used by enterprises worldwide to explain how the different elements of an enterprise work together to deliver value to a customer and how enterprises make money from this value proposition¹.

The NBS Business Model Canvas is used as a tool to support the initial stages of planning the implementation of NBS in cities. It has been piloted with cities engaged in the Connecting Nature² project.

This guidebook supports cities in using the NBS Business Model Canvas. Further supports available to cities planning NBS include an introductory Webinar on 'Financing, Business Models and Governance of NBS' and an on-site facilitated workshop.

Why do you need a Business Model Canvas for Nature-Based Solutions?

To communicate: NBS are a relatively new concept and sometimes difficult to explain to people who are unfamiliar with the concept. The NBS Business Model Canvas provides a simple way of telling others what you want to do and why, who needs to be involved and how you're going to make it happen. The NBS Business Model Canvas uses language which is widely understood by people from many different backgrounds.

¹ Magretta, J. (2002). "Why business models matter." Harvard Business Review 80(5): 86-92.

² Connecting Nature is a five year Horizon 2020 funded project which supports cities worldwide in the large-scale implementation of Nature-Based Solutions (NBS) addressing societal challenges. For more information:

<https://connectingnature.eu/>

To plan: The NBS Business Model Canvas is a useful first step for individuals or groups in planning the implementation of a NBS project. It helps everyone involved to consider the basic building blocks required to build a successful long-term sustainable project.

To identify new partners: By considering the value that NBS may offer to different groups of people, the NBS Business Model Canvas helps identify potential new partners or beneficiaries that may be interested in getting involved in the planning, implementation or ongoing operation of the NBS.

To explore new sources of finance: Combining reflections on the value of NBS with the identification of new partners helps to identify potential sources of initial NBS financing and/or partners who could assist with financing ongoing costs or contributing to cost reduction.

When to use the NBS Business Model Canvas?

- As a planning tool it is best used following the identification of a potential NBS but before project implementation.
- It is ideal for use between different departments of large organisations to reach an understanding of how NBS can create value for different user groups.
- It may also be used externally with different groups of stakeholders but it works best in this situation when a NBS has been clearly identified.

The NBS Business Model Canvas is based on these three key building blocks but begins with an expansion of the value proposition. The NBS value proposition considers not just the benefits for end-users but also the broader environmental, economic and social value propositions. This is consistent with the EC definition of NBS.

The EC define NBS *“as a way to address societal challenges with ‘solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions”*⁴

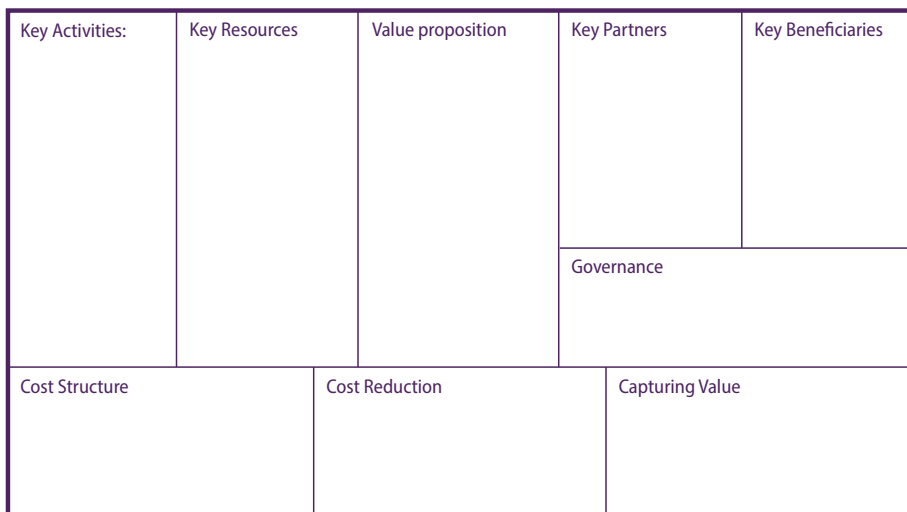


Figure 2 The Nature-Based Solutions Business Model Canvas

⁴ Faivre, N., M. Fritz, T. Freitas, B. de Boissezon and S. Vandewoestijne (2017). "Nature-Based Solutions in the EU: Innovating with nature to address social, economic and environmental challenges." [Environmental Research](#) 159: 509-518.

Adaptation of the Business Model Canvas for Nature-Based Solutions

- Value proposition remains at the centre of the NBS Business Model Canvas but is expanded to consider the environmental, social and economic value propositions.
- The term **Key Beneficiaries** has been used instead of Customer Segments to broaden the consideration of possible 'Customers'. Often when people think of NBS like a park or green space, they consider only the direct end-users i.e. the citizens. They don't consider the other beneficiaries e.g. businesses benefit from proximity to a park, schools and sports clubs benefit from the facilities, the city as a whole benefits from the environmental benefits provided.
- **Key Partners and Key Beneficiaries** have been positioned side-by-side in the NBS Business Model Canvas. This reflects the overlap which sometimes exists between partners and beneficiaries involved with NBS. For example, the community is often a key beneficiary but is also usually an important partner. Local businesses may be a beneficiary and also a key partner.
- **Governance** is a new addition to the NBS Business Model Canvas. This reflects the importance of identifying early on how the NBS will be managed on an operational basis. NBS are often very complex with many different partners and beneficiaries involved. It is important to consider early on in the planning process how different stakeholders will be engaged in ongoing management and operations, and what governance structures are needed to facilitate this.
- **Cost Reduction** is also a new addition to the NBS Business Model Canvas. This reflects the specific characteristics of NBS which sometimes allow for different ways to reduce direct costs e.g. use of volunteers, use of permaculture principles to reduce costs, reducing waste etc.

Challenges of financing and business models for NBS

Phases of financing NBS

Three major phases of financing NBS⁵ have been identified. These phases may reoccur multiple times over the lifetime of a NBS. The three phases are:

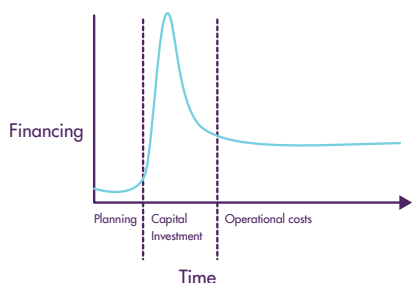


Figure 3 Phases of NBS Financing

- Financing the planning of NBS: The planning of NBS, in particular large scale infrastructure-type projects, can take a long time, involve many organisations and can often be very expensive. The costs of planning are often covered directly by the public sector.
- Financing capital investment in NBS: Usually the highest costs associated with an NBS project are the capital costs associated with implementation. These costs are usually incurred over a short period of time.
- Financing ongoing operational costs: the costs of maintaining and operating NBS are often considerable and occur over a long period of time. Sometimes ongoing costs can be financed through revenue generation, however, in many cases NBS are considered a public good and revenue generation opportunities to finance ongoing operational costs are limited. The ongoing costs of NBS and revenue generation opportunities are core elements to be considered in planning the NBS business model. Recent studies have recommended that the cost of capital investment and the business model of NBS should be looked at and planned simultaneously but in practice that rarely happens⁶.

⁵ Based on studies of 10 exemplars of NBS in the Front-Runner Cities of Connecting Nature and validated in international workshops with other European cities (A Coruna (Spain), May 2018 & Ioannina (Greece) June 2018.

⁶ Toxopeus, H. and P. Friedemann (2017). Characterizing nature-based solutions from a business model and financing perspective. [Naturvation: Deliverable 1.3 Part V](#).

How much do NBS cost?

NBS are a relatively new concept. In 2018 comprehensive data on the current status of financing of NBS has emerged from a number of European research projects⁷. Most of these studies have not differentiated between the different phases of financing so it is assumed that the majority of costs relate to the cost of capital investment.

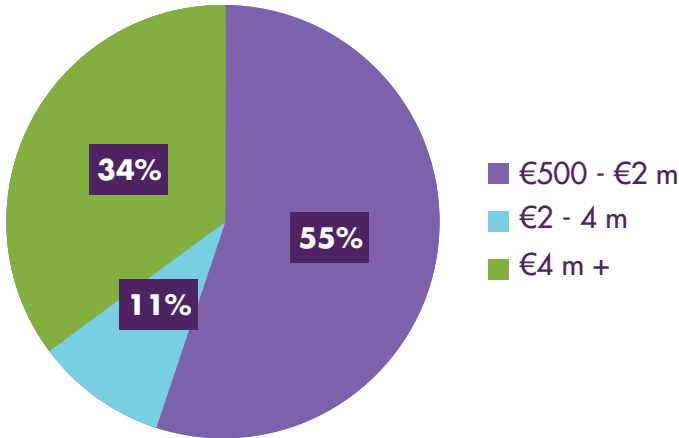


Figure 4 Level of NBS Financing (Naturvation Atlas 2018)

Connecting Nature research⁸ using a database of over 300 NBS exemplars has categorised NBS capital investment financing into five scales of investment: under €2m, €2-4m, €6-8m, €10-12m and over €16m. Their findings show that just over 50% of NBS can be classified as small scale (under €2 million). Interestingly, the next highest category is large scale financing (over €16m). This finding is supported by research emerging from a database of over 1000 NBS exemplars from Naturvation⁹ which shows that 55% of NBS projects require less than €2 million in financing with the next highest category being larger projects requiring financing of over €4 million.

⁷ Naturvation [Atlas](#) accessed in December 2018, Connecting Nature Database (Dushkova & Haase 2018), Nature4Cities Deliverable 1.2

⁸ Haase, D. and D. Dushkova (2018). Report on synthesis, evaluation and lessons learnt in and about nature-based solutions experiments. C. Nature. Berlin, Humboldt University Berlin.

⁹ Data extracted from Naturvation online database <https://naturvation.eu/atlas>

How are NBS financed?

The source of capital financing varies depending on both the ecological domain and the scale of financing required¹⁰. For example, small scale urban agriculture projects like community gardens may have a higher mix of community funding secured through instruments like crowd-funding¹¹ whereas, at the other end of the scale, the financing of large-scale NBS like sustainable urban drainage systems (SUDS) is more similar to public sector infrastructure investment projects¹². Nature4Cities¹³ research found that public financing accounted for the majority of NBS financing with only 9% financing from financial institutions. This was echoed by Naturvation research which shows 74% financing from public sector, only 1% from loan or equity financing and interestingly 8% from the voluntary sector through donations, community funding etc. The findings of Connecting Nature research looking at the financing of 10 exemplars of NBS across the three case study cities are consistent with the quantitative research emerging from Nature4Cities and Naturvation.

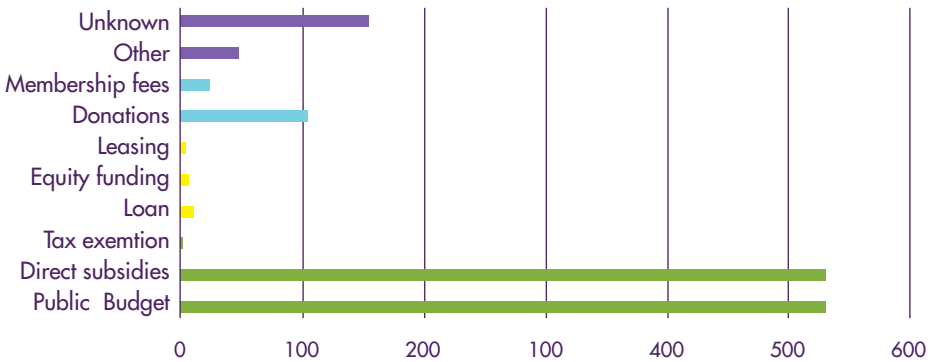


Figure 5 Sources of NBS Financing (Naturvation Atlas 2018)

¹⁰ Toxopeus, H. and P. Friedemann (2017). Characterizing nature-based solutions from a business model and financing perspective. [Naturvation: Deliverable 1.3 Part V](#).

¹¹ Calic, G. and E. Mosakowski (2016). "Kicking Off Social Entrepreneurship: How A Sustainability Orientation Influences Crowdfunding Success. *Journal of Management Studies*." [Journal of Management Studies](#) 53(5): 738–767.

¹² Bryson J, P. A., Walsh C, Foxon TJ, Bouch C, Dawson R, (2014). Infrastructure Business Models (IBM) Working Paper.

¹³ Nature4Cities Deliverable 1.2 – NBS Implementation Models Typology (2018) Principal author: Aitziber Egusquiza, Tecnalia <https://www.nature4cities.eu/n4c-publications-and-results>.

Specific information about financing in relation to the second phase of NBS i.e. financing ongoing operational costs is more difficult to find. Literature in the field of financing and business models of nature-based solutions is recognised as nascent¹⁴ so further studies are needed in this area. In the field, this information is also difficult to collect as operational costs are often dispersed across many public sector agencies e.g. building costs covered by heritage department, waterways by water authorities, general maintenance by parks department etc.

Governance models of NBS

Governance has been identified as one of the biggest challenges to the successful implementation of NBS. Governance in the context of NBS has been defined by Nature4Cities¹⁵ as the **“collective action arrangements designed to achieve the implementation of NBS”**. Nature4Cities identify five main clusters of governance models found in their study of 56 NBS case studies across Europe. These five clusters are:

Cluster 1 ‘Traditional Public Administration’

: In the most traditional form this would include hierarchical governance structures and centralised government control of NBS but could also include measures such as participatory planning and participatory budgeting;

Cluster 2 ‘New Public Management’

: NBS in this cluster are typically characterised by an emphasis on ‘public-private partnerships’ and the corresponding decline or ‘hollowing-out’¹⁶ of government services.

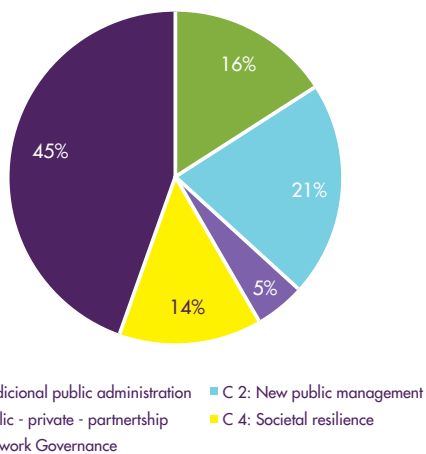


Figure 6 NBS Governance Models (Nature4Cities)

¹⁴ Sousa-Zomer, T.T. and P.A. Cauchick Miguel (2018). "Sustainable business models as an innovation strategy in the water sector: An empirical investigation of a sustainable product-service system." Journal of Cleaner Production (171 Supplement).

¹⁵ Nature4Cities Deliverable 1.2 – NBS Implementation Models Typology (2018) Principal author: Aitziber Egusquiza, Tecnalía <https://www.nature4cities.eu/n4c-publications-and-results>.

¹⁶ Hood, C. (1991). "A public management for all seasons?" Public Administration 69: 3-19.

Cluster 3 'Private-private partnerships' is a new type of governance model identified by Nature4Cities characterised by a lack of government involvement. This would include for example sole governance of the NBS by private sector or community organisations, joint community-private sector co-governance, Sustainable Local Enterprise Networks (SLEN) etc.

Cluster 4 'Societal resilience' is another type of NBS governance model characterised by a high level of community leadership in governance with a responsive, supporting, low-level role played by government.

Cluster 5 'Network Governance' recognises the necessity to engage many different actors in service delivery and the complexity involved in managing such networks effectively. Collaborative and adaptive approaches to co-governance and co-management are key characteristics of this type of governance model.

Challenges to Financing and Governance of NBS

Connecting Nature research has identified the following five major challenges to innovation in NBS financing, business models and governance.

1. **Focus on securing capital investment for the NBS** without due consideration of the sustainability of the NBS business model. This leads to a lack of planning related to the financing of ongoing operational costs and/or consideration of the optimal governance model for the NBS.
2. **Path dependency** on the same sources of capital financing for NBS. Today NBS are mostly funded from public sources (city, regional, national, European). The pressure to meet a variety of public funding requirements has led to the emergence of 'Frankenstein' projects which try to satisfy multiple funding objectives but ultimately compromise on the original NBS objectives.
3. **'Silo' gaps:** Internally there is often a lack of communication and strategic alignment between different public sector departments in relation to NBS. The priorities of the environmental and planning departments of local government who are often responsible for the implementation of NBS are not always well aligned with the priorities of the departments responsible for finance or maintenance. There is a lack of common language in relation to the value of NBS.

4. **Knowledge gaps:** Internally there is often a lack of financial, governance and business model expertise in the environmental and planning departments of local government responsible for NBS. This can contribute to path dependency on conventional sources of financing and 'silo' gaps between departments.

5. **Complexity of governance hindering innovation in business models:** NBS often involve multiple public agencies, NGOs, residents in planning and implementation. It is challenging to align different stakeholders to a common vision and engage stakeholders in ongoing governance and business model arrangements.

How does the NBS Business Model Canvas address these challenges?

The NBS Business Model Canvas helps to address these challenges by:

1. **Focusing on business model planning** – the NBS Business Model Canvas reverses the focus on financing capital investment first and starts with business model planning for sustainability.

2. **Broadening the value proposition** – the NBS Business Model Canvas considers environmental, social and economic values, leading to the identification of new stakeholders and alternative ways of capturing value. This may also lead to the identification of new sources of financing.

3. **Bridging 'silo' gaps** – the NBS Business Model Canvas provides a visual communication tool and a common language to bridge internal communication gaps in particular between environmental planners and the finance, business and investment community.

4. **Identifying knowledge gaps** – the NBS Business Model Canvas leads to the identification of knowledge gaps in the business model process and facilitates follow up actions related to capacity building and reflexive learning.

5. **Governance models** – The NBS Business Model Canvas enables the clear identification of key stakeholders to be involved in ongoing operations and management. It questions the optimal governance structure required to engage the identified stakeholders.

Part I: The Value Proposition of NBS

Value proposition

Trade-offs?

Practical tips on using the NBS Business Model Canvas

It is recommended to use four different coloured post-its to capture the environmental, economic, social and direct user propositions that will be explored in all segments of the canvas. Align the same coloured post-its across the different segments of the canvas to highlight connections.

Use of Example:
Throughout this guidebook, an example of a NBS has been used to illustrate the different building blocks of the NBS Business Model Canvas. The example used is that of a NBS project to increase tree coverage in an urban community.

Key Activities:	Key Resources	Value proposition	Key Partners	Key Beneficiaries
			Governance	
Cost Structure		Cost Reduction		Capturing Value

Figure 7 Part I The Value Proposition

What is the Value Proposition of NBS?

The first part of the NBS Business Model Canvas to be completed is the Value Proposition.

The core question to be considered is what value does this NBS offer to the different groups of beneficiaries?

In the case of NBS, it is important to look beyond the obvious and consider:

- What is the Environmental Value Proposition? How will the NBS help address key environmental challenges at community, city or regional level? E.g. increased tree cover will lead to decreased air pollution, reduced flooding, reduced heat island effect and increased biodiversity.
- What is the Social Value Proposition? How will the NBS help address important social challenges at community, city or regional level? E.g. increased tree cover will increase the health of citizens by reducing air pollution leading to reductions in health conditions such as asthma.
- What is the Economic Value Proposition? How will the NBS help address priority economic challenges at community, city or regional level? E.g. more tree cover will improve the attractiveness of the area for businesses and lead to an increase in property prices and related taxes. Opportunities may arise for new jobs/enterprises related to delivery and maintenance of trees.
- Finally, consider if there are any other direct or indirect value propositions arising from the NBS or any direct end-user benefit which hasn't been considered e.g. if fruit trees are planted, this may lead to a value for urban agriculture or direct end-user value from picking fruit for consumption.

Consider Trade-offs between Value Propositions

The last part of this exercise considers potential trade-offs between the different Value Propositions. Consider in turn:

- Does the Environmental Value Proposition generate any potential negative impacts on the Social or Economic Value propositions? In our example, increased tree cover may lead to concerns about public safety (negative social value) or access to parking spaces in retail areas (negative economic value).

- Does the Social Value Proposition generate any potential negative impact on the Environmental or Economic Value propositions? In our example, more people using tree-covered areas could result in increased noise pollution (negative environmental value).



Figure 8 Team Poznan working on their Value Proposition

- Does the Economic Value Proposition generate any potential negative impact on the Environmental or Social Value propositions? In our example, increased property prices could lead to gentrification and lack of housing affordability for lower socio-economic groups (negative social value).
- Any other trade-offs – in our example, use of land for urban agriculture reduces availability for other economic uses.

Depending on the time available, this exercise can be extended to identify priorities, acceptable levels of trade-offs and mitigation measures to address trade-offs.

Part II: Value Creation & Delivery

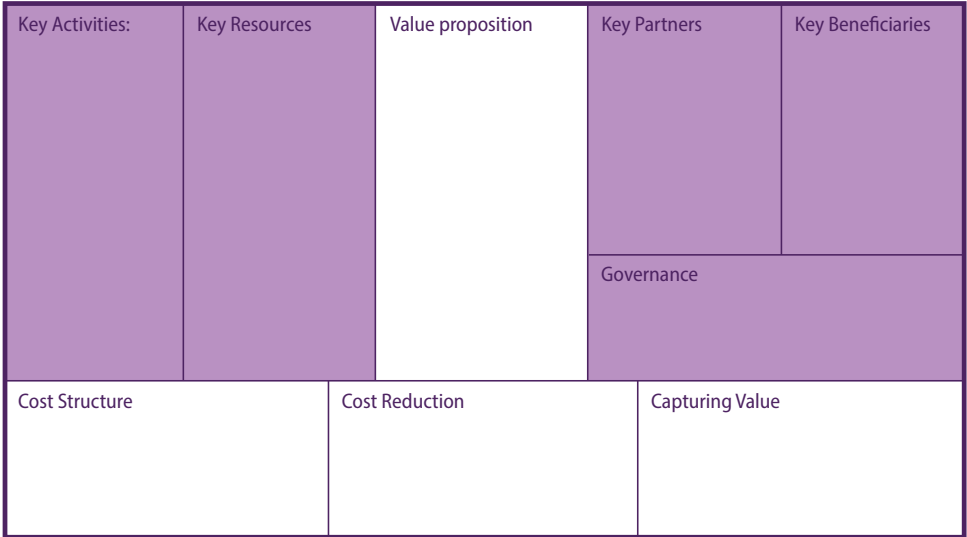


Figure 9 Part II Value Creation & Delivery

The second part of the NBS Business Model Canvas to be completed relates to Value Creation and Delivery. On the left hand side of the Value Proposition consider:

Key Activities: What are the key activities required to deliver the Value Proposition?

- What actions or key services are required to deliver the Environmental Value Proposition? Using our example, a tree planting and maintenance programme is a key activity. Monitoring the impact of the NBS on air pollution is another key activity.

- What actions or key services are required to deliver the Social Value Proposition? Using our example the Department of Health takes actions to monitor the impact of increased tree planting on community health.
- What actions or key services are required to deliver the Economic Value Proposition? In our example, this may include support programmes to upskill existing enterprises to deliver and maintain trees, incentives for start-up/job creation.
- What actions or key services are required to deliver any other direct or indirect value propositions identified from the NBS? In our example, an urban agriculture programme related to fruit trees may be an additional action.

Key Resources: What are the key resources needed to deliver the Value Proposition?

Consider this from the different NBS value perspectives:

- What resources are needed to deliver the activities identified above relating to the Environmental Value Proposition? In our example, space to plant trees is required, technical advice on what type of trees to plant, resources to deliver and maintain trees, budget for tree planting and maintenance, community buy-in etc.
- What resources are needed to deliver the activities identified above relating to the Social Value Proposition? In our example, measuring the impact of a tree planting programme related to health will require budget and expertise.
- What resources are needed to deliver the activities identified above relating to the Economic Value Proposition? In our example, budget/expertise for support programmes to upskill existing enterprises to deliver and maintain trees, incentives for start-up/job creation.



Figure 10 Team Genk working on their NBS Business Model Canvas

- Finally what resources are needed to deliver the activities identified above relating to Other Value Proposition? In our example, budget/expertise to plan and deliver an urban agriculture programme related to fruit trees is required.

Key Partners: Who are the Key Partners required to deliver the Value Proposition?

On the right hand side of the Value Proposition, consider the Key Partners required to deliver the Activities and Resources identified on the left hand side of the Value Proposition. Then, look at the Key Beneficiaries of the NBS Value Proposition. Sometimes NBS Key Partners will also be Key Beneficiaries. In our example, the community will be the main beneficiary of the health benefits of a tree planting programme and the community may also be a key partner in maintaining the trees reducing the cost of ongoing operations.

Looking back at the Activities and Resources section, consider for each of the headings who are the main partners required to deliver both Activities and Resources. Try to be as specific as possible at this stage as this will help to guide future actions to connect with partners.

- **Environmental:** Using our example, Key Partners required include the Department of the Environment, Forestry Agency and local community partnerships. The Forestry Agency have programmes, budget and expertise for tree planting and maintenance programmes. The Department of the Environment can provide expertise on monitoring air quality and local community partnerships can facilitate community engagement.
- **Social:** In our example, Key Partners required include the Department of Health and community organisations. The Department of Health may have programmes, budget and expertise to monitor the impact of tree planting on improved community health. Local community partners are essential to raise awareness and engage the local community.
- **Economic:** Key Partners required in our example are the City Innovation Agency. They can deliver support programmes to upskill existing enterprises and provide incentives for start-up/job creation related to the NBS.

- Other: Key Partners required in our example are existing Community Co-operatives supporting Urban Agriculture who can provide expertise and advice.

Key Beneficiaries: Who are the Key Beneficiaries of the Value Proposition?

Considering the different Value Propositions and the range of Activities identified, who are all the possible Beneficiaries? Consider both direct end-user Beneficiaries e.g. residents in the community and co-beneficiaries e.g. the business community.

- Environmental: Using our example, Key Beneficiaries include residents in the local community who will benefit from better air quality. The city as a whole will benefit from decreased air pollution, reduced flooding, reduced heat island effect and increased biodiversity. The Department of Environment and Forestry will benefit indirectly as the NBS will help to achieve their goals.



Figure 11 Team Glasgow working on their NBS Business Model Canvas

- Social: In our example, Key Beneficiaries include residents in the local community who will see increased health benefits from the improved environment. The Department of Health will benefit indirectly from increased knowledge on the impact of tree cover on health and reduced expenditure on illnesses related to poor air quality.
- Economic: In our example, Key Beneficiaries include residents and businesses in the local community who may see an increase in their property value as a result of the NBS.
- Other: In our example, Key Beneficiaries include community groups and residents engaged in community co-operatives.

Governance: How will the NBS be managed and operated on an ongoing basis?

Consider what type of governance model is most appropriate for the NBS given the different activities, partners and beneficiaries identified:

- Would a 'Traditional Public Administration' model be the best fit? This means the public sector is primarily responsible for planning, implementation and ongoing management activities but they may engage citizens through activities such as participatory planning processes and participatory budgeting.
- Would a 'New Public Management' model be the best fit? This means the public sector and the private sector partner in the implementation of the NBS. Consider if there are appropriate legal structures to facilitate this type of governance model in your city.
- Would a 'Private-Private Partnership' model be the best fit? In this case, the public sector would step back and facilitate sole governance of the NBS by private sector or community organisations. Consider what type of legal structures would facilitate this type of model in your city.
- Would a 'Societal Resilience' model be the best fit? In this model the lead actors are community organisations and the public sector plays a responsive, supporting, low-level role. Consider what type of legal structures would facilitate this type of model in your city.
- Would a 'Network Governance' model be the best fit? In this case many different types of actor may be involved in many different ways in the implementation of the NBS. Consider what type of legal structure would facilitate this type of model in your city.

The governance section of the NBS Business Model Canvas should be considered as a 'jumping off' point to stimulate further more detailed discussions about what (if any) changes are needed to engage different actors in the governance of NBS.

Part III: Value Capture

Key Activities:	Key Resources	Value proposition	Key Partners	Key Beneficiaries
			Governance	
Cost Structure		Cost Reduction	Capturing Value	

Figure 12 Capturing Value

In the third part of the NBS Business Model Canvas, the costs associated with the activities and delivery of the NBS are considered.

Tip: This section of the Business Model Canvas should try to draw on the previous sections in terms of identifying different Partners or Beneficiaries who may be able to contribute to reducing the Cost Structure or contributing to Revenue Generation.

Cost Structure: What are the ongoing costs of delivering/maintaining the NBS?

Taking into account the different Activities and Resources required to deliver the Value Propositions, identify the most important Cost Categories. In our example, ongoing costs are primarily related to personnel costs (cost of personnel to maintain the trees, cost of experts to deliver ongoing programmes related to environmental or health monitoring or public awareness and engagement) and cost of production (e.g. maintenance materials). Connecting Nature research has shown that very often the importance of ongoing community animation and engagement activities is underestimated as are the costs associated with it. If there is sufficient time for further analysis, consider:

- What are the fixed costs associated with the NBS? In our example, fixed costs are related to the personnel cost of a team of gardeners undertaking annual maintenance work (costs don't vary regardless of the level of activity).
- What are the variable costs? In our example, variable costs are related to the number of trees which need to be replanted each year (may vary) or the quantity of fruit to be harvested from the trees (may vary).



Figure 13 Team Poznan working on their NBS Business Model Canvas

- Is there scope for economies of scale? In our example, economies of scale may arise if trees or materials are bought in bulk and therefore a discount is applied.

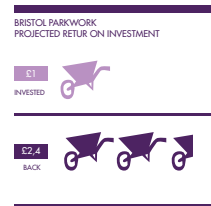
Cost Reduction: How can NBS costs be reduced?

Nesta studies¹⁷ have shown that one way of increasing the viability of NBS such as parks is to consider how ongoing costs can be reduced. Consider for example:

¹⁷ Ragoonanan, L. (2016). Learning to rethink parks, Nesta.

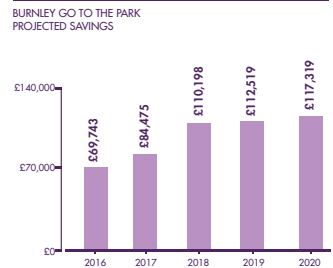
- Are there opportunities to collaborate with other social service providers to deliver services which may help to reduce the costs of park maintenance?

Case study: Bristol ParkWork¹⁸ ran a series of eight-week training programmes in parks for people with limited skills or employment experience. The tasks were carefully selected to build participants' employability at the same time as improving parks.



- How can volunteers reduce the costs of maintenance?
- How can changes in planting techniques reduce the costs of maintenance?

Case study: Burnley's 'Go to the Park'¹⁹ project brought together a range of less expensive parks maintenance and planting techniques, along with a volunteering programme. Introducing changes such as perennial planting and wildflower meadows saves on parks maintenance and increases biodiversity.



Capturing Value: How can the value of NBS be captured?

In the original Business Model Canvas, Capturing Value describes how enterprises make money from their value proposition. Generating direct revenue from NBS may be a viable option for some types of NBS e.g. an annual concert in one Irish park generates €500k in annual revenue. Urban green infrastructure like green roofs or green walls are also usually able to generate direct revenue streams e.g. payment by private residents, housing developers or private businesses. Urban agriculture may be able to generate some revenue for example, through sales of surplus produce.

¹⁸ Source: Nesta (2016). "Learning to rethink parks."

¹⁹ Source: *ibid.*

For other types of NBS generating direct revenue is challenging. This is particularly the case where the output is considered to be a shared 'public good' e.g. improved environmental benefits from green spaces, trees or parks. Usually funding for such public goods comes from public sources e.g. European, national or local funding incentives related to environmental or social benefits. In order to access such funding it is important to be able to capture the value created through relevant indicators e.g. indicators to measure air pollution, indicators to measure impact on improved health or well-being. Some of the economic indicators are summarised in the box below.

Economic indicators:

- Increase in value of land (commercial/residential) close to parks;
- Increase in house prices (property related tax);
- Increase in commercial property value (property tax & rates charges);

Contribution to local economy:

- On-site businesses benefit most from increased footfall to NBS;
- Technology transfer (NBS/UGI technologies/energy generation), upskilling of existing firms;
- New job and enterprise creation (eco-tourism), emerging clusters, new market creation (incentives & subsidies);
- Increase in attractiveness of area for new business (inward investment & start-up environment);

Market prices:

- How much individuals generate in income or save in costs by producing their own food (urban agriculture) or reducing their energy costs (green roofs);
- Use of parks as CO2 sinks.

In this section, revisit the Value Proposition, the Activities, the Partners and the Beneficiaries and consider the following questions:

- What are the direct revenue generation possibilities from the Activities planned?
- What indicators can be used to capture 'non-monetary' value e.g. environmental indicators, social indicators (including health and wellbeing where relevant), economic indicators?
- Consider which Partners interests are aligned with achieving these 'non-monetary' indicators. Are there opportunities to co-create joint programmes with these partners to reduce or share the cost of delivery? Are there funding opportunities?
- Consider alternative funding sources like philanthropy, CSR, crowd-funding...?

From business model to financing NBS capital investment

The NBS Business Model Canvas addresses three core elements: Value Proposition, Value Creation and Delivery, and Value Capture. Addressing these three elements helps capture the narrative of the NBS and communicate this narrative to others. The NBS Business Model Canvas also address the planning required to meet the **ongoing costs of maintaining a NBS**.

The NBS Business Model Canvas can also be used as the first step in identifying sources of financing for the **capital investment costs** required in the initial development of the NBS (see Figure 3 and Figure 14). Connecting Nature research shows that cities can be path-dependent on the same sources of funding year after year. If these funding streams are reduced or the funding structure changes, NBS projects may be put on hold or cancelled. Alternatively NBS projects may be altered to meet new funding requirements resulting in the emergence of so-called 'Frankenstein' projects.

The NBS Business Model Canvas helps stimulate innovation and identify alternative paths for funding such as philanthropic or corporate donations. One example in the city of Genk shows an artistic foundation investing over €8 million in a NBS project related to biodiversity. Other case studies have shown Corporate Social Responsibility (CSR) leading to NBS financing. In the city of Genk a local Football Club committed to invest €7.4 million in a linear park development. In Glasgow, crowd-funding has been used successfully by communities to raise NBS financing. These sources of financing may help to leverage public or private sources of financing. Increasingly blended financing solution are emerging combining multiple sources of public, private and/or philanthropic contributions.

Consider the wider Value Proposition and how this connects with Key Partners and Beneficiaries:

Is there potential among Key Partners and Beneficiaries to co-invest in the capital costs of getting an NBS up and running?

- Do any elements of the wider Value Proposition align with different sources of capital investment funding opportunities at regional, national or European level?
- If the capital investment costs are small (below €2m), are alternative sources of financing an option e.g. crowd-financing, CSR grants, third sector funding programmes?
- If the capital investment costs are significant (above €10m), is there an interest in exploring external sources of financing e.g. NCF, green bonds or blended financing options?

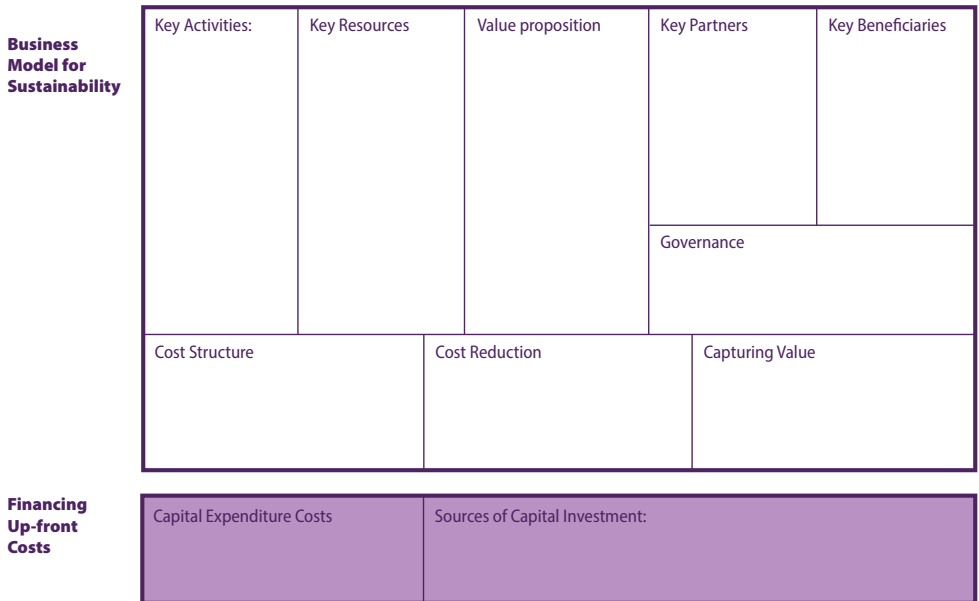


Figure 14 Financing Initial Investment in NBS

Next steps

The NBS Business Model Canvas is being used as a tool to support the initial stages of planning the implementation of NBS in the cities engaged in the Connecting Nature project.

Academic partners and city partners are using reflexive monitoring methodologies to monitor the experience of cities in translating the NBS Business Model Canvas into learning questions, follow up actions and outcomes.

Cities outside the Connecting Nature consortium are welcome to download the NBS Business Model Canvas toolkit and guidebook from the project website. Customised webinars and on-site business planning workshops can be delivered on request.

We welcome your feedback on the use of the NBS Business Model Toolkit and any suggestions for improvements.

For further information contact: info@connectingnature.eu

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