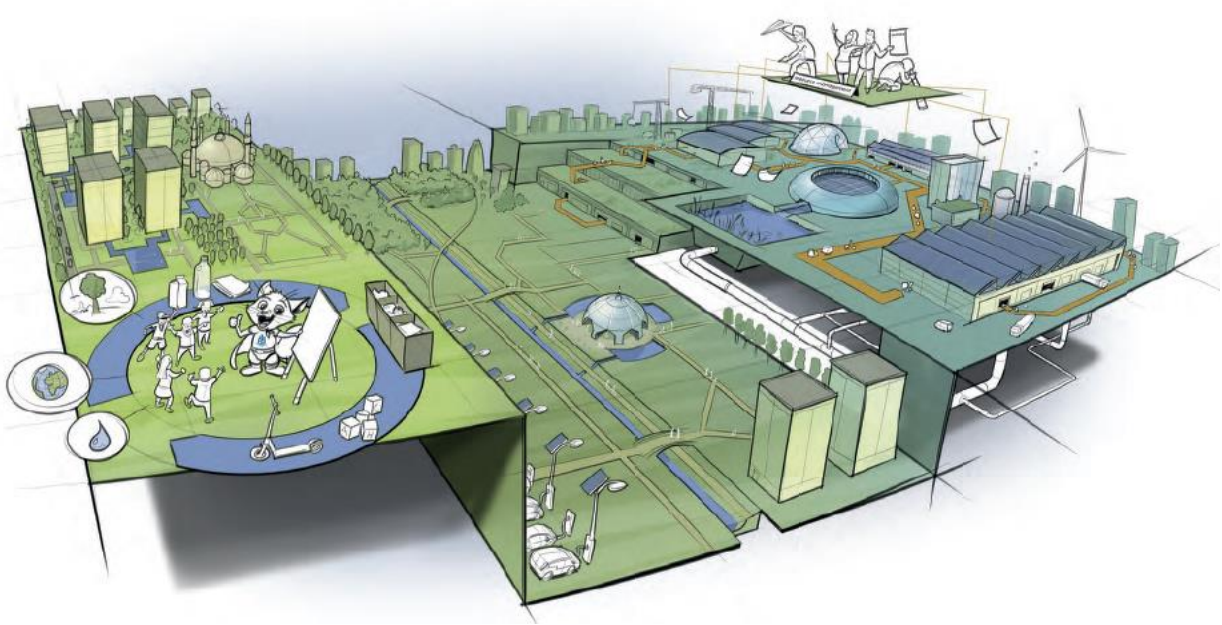
Roadmap to Başakşehir 2050: The city of happiness

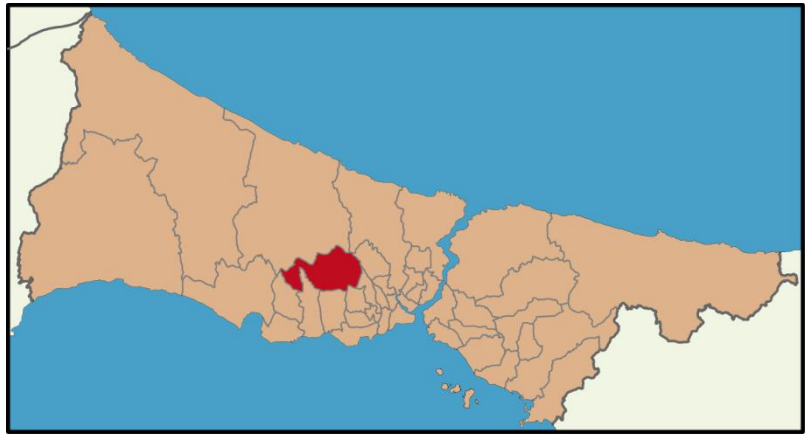


Presentation for the Joint roadmap workshop

30.09.2020 – 01.10.2020

This project has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement No. 730052 | **Topic: SCC-2-2016-2017: Smart Cities and Communities Nature based solutions**

ABOUT BAŞAKŞEHİR



- One of 39 İstanbul Metropolitan Municipalities
- Total Area 105 km2
- Population of 450.000
- 9 % are refugees and immigrants
- Green space per capita ~18 m2
- Aim is to have 25 m2 Green & Blue per capita

ABOUT BAŞAKŞEHİR LIVING LAB

BASAKSEHIR LIVING LAB ISTANBUL

European Network of Living Labs

- ENoLL – May 2012
- FACILITY – Jan. 2014

- Belongs to Başakşehir Municipality
- 3,000 m²
- Green building
- ICT & Industrial Design focus
- Incubates 80 seats
- Has incubated around 98 Startups
- Has provided more than 400 training courses
- Provides
  - Real Test environments
  - User Experience showroom
  - Design support
  - E-Lab
  - 3D Printing
  - Trainings
  - External Fair support
  - Meetings with investors
  - Mentoring

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Başakşehir NBS interventions

- Which NBS (green & blue) can improve the green space quality, connectivity and accessability in the **Eşkinoz Valley**?

- Which NBS can maximise the **use of rain water** and (re-cycled) waste water to achieve 0-waste in the buildings of municipality?

- Which NBS can increase **biodiversity** and at the same time enhance their educational aspect in Şamlar park?

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Başakşehir Governance intervention

- How to create an organisational unit in the municipality that is focused on environmental and NBS issues to allocate clear responsibility and embed sustainability?

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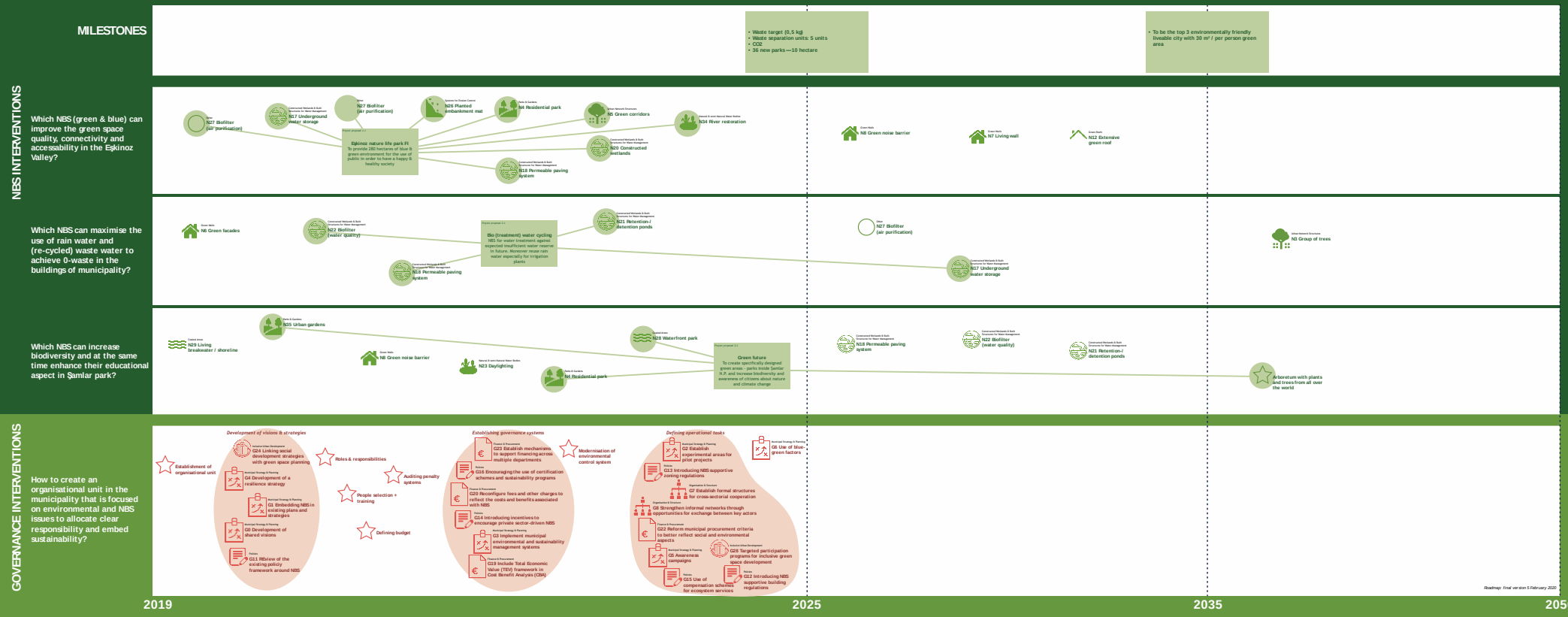
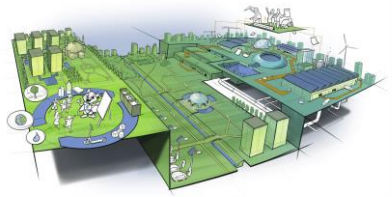
Başakşehir roadmap to 2050

ROADMAP — NATURE-BASED SOLUTIONS FOR CLIMATE & WATER RESILIENCE



Vision: final version 30 April 2020

Başakşehir 2050: Smart city of happiness and well-being



Desired future scenario

In 2050 Başakşehir is a green and sustainable city, where people live in harmony with nature and enjoy green spaces, smell the fresh air and hear the sounds of nature. The city is well-planned with a balance between buildings and uninterrupted nature.

People enjoy the trees along paths, green river beds and water areas, which invite walking and cycling. People are environmentally aware and protect nature as their home.

The city is leading in waste recycling with nature-based solutions, resulting in zero waste. Water is valued and not one drop is wasted. The city is self-sufficient in energy from renewable sources, and people respect the use of water, energy and other natural (re)sources.

Key elements in the desired future scenario:

Sustainable awareness and behaviour

In 2050 the people of Başakşehir respect natural sources and act responsibly in the use and re-use of water, waste and energy. Through an educational programme, children know the value of resources from an early age, and understand the positive effects of nature and a clean environments on their daily lives and health. Houses are designed with solutions to support sustainable behaviour and include, for instance, separation bins for waste collection and filtering taps for drinking water.

Accessible green and water areas

The city planning concept guarantees shared accessibility to green spaces within walking distance of people's homes. Houses are built using the slopes and integrating green areas, accessible for people to enjoy or use for urban farming. Parks and "wild nature" are always nearby. They contain water retention ponds, and offer people the necessary space for recreation and sports.

Clean and sustainable industrial areas

Nature-based solutions contribute to shared services for circular systems in industrial areas. A 'resource management board' provides incentives and advice to companies to use less resources or to use natural resources. By coordinating companies' needs, they can together create more circular systems. The resource manager can play a role in matching supply and demand.

All water (rainwater, industrial waste and chemically polluted water) is collected and treated in the area and re-used for industrial purposes. Industrial waste management is used to optimise re-use and recycling as well as maximising the use of renewable energy, e.g. by solar panels on the roofs of industrial buildings.

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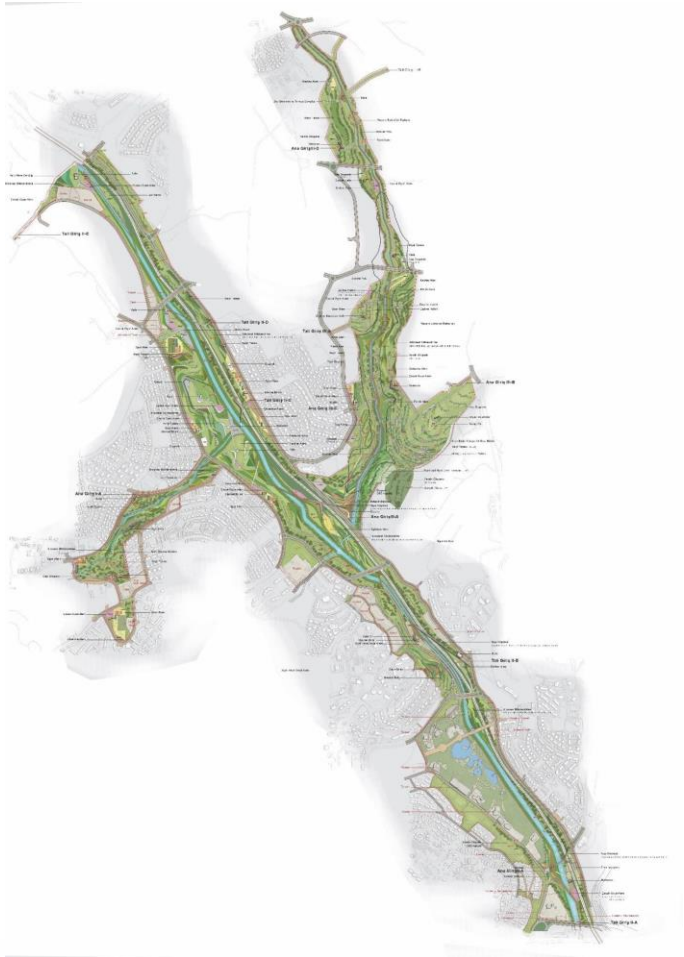
Başakşehir NBS Project 1 – Eşkinoz Valley

RESTORING THE BAREN VALLEY INTO A BLUE & GREEN SPACE FOR THE WELL-BEING OF CITIZENS AND ENVIRONMENT



- Total Area 280 hectars

Objectives

- To increase green & blue of municipality by around 25-30 %
- To use rain water and treated river water for green & blue
- To prevent floods
- To increase the variety of habitat
- To improve the air quality

NBS Solutions Used

- N4 - Residential Parks
- N5 – Green Corridors
- N11- Intensive Green Roof
- N17- Underground Water Storage
- N18- Permeable Paving System
- N20- Constructed Wetlands
- N22- Biofilter for Water Quality
- N26- Planted Embankment Mat
- N27- Biofilter for Air Quality
- N34- River Restoration

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Başakşehir NBS Project 1 – Eşkinoz Valley (Lower Section)

Land usage objectives

- To provide green and walking area
- To provide culture exhibition area
- To increase awareness of different plantations
- To increase the variety of habitat
- To improve the air quality

NBS Solutions Used

- N5 – Green Corridors
- N17- Underground Water Storage
- N18- Permeable Paving System
- N20- Constructed Wetlands
- N26- Planted Embankment Mat
- N34- River Restoration

Status: Land expropriation work is continuing

Başakşehir NBS Project 1 – Eşkinoz Valley (Mid Section)

Land usage objectives

- To provide cycling area
- To provide open meeting area- social
- To provide green space for activities

NBS Solutions Used

- N4 - Residential Parks
- N5 – Green Corridors
- N18- Permeable Paving System

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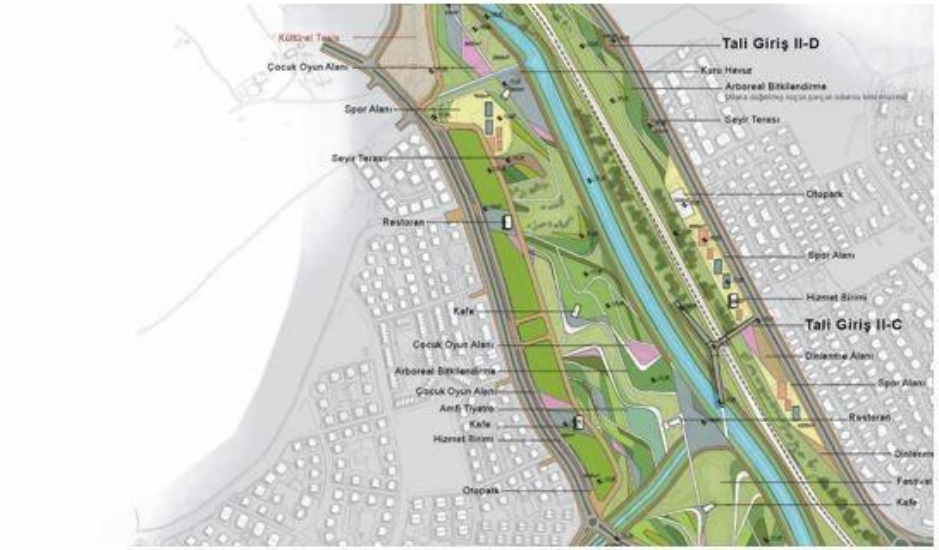
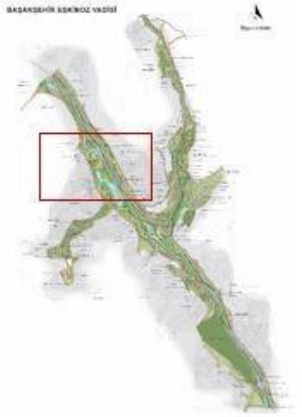
Başakşehir NBS Project 1 – Eşkinoz Valley (Mid-Top Section)





Land usage objectives

- To provide an area of Blue, Green, Sporting and culture
- To provide an environmentally friendly culture/Social building

NBS Solutions Used

- N4 - Residential Parks
- N5 – Green Corridors
- N11- Intensive Green Roof
- N18- Permeable Paving System
- N20- Constructed Wetlands
- N22- Biofilter (Water)
- N27- Biofilter (Air Purification)

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Başakşehir NBS Project 1 – Eşkinoz Valley (Top Section)

<u>Land usage objectives</u>

- To provide a walking area
- To provide a nature playground area for children made from
  - Natural stones
  - Wood
  - Green plants
- To provide an natural socializing, speaking and training area

<u>NBS Solutions Used</u>

- Natural products like wood, stone, plants
- N5 – Green Corridors
- N20- Constructed Wetlands
- N22- Biofilter for Water Quality
- N34- River Restoration

Başakşehir NBS Project 1 – Eşkinoz Valley

Land usage objectives

- To provide a living in the nature environment
- To provide tracking area
- To improve bio-diversity

NBS Solutions Used

- N4 - Residential Parks
- N5 – Green Corridors
- N20- Constructed Wetlands
- N22- Biofilter for Water Quality

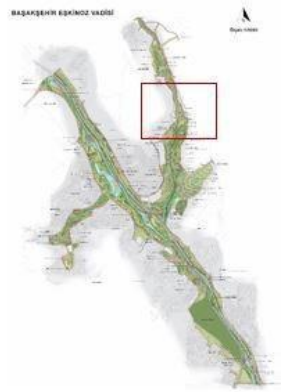
Başakşehir NBS Project 1 – Eşkinoz Valley (Right Valley Mid Section)

Land usage objectives

- To provide a green playground and physical activity area
- To provide tracking area
- To improve bio-diversity

NBS Solutions Used

- N4 - Residential Parks
- N5 – Green Corridors



Başakşehir NBS Project 1 – Eşkinoz Valley (Right Valley Top Section)

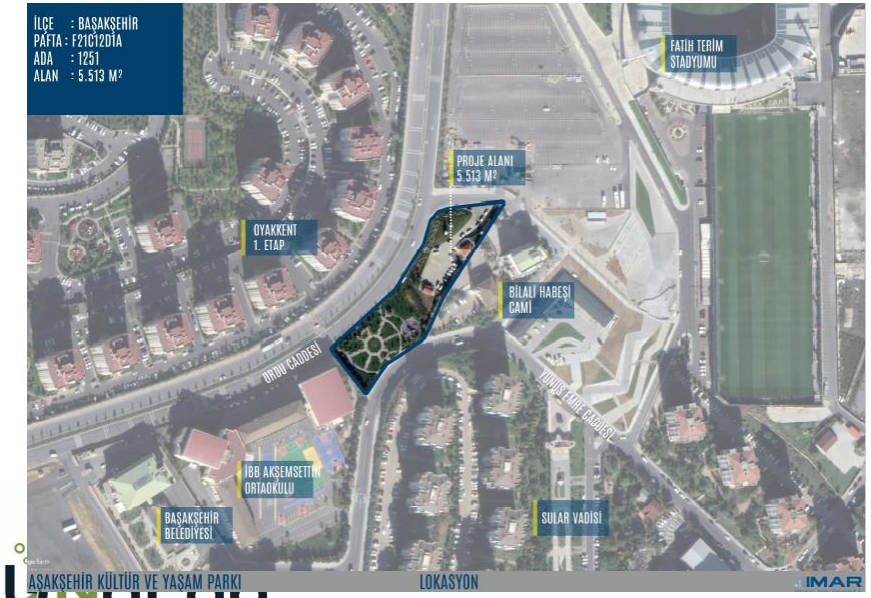
<u>Land usage objectives</u>

- To provide a green playground and physical activity area
- To provide tracking area
- To improve bio-diversity

<u>NBS Solutions Used</u>

- N4 - Residential Parks
- N5 – Green Corridors

Başakşehir NBS Project 2 (Başakşehir Culture & Wellbeing Center)



Objectives - **Grey Water Biological Treatment and Re-Use**

- Re-use of water in the building
- Re-use of water for the garden

About the Center

- The total land area -5.513 m2
- Building sits on a land area of 1.886 m2
- Expected Daily visitor is 1.700-2.000
- Building contains
  - Swimming Pool
  - Fitness center
  - Gymnasium
  - Showers
  - Workshops
  - Library
  - Konferans and work rooms
  - Cafetaria
  - Youth center: class rooms, amateur green room
  - Woman center with class rooms, workshop rooms, mum and kids library
- Expected Return – 800 m3 of re-used water/mth (40% of grey water)

Status: Construction will start in 2021

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Başakşehir NBS Project 2 (Başakşehir New Municipality Building)

Objectives - Rain Water Filtering, Storage and Re-Use

- Using the water for irrigation of about 8.000 m2 Green area around the municipality building and possibly the park nearby
- Expected return – 60 % reduction in city water use

NBS Solutions

- N17- Underground Water Storage
- N18- Permeable Paving system
- N21- Retention Ponds
- N22- Biofilter Water Quality

Status:

- Rain Water Project is being prepared
- The System will be constructed in 2021

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Başakşehir NBS Project 3 – Green Future

To create specifically designed green areas - parks inside Şamlar N.P. and increase biodiversity and awareness of citizens about nature and climate change

Objectives - Evolving the Şamlar Nature Park & City Parks

- Increase Biodiversity
- To improve awareness of nature, especially the young generation
- To create a liveable environment for all living habitat
- To increase engagement of the society
- To provide nearby Green spaces for citizens

NBS Solutions

- Developing an Arberotum of 500 hectars by the lake (5 km2)
  - Different plantations (fruits, vegis, flowers
  - Different trees
  - Water (lake) habitat
- N4 – Residential Park
- N28- Water Front park
- N35- Urban Gardens

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Status: In planning stage

Başakşehir Governance Project 1

A dedicated department for environmental and NBS issues

The main responsibilities of the department will be

1. Setting the processes for co-creation with stakeholders
2. Development of Vision & Strategies
3. Establishing Governance Systems
4. Defining Operational Tasks

Expected outputs

1. **To increase public awareness** on zero waste and recycling (including water scarcity)?
   - Booklets have been distrubuted to Başakşehir Residents
   - Animative videos have been prepared for schools
2. To maintain a **sustainable organisation unit in the municipality that is focused on environmental and NBS issues** to allocate clear responsibility and embed sustainability?
3. To improve **waste recycling standards** into construction rules and regulations in order to integrate NBS into mainstream urban development processes?
4. To **improve the Green & Blue m2 per capita**

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Questions for Cities ?

1. Do you have tools and methods for measuring / monitoring the following
   - Impacts of increasing Blue & Green
   - Rain Water treatment and utilization
   - Increase/Change in Biodiversity and Habitat
2. Advice for Stakeholder participation during the development and implementation stages
3. Advices for Financing

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