BIOSWALES

drainage

A bioswale is a long, channeled depression or trench that receives rainwater runoff and has vegetation and organic matter to slow water infiltration and filter out pollutants.

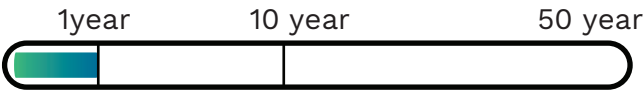# Public and Urban Spaces Interventions

Expected Co-Benefits

WATER MANAGEMENT

MICROCLIMATE IMPROVEMENT

HEALTH AND WELLBEING

CO2 REDUCTION

	1year	10 year	50 year
Process of impact measure			

	1year	10 year	50 year
Lifespan of the solution			

Construction cost	Maintenance cost	Adressed themes
$ $	$	environment

Best practice example	Street Edge Alternatives (SEA Streets) project Seattle Public Utilities constructed a drainage project at 2nd Avenue NW

PUS01

CLEVER Cities

green infrastructure

Tree-lined Streets

A tree-lined road or street is the street that has trees on either side.

Public and Urban Spaces Interventions

Related Main Indicators
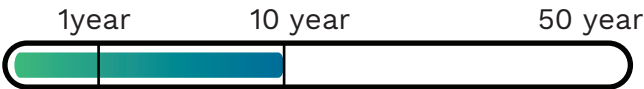

Expected Co-Benefits

WATER MANAGEMENT

HEALTH AND WELLBEING

AIR QUALITY

MICROCLIMATE IMPROVEMENT

CO2 REDUCTION

Process of impact measure	1year	10 year	50 year

Lifespan of the solution	1year	10 year	50 year

Construction cost	Maintenance cost	Adressed themes
$ $ $	$	environment energy

Best practice example	American Association of State Highway and Transportation Officials and reiterated in municipal manuals and standards in the USA.

PUS02

Car Parks with Green Area

temperature control

An environmentally friendly car parking, where the greenery is integrated into the design and taking a big part of the parking lots.

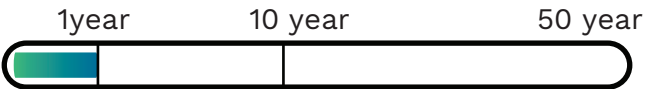# Public and Urban Spaces Interventions

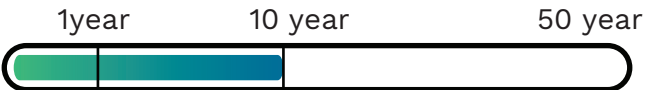## Expected Co-Benefits

MICROCLIMATE IMPROVEMENT

CO2 REDUCTION

HEALTH AND WELLBEING

AIR QUALITY

Process of impact measure	1year	10 year	50 year

Lifespan of the solution	1year	10 year	50 year

Construction cost	Maintenance cost	Adressed themes
$ $	$	environment accesibility

Best practice example — Cricket club parking with area 1820 sq. , Derbyshire County - UK

PUS03

CLEVER Cities

Shade Provided by Vegetation

green infrastructure cooling effect

Planting vegetation on streets, squares, parks creates shade and evapotranspiration and therefore has a cooling effect.

Public and Urban Spaces Interventions

Expected Co-Benefits

CO2 REDUCTION

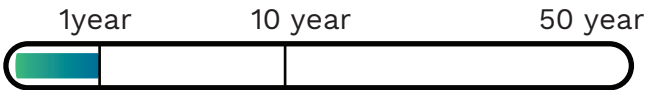MICROCLIMATE IMPROVEMENT

HEALTH AND WELLBEING

AIR QUALITY

Process of impact measure	1year	10 year	50 year

Lifespan of the solution	1year	10 year	50 year

Construction cost	Maintenance cost	Adressed themes
$ $ $	$	environment

Best practice example	Lulu Island in Abu Dhabi:

PUS04

Community Gardens

community belonging

A Community Garden is an urban, suburban or rural piece of land in which it can grow flowers, vegetables or a community. It can be one community plot or many individual plots which are located at different scales such as school, hospital, or in a neighbourhood.

Public and Urban Spaces Interventions

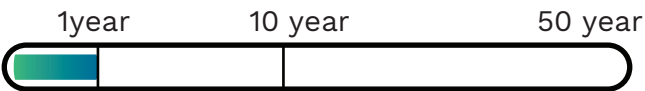## Expected Co-Benefits

MICROCLIMATE IMPROVEMENT
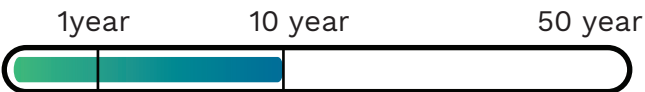
CO2 REDUCTION

HEALTH AND WELLBEING

AIR QUALITY

COMMUNITY BELONGING

LAND PRODUCTIVITY

	1year	10 year	50 year
Process of impact measure			

	1year	10 year	50 year
Lifespan of the solution			

Construction cost	Maintenance cost	Adressed themes
$ $	$	environment people

Best practice example	Alemany Farm, San Francisco

PUS05

CLEVER Cities

Urban Fruit Trees

fruit production

A fruit tree is a tree which bears fruit that is consumed or used by humans and some animals.

Public and Urban Spaces Interventions

Expected Co-Benefits

CO2 REDUCTION

MICROCLIMATE IMPROVEMENT

HEALTH AND WELLBEING

LAND PRODUCTIVITY

AIR QUALITY

Process of impact measure	1year	10 year	50 year

Lifespan of the solution	1year	10 year	50 year

Construction cost	Maintenance cost	Adressed themes
$ $	$	environment

Best practice example — Calgary Community Orchards RP

PUS06

CLEVER Cities

Green Bus Shelters

green infrastructure

Bus shelter provided with a green roof for water retention and cooling and with all the smart facilities that make waiting times more comfortable.

Public and Urban Spaces Interventions

Expected Co-Benefits

MICROCLIMATE IMPROVEMENT
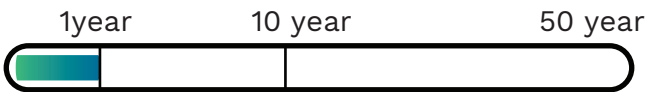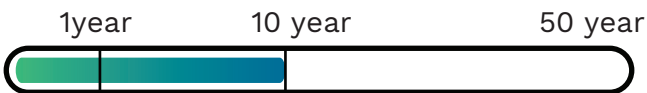
CO2 REDUCTION

HEALTH AND WELLBEING

AIR QUALITY

	1year	10 year	50 year
Process of impact measure			

	1year	10 year	50 year
Lifespan of the solution			

Construction cost	Maintenance cost	Adressed themes
$ $	$	environment people energy

Best practice example	JCDecaux's sustainable bus shelters in Paris

PUS07

CLEVER Cities

water management
heat island effect

Islands of Coolness

Urban furniture, modular, mountable and dismountable in 24 hours. They work automatically, as soon as the ambient temperature exceeds 28ºC they provide a feeling of freshness through a radiation effect

Public and Urban Spaces Interventions

Expected Co-Benefits

CO2 REDUCTION   MICROCLIMATE IMPROVEMENT
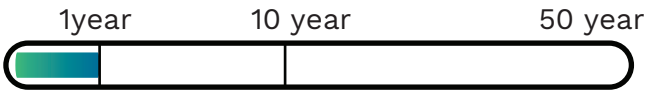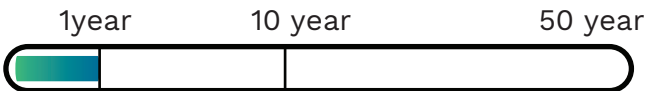
HEALTH AND WELLBEING   WATER MANAGEMENT

AIR QUALITY   LAND VALUE

Process of impact measure	1year	10 year	50 year

Lifespan of the solution	1year	10 year	50 year

Construction cost	Maintenance cost	Adressed themes
$ $ $	$ $	environment people

Best practice example	Three islands of freshness, Paris

PUS08

CLEVER Cities

sustainable materials

Eco Urban Furniture

Eco Urban Furniture is designed as a reminder about the important role of recycled materials and introduce new alternative use of trees embracing urban furniture to enhance CO2 absorption.
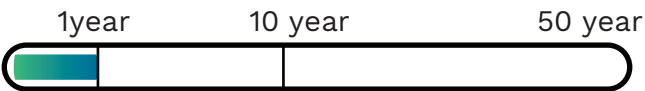
Public and Urban Spaces Interventions

MICROCLIMATE IMPROVEMENT

HEALTH AND WELLBEING

	1year	10 year	50 year
Process of impact measure			

	1year	10 year	50 year
Lifespan of the solution			
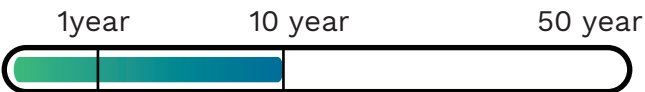
Construction cost	Maintenance cost	Adressed themes
$ $	$	environment people

Best practice example	Brothers in Benches

PUS09

CLEVER Cities

Green Ventilation Grids

urban air quality

A grid of parks and small areas of vegetation that are connected which offer the possibility of having a favourable impact on the urban climate: in the summer they hold less heat and so offer cooler areas.

Public and Urban Spaces Interventions
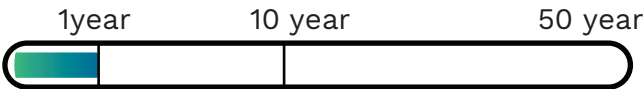
Expected Co-Benefits

CO2 REDUCTION

MICROCLIMATE IMPROVEMENT

HEALTH AND WELLBEING

LAND VALUE

AIR QUALITY

Process of impact measure	1year	10 year	50 year

Lifespan of the solution	1year	10 year	50 year

Construction cost	Maintenance cost	Adressed themes
$ $	$ $	environment people

Best practice example	Place de la République, Paris

PUS10

The Living Garden Concept

sustainable urbanisation

Concept developed by the Dutch Garden and Landscape Contractors Association in which green and sustainable gardens for private or public spaces are proposed, in which water, energy, soil, and edible greenery are concentrated. To achieve water retention, heat stress prevention, biodiversity stimulation and the positive effect that greenery has on people´s health.

Public and Urban Spaces Interventions

Expected Co-Benefits

MICROCLIMATE IMPROVEMENT

AIR QUALITY

HEALTH AND WELLBEING ,

ECOSYSTEM RESTORATION
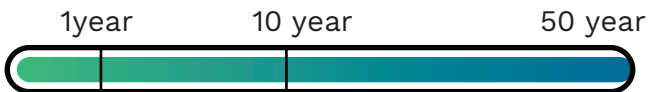
LOCAL DEVELOPMENT

	1year	10 year	50 year
Process of impact measure			

	1year	10 year	50 year
Lifespan of the solution			

Construction cost	Maintenance cost	Adressed themes
$ $	$	environment people energy

Best practice example	"Home of the future", Project developed by MAD Architects in partnership with Hanergy for the 2018 China House Vision Exhibition.

PUS11

Arid Gardens

water efficiency

Arid gardens are the gardens that planted and designed for harsh and normal weather conditions. Plantation made accordingly considering less water and maintenance needing options.

Public and Urban Spaces Interventions

Expected Co-Benefits

CO2 REDUCTION

HEALTH AND WELLBEING

AIR QUALITY

MICROCLIMATE IMPROVEMENT

ECOSYSTEM RESTORATION

CLIMATE CHANGE ADAPTATION

	1year	10 year	50 year
Process of impact measure			

	1year	10 year	50 year
Lifespan of the solution			
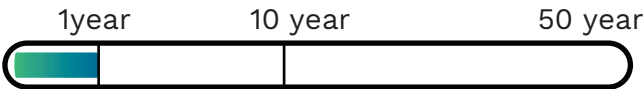
Construction cost	Maintenance cost	Adressed themes
$	$	environment people

Best practice example AridSmart Courtyard Garden

PUS12

CLEVER Cities

Gardens of Senses

green space

LOOK

TASTE

TOUCH

LISTEN

SMELL

A garden to attract and interact with people and their five senses to be highlighted by using natural elements, plantation and creating a habitat for birds, insects, and butterflies.

Public and Urban Spaces Interventions

Related Main Indicators

Expected Co-Benefits

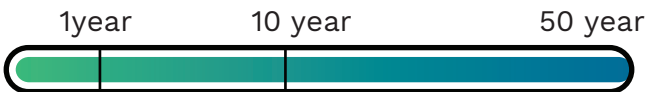MICROCLIMATE IMPROVEMENT

AIR QUALITY

HEALTH AND WELLBEING ,

ECOSYSTEM RESTORATION

LOCAL DEVELOPMENT

Process of impact measure	1year	10 year	50 year

Lifespan of the solution	1year	10 year	50 year

Construction cost	Maintenance cost	Adressed themes
$ $	$ $	environment people

Best practice example	Sensational Park by Nabito, Frosinone - Italy

PUS13

Raised Bed Vegetable Garden

sustainable prouction and consumption

Raised bed vegetable gardens, also known as garden boxes, are great for growing small plots of vegetables and flowers. They keep weeds from the soil, prevent soil compaction, provide efficient drainage and serve as a barrier to pests.

Public and Urban Spaces Interventions

Expected Co-Benefits

ECONOMIC GROWTH

HEALTH AND WELLBEING

AIR QUALITY

MICROCLIMATE IMPROVEMENT

ECOSYSTEM RESTORATION

CLIMATE CHANGE ADAPTATION

	1year	10 year	50 year
Process of impact measure			

	1year	10 year	50 year
Lifespan of the solution			

Construction cost	Maintenance cost	Adressed themes
$	$	environment people

Best practice example	Gili Lankanfushi hotel vegetable beds, Lankanfushi Island – Maldives

PUS14

CLEVER Cities

Urban Flower Fields

biodiversity in urban

Planting seasonal flowers to urban settings and creating attraction areas to pollinators to increase their number and improve the aesthetic values of urban settings.

Public and Urban Spaces Interventions

Related Main Indicators

Expected Co-Benefits

MICROCLIMATE IMPROVEMENT

AIR QUALITY
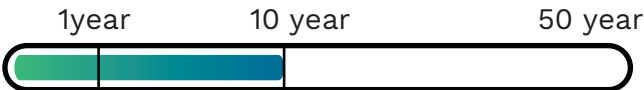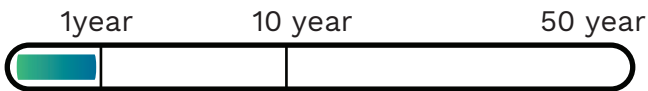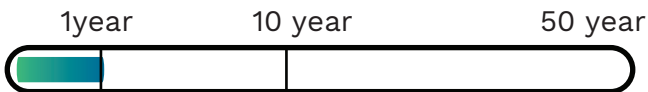
HEALTH AND WELLBEING ,

ECOSYSTEM RESTORATION

LOCAL DEVELOPMENT

	1year	10 year	50 year
Process of impact measure			

	1year	10 year	50 year
Lifespan of the solution			

Construction cost	Maintenance cost	Adressed themes
$	$	environment people

Best practice example	Urban Flower Field and mural in Pedro Park, Minnesota - USA