



Raúl Sánchez Francés
URBAN GreenUP project Coordinator
CARTIF Technology Centre

URBAN GREENUP – *NEW METHODOLOGY FOR RE-NATURING CITIES*



URBAN GreenUP - Overall approach



URBAN GreenUP is the demonstration of an **innovative methodology to re-naturing cities through NBS interventions**, considering new technologies, towards the adaptation of the cities to fight against the climate change:

1. Identification of the **city challenges**.
2. Involvement of the **key stakeholders** (industry partners, SMEs, Start-ups entrepreneurs and citizens).
3. **Demonstration in 3 Demo-sites** (Valladolid, Liverpool and Izmir).
4. **Evaluation and Replication** at Global level.
5. Application of **interdisciplinary approach**: different methodologies - EKLIPSE, ESA, MAES
6. Involvement of **Social Sciences and Humanities**: Collaborative methodology

URBAN GreenUP in figures

Program: HORIZON 2020 - Work Programme 2016 - 2017

Topic: **SCC02-2016-2017: Demonstrating innovative nature-based solutions in cities**



Dates: 1st June 2017/1st May 2022

Total effort: 1.230,5 person month

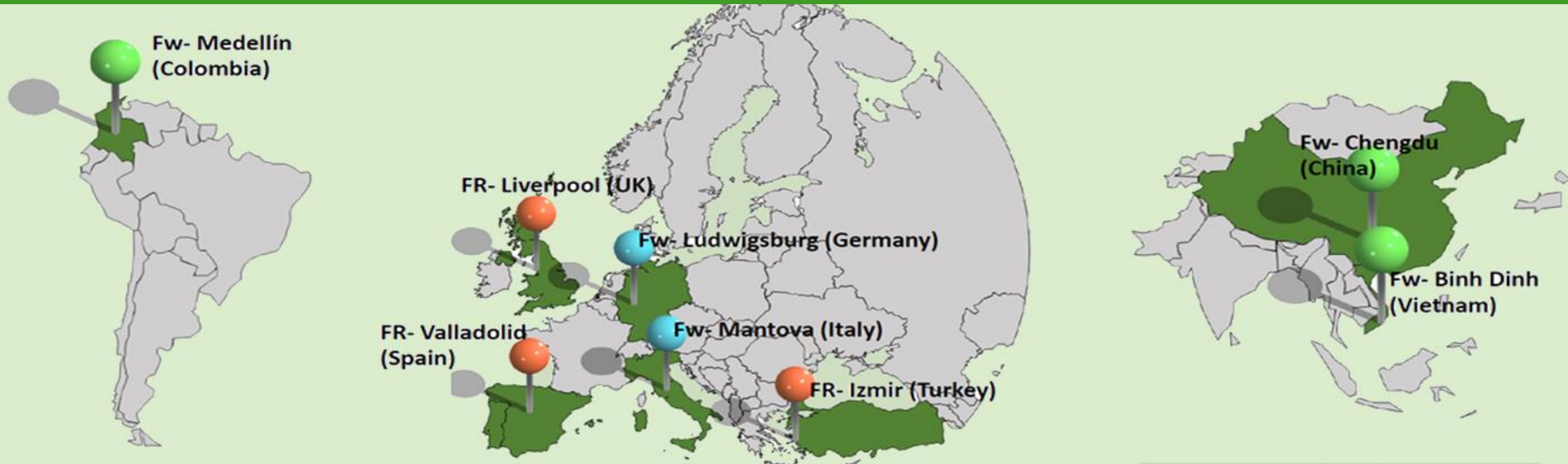
Total Eligible Costs: 14,811,824.44 € (EC contribution: 13,970,642.25€)

The consortium: 25 Partners (8 municipalities, 9 RTD – 6 tech. centres, 3 universities, 2 large industries, 3 SMEs 2 Non Profit organizations and 1 Public Body)

Nationalities: 9 (Spanish, English, Turkish, German, Italian, Portuguese, Chinese, Vietnamese, Colombian)



URBAN GreenUP – Worldwide dimension



FRONT-RUNNER Cities



Ayuntamiento de Valladolid



Liverpool City Council



İZMİR BÜYÜKŞEHİR BELEDİYESİ

European FOLLOWER Cities



MANTOVA



LUDWIGSBURG

Non European FOLLOWER Cities



Alcaldía de Medellín
Cuenta con vos





成都高新
CDHT



BY&FORCITIZENS
European Conference of
Sustainable and Resilient
Cities



CARTIF



Liverpool City Council



Ayuntamiento de Valladolid



İZMİR BÜYÜKŞEHİR BELEDİYESİ



acciona
Infraestructuras



singular green



centa



GOBIERNO DE ESPAÑA



MINISTERIO DE AGRICULTURA, ALIMENTACIÓN Y MEDIO AMBIENTE



THE MERSEY FOREST
UNIVERSITY OF LIVERPOOL



FONDAZIONE
ICONS



LEITAT



Università Commerciale
Luigi Bocconi



RMIT
UNIVERSITY
VIETNAM



spi
Società per Azioni



DemirEnerji



MANTOVA



LUDWIGSBURG



Alcaldía de Medellín
Cuenta con vos





成都高新
CDHT



UNIVERSITY OF LIVERPOOL



BitNet

URBAN GreenUP – Actions & Impacts



Valladolid



Liverpool



Izmir

URBAN GreenUP actions will be implemented in different **Sub-Demo areas** in each Front-runner City.

The main feature of this implement way is the **interconnection among Sub-Demo areas**.

The interventions has been categorized in **4 overall categories**, and those in different sub-categories related to specific climate change challenges:

RE-NATURING URBANIZATION 	WATER INTERVENTIONS 	SINGULAR GI 	NON TECHNICAL INTERVENTIONS 
Green route	SUDS	Smart soils	Educational activity
Arboreal Interventions	Flood actions	Pollinators	Engagement
Carbon capture	Green Pavements	Vertical GI	City coaching
Resting areas	Water treatment	Horizontal GI	Support activity
		Pollutants filter	
		Bike-pedestrian infrastructures	
		Urban farming	

Allocation of NBS interventions in **Valladolid Sub-demos**

	RE-NATURING URBANIZATION	WATER INTERVENTIONS	SINGULAR GI	NON TECHNICAL INTERVENTIONS
SubDemo A	VAc1- New green cycle lane	VAc8- SUDs for green bike lane	VAc15 - Cycle-pedestrian green paths	Common non-technical interventions: VAc37, 38, 39, 40, 41 & 42
	VAc2- Planting 1,000 trees		VAc16- Smarts soils as substrate	
	VAc3- Tree shady places		VAc19- Natural pollinator's mod.	
	VAc6- 3 Green Resting areas		VAc22 - Green Noise Barriers.	
Sub-Demo B	VAc4- Shade and cooling trees		VAc17- Smarts soils as substrate.	Common non-technical interventions: VAc37, 38, 39, 40, 41 & VAc42
			VAc20- Compacted Pollinator's mods.	
			VAc23 - Green Noise Barriers.	
			VAc24 - Vertical mobile garden.	
			VAc25 - Green Façade.	
			VAc26 - Electro wetland Roof.	
			VAc27 - Green Covering Shelter.	
			VAc28 - Green Roof.	
			VAc29 - Green Shady Structures.	
Sub-Demo C	VAc5- 250 trees to re-naturing parking	VAc9- SUDs (re-naturing parking)	VAc18 - Smarts soils as substrate	VAc34: Educational path in VAc13
		VAc13- Nat. wastewater Plant	VAc19, 21-Natural pollinator's mod.	VAc35: Educational path in VAc11
		VAc10- Rain gardens	VAc20 - Compacted Pollinator's mod.	VAc36 - Urban Farming Educational activities.
		VAc12- Green filter area		
	VAc7- Urban Carbon Sink	VAc11- Floodable Park	VAc31 - Urban orchards	Common non-technical interventions: VAc37, 38, 39, 40, 41 & VAc42
		VAc14- Parking Green Pavement	VAc32 - Community composting.	
			VAc33 - Small-scale urban livestock.	

Allocation of NBS interventions in **Liverpool Sub-demos**

	RE-NATURING URBANIZATION	WATER INTERVENTIONS	SINGULAR GI	NON TECHNICAL INTERVENTIONS
Sub-Demo A	LAc1-New green Cycle route	LAc4 -Urban Catchment forestry	LAc12-Pollinator verges	LAc22 -Green art/engagement
				LAc23 -Forest Church
	LAc5 -Shade trees	LAc8 -SUDS	LAc13-Pollinator walls/vertical	LAc25-GI for Physical health
	LAc6 -Cooling trees	LAc10-Hard drainage pavements	LAc14-Pollinator roofs	Common non-technical interventions: LAc19, LAc20, LAc21, LAc24, LAc27, LAc28, LAc29, LAc30
Sub-Demo B	LAc2 -Green travel route	LAc4 -Urban Catchment forestry	LAc12 -Pollinator verges/spaces	LAc19 -GI for education
			LAc13 -Pollinators walls/vertical	LAc21-Engagement Portal for citizens
	LAc5-Shade trees		LAc14-Pollinators roof	LAc24-BioApp
	LAc6 -Cooling trees		LAc16-Floating gardens	LAc25-GI for Physical health LAc26-GI for Mental health LAc27-Promotion of ecological reasoning/intelligent LAc28-Single window/desk for RUP deployment LAc29-Support to citizen project of NBS LAc30-City mentoring strategy
Sub-Demo C	LAc1-New green Cycle route	LAc8-SUDs	LAc11-Enhanced nutrient managing and releasing soil	LAc18 -Wood allotments
	LAc3-Road junction pedestrian improvements		LAc12 -Pollinator verges and spaces	LAc19-GI for Education
			LAc13 -Pollinators walls/vertical	LAc20 -Forest School
	LAc5-Shade trees	LAc9-Hard drainage (flood prevention)	LAc14-Pollinator roofs	LAc21-Engagement Portal for citizens
	LAc6 -Cooling trees		LAc15-Mobile gardens	LAc23 -Forest Church
	LAc7-Urban Carbon Sink			LAc24-BioApp
				LAc25-GI for Physical health
				LAc26-GI for Mental health
				LAc27-Promotion of ecological reasoning/intelligent
				LAc28-Single window/desk for RUP deployment
				LAc29-Support to citizen project of NBS
				LAc30-City mentoring strategy

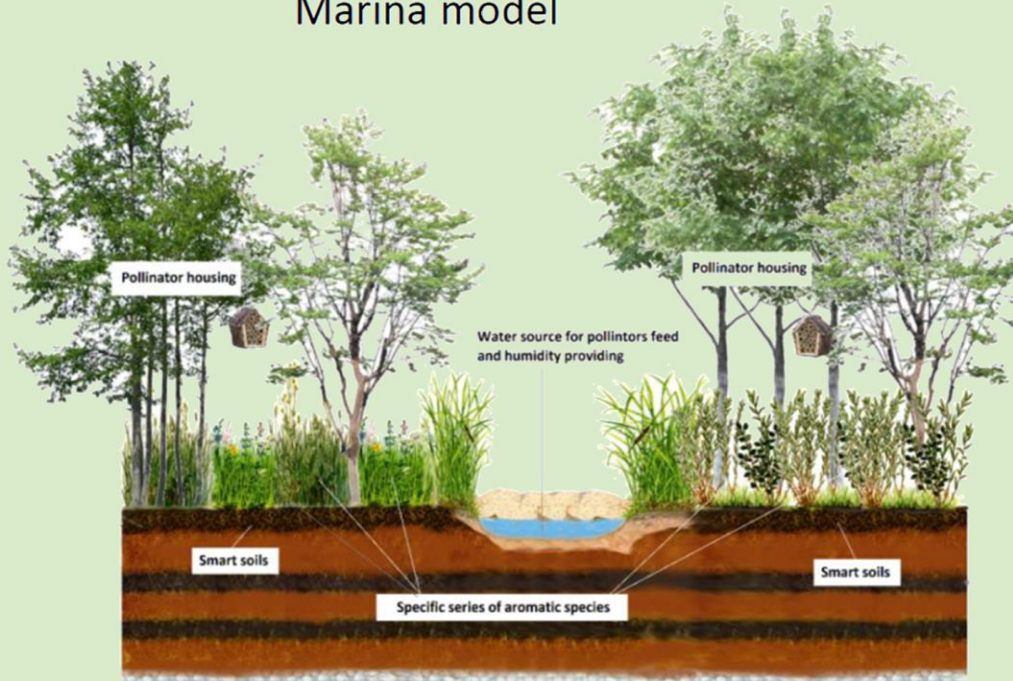
Allocation of NBS interventions in İzmir Sub-demos

	RE-NATURING URBANIZATION	WATER INTERVENTIONS	SINGULAR GI	NON TECHNICAL INTERVENTIONS
Sub-Demo A	IAC3- Arboreal areas around Ege Park Green Car Park Area		IAC10- Smart soil into green shady structures	Common non-technical interventions: IAC23, IAC27, IAC28, IAC29, IAC30, IAC31
			IAC14- Green Car park Covering Shelter	
			IAC15- Cool pavement	
	IAC4- Installation of Parklets		IAC16- Green Shady Structures	
Sub-Demo B		IAC6- Grassed swales and Water Retention Pounds around Bio-boulevard	IAC9- Smart soil production in climate-smart urban farming precinct	IAC20- The Bio-boulevard
				IAC21- Education for the Food-smart Future of Izmir
			IAC11- Natural pollinator's modules	IAC22- Urban Farming Educative/participate Activities, Learning for Producers
			IAC17- Climate-smart Greenhouses	IAC24- Municipality Enabled Urban Farming
			IAC18-Improving Overall Efficiency of urban waste water treatment by using by-products	IAC25- The support for Women Cooperative Community Agriculture
Sub-Demo C	IAC1- Cycle and pedestrian route in new Green Corridor	IAC7- Culvert works for Peynircioğlu River	IAC12- Green fences	IAC19- Industrial Heritage Route Along the Izmir Urban Green Corridor (IUGC)
	IAC2- Planting 4,800 trees	IAC8- Green pavements for Peynircioğlu River	IAC13- Establishment of fruit walls	Common non-technical interventions: IAC23, IAC27, IAC28, IAC29, IAC30, IAC31
	IAC5- Urban carbon sink			

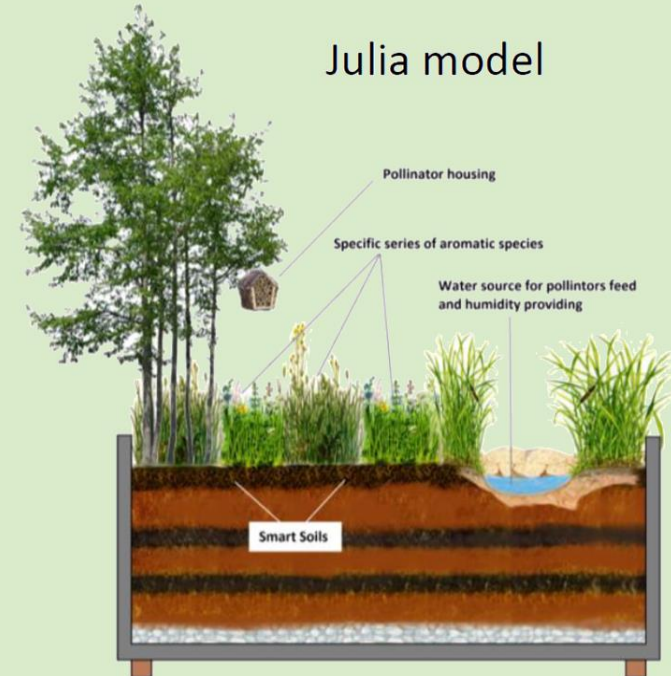


- **New global NBS market**, new green products, local **green jobs** (more than 500 direct jobs)
- Increasing **awareness** of the benefits of re-naturing cities
- **Enhancing stakeholder and citizen participation** (processes for **co-design**, **co-development** and **co-implementation**).
- Fostering the creation by 2020 of **healthier** and **greener cities**
- Increasing the **international cooperation**
- Enhancing the **implementation of EU environmental policies**
- **Improving** living conditions and **biodiversity**

Marina model

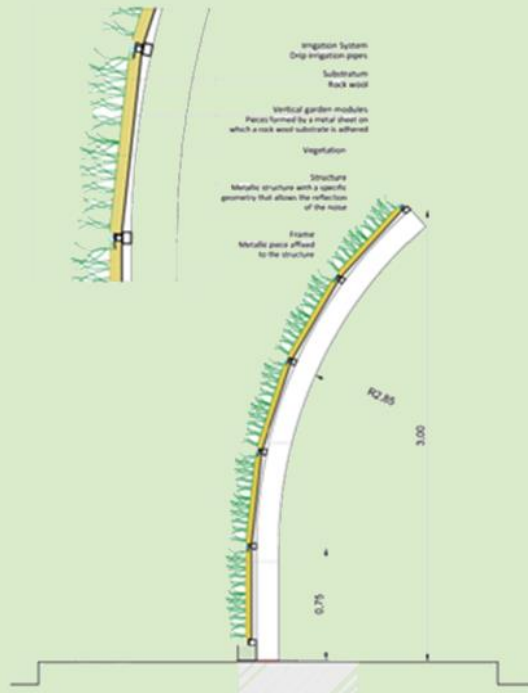


Julia model



Pollinator's modules

URBAN GreenUP – Valladolid NBS



Green barriers & Vertical Mobile Gardens



Green Façade



BY&FORCITIZENS
European Conference on Smart,
Sustainable and Resilient Cities

URBAN GreenUP – Valladolid NBS



Green Roof



El Campillo market

URBAN GreenUP – Valladolid NBS



Santa María Street



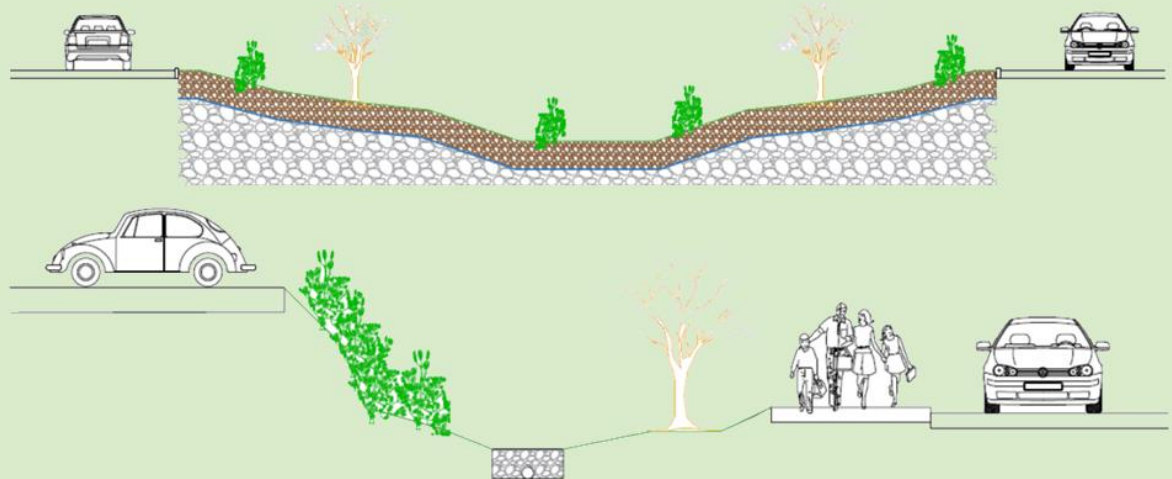
Green Shady Structures



URBAN GreenUP – Valladolid NBS

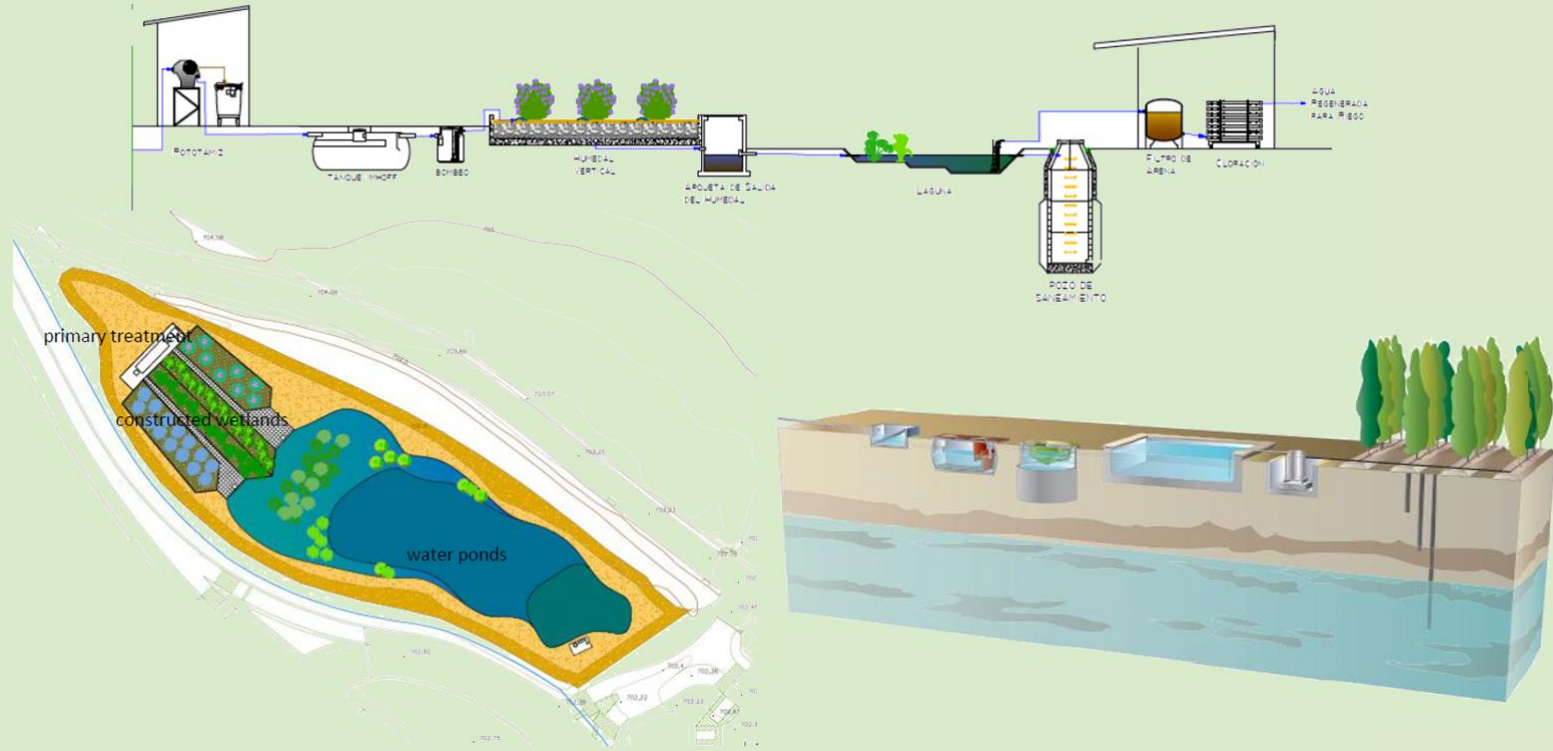


Rain Gardens



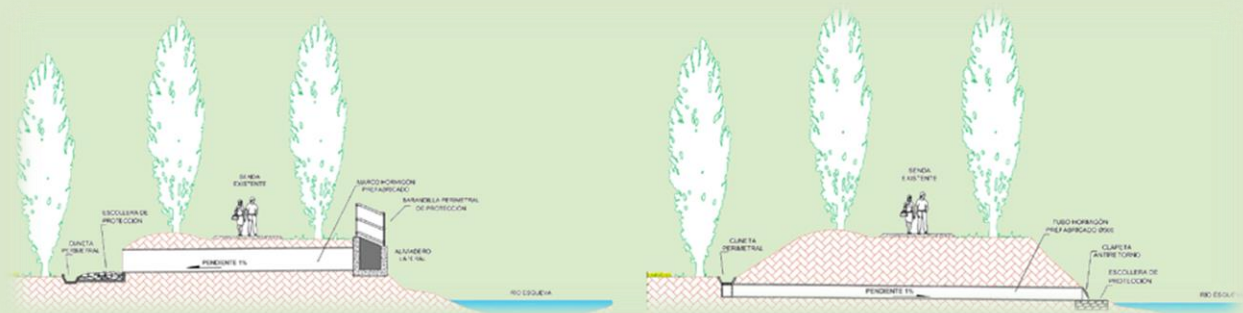
BY&FORCITIZENS
European Conference on Smart,
Sustainable and Resilient Cities

URBAN GreenUP – Valladolid NBS



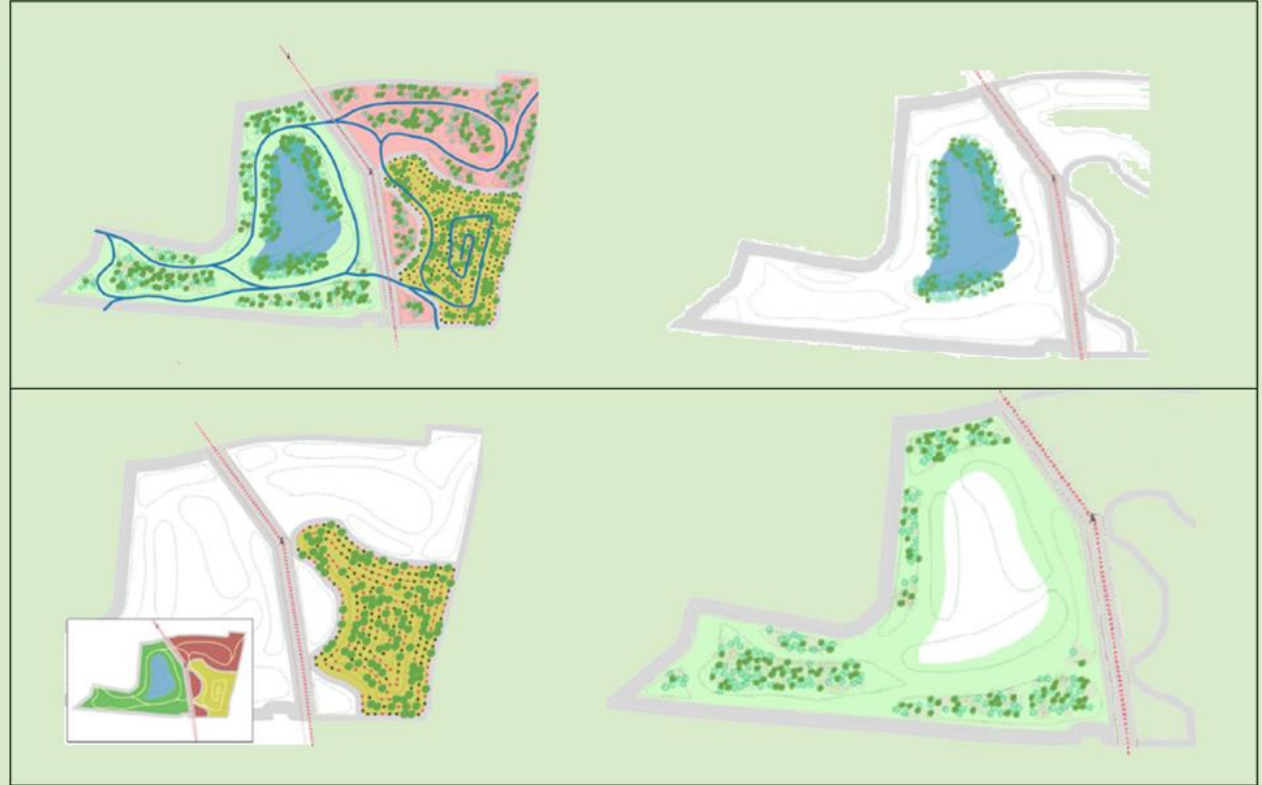
Sustainable Park (Waste Water treatment plant / Green filter)

URBAN GreenUP – Valladolid NBS



Floodable park

URBAN GreenUP – Valladolid NBS

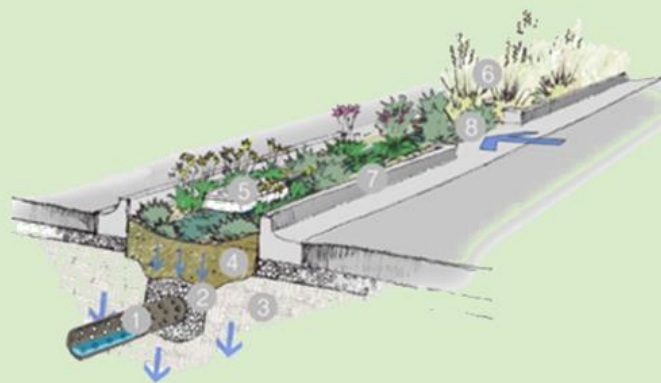


Urban Forest as Carbon Sink

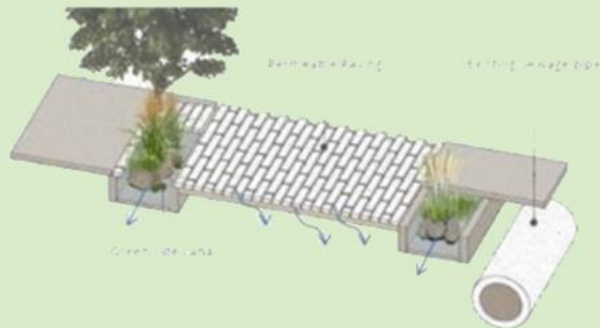
URBAN GreenUP – Valladolid NBS



URBAN GreenUP – Liverpool NBS



Street System



Permeable Paving

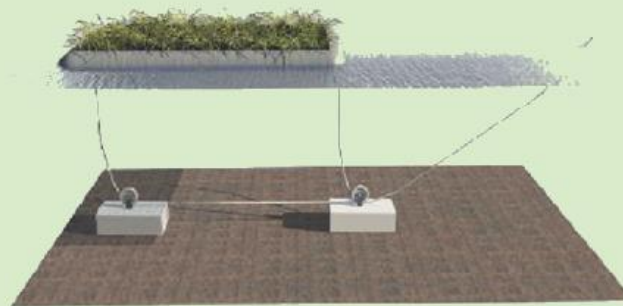
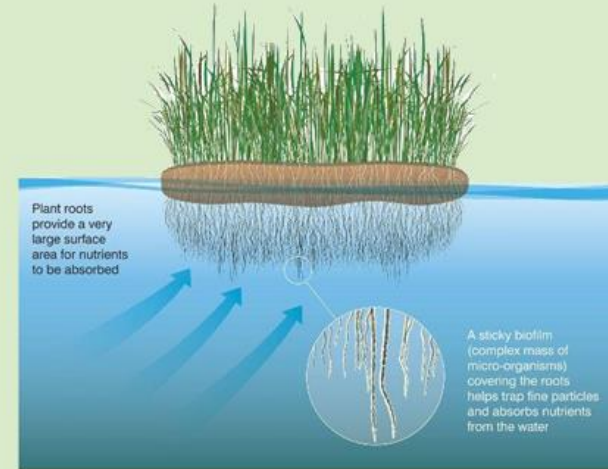
Storage and Infiltration

Green Infrastructure

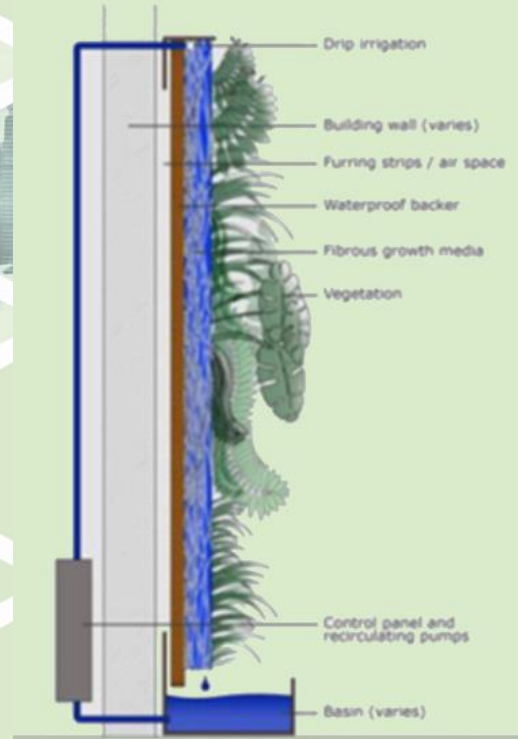


BY&FORCITIZENS
European Conference on Smart,
Sustainable and Resilient Cities

SUDs (Sustainable Urban Drainage systems)



Floating Gardens



Vertical Gardens & Pollinator's verges

URBAN GreenUP – Liverpool NBS



BY&FORCITIZENS
European Conference on Smart,
Sustainable and Resilient Cities

Urban Forest Catchment

URBAN GreenUP – Liverpool NBS



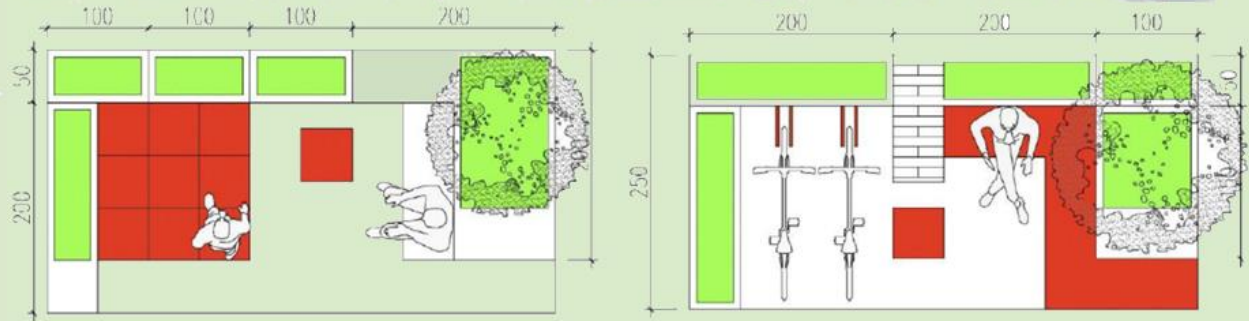
Green Façade

URBAN GreenUP – Liverpool NBS



Mobile Forest

URBAN GreenUP – İzmir NBS



Parklets - green-resting units

Smart soils & Green Covering Shelters



Green pavements (permeable pavements)



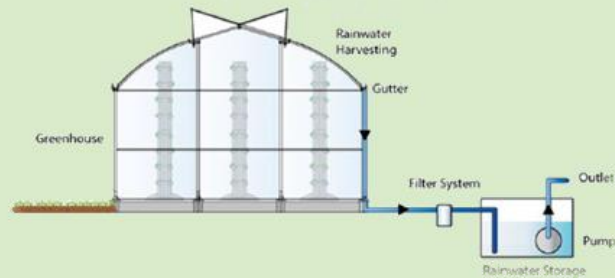
BY&FORCITIZENS
European Conference on Smart,
Sustainable and Resilient Cities



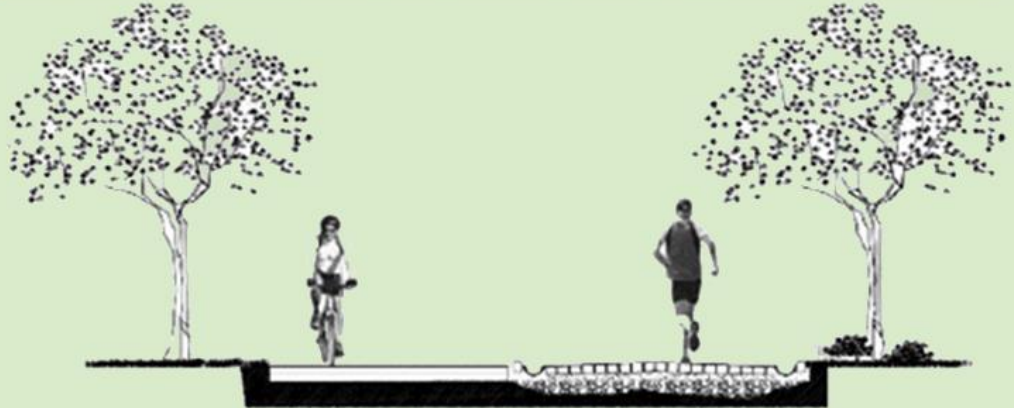
Green Shady Structures



Smart Green House



Climate Smart Urban Farming



Cycle and Pedestrian Green Route



BY&FORCITIZENS
European Conference on Smart,
Sustainable and Resilient Cities

THINK GREEN!!!



URBAN GreenUP is a **big challenge**, but with this project we have a real opportunity to **change our cities**, with NBS, in order to transform them kindly in more liveable spaces.

This project is the **seed**.

URBAN GreenUp: Challenging our ideas about living green



Raúl Sánchez Francés / rausan@cartif.es

Natural Resources Area Manager

CARTIF Technology Centre

URBAN GreenUP project Coordinator

www.urbangreenup.eu



THANK YOU FOR YOUR ATTENTION!