

# Financing nature-based solutions – going beyond public budgets



Birgit Georgi - 12/09/2022 - GrowGreen webinar







# Greater Manchester's Vision



aim for a **substantial uplift in urban greenspace**  
by 2038 to adapt to the projected  
climate change impacts



## Nature and Climate adaptation finance gap

# The Finance Gap for UK Nature

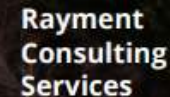
Assessing the finance gap for nature-related outcomes across the UK and the devolved administrations

Final report: 1 October 2021 with finance data from 31 July 2021

Citation: GFI, efttec, Rayment Consulting (2021) The Finance Gap for UK Nature

 Green Finance  
Institute

 **efttec**  
economics for  
the environment

 Rayment  
Consulting  
Services

- £354m finance gap in UK for natural flood management.
- Wider £56bn gap in funding nature ambitions.
- The scale of the challenge means it will be difficult to meet this through public finance alone.



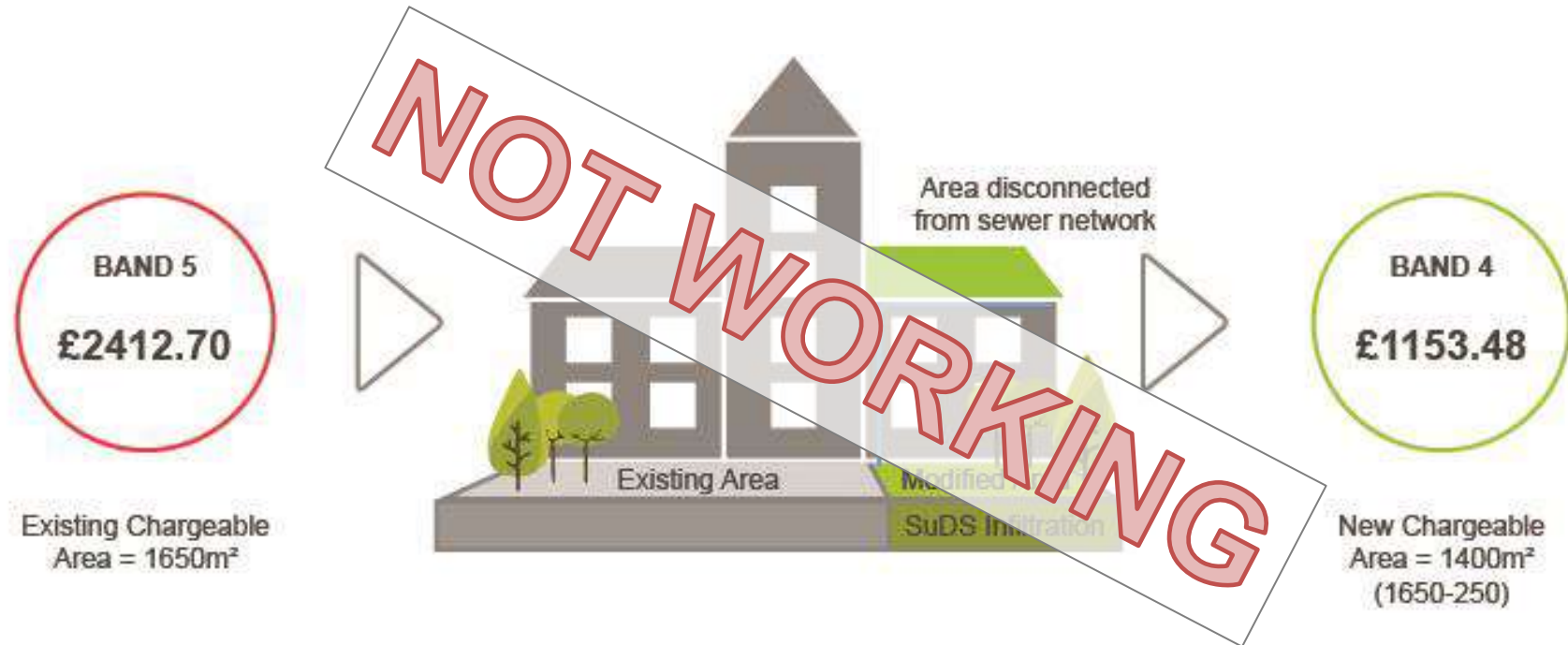


- Build investor confidence in nature-based solutions
- Develop business models and funding mechanisms
- Create pipelines of projects across the City Region





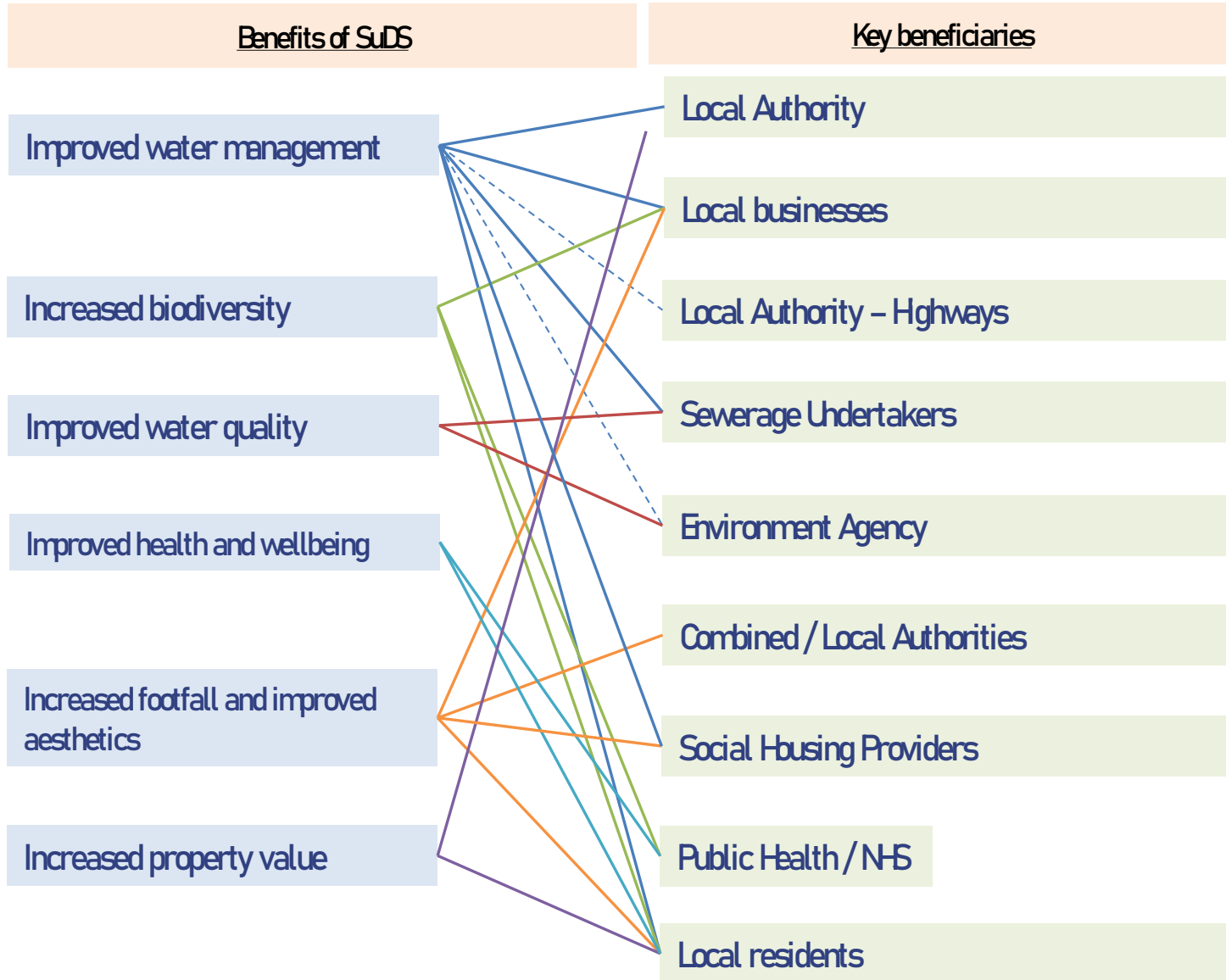
## Where it started.. - Funding Stream 1 SuDSretrofit



A simple income stream capture investment model on saving water charges



# Developing co-investment propositions







# Building the evidence base

## Headline findings

The following illustrations provide a summary and comparison of the headline findings\* for each of the NBS researched.

\* Average cost data taken from IGNITION project cost collation database, containing technical reports and supplier information

### Sustainable drainage system (SuDS)

The management of surface water runoff within the urban environment to mimic the natural drainage processes, while supporting broader biodiversity and amenity aims

**60–72%**  
Rainwater runoff retained

**60–80%**  
Similarity in species richness to a natural pond

**79%**  
Total suspended solids removed in filter strip/swale SuDS system



Common alternative terms: Drainage systems, natural drainage systems, Water Sensitive Urban Design (WSuDS)

**Average CAPEX installation cost**  
(£ per m<sup>2</sup>)

**£30**

Detention ponds/basin

**£366**

Soakaway

**£336**

Raingarden

**Average OPEX maintenance cost**  
(£ per m<sup>2</sup>yr)

**£0.33**

Detention ponds/basin

**£0.12**

Soakaway

**£26**

Retention ponds/basin

**£23**

Swale

**£1.10**

Retention ponds/basin

**£0.10**

Swale

### Street trees

Trees located next to or within a public road

**30–50%**  
Increased restaurant patronage

**3°C**  
Air temperature reduction

**5.5kg**  
Carbon sequestered per tree annually



### SuDS-enabled street trees

Street trees combined with a sustainable drainage system

**Average CAPEX installation cost**  
(£ per m<sup>2</sup>)

**£248**

per tree

**£7,477**

SuDS-enabled street trees

**Average OPEX maintenance cost**  
(£ per m<sup>2</sup>yr)

**£0.12**

per tree

### Green roof

Vegetation growing on any structure's horizontal surface

**6.7%**  
Total energy savings for the space directly below the green roof

**6.9%**  
Uplift to property value by an accessible green roof

**11db**  
Noise reduction by an extensive green roof



Common alternative terms: Living Roof, eco-roof, roof garden, brown roofs, green-blue roofs, biodiverse roofs

**Average CAPEX installation cost**  
(£ per m<sup>2</sup>)

**£126**

Extensive green roof

**£176**

Intensive green roof

**Average OPEX maintenance cost**  
(£ per m<sup>2</sup>yr)

**£6**

Extensive green roof

**£11**

Intensive green roof

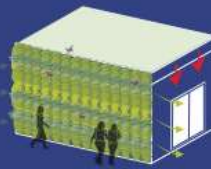
### Green wall

Vegetation growing on or against a vertical surface

**8%**  
Total energy saving for adjacent space

**2.7°C**  
Reduction in indoor temperature from green façade

**18–35%**  
NO<sub>x</sub> removed in street canyons



Common alternative terms: Green façades, bio-responsive/bio reactor façade, living walls, vertical greening system, green screen, hedges

**Average CAPEX installation cost**  
(£ per m<sup>2</sup>)

**£282**

Green façade

**£702**

Living wall

**Average OPEX maintenance cost**  
(£ per m<sup>2</sup>yr)

**£38**

Living wall

### Urban parks and green space

Areas that are naturally or artificially covered with vegetation (e.g. grass, bushes or trees). Can range from playing fields and highly maintained environments to relatively natural landscapes

**10%**  
Increase in willingness to pay for products associated with green cover

**9.5%**  
Increase in property value in direct or close proximity to a park

**84.2%**  
Rainwater runoff retention



**Average OPEX maintenance cost**  
(£ per m<sup>2</sup>yr)

**£0.71**

Urban parks and green space

Common alternative terms: Urban parks, urban green cover, amenity grassland and sports pitches





# Building evidence: Walkden – Conceptual Design







## Evidence: Walkden – Water Management Benefits

51% reduction in internal sewer flood risk for a 1-year event

2.1km of pipes show an improved sewer capacity

2% reduction in peak flow rate at combined sewers\*

5% reduction in internal sewer flood risk for a 30-year event

0.1km of pipes show an improved risk of flooding

3% reduction in flow volume at combined sewers\*



## Evidence: Walkden – Wider Benefits



Amenity: £2.1m



Recreation: £2.9m



Air Quality: £15.9k



Carbon: £3.0k



Health: £3.2k

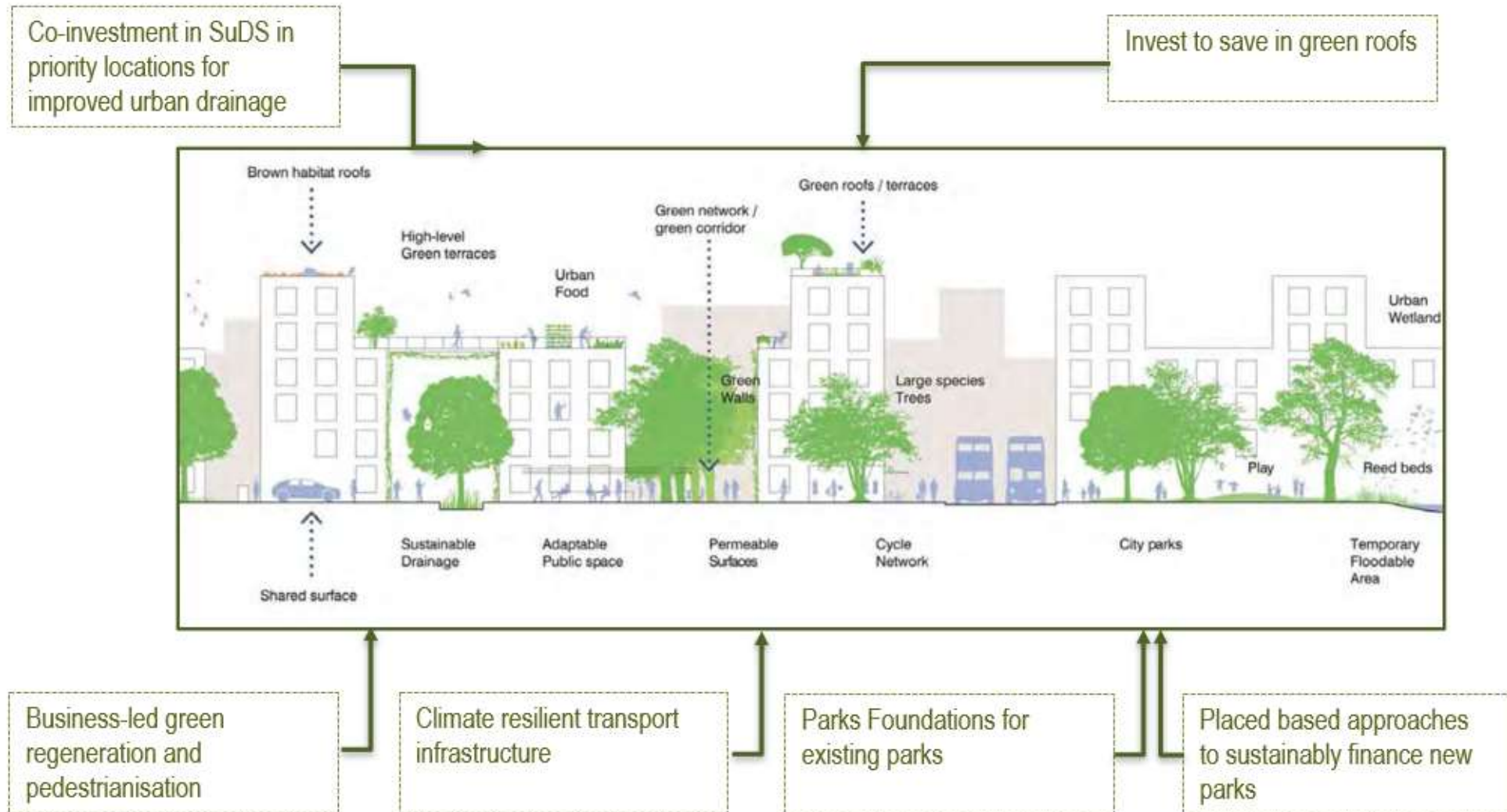


Total: £5.4m





# Developing location-specific co-investment propositions





## Developing a business case for co-investment – Edge Street







## Feasibility study Edge Street





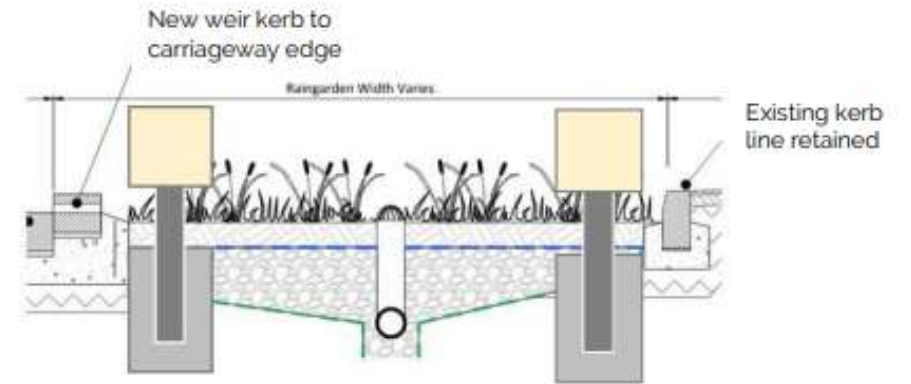
# Edge Street Layout







## Using NBS to transform hostile vehicle measures



*Visual and typical section illustrating proposed bench within rain garden to provide hostile vehicle mitigation (not to scale).*



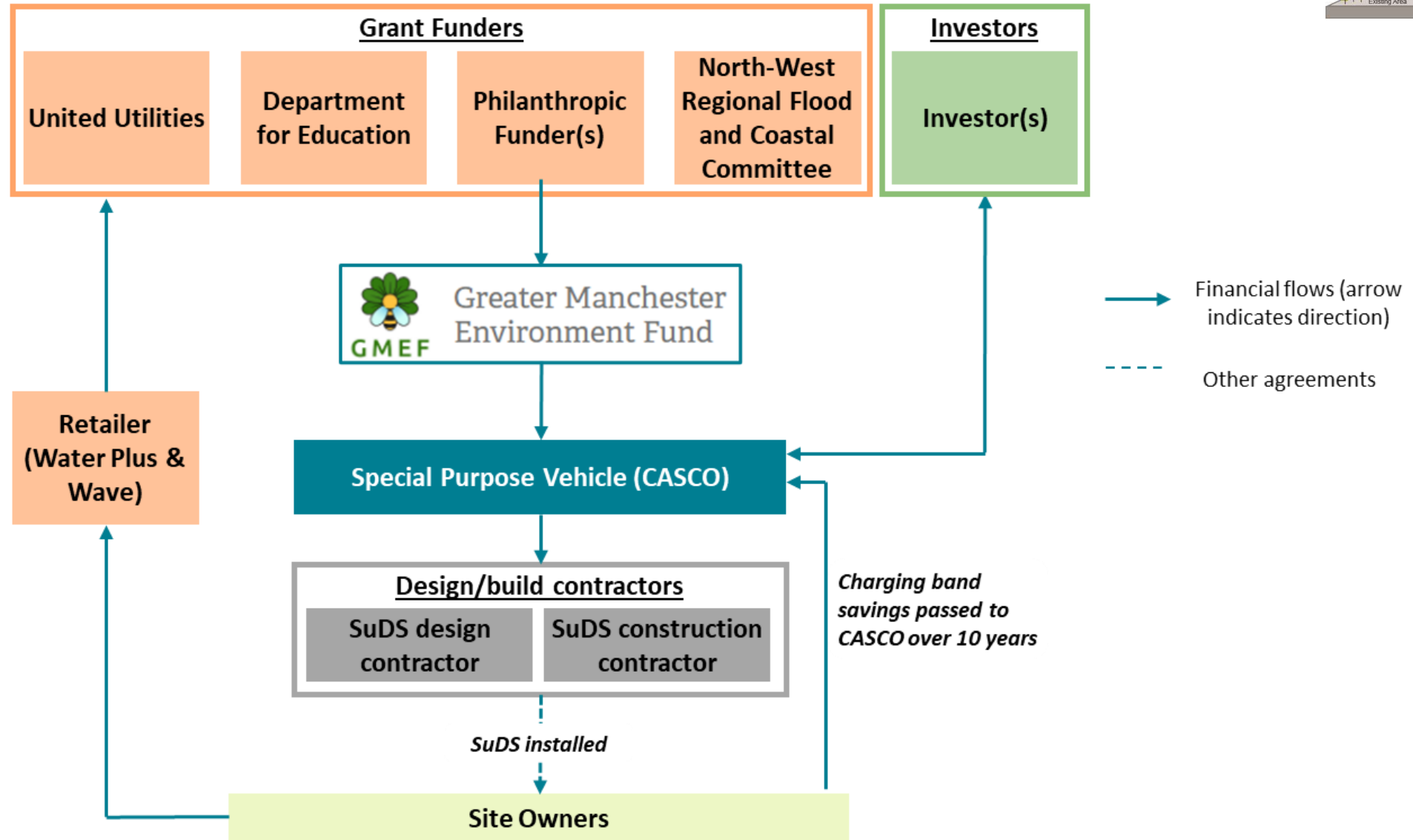
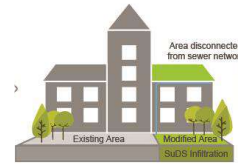
# Supporting projects across a range of urban spaces







# Funding stream 1 → Blended funding instead





## How to do...

Understand the benefits and identifying key beneficiaries



Build awareness of, and appetite for benefits



Work in partnership with beneficiaries to understand demand and assess routes to value capture



Identify and formalise any overlap with other programmes



Identifying projects/locations that can deliver for multiple beneficiaries



Build business cases collaboratively with beneficiaries, fair proportioning of the benefits



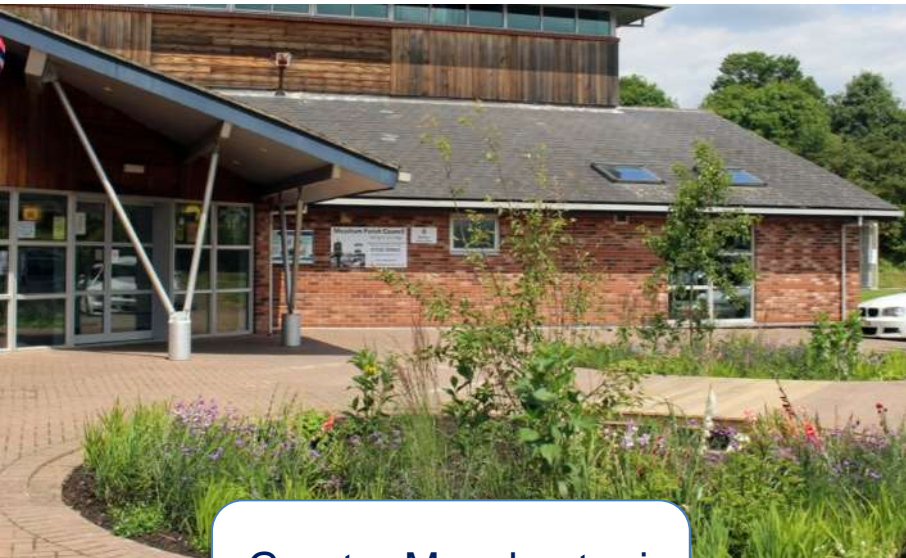
Develop standard approaches







# It spreads ... The legacy of IGNITION



Greater Manchester is the place to go for



Green infrastructure is cool







## More information



<https://uia-initiative.eu/en/uia-cities/greater-manchester>

<https://gmgreencity.com/projects-and-campaigns/ignition/>

[https://www.youtube.com/playlist?list=PLhkH\\_swmUE1yQJkAsXJNgEMyXXKdx1AWT](https://www.youtube.com/playlist?list=PLhkH_swmUE1yQJkAsXJNgEMyXXKdx1AWT)







# Thank you!

**BIRGIT GEORGI**   
Strong in a changing climate

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**UIA Expert for IGNITION**



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