Wirral Waters

Green Infrastructure Regeneration &

Climate change

Wirral Waters What is the story?













Wirral Waters - Birkenhead

- "headland overgrown with birch"
- Established in 1150
- Population grew from 110 to 110,000 from 1800 – 1900
- First publicly funded park
- "City of the future"
- Rise and decline (and rise) of shipbuilding



Birkenhead

Socio – economic conditions

- High unemployment 17%
- Poor health
- Wide inequality

Compared with benchmark: 🛛 🔵 Better 💛 Similar ● Wors	e 🔵 Lower 🤇	Lower O Similar Higher O Not Composition				Benchmark Value Vorst/Lowest 25th Percentile 75th Percentile Best/Highe:			
	Period	Wirral		Region	England	England			
Indicator		Count	Value	Value	Value	Worst/ Lowest	Rang	e	Best/ Highest
Deprivation	2014	98,490	30.7%	31.9%	20.2%	60.5%			0.0%
Children in poverty (under 16s)	2013	13,115	22.5%	21.0%	18.6%	34.4%			6.1%
Statutory homelessness	2014/15	100	0.7	1.2	2.4	10.4		0	0.1
GCSEs achieved (5 A*-C inc. English and maths)	2014/15	2,155	61.0%	55.9%	57.3%	42.0%		0	71.4%
Violent crime (violence offences)	2014/15	3,871	12.1	13.9	13.5	31.7			5.2
Long term unemployment	2015	868	4.4	5.1	4.6	15.7	\diamond		0.7



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The aspiration

- Peel as the developer/landowner
- Over 30 years
- 20,000 new jobs
- 14,000 new homes
- Part of wider regeneration



Wirral Waters



But there is a real need for regeneration

- High Unemployment
- Poverty
- Lack of investment
- Declining quality of environment
- Ageing population





And then..

Climate change

- Winter temperature will increase by 2.6°C;
- Summer temperature will increase by 3.7°C;
- Summer mean daily maximum temperature will increase by 4.8°C;
- There will be an increased frequency and duration of heat waves;
- Winter rainfall will increase 16%;
- Summer rainfall will reduce by 22%;
- Heavy rainfall and storm events will increase;
- Sea levels will rise by 30-32cm;
- There will be an increased risk of flooding events due to higher winter rainfall, the frequency of heavy rainfall events and rising sea levels;
- Levels of some air pollutants will fall as emission reduction measures have an impact, although levels of ground level ozone are expected to increase.



What can we do?

- How can green infrastructure play a role in
 - Supporting regeneration?
 - Adapting and mitigating climate change?



Our approach given current climate change trajectory

- Plant and manage trees & woodlands so they are resilient to changes
- And so they continue to provide the benefits we want from them



Climate Change Role of Trees & Woodlands

- Mitigation
 - Carbon sequestration & storage
 - Fossil fuel & material substitution
 - Reducing car travel
- Adaptation
 - Temperature extremes
 - Flood risk & water management
 - Visitor resource
 - Species movement



Climate Twins: The Mersey Forest



Resources and information

Resources and information are now available to help organisations, professionals and communities across Cheshire, Cumbria, Greater Manchester, Lancashire, and Merseyside to plan, design and manage their green infrastructure in order to combat climate change.

ACTION GUIDANCE



Green Infrastructure to Combat Climate Change: A Framework for Action in Cheshire, Cumbria, Greater Manchester, Lancashire, and Merseyside can aid policy development and delivery by a broad range of organisations and professions. It recommends actions, potential partners and delivery mechanisms. www.ginw.co.uk/climatechange/framework

EVIDENCE BASE

Online and searchable, this holds a review of key research, policy and delivery relevant to the climate change services provided by green infrastructure; it underpins the Action Guidance. www.ginw.co.uk/climatechange/evidencebase

EVIDENCE REPORT



Green Infrastructure: How and Where Can It Help the Northwest Mitigate and Adapt to Climate Change? summarises the evidence for the climate change services provided by green infrastructure and maps where each could be the most important; it underpins the Action Guidance.

www.ginw.co.uk/climatechange/report

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MAPPING TOOL

This online tool helps users to spatially assess potential risks and vulnerabilities to climate change in their area. It can aid decision-making and be used to visually engage people on the need for climate change adaptation. It includes data on hazards, social and environmental vulnerability, and green and blue space. www.ginw.co.uk/climatechange/assessmenttool

COMMUNITY TRAINING

From games to group discussion exercises, this set of training materials is for use by practitioners to engage communities on climate change adaptation and the role of green infrastructure. www.ginw.co.uk/climatechange/training

TOOLKIT FOR DEVELOPERS

This helps developers to determine their 'Green Infrastructure Score' and potential interventions to maximise the benefits that green infrastructure can provide. It has potential to be used in planning policy and to aid discussion on green infrastructure between planners and developers.

www.ginw.co.uk/climatechange/gi_toolkit

STAR TOOLS

Surface temperature & runoff tools for assessing the potential of green infrastructure in adapting urban areas to climate change

www.ginw.co.uk/climatechange











Trees to manage temperature





Green Infrastructure percentage cover

Maximum surface temperatures on a hot summer's day



Mapped at the ward level, the 50% probability level and the 2050s High emissions scenario¹²⁶





Trees helping to manage water

- Average water volume retention is approximately 40%
- Storm waters are also slowed by the system by up to 2 hours, with a delay in stormflow peak by up to 1 hour



Urban Catchment Forestry:

The strategic use of urban trees & woodlands to reduce flooding, improve water quality, & bring wider benefits

<u>www.merseyforest.org.uk/our-</u> work/climate-change/urban-catchmentforestry



Applying all this to Wirral Waters

- Regeneration
- Climate change adaptation and mitigation

- 1200 new urban trees
- New park
- 22km of roads improved



Estimated Typology



















lotstodo domore PicnicInIIIchesterPark Sunshine Excellent Good avariety of activities kids Nicechange enjoyable Fantastices pecially the plant potting thanksfordoingthisforourcommunity plentytodo Notstoppedlearningskillsandmakingthings wellattended shouldhappenmoreoften madeup there isn't enought odo in this park normally pleasant giveskidssomethingtodo reallyenjoyedit Goodone Grea lotsofactivities Fantastic Fun Nice Niceweather Brilliant Goodevent fantastic Verypositive brilliant

What is it worth?





Spreadsheet-based **Calculator**



User Guide

BENEFITS	BENEFIT MONETISATION			
Benefits groups	GVA value	Land and property value	Other economic value	
1 Climate Change Adaptation & Mitigation	£0	n.a.	£16.5k	
2 Water management & Flood Alleviation	£23	n.a.	n.a.	
3 Place & communities	n.a.	n.a.	n.a.	
4 Health & Well-being	£725	n.a.	£4.5m	
5 Land & Property Values	n.a.	£6.9m	n.a.	
6 Investment	n.a.	n.a.	n.a.	
7 Labour Productivity	£397k	n.a.	n.a.	
8 Tourism	£0	n.a.	n.a.	
9 Recreation & leisure	n.a.	n.a.	£184k	
10 Biodiversity	n.a.	n.a.	£0	
11 Land management	£0	n.a.	n.a.	
TOTAL ECONOMIC VALUE OF BENEFITS	£398k	£6.9m	£4.6m	



What do residents say?

- 50% of people have noticed the tree planting
- Cycling along green routes has doubled
- Main benefits
 - Enhancing the area
 - Making the area greener
- 70% thought climate change was happening
- 60% thought that tree planting would help tackle climate change

What about local businesses?

ІМРАСТ	FREQ
WOULD MAKE AREA LOOK BETTER	94.1%
IMPROVE IMAGE OF BIDSTON	85.3%
CREATE WORK MAINTAINING TREES	82.4%
CREATE WORK PLANTING TREES	79.4%
WOULD INCREASE PROPERTY VALUES	44.1%
ENCOURAGE PEOPLE TO SPEND TIME IN AREA	32.4%
WOULD INCREASE FOOTFALL	26.5%
WOULD INCREASE SALES	17.6%
WOULD BLANK OUT MOTORWAY	14.7%

TREES © WORK

A Portrait of Birkenhead Business by Len Grant

Williamson Art Gallery and Museum, CH43 4UE 24 October - 23 November 2014











A leap of faith?



I don't think so...

- Evidence based
- Targeted
- Community support
- Tangible results
- Multiple benefits
- ...with potential for more...



Thank You

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