



# Routes to Growth

**Northern  
Powerhouse  
Waterways  
Our Prospectus**



Canal &  
River Trust

# Foreword



England's canals and river navigations were instrumental in shaping the Industrial Revolution over 200 years ago. They connected people, places and markets, formed critical trade routes and allowed industry to grow and thrive. Along their routes, new towns sprang into life and cities expanded.

Today, our waterways are places for people to discover and enjoy, for leisure and relaxation, to connect with heritage and nature. They are inclusive and accessible, within easy reach of millions, free and easy to use for a wide range of activities.

And these waterways have another role to play: a role in the creation of a sustainable economic and cultural powerhouse, which positions our inland waterways right at the heart of the resurgence of a Northern Powerhouse in the 21st Century.

The inland waterways of the Northern Powerhouse are nationally significant assets. They include large commercial and narrow cruising canals, tidal and non-tidal navigable rivers as well as docks, reservoirs and other structures such as the Tees Barrage.

Waterway corridors can be thriving places, the catalysts for regeneration and a focus for development, with waterways that are vital for local SME businesses and social enterprises, and which also support and enhance large national companies. They form a valuable part of the nation's visitor and green economies – engaging local communities and visitors alike, appealing especially to children and young people, laying the foundations for our future well-being and prosperity.

The waterways of the Northern Powerhouse are multi-purpose assets. As well as providing local and strategic sustainable transport routes, they are also embracing new roles and new technologies – for example becoming new 'Information Superhighways' and a source for thermal energy generation and cooling.

This prospectus sets out how the waterways can contribute so much more to growing the economic performance of the Northern Powerhouse. The Canal & River Trust is already working with its many partners to realise this potential.

If we are ambitious and creative, our waterways can become a resource for all to use, and make a huge contribution to competitive, smart, resilient and liveable city regions, to unlock the potential that waterways offer as routes to growth.

## **Allan Leighton**

Chair, Canal & River Trust



# Creating conditions for growth



## **European Gateway**

pages 10-13

Upgrading the commercial waterways in Yorkshire to become Euro Class II routes and developing the Inland Port of Leeds to create an integrated port corridor from the Humber to Leeds. This will provide an alternative to road freight, increase port capacity and maximise the opportunities provided by the European Gateway to exploit the Northern Powerhouse's competitive edge.



## **Connectivity**

pages 14-17

Creating 4G and 5G Smart City Regions, improving connectivity within City Regions, improving economic competitiveness and providing a resilient platform for economic growth.



## **Resilience**

pages 18-21

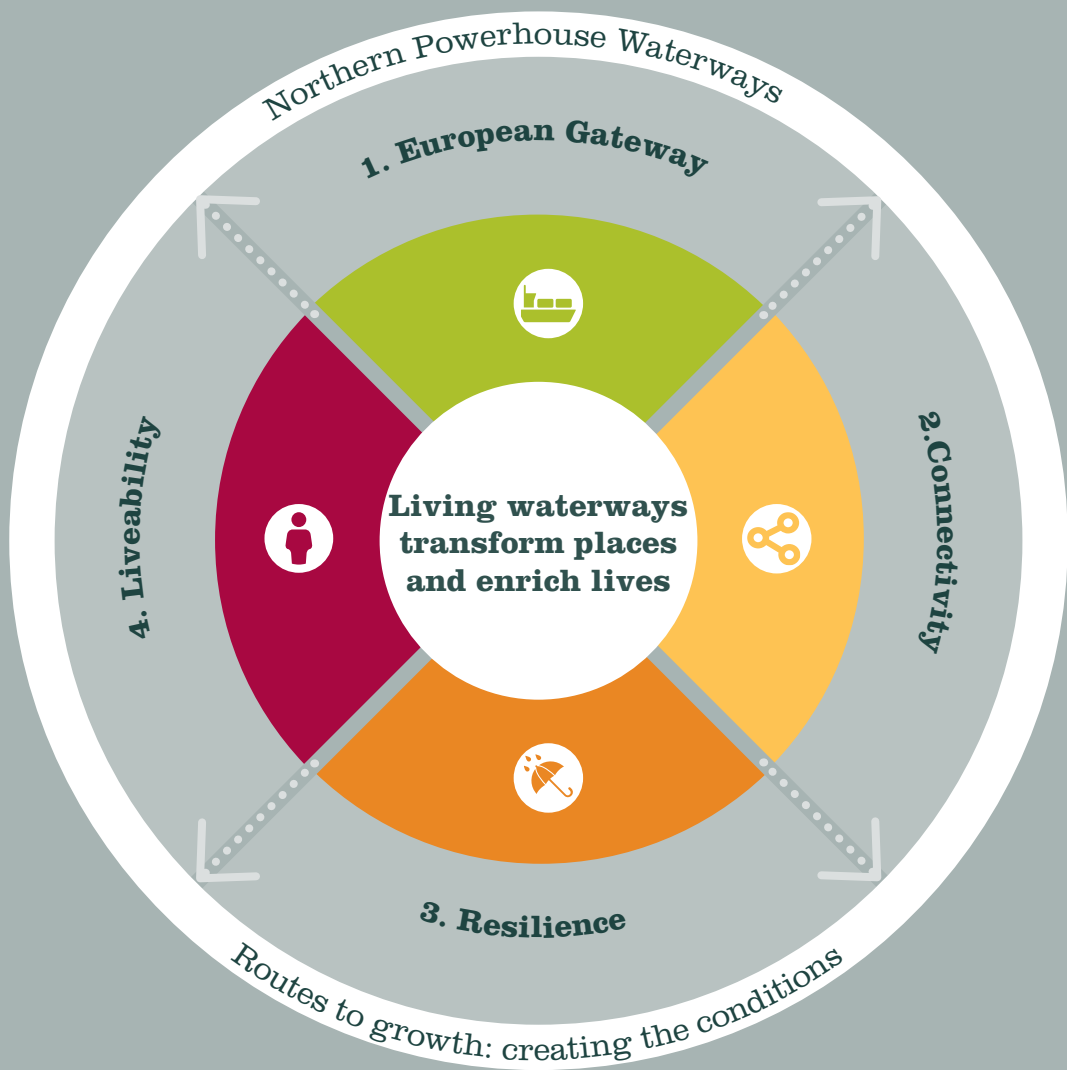
Building energy and environmental resilience and supporting the transition to low carbon economies through sustainable energy sources; cooling the urban environment; improving air quality; reducing flood risk to development; and enhancing biodiversity and ecological resilience.



## **Liveability**

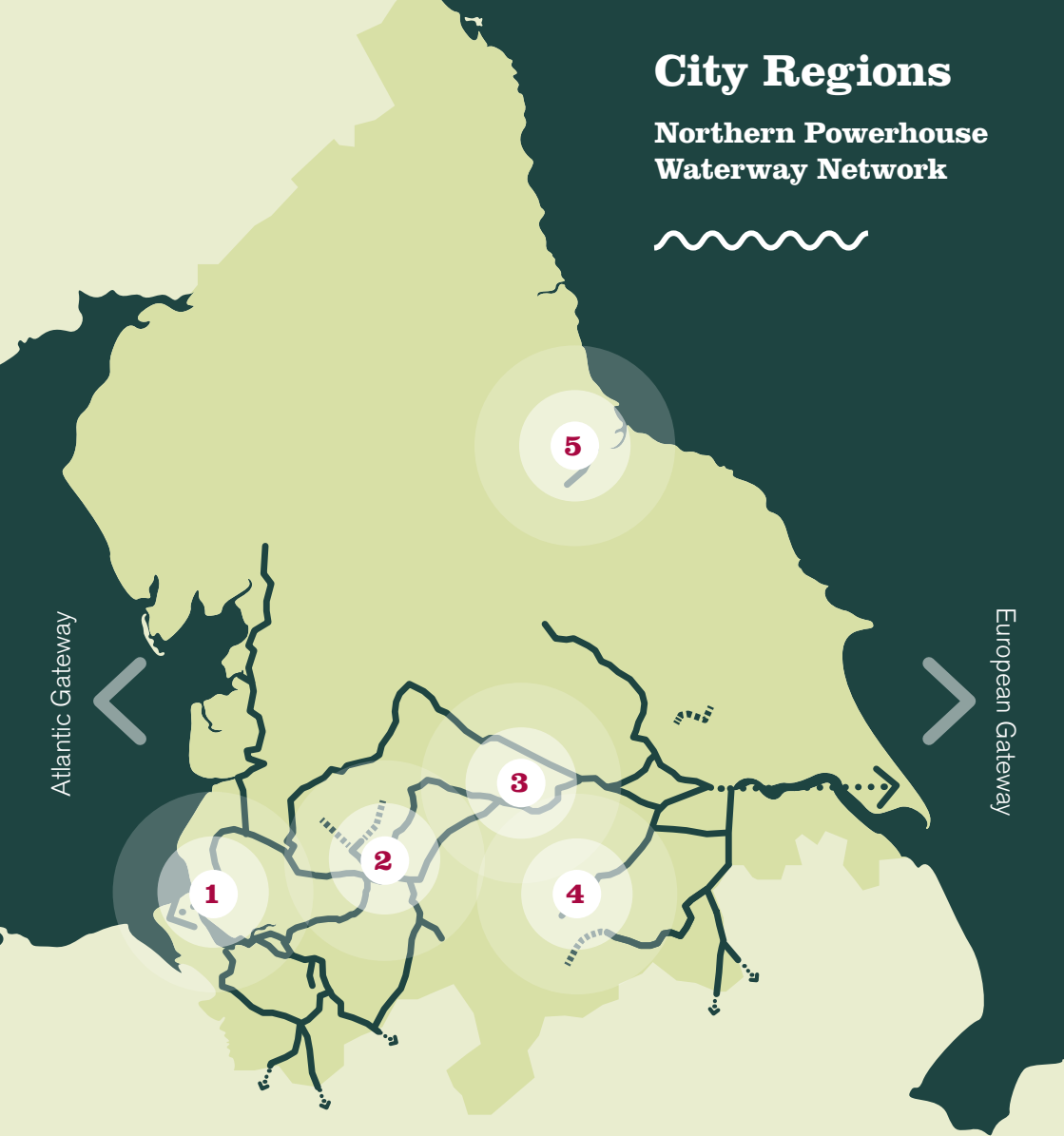
pages 22-29

Creating attractive and healthy places to live, invest and spend leisure time, in turn underpinning economic prosperity.



# City Regions

## Northern Powerhouse Waterway Network



Northern Powerhouse area



Non-Northern Powerhouse area



## Population

% of people living on or near the waterway



## Deprivation

% of all households living within the City Region that are in the most 10% deprived areas nationally



## Businesses

Number of businesses actively trading within 150 metres of the waterway



## Health

% of people living on or near waterways who report being in bad or very bad health

### City Regions:

#### 1 Liverpool

 16%  33%  1,500  9%

#### 2 Greater Manchester

 25%  22%  945  8%

#### 3 Leeds

 26%  18%  4,700  5%

#### 4 Sheffield

 15%  17.5%  1,230  7.5%








#### 5 Tees Valley

 10%  28%  443  6%

















# Visitor economy

## Northern Powerhouse Waterway Network



-  Northern Powerhouse area
-  Non-Northern Powerhouse area
-  Cheshire Ring
-  South Pennine Ring
-  Two Roses Ring
-  City Regions
-  National Parks

### Waterway destinations and attractions:

-  1 Tees Barrage & International White Water Centre
-  2 Skipton
-  3 Bingley Five Rise
-  4 New Dock, Leeds
-  5 Hull Marina
-  6 Hebden Bridge
-  7 Sowerby Bridge
-  8 The Hepworth, Wakefield
-  9 Albert Docks & Liverpool Link, Liverpool
-  10 Salford Quays
-  11 Standedge Tunnel
-  12 National Waterways Museum, Ellesmere Port
-  13 Anderton Boat Lift
-  14 Bugsworth Basin
-  15 Victoria Quays, Sheffield
-  16 Chester



Over **113 million** annual visits – approximately **1.46 million visitors** every two weeks





Supports over **10,000 jobs**  
directly and indirectly



Contributes **£400 million**  
to the Northern  
Powerhouse economy

## Competitive City Regions and corridors



### The opportunity

The draft Transport for the North (TfN) Freight Strategy outlined two key objectives:

1. To enhance the capacity and resilience of the network to deliver world class national and international connectivity.
2. To maximise the opportunities provided by the international gateways to exploit the Northern Powerhouse's competitive edge.

The time is now right to invest in the east of the Northern Powerhouse – to unlock the North Sea European Gateway.



## A study on behalf of TfN found that:



13%

inland freight is predicted to grow by at least 13% by 2033



congestion on the transport network is estimated to cost the north £500 million per year by 2043

Improving strategic connectivity, exploiting underutilised assets and taking advantage of the Northern Powerhouse's strategic position in relation to European Gateway are all key to enhancing economic competitiveness.

### The challenge

The commercial waterways in Yorkshire have the potential to be strategic sustainable transport corridors for waterborne freight. They are currently under-utilised due to:

1. Capacity issues with Humber Ports, which affect freight throughputs.
2. Currently unable to accommodate Euro Barge Class II container barges.

### Addressing the imbalance

There is significant investment in coastal and inland port infrastructure in Manchester and Liverpool City Regions to create the UK's first tri-modal – sea, road and rail – inland port. Due to open in 2016, Liverpool2 Development is a £300 million investment project to create the most central deep-water container terminal in the UK, accommodating post-panamax vessels, the biggest container ships in the world. The creation of a new £300 million new freight terminal, the inland Port of Salford, is also under construction. Both infrastructure projects, combined with greater use of Manchester Ship Canal for waterborne freight, will enable Atlantic Gateway connections to the west of the Northern Powerhouse to be fully exploited.

There is a real opportunity to address the imbalance in the sustainable transport infrastructure between Manchester and Liverpool City Regions in the west and Leeds, Sheffield and Hull City Regions in the east.





## The big idea

Our commercial waterways offer a great opportunity to deliver significant economic and environmental benefits to the Northern Powerhouse, by creating feasible and viable alternative domestic and European strategic freight routes.

Creating an inland Port of Leeds and upgrading 50 miles of commercial waterways to Euro Class II routes would create an integrated port corridor from the Humber to Leeds, and would open up potential for future South Yorkshire Inland Ports. With relatively low levels of investment our waterways could be brought back into use as an essential part of our freight transport network.



European Gateway

## Ready to go

A significant amount of work has already been done by the Canal & River Trust and our partners. The land is assembled, planning permission is in place, feasibility studies have been carried out, and we already have support at the European Funding EOI stage.

We are currently exploring capital funding opportunities in order to assemble the investment required to deliver this major transport infrastructure project.

“We believe that the Canal & River Trust upgrading the Aire and Calder Navigation to Euro Class II capacity will significantly improve the diversity of the Humber Ports and traffic into West Yorkshire. We are working with the Trust on realising this potential.”

Danny Carmichael, Customer Services Operations Manager, Associated British Ports, Hull & Goole

# Smart City Regions and corridors



## The opportunity

Connectivity is key to economic competitiveness and can provide a resilient platform for economic growth. Our Northern Powerhouse Waterways can enhance this connectivity in a number of ways.

## HS2 Phase 2

### Transformation of the station cities

The HS2 Rail network will bring about transformational change, particularly around the station cities of Sheffield, Leeds and Manchester. Waterways are located close to the HS2 stations and have an important role to play in helping to integrate the stations into the cities and enhance accessibility and connectivity in the surrounding areas.

In Birmingham, the Canal & River Trust is a member of the HS2 Ltd Birmingham City Council Station Steering Group, working with partners on the HS2 Phase 1 Birmingham Curzon Masterplan. The city's waterways are being opened up as a recreational and visual amenity. We are now keen to work with Leeds, Sheffield and Manchester to use add the value of waterways to enhance the HS2 Phase 2 Station Masterplans.



## Department of Transport's Cycle City Ambition Grant



### Stage 1 projects



£3.5 million funding for Leeds-Bradford 'City Connect' and Manchester 'Velocity' projects.

### Stage 2 projects



Valued at £6 million. Improving sections of urban towpath on six Northern Powerhouse canals.

### Digital connectivity

#### Creating 4G and 5G Smart City Regions

Digital and telecommunication technologies strengthen communities, improve economic growth, enhance services and reduce energy consumption and environmental emissions.

Telecommunications companies, including Sky Networks, Vodafone, Virgin, BT, EE, and Tata Communications already utilise the waterway corridors within the Northern Powerhouse – with the potential to accommodate even more.

There is a real opportunity to maximise existing waterway networks and provide the opportunity for new and improved infrastructure around densely populated areas, such as the routing of infrastructure for district heating schemes and increasing mobile density to create 4G and 5G towns and cities.

There is also the opportunity to use towpaths as conduits for fibre connectivity.

### Sustainable transport

#### Connecting people, places and opportunities

Around 20% of households in the City Regions live within one kilometre of a Northern Powerhouse waterway. With this proximity in mind, the network of canal towpaths and riverside paths form sustainable transport routes for walking and cycling and provide the opportunity to improve connectivity within the city regions and beyond, whilst improving air quality, lowering carbon dioxide levels and reducing congestion on local roads.

In addition to our ambition to upgrading the commercial waterways in Yorkshire to Euro Class II routes, the Canal & River Trust believes that there may be some future freight potential on the Weaver Navigation.

# Blue Route 1: Rochdale Nine



## The big idea

The concept of Blue Route 1: Rochdale Nine in Central Manchester has been developed to reinforce a sense of identity along the route of the canal. It aims to help to better integrate the canal with the city, encouraging people to walk, cycle and relax, and ultimately make the canal a well-loved cultural destination and sustainable route.



Images reproduced  
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- |   |                        |    |                                    |
|---|------------------------|----|------------------------------------|
| 1 | Spinningfields         | 7  | Castlefield                        |
| 2 | Arndale                | 8  | Deansgate Station                  |
| 3 | Northern Quarter       | 9  | Bridgewater Hall                   |
| 4 | Albert Square          | 10 | Manchester Metropolitan University |
| 5 | Manchester Art Gallery | 11 | Oxford Road Station                |
| 6 | Piccadilly Station     | 12 | First Street                       |

# Resilient City Regions and communities



## The opportunity

The Northern Powerhouse Waterways have a significant role to play in building energy and environmental resilience and supporting the transition to low carbon economies.

### Cooling the urban environment

The urban heat island effect is a feature of modern cities – the build-up of heat in densely developed urban cores. In summer, this effect can make cities uncomfortable places to live and work. And as urban populations continue to grow, this effect will only get worse. Waterways can provide ‘blue lungs’ for residents and visitors alike, contributing to urban cooling in hot summer months.

### Improving air quality

Our waterways are natural transport routes. Whether it's for commercial purposes by waterborne freight, or towpaths and riverside paths for sustainable transport and healthy routes, increasing the use of our waterways contributes to improving air quality and reducing carbon emissions within the Northern Powerhouse. This is key, as air quality in some parts of the Northern Powerhouse are the worst in Europe.



## The Northern Powerhouse Waterways flowing through the City Regions contain:



**200 MW**

enough thermal energy to produce 200 MW of energy...



**100,000**

...which would heat 100,000 houses.

### Enhancing biodiversity and ecological resilience

Northern Powerhouse Waterways are a valuable part of the strategic and local green infrastructure network. They also provide an important wildlife route and act as stepping stones for mitigation against habitat loss, dispersal and the genetic exchange of plants.

### Reducing flood risk to development

With careful design the Northern Powerhouse Waterways can provide sustainable options for site drainage from future developments. This may allow developments that would otherwise not be viable due to flood risk concerns. The managed nature of canal water levels, and the ability of our waterways to potentially accept surface water run-off, may also assist in wider consideration of flood mitigation measures. The Canal & River Trust is keen to work with others to explore opportunities through research and modelling.

### Re-building resilience in affected flood areas

We are closely working with the Local Authorities, the Environment Agency, affected communities and businesses and Central Government's Cabinet Office to improve future resilience in flood affected areas and to look at new innovative ways of mitigating or minimising the impact of future flooding events arising from climate change.

The Canal & River Trust is keen to work with stakeholders and local communities to develop a Landscape Partnership to unlock the environmental and cultural potential of the waterways as a great community resource, enhancing local people's quality of life.

# Thermal heat energy opportunities



## Waterways heat capacity (kW)

- 0-100 kW
- 330-530 kW
- 530-840 kW
- 840-2,200 kW
- 3,700-6,600 kW

- Northern Powerhouse area
- Non-Northern Powerhouse area

Potential for the Northern Powerhouse Waterways to contribute so much more is highlighted in the canal layer on the DECC's Heat Map [tools.decc.gov.uk/nationalheatmap](http://tools.decc.gov.uk/nationalheatmap)



## Sustainable energy sources

Northern Powerhouse Waterways can contribute to the low carbon economy through new energy technologies such as biomass capacity; waste streams, for example recycling, reuse and energy from waterway operation and maintenance; and the abstraction of canal water for cooling and/or heating purposes.

The water flowing through the City Regions via the Northern Powerhouse Waterways contains enough thermal energy to produce around 200 MW of energy. This energy can be extracted using water-sourced heat pumps to provide an incredibly efficient form of heating and cooling. It could also help to reduce the electricity demand and balance electricity supply. A number of businesses now use this low carbon energy source to heat and cool their buildings.

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The Hepworth, Wakefield,  
is using water as a low  
carbon energy source  
to heat and cool the art  
gallery building.  
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# Liveable City Regions and healthy communities



## The opportunity

The Northern Powerhouse  
Waterways have a significant  
role to play in creating attractive  
and healthy places to live, invest,  
relax and play.



Over the last twenty years,  
waterways have been both  
the catalyst and the focus  
for an immense amount  
of regeneration and  
development activity in  
the Northern Powerhouse.



## Supporting regeneration, renewal and growth through:



place-making  
and place-shaping



re-branding and  
confidence building



attracting and  
generating investment



improving  
quality of life

### Place-making

Underperforming waterways and areas of market failure and high deprivation quite often go hand in hand. Over the last twenty years, waterways have been both the catalyst and the focus for an immense amount of regeneration and development activity in the Northern Powerhouse. This activity has acted to build developer and investor confidence, particularly in disadvantaged areas.

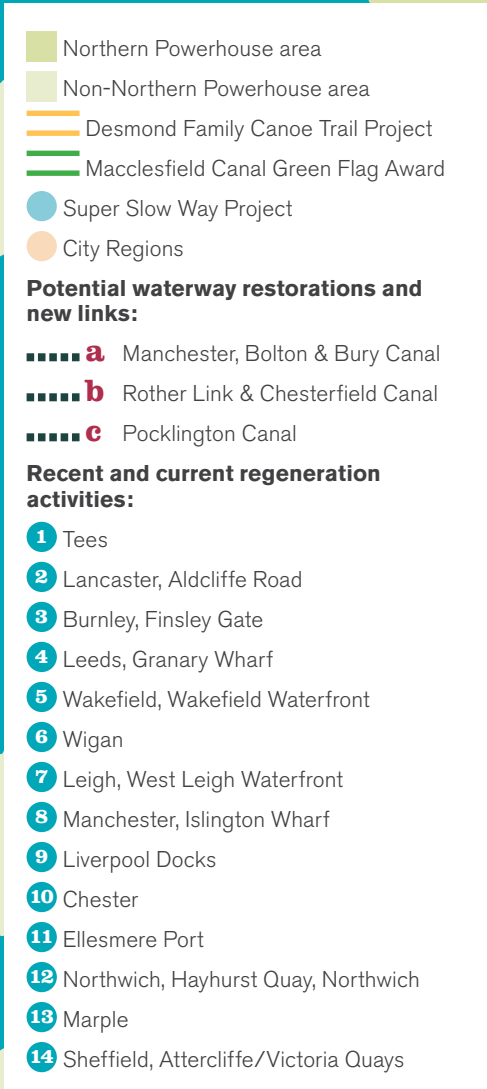
The Canal & River Trust, along with joint venture partners, are delivering housing and mixed use regeneration schemes across the Northern Powerhouse.

### Health, wellbeing and happiness

Economic prosperity of the Northern Powerhouse is dependent upon having a healthy and active workforce. The Northern Powerhouse Waterways have a significant role to play, particularly in tackling physical inactivity, obesity and reducing stress in the many disadvantaged communities with waterways on their doorstep. Learning outside the classroom is also proven to tackle social mobility and be of particular help to young people from disadvantaged backgrounds, increasing self-esteem, raising levels of attainment and improving mental health and wellbeing.

### Living landscapes

The waterways and towpaths provide a range of outdoor space for cultural, civic, learning and community activity and local heritage. They are often on local communities' doorsteps within the Northern Powerhouse and have an important role to play in skills development and youth social action.







# Liveability: current and potential initiatives

Northern Powerhouse  
Waterway Network



# Transforming places – catalysts for regeneration



## The regenerative effect of:

**Canal restoration schemes** for example Huddersfield Narrow and Rochdale canals – created around 500 jobs and attracted two million additional visits each year.

**Waterside Festivals and Events on the Water** – utilising waterways as platforms for festival

**Waterspaces** – more than just a setting or backdrop to development, provide an unique opportunity to become a leisure and commercial resource in its own right, generating more activity, life and vitality – floating homes, cafes, art galleries, shops, classrooms and offices, as well as watersports and community boats.

**Waterway Museums and Attractions** add to the wider 'place offer' for visitors and local communities.

## New restoration and waterway link opportunities within the City Regions:

### **Manchester, Bolton & Bury Canal:**

First phase completed at Middlewood Locks with significant redevelopment of the area due to start in 2016.

**Rother Link:** There is an aspiration to create this new waterway link and complete the restoration of the Chesterfield Canal to create a navigable ring around Rotherham and support regeneration in Sheffield City Region.

**Pocklington Canal:** Underway with support from Heritage Lottery.

Stockton International Riverside  
Festival photograph by Gilmar Ribeiro



## Images

**Top:** Stockton International River Festival attracting 60,000 visitors over the weekend

**Right:** Liverpool's Historic Docks – opportunity to bring more life and vitality to the Docks

**Below:** National Waterways Museum, Ellesmere Port – integral part of the wider regeneration vision for the town



# Enriching lives – improving inclusion and prospects



## Desmond Family Canoe Trail Project

The Canal & River Trust is working with Canoe England, local partners, schools, universities, canoeing and football clubs, disability organisations and community groups along the route to develop England's first Coast to Coast canoe trail from Liverpool to Goole by 2020.

- Runs through Wigan and Burnley where youth unemployment (44%) and child obesity (32%) are well above the national average.
- Over five-years, the project aims to directly engage with 10,000+ 15-24-year-olds and their families through Canoe Action Squads and recruit nearly 2,000 volunteers aged 15-25.

Getting young people into canoes and onto our waterways will introduce them to healthy lifestyles, build confidence and new skills in communication, project management and leadership and develop a sense of belonging to place and community.

## Super Slow Way Project

is a major Arts Council England funded commissioning programme in Pennine Lancashire. The Canal & River Trust, plus private and public partners, are working with communities along the Leeds & Liverpool Canal to explore how they relate to their environment, neighbourhoods and each other. The long term aim is to create the UK's first linear industrial heritage landscape park and new visitor destination.

**The Macclesfield Canal** is the first canal in the Northern Powerhouse and in the UK to be awarded Green Flag status, recognising excellence in the management of the canal as a public space, and meeting high environmental and visitor standards.

Our ambition is for 25% of our Northern Powerhouse waterway network to be awarded DCLG Green Flag Award® status.

## Images

**Top:** Desmond Family Canoe Trail Project

**Below, left:** Super Slow Way Project

**Below, right:** Macclesfield Canal Green Flag Award®





# Our credentials

**Strong track record  
in delivery and  
partnership working**



The Canal & River Trust is an experienced, innovative and reliable delivery partner. We have worked in partnership with a number of public, private and voluntary organisations across a range of projects.

## **Major infrastructure projects** Living waterways – engineering excellence



**Images**  
**Top left:** Liverpool Link  
**Above:** Falkirk Wheel  
**Right:** Olympic Waterways



## Regeneration and development

Transforming places – creating great places



### Images

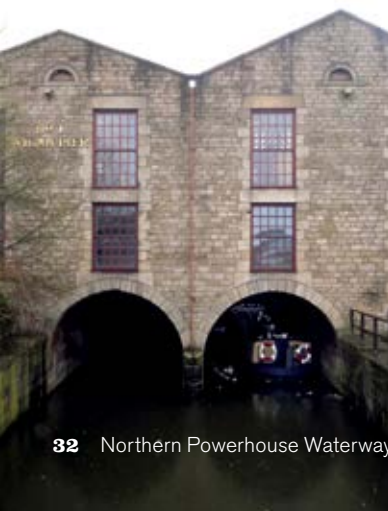
Schemes with our joint venture partner MUSE in Granary Wharf in Leeds (**top**); Islington Wharf in Manchester (**left**); and Hayhurst Quay, Northwich (**above**) with our joint venture partner Bloc.

**Awards for Granary Wharf include:** Best New Building, Leeds Architecture Awards, 2012; Award for Masterplan, Project of the Year and Gold Award, RIBA, 2011; and many more...

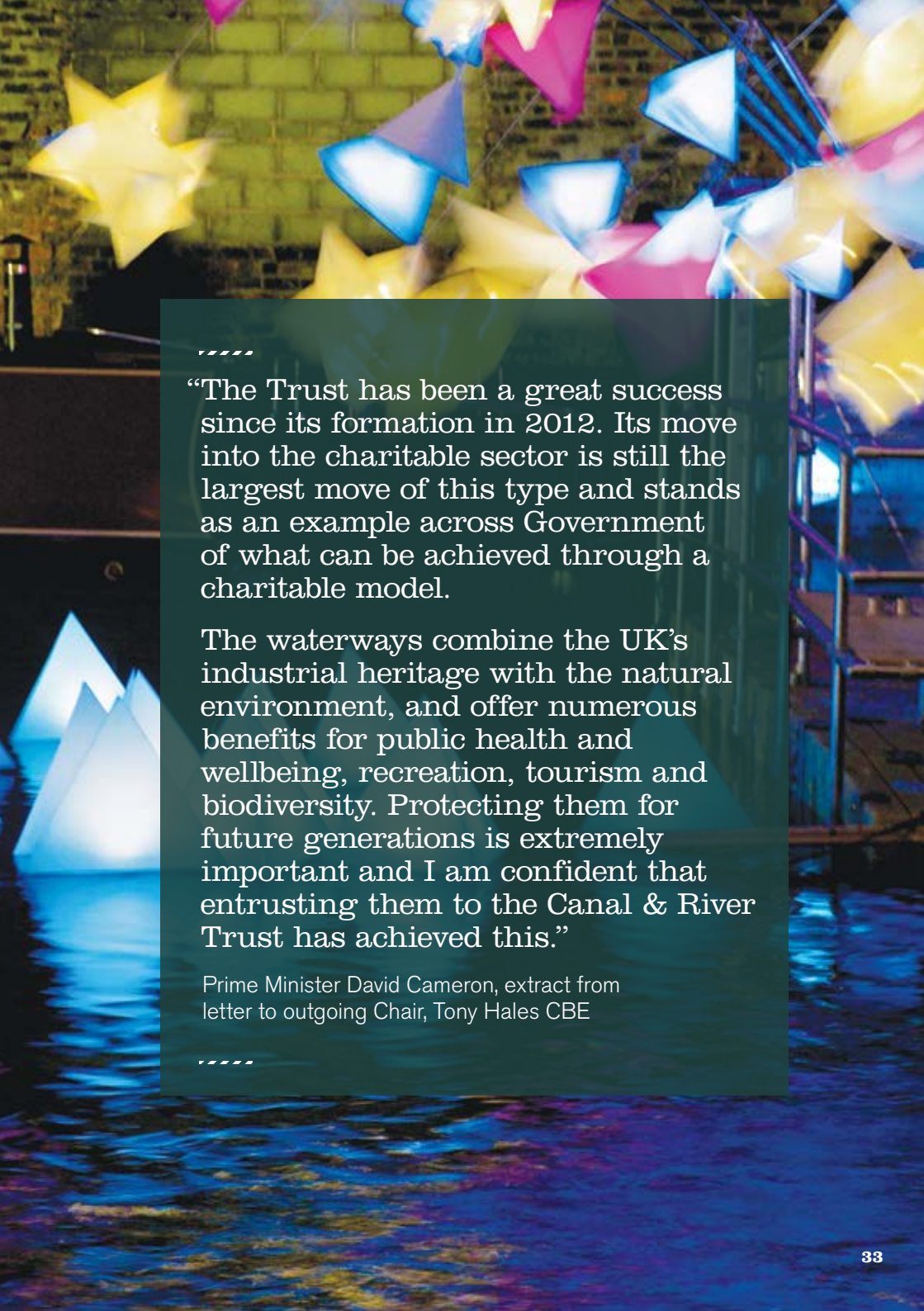
## Working in Partnership



**Top:** Victoria Quays, Sheffield  
**Below left:** Wigan Pier Quarter  
**Below right:** Saltscape Project,  
Northwich







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“The Trust has been a great success since its formation in 2012. Its move into the charitable sector is still the largest move of this type and stands as an example across Government of what can be achieved through a charitable model.

The waterways combine the UK’s industrial heritage with the natural environment, and offer numerous benefits for public health and wellbeing, recreation, tourism and biodiversity. Protecting them for future generations is extremely important and I am confident that entrusting them to the Canal & River Trust has achieved this.”

Prime Minister David Cameron, extract from letter to outgoing Chair, Tony Hales CBE

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# Contact us



We believe that the Northern Powerhouse Waterways can help to create the conditions for growth, transform City Regions and enrich the lives of people living and working in the Northern Powerhouse. If you share our vision, and wish to explore any of the opportunities set out in this Prospectus, please contact us.

## ■ North West Waterways

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