

Humber Nature Conference

26th November 2019

Alex Codd, Assistant Director Economic
Development & Regeneration

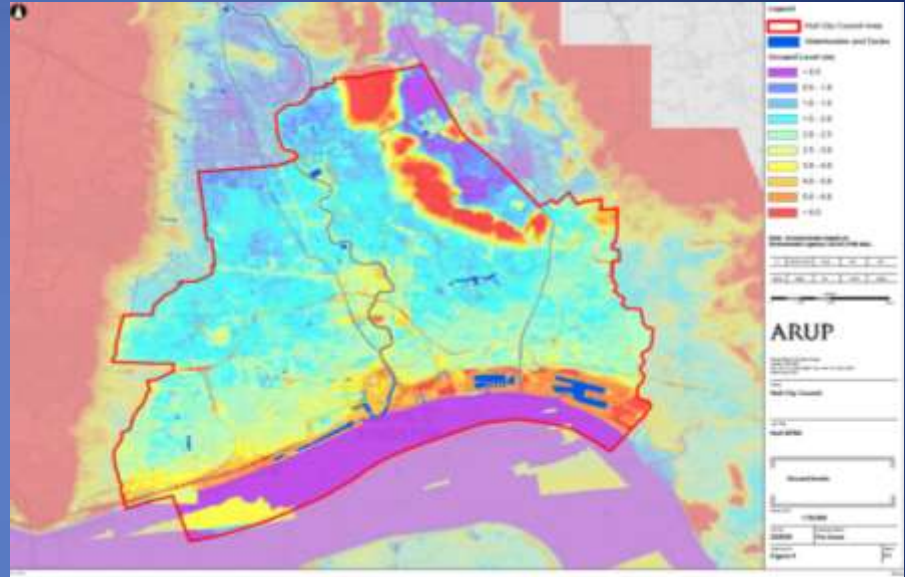
Hull: A City at the front of responding to
a changing climate



Overview

- Significance of Water to Hull
- Action Already taken
- Local Industrial strategy and focus on decarbonisation
- Offshore Wind
- Zero Carbon Motion
- Autumn 2019 Floods

Flood risk: from marshland to City of Culture



- Types of flood risk in Hull:
- Fluvial
 - Sewer
 - Tidal
 - Groundwater
 - Surface water



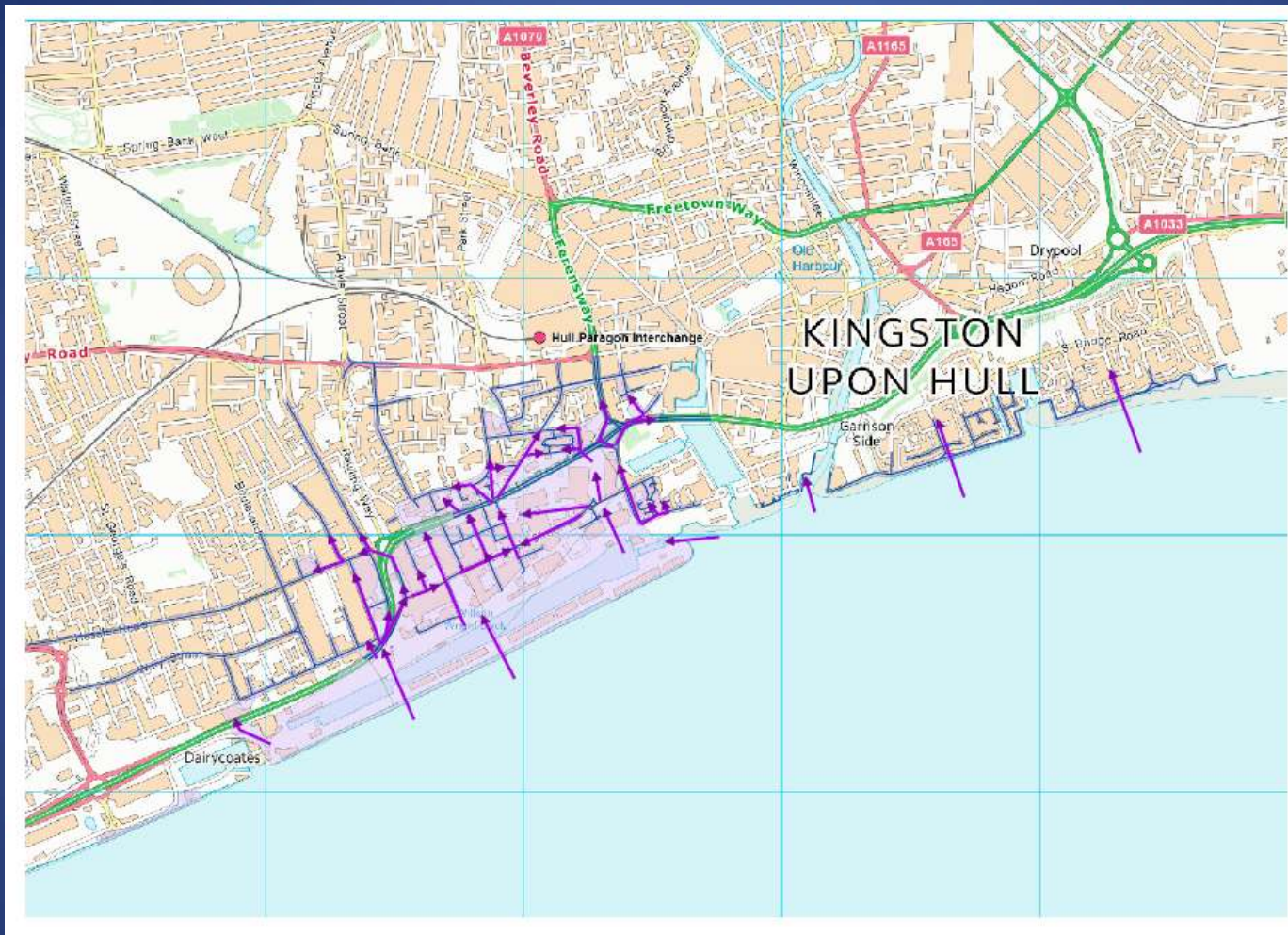


THE ALEXANDRA DOCK, HULL.



Hull
City Council





Hull
City Council



Hull
City Council

Action Already Taken

- Covers Hull & the west Hull villages
- A partnership of Hull & the East Riding of Yorkshire Councils, the Environment Agency and Yorkshire Water
- Total investment of over £250 million
- (80%) Defra Flood Defence Grant
- (10%) Humber Local Enterprise Partnership Growth Fund
- (10%) European Regional Development Fund Priority Axis 5



Environment Agency Schemes

- River Hull defences:
- £60 million (for phases 1 and 2 and River Hull+)
- Better protects around 6000 properties
- Due for completion in March 2021



Environment Agency Schemes

- Tidal barrier:
- Built in 1980
- Had a £10 million refurb in 2009-2010
- Protects around 17,000 properties
- Replacement £50-100 million
- Nationally Listed in 2017 alongside Humber Bridge



Environment Agency schemes

- Albert Dock flood wall:
- £6million
- Completed in 2015
- Emergency works after 2013 tidal surge
- Better protects 150+ properties and 150+ businesses
- Safeguarded jobs at Smith and Nephew

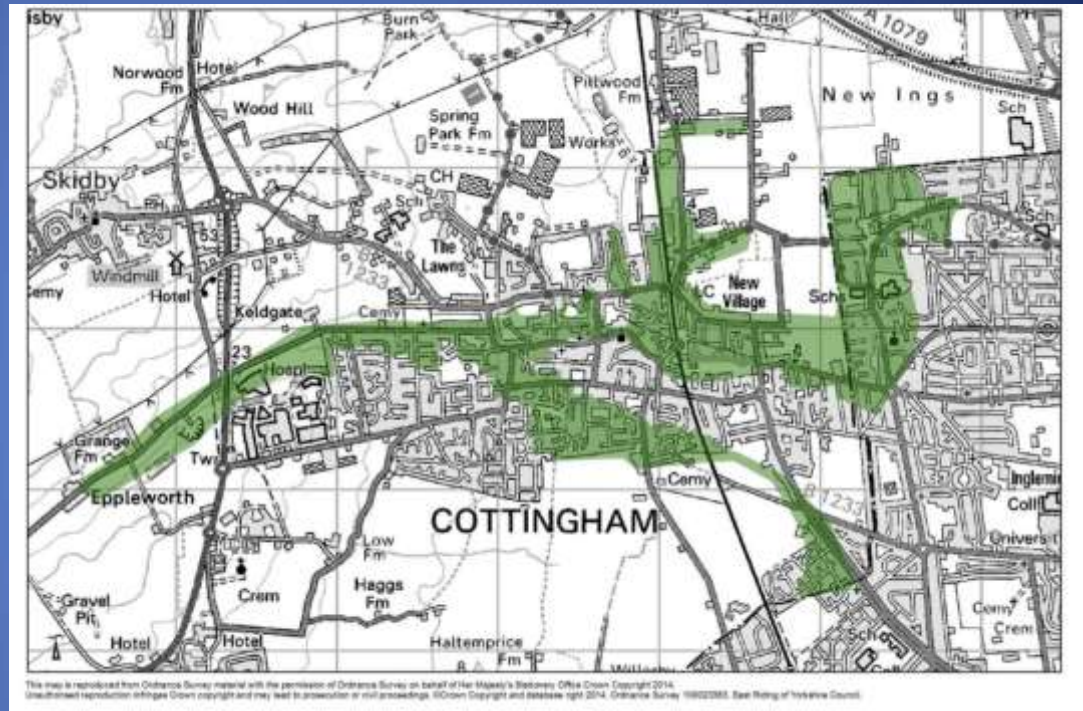


West Hull Flood Alleviation Schemes



Cottingham & Orchard Park FAS

- Total Project Costs £22 million
- AEP 1.33%
- 5741 residences
- 333 businesses
- 233 Ha land
- Started on site June 17
- Completion due December 2019



Willerby and Derringham FAS

- Total Project cost £14m
- AEP 1.33% (inc. climate change)
- 8,000 residential properties
- Started in 2014
- Completed in 2017
- Can hold 232,000m³ of water



Anlaby and East Ella FAS

- Total Project Costs £21m
- AEP 1.33%
- 4495 residences
- 74 businesses
- 87Ha land
- Started on site June 2016
- Completion due March 2020



Hull and Holderness FAS

- Total Project Costs £5 million
- AEP 0.5%
- 600 properties
- Started on site May 2016
- Completed March 2018





quaGreen

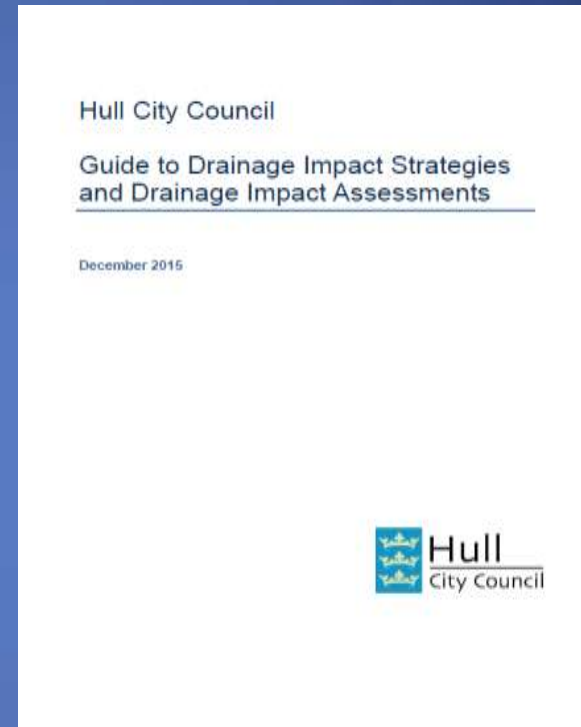
Flood Alleviation Scheme



Hull
City Council

Drainage Impact Assessment

- Required for all major applications
- Must demonstrate how surface water will be retained within the development and only discharged at an appropriate rate
- Encourages the use of SuDS
- Sets out maximum discharge rates



Local Industrial strategy and focus on decarbonisation

- Energy Estuary
- Strategic Importance of Hull and the Humber
- Focus on decarbonisation
- Climate change opportunity
- University and Knowledge key
 - Project Aura
 - Arc Project

THE HUMBER: UK'S ENERGY ESTUARY

Our Energy WE ARE A VITAL ENERGY PROVIDER IN THE UK

We export **1/3** of the UK's gas and a significant amount of biomass.

Which leads our power exports to produce **17%** of the UK's electricity.

We export **1/5** of the UK's natural gas.

We have **1/4** of the UK's oil.

We are **No 1** in the world for natural production.

Hold on to your hat! Our region's 20+ onshore wind farms generate power for over 200,000 UK homes.

Concentrated carbon capture CO₂ emissions from the energy intensive industries around the Humber will be captured, safely transported, then stored in depleted gas fields in the North Sea.

More than just a patch of salt! At SSE at Airth, you'll find gas storage caverns a mile underground. The caverns are hollowed out of a huge salt deposit stretching from here to Denmark.

Is there life on Mars? At the UNIVERSITY OF HULL, our scientists believe that's just driving brilliant solutions for logistics, sea, offshore, wind, water and total energy. We're also researching water flow on Mars.

Our first ever biomass plant from REAL VENTURES will produce green energy for thousands of homes. We're building another one just like it in Levenshulme.

Chemicals

We have a chemicals industry worth £4bn with 15 sites invested in the last 7 years, making everything from bulk chemicals and paints to pharmaceutical ingredients and household products. In fact, there is no other chemical site in Europe with as much investment and activity as Salsford Chemicals Park.

£7.6bn

land covering invested in offshore Wind Farms off the Humber estuary.

We import more of the UK's software than any other part - in the UK, the builders can keep building homes.

Get a new motor? Quizzes are a crime in via Humber Port. We're the busiest car trading port in the UK.

Check out our hidden connections... Langedal, the world's longest undersea gas pipeline, is bringing in up to 20% of the UK's gas demand from Norway.

At VIVERGO FUELS we use locally grown wheat to produce around 1/2 of the UK's bioethanol demand for petrol. We also produce glycerol which is used to keep 20% of the UK's dairy hard fat and contented.

At Centrica and Penneco we pipe in gas direct from the North Sea to Eastington and Drax - on a cold day up to 30% of the gas used in the UK passes through here.

ROUGH is the UK's biggest gas storage facility meeting approx. 16% of UK's peak day demand. The storage is built into the continental shelf, 9,000 feet under the bed of the North Sea.

Our Ports

WE ARE THE UK'S BUSIEST PORT COMPLEX

and there's space to grow... We have the UK's largest deep water port-side development sites - all within an Enterprise Zone.

Our marine engineers have already received £30m in offshore support vessels.

And here's another way we help keep the UK's lights on... 1/3 of the UK's coal and new biomass comes in through the Humber to fuel our power stations.

bondholders promoting the Humber

At DRAX, we are the UK's largest single producer of electricity. We are transforming into a professional, business-focused plant - bringing new expertise for engineering, demand for more energy crops and attracting investment to bring in biomass from overseas.

At EGGBOROUGH power station we are getting to get on the biomass act by burning biomass alongside coal.

What a load of rubbish! Our new ENERGY WORKS plant converts household waste to power 25,000 homes.

A big hello to the 1 million ferry passengers coming through the PORT OF HULL every year!

PORT OF GOOLE

At GOOLE, we're the UK's most island port making us a key distribution centre, attracting investments from Tesco, Guardian Glass and E.ON. We also handle big abnormal loads such as turbines for offshore wind farms.

TRENT PORTS

The NUMBERS suggest a combination of estuary depth and tidal flow make it a brilliant location for pioneering development of tidal streams energy generation. That's a bonus! In the meantime...

our E.ON STRAW-FIRED power station brings together two of our region's most important skills - energy production and waste burning. It's not to be one of the biggest biomass plants in the world.

ABLE MARINE ENERGY PARK allocated for wind turbines manufacturers and their supply chain.

GREEN PORT HULL allocated for wind turbine manufacturers and their supply chain.

PHILLIPS 66 produces enough petrol every day for an average family car to make five round trips to the moon and is the world's major supplier of high-grade petroleum coke.

PORT OF IMMINGHAM

PORT OF GRIMSBY

PORT OF HULL

PORT OF GOOLE

PORT OF TUNBRIDGE WELLS

PORT OF BRISTOL

PORT OF SOUTHAMPTON

PORT OF LONDON

PORT OF SHELLY BAY

PORT OF SWANSEA

PORT OF SOUTHAMPTON

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PORT OF SOUTHAMPTON

Our Location and Connectivity

Not only do we face Northern Europe, we are midway between London and Edinburgh, making us a critical transport and logistics hub.



A 4 hour drive gives you access to

75% of UK manufacturing

40m people

320m customers accessible across mainland Europe within 24 hours

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GREENEY UK's largest supplier of bio-ethanol.

Did you know that missing freight can cost producers 70% less CO₂ than the equivalent journey by road? At Immingham, we handle around a quarter of all UK rail freight journeys.

WELCOME TO THE Humber

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GLANFORD BRIGG power station can switch from natural gas to biomass generation.

TATA STEEL's wind tower hub is producing 100,000 tonnes of steel pipes annually to manufacturers of wind turbine towers.

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Co-financed by the European Union's European Energy Programme for Recovery.



Hull
City Council



Hull College student training in renewables

Northern Powerhouse Energy Conference





Alexandra Dock from carbon...



Alexandra Dock to clean...



Siemens





Zero Carbon Motion

- Climate Emergency declared Feb 2019
- Action Plan being prepared for Feb 2020
- Funding for climate change team agreed
- Key focus area:
 - Transport
 - Energy Generation
 - Building design
- Business Advisors
- Affordable Warmth Strategy
- Updated procurement processes
- 2022 update of Local Plan

Challenges EV

- 8,000 on street residential EV connections
- Location of EV energy hubs
- Who pays for EV retrofit into existing developments
- Plug and play or wi-fi
- Grid Capacity
- Rapid charge points & locations

Autumn 2019 Floods

- The rainfall totals we have seen recently are:
- Sept- 97.4mm (normal monthly average 35mm)
- Oct- 141mm (normal monthly average 46mm)
- Nov up until 14th- 113mm (normal monthly average 60mm).

Flood Alleviation Schemes



Hull KR Stadium SuDS – August 2013

Flood Alleviation Schemes



Hull KR Stadium SuDS – March 2014

Flood Alleviation Schemes



Hull KR Stadium SuDS – July 2014

Flood Alleviation Schemes



Gleneagles FAS

Flood Alleviation Schemes



Howdale Road FAS

Flood Alleviation Schemes



Lambwath Stream FAS, Bellfield Avenue

Flood Alleviation Schemes



Willerby Carr Daylighting



Flood Alleviation Schemes



Work underway at Field Bridge and Sydney Smith Lagoon, AEEFAS (£22m)

Leven Carr Wetland



Even with the high levels of rain, there's still the potential for more storage.

Flood Alleviation Schemes



Carr Lane Lagoon, WADFAS

Flood Alleviation Schemes



Carr Lane Lagoon, WADFAS (£16m)

Flood Alleviation Schemes



Carr Lane Lagoon, WADFAS



Thank You

