

# Climate Risks and Adaptation Measures in Liverpool City Region

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# Liverpool City Region - Governance

- The Liverpool City Region is a Coastal City Region in the North West of England.
- The Liverpool City Region Combined Authority (LCRCA) is the combined authority of the Liverpool City Region - an area that covers 6 local authority areas of Liverpool, Halton, Knowsley, Sefton, St Helens and Wirral.
- The LCRA was established in April 2014. Membership is made up of the leaders of the six principal membership authorities and the local enterprise partnership.
- The LCRA is a strategic authority with powers over transport, economic development and regeneration.
- In 2015 an agreement was made between the government and the leaders of the Liverpool City Region to devolve a range of powers and responsibilities to the LCRA and a new directly elected mayor for the city region.
- The mayoral election will take place in May 2017.



# Climate Risks for Liverpool

We have begun to identify the risks from climate change, so that we can start to plan to adapt to them.

Risks identified include:

- Impacts of high winds causing the cancellation of public events, power cuts, damage to buildings, trees falling and closure to roads and ferries.
- Summer flash floods led to the flooding of roads and homes
- Heavy winter rain leading to homes and businesses being flooded
- In the longer term, there are risks of health impacts, particularly in areas of deprivation with vulnerable households in our most dense urban areas at higher risk of heat island effects

<http://www.merseysideprepared.org.uk/main-sections/risks-in-merseyside/>



City Centre road closures due to building damage caused by high winds March 2015



High tide on the Wirral and waves at New Brighton during Storm Gertrude. *Photo by Colin Lane*



Trees felled by storm Barney – November 2015



My home town last week!

Not all impacts will be negative and opportunities have been identified for people and businesses, for example:

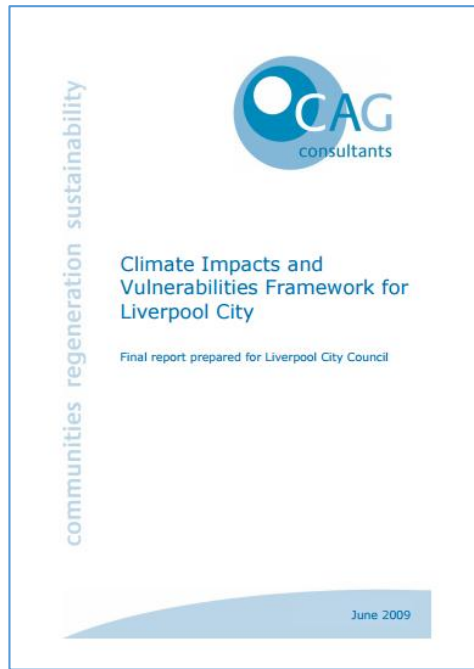
- Economic opportunities for increased tourism and development of outdoor leisure services and promotion of a more healthy, active lifestyle.
- Opportunities to develop the low carbon economy around the natural assets of the City Region, for example the supply renewable energy from offshore wind and tidal power in the Mersey estuary

# Key components of climate adaptation in Liverpool City Region...

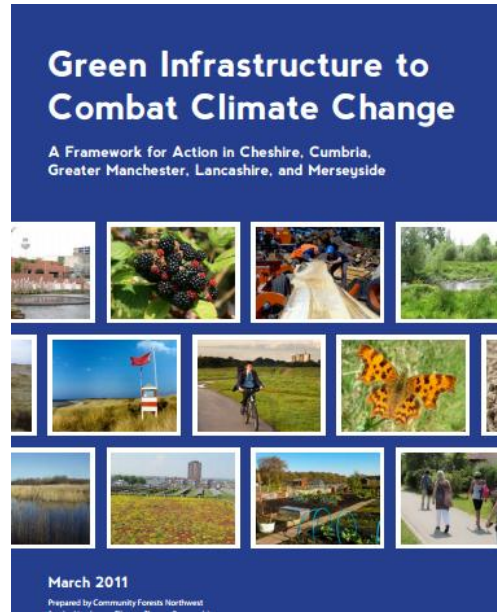
- **Environmental:** Expanding local food production, promoting low carbon/energy production, flood protection and water management;
- **Economic:** Exploiting environmental opportunities and technologies to create new jobs and enhance the built environment; and
- **Social:** Adapting the landscape to provide leisure, recreational and tourism opportunities and improve connectivity between these resources.



2009



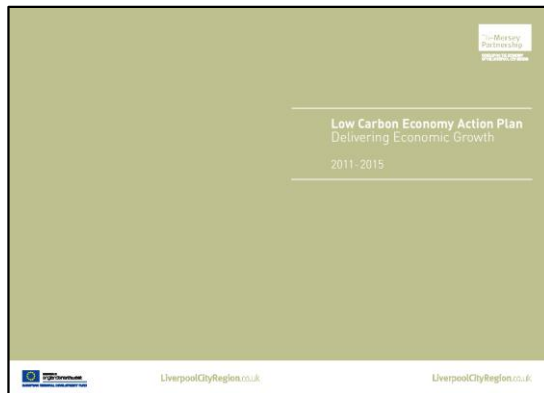
2011



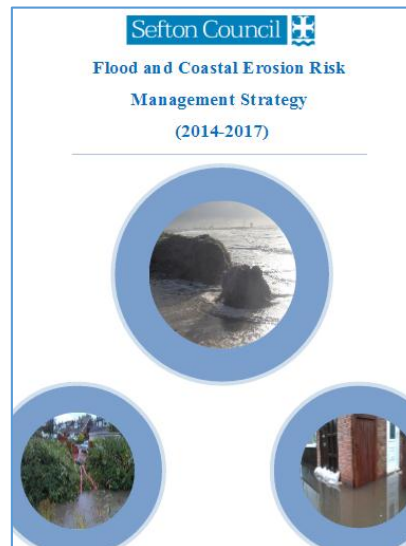
2012



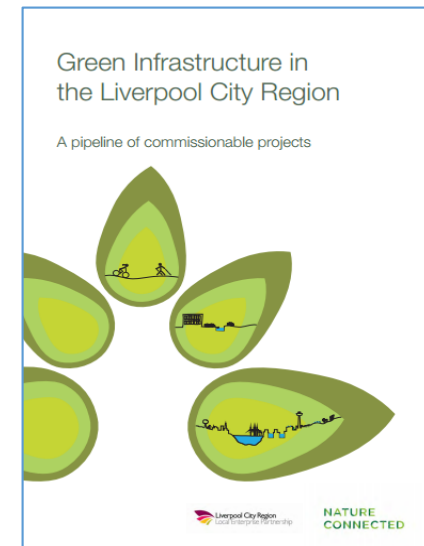
2011-2015



2014-2017

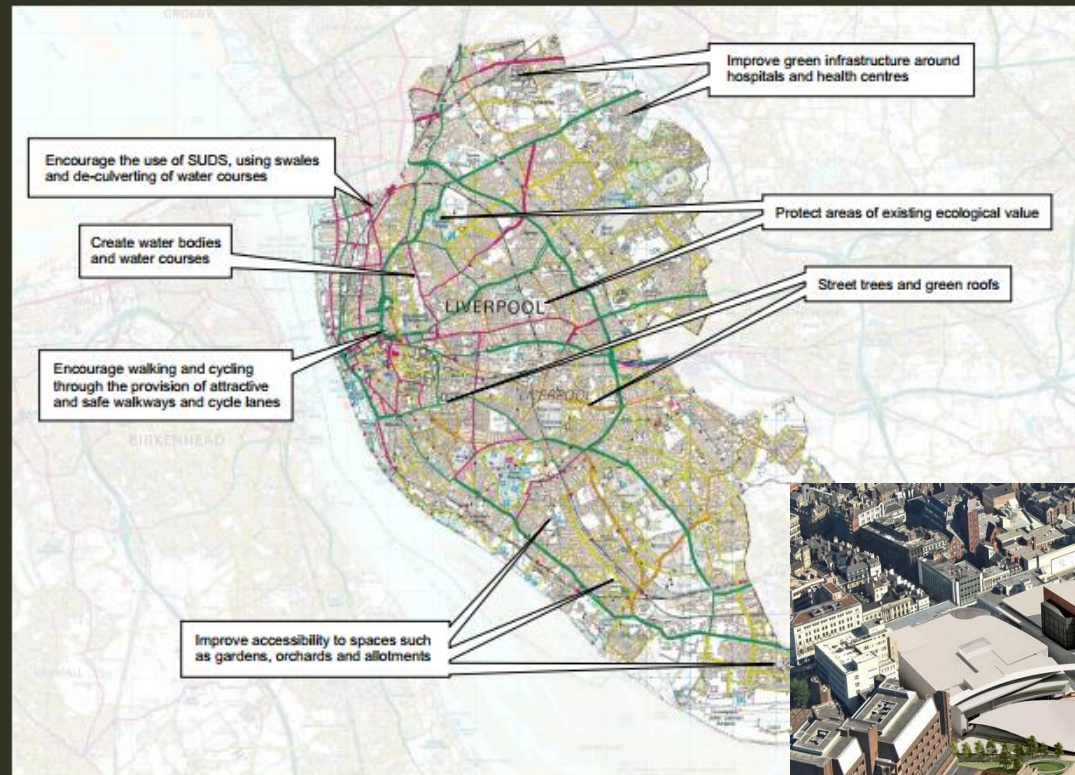


2015



# LIVERPOOL GREEN INFRASTRUCTURE STRATEGY

## WHAT AND WHERE: EXAMPLES OF ACTION LOCATIONS





# Actions... Some examples you will see today

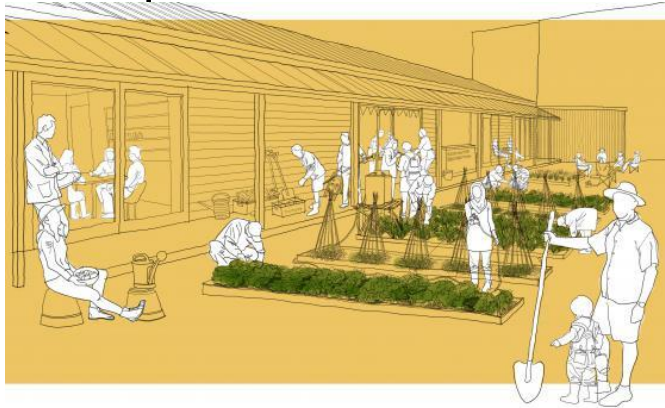
- We are raising awareness and delivering behavioural change programmes that reinforces the messages for adapting to the known impacts of our city's changing climate but also of the linked need to reduce our greenhouse gas emissions – Example: CLASP
- We are developing bold planning policy on new developments that focus on excellent energy efficiency standards, climate risk planning, and encourage renewable energy initiatives – Example: Alder Hey Hospital
- We are identifying significant opportunity to use green infrastructure to both manage climate impacts, contribute to economic development and promote healthy low-carbon lifestyles – Example: Wirral Waters

# Example of other activities being delivered... FOOD



[www.squashnutrition.org](http://www.squashnutrition.org)

- TOXTETH FOOD CENTRAL! - Local residents have designed a food eco-hub on Windsor Street. It will house a local affordable fresh food shop, community cafe, food ideas lab, training space and food garden! Due to open in Autumn 2016.



- creative nutrition and urban agriculture skills training
- a community cafe with integrated accessible and friendly food education
- an affordable, sustainable community run food store

- the building has a timber frame and cladding
- the foundation is made of recycled glass
- the insulation is made from recycled newspaper



# Liverpool Food People

Together we nourish our city

...a network of food growers, composters, buyers, cooks and eaters, passionate about a positive healthy food culture for Liverpool

## Food Action Plan Themes

- **Food access** – make it easier, make it healthier
- **Skills & training** – teaching, sharing, helping
- **Procurement** – make it fairer, make it local
- **Healthy communities** – grow it, cook it, eat it
- **New enterprise** – support, sustain, encourage
- **Surplus** – don't waste it, redistribute & use it



# Sustainable Food City Network

- 40 UK places
- 6 places awarded funding: Belfast, Bournemouth, Cardiff, Liverpool, Newcastle, Stockport
- Aim: to get public agencies, NGOs, communities and businesses to work together to make healthy and sustainable food a defining characteristic of where we live



# Examples of other activities... Managing our coastline



The Sefton Coast lies between the estuaries of the Mersey and Ribble in north-west England.



# The Sefton Coast

- The Sefton coast is over 20 miles of continuous coastline and sand dune systems,
- The sand dunes of the Sefton coast form the largest dune system in England.
- The Sefton coast is the primary beach destination for Liverpool City Region and the natural capital is valued at over £250m
- Locally the Sefton coast experiences significant change and the rate and nature of this change will be influenced by climate change.
- Formby is the fastest-eroding coastline in the National Trust's portfolio, at around 4m per year. As much as 10m of coastline was lost due to the storms of December 2013.
- Longshore drift and other natural processes mean that protecting the sand dune habitats is a more complex problem than simply putting up a wall.
- Over the years there have been different attempts at stabilising the dunes. Not all of these have been successful and some have created new problems...

Pine tree planting was established in early 1900s to help stabilise the dunes. This has caused changes in the natural dynamics of the dunes, resulting in loss of dune habitat and associated species. The trees also and limit the ability of the coastal system to respond to environmental change.

HOWEVER... The pine trees are now home to the endangered red squirrel – and are actively managed to maximise the conservation of the Red Squirrels.



Shoreline Management Plans are in place to

One method being tested for long-term management of the dunes –  
CHRISTMAS TREES!

Over 15,000 recycled Christmas trees have been planted to create natural fences across the sand dunes,



Planners are faced with a number of questions:

- Whether to restore and preserve the sand-dune complex
- Whether to preserve the pine woods and preserve one of the two remaining colonies of red squirrel in the United Kingdom
- Whether to allow nature to take its course but to help the dunes recover
- Whether to create a mixed community of ecosystems in the area by carefully modifying existing conditions.



# Coastwatch Education Resource Pack

In 2011 a school learning resource called CoastWatch was funded through an Interreg project IMCORE (Innovative Management of Europe's Changing Coastal Resource) and is available free to schools.

It aims to encourage children and local communities to understand the future challenges facing the local coast.

<https://www.youtube.com/watch?v=EwSZluq2ncg>