



[www.oneplanetcardiff.co.uk](http://www.oneplanetcardiff.co.uk)



# Introduction

Cardiff today is a three planet city. If everyone in the world consumed natural resources and generated carbon dioxide at the rate we do in Cardiff, we would need three planets to support us.

Our aspiration is for Cardiff to be a one planet city by 2050.

Being a one planet city is all about making sure that Cardiff is an **enterprising, prosperous, healthy, happy, clean** and **green** sustainable city in the future.

We know that the world is going to change in the 21st Century. Cardiff will need to respond ever more positively to retain a strong economy, protect and optimise the use of the environment and reduce our resource consumption to achieve our One Planet Cardiff aspiration.

There'll be big challenges to meet - like managing a changing climate, changing demographics, and a city which will be growing fast.

There'll also be some big opportunities to grasp – developing new companies, products and services which meet the new challenges and taking advantage of the benefits of being a young and growing city and harnessing the emerging green economy.

Our aim is for Cardiff to become a city renowned for sustainable thinking and doing. Getting this right will create jobs, improve health and wellbeing, reduce inequalities as well as protecting the environment.



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In short it will make Cardiff an even better place to live in 2050 than it already is now.

This document sets out the Council's vision for a sustainable One Planet Cardiff focussing on the key impact areas of energy, waste, transport, food, water, place and people. An associated delivery plan identifies the key projects to deliver this vision and will be monitored and updated regularly.



# The challenges...

## Climate Change

We know that the world's climate is changing. The effects will be most severely felt in vulnerable parts of the world, but they will also be felt here in Cardiff. This may mean more frequent extreme weather events like storms, drought and snow, plus longer term trends for hotter, drier summers and warmer, wetter winters. It will also have profound effects for coastal cities, like Cardiff, if sea levels rise as predicted.

## Energy

Wales used to be self-sufficient in energy – the coal shipped out of Cardiff powered the world during the 19th century – but no longer. Today, Wales relies on imported energy, and energy prices are going up. In the 21st century we'll need to find new ways of living which use less energy and new ways of generating our own low carbon energy.

## Globalisation

Over the past 25 years the industries and factories which used to be the heart of Cardiff's economy have moved to other parts of the world. In the future, we'll need to create, design or produce the things that the world wants, and the world will want one planet products, goods and services.

## Demographic Change

It took all of human history until around 1800 for the world population to reach 1 billion. By 2050 it will be over 9 billion. And though we're living longer, we're not living

healthier. This is likely to put a big strain on public services, housing supply, pensions and of course, the more people, the bigger our overall ecological footprint.

## Urbanisation

Over half the world's population now live in cities. By 2050 this will be up to two thirds. Cardiff is also facing a significant predicted population growth of around 20% over the next 15 years. Managing this growth sustainably will be crucial to helping us become One Planet Cardiff.

## Biodiversity

The variety of life on Earth - biodiversity – is being lost at a greater rate now than at any time in human history. Cardiff has a wealth of plants and animals that support and enrich our lives; reversing the decline in our habitats and species is crucial to securing the goods and services the natural environment provides.

## and the opportunities...

These challenges are significant but they also create a number of positive opportunities for the city which we are well equipped to take. We have individuals, businesses and community groups who are inventing and developing new solutions, university expertise that can compete with the best internationally, and more graduates per head than any of the English 'core cities.' Grasping the opportunity will rely on the talent, creativity and enterprise of our citizens, qualities the people of Cardiff have in abundance.



## The sustainable development approach

To tackle issues and opportunities such as these we need to consider the social, environmental and economic implications of our decisions. To achieve sustainable development economic activity should work towards social progress, and that this must be within environmental limits, and Cardiff, like all western cities, is currently living beyond its fair one planet share of the Earth's resources.

Though this document focuses on environmental limits we must be mindful to incorporate the social and economic benefits. We need to ensure that our approach considers a 'triple bottom line' where returns from policies, projects and investment are evaluated by their longer-term social, environmental and economic returns.

The proposed Welsh Government Sustainable Development Bill, which will come into force in 2015, sets out the requirements for sustainable development to be the 'central organising principle' of the wider public service in Wales. One Planet Cardiff will inform our reporting on progress towards sustainable development across the Council and the city.

# Cardiff Today: 3 Planet City

Cardiff is a 3 planet city. If everyone in the world consumed natural resources and generated carbon dioxide at the rate we do in Cardiff, we would need three planets to support us. This is not sustainable or equitable to everyone we share our planet with.

## What does ecological footprint mean?

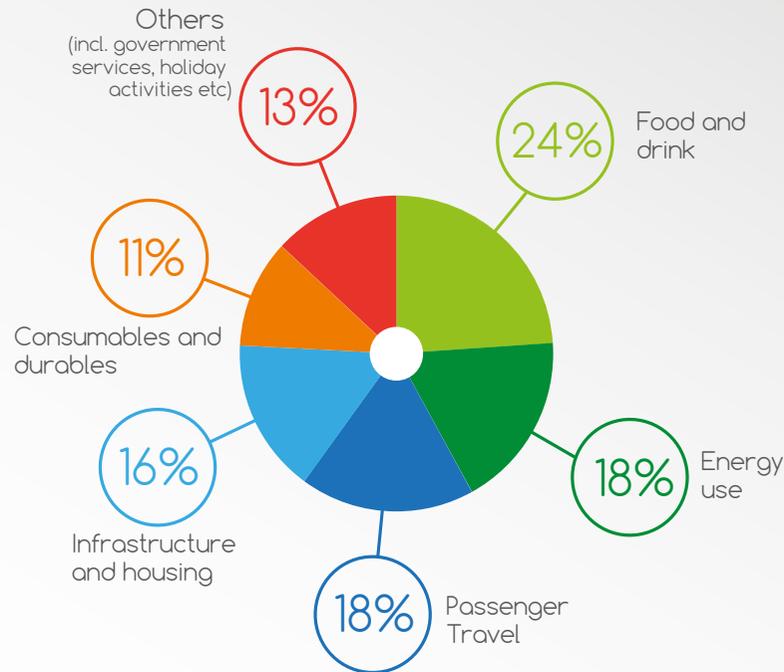
An ecological footprint calculates how much land area is required for an average citizen for everything they consume (products and resources) and produce (waste and emissions) per year.

## One Planet Cardiff

Our aspiration is for Cardiff to be a one planet city by 2050:

Country	Planets
Malawi	0.26
India	0.48
China	1.11
Brazil	1.3
Slovakia	1.75
France	2.6
UK	2.9
Canada	3.8
Australia	4.1
USA	5

## How our current footprint is made up:



## How do we get there?

To become One Planet Cardiff we'll have to do things differently in the future.

## One Planet Cardiff: Big Hitters



Energy, waste, transport, food and water issues all affect the place that we live in and the choices that people can make to live more sustainable lifestyles.



# One Planet: Energy

We all depend on energy to heat our homes, cook our food, power the electrical goods we use and run our cars. Issues surrounding global energy security and supply, and escalating costs are well documented. The challenges now are to reduce demand for energy, invest in local sustainable energy supply and provide citizens with energy security and access to more affordable supply.

Much of our energy is used in our homes, and most of our homes were built some time ago. Even by 2050 the vast proportion of all homes in the UK will have been built in the 20th, not the 21st Century. Retrofitting our homes will therefore be crucial to reducing our demands for energy and moving towards our One Planet Cardiff ambition.

As part of our commitment to the European Union's Covenant of Mayors we've set a citywide per capita CO2 reduction target of 26% by 2020, and have formed citywide partnerships with local businesses and organisations to deliver this.

In addition we're committed to reducing our own CO2 emissions from Council activities by 60% by 2018 and have committed over £1,250,000 to energy projects recently with further, greater investment planned.

Our approach must ensure that we tap into the potential sustainable energy generation opportunities in the city such as solar, hydro, biomass, ground heat, tidal and wind power. Energy technology in particular provides the opportunity to grow innovation through partnerships and new business, and make provision for green jobs and prosperity.



Community engagement to reduce energy demand and increase energy efficiency is also important. Recently we worked with the Energy Saving Trust to provide 1000 homes in Rhiwbina with energy and water reduction advice, resulting in carbon and cost savings.

A number of schemes to reduce energy demand and increase local sustainable energy production are underway or planned; these are detailed in the One Planet Cardiff delivery plan.



**26%**  
reduction in  
per capita CO2  
emissions by  
2020



# One Planet: Waste

By 2050 Cardiff aims to be a Zero Waste City. This is more than an aspiration; by 2025 the Welsh Government has set a target that 70% of household waste must be recycled or composted.

These are challenging targets. But they're ones that we're on course to hit. Our early aim is to maximise the amount of waste which can be reused, recycled or composted. Over the last 10 years the recycling and composting rate of household waste in Cardiff has risen from 4% to 52%. We're on target to exceed 52% recycling in 2013/14 and will continue to adjust and amend strategies to deliver the highest targets, reduce waste and optimise waste as a resource overall.

To achieve these targets so far we've changed our collection patterns with food waste and green bag recycling picked up weekly, and black bag and bin collections every other week. Much has been achieved, however the low hanging fruit have been taken and more must be done. We need to push forward waste reduction, optimise reuse, maximise recycling and avoid disposal; alongside changing people's habits, and changing business activity in a way that will help reduce business cost. Our One Planet Cardiff ambition will require continual review and drive to progress our waste reduction targets.

The delivery plan will continue to describe that achieved and those additional changes needed to truly become a Zero Waste City by 2050.



Zero  
Waste City  
by 2050





# One Planet: Transport

Transport in Cardiff is currently dominated by private car journeys. This creates challenges for the city around carbon emissions, congestion and health. Getting transport right can help make Cardiff a safer, healthier, more prosperous, cleaner and greener city. It's clear we need to change the way transport works in the city, with the aim of making it as easy as possible to leave your car at home with sustainable transport options that are accessible to everyone.

Recognising the need to achieve this modal shift Cardiff is a Welsh Government designated Sustainable Travel City. We've introduced the Cardiff Car Club so households can save money and carbon through getting rid of the second car; created Park and Ride facilities in the East, West and South of the city; implemented bus priority measures; developed a strategic cycle network plan for the city; opened the Pont y Werin bridge completing the 10km circular Bay Trail and improving the active travel links between Penarth and Cardiff; and introduced, with South Wales Police, a SMART City hub which helps to better monitor and manage transport movement across the city.

Although this is good progress there is still need to do more. As the city grows we'll ensure that we build sustainable neighbourhoods and build continual improvements to networks to offer realistic sustainable and active travel choices. The delivery plan gives further details of projects in place and under development to achieve this modal shift.



50%  
of all journeys in  
Cardiff will be made  
by sustainable  
transport modes  
by 2026





# One Planet: Food

Surprisingly food is the largest component of Cardiff's ecological footprint. The food footprint comprises farming, processing, distribution, packaging, catering, retail and waste. Your meal travels a long way and through many processes before it reaches your plate.

The best way to slow the growth of Cardiff's food footprint, and at the same time create local jobs and improve our health is to increase our consumption of fresh, local, seasonal and organic foods.

In 2004 Cardiff became the world's first Fair Trade Capital City, with Wales the world's first Fair Trade Nation in 2008. Fair trade guarantees better prices, decent working conditions and local sustainability for producers in the developing world. Cardiff has also recently joined the World Health Organisation European Healthy Cities network, through which we will be focussing on healthy lifestyle and tackling obesity.

Everyday, the Council provides approximately 33,000 meals in 147 locations around Cardiff. By choosing the right ingredients we can help to promote healthy living, support the local economy and reduce our food footprint. Our 'Live N Cooking' team, recently awarded Welsh Catering Management Team of the Year, have been taking the healthy eating message across the city's schools to demonstrate how easy it is to cook fresh, tasty, healthy food.

As well as promoting the purchase of healthy, local food, we also want to increase local food production. We manage 28 allotment sites with over 2000 plots. We have recently created 300 new plots with more planned

for the years ahead and are also investigating establishing a series of community gardens.



The World's  
First Fair  
Trade Capital  
City



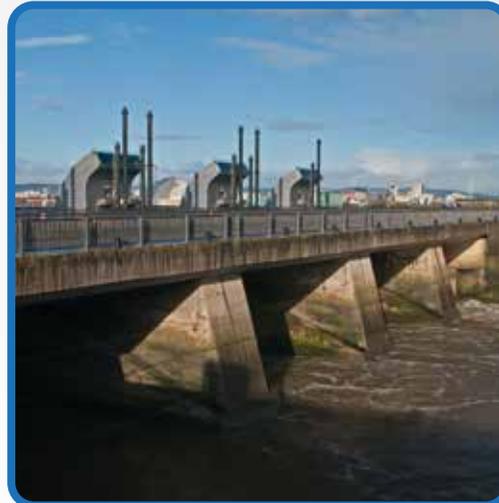
# One Planet: Water

Wales has a reputation for having lots of water, but we need to ensure that we use this natural resource wisely. One big challenge, and a big opportunity, will be how we make the most of this resource, to develop new ways of supplying water, treating water, making energy from water, ensuring water security, and of course, preparing for too much water in the form of flash flooding and rising sea levels, creating a water sensitive city in all ways.

Coastal and river basin cities, like Cardiff, must respond to the threat of flooding. Through our Local Development Plan and associated Flood Strategy we're looking at the potential threat posed by flooding over the next 100 years, which is shaping our thinking on flood prevention projects and on where houses should be built and businesses based in the future.

In Cardiff Bay we have developed innovative approaches to water quality, biodiversity, oxygenation and managing pollution and litter that are amongst the best in the world.

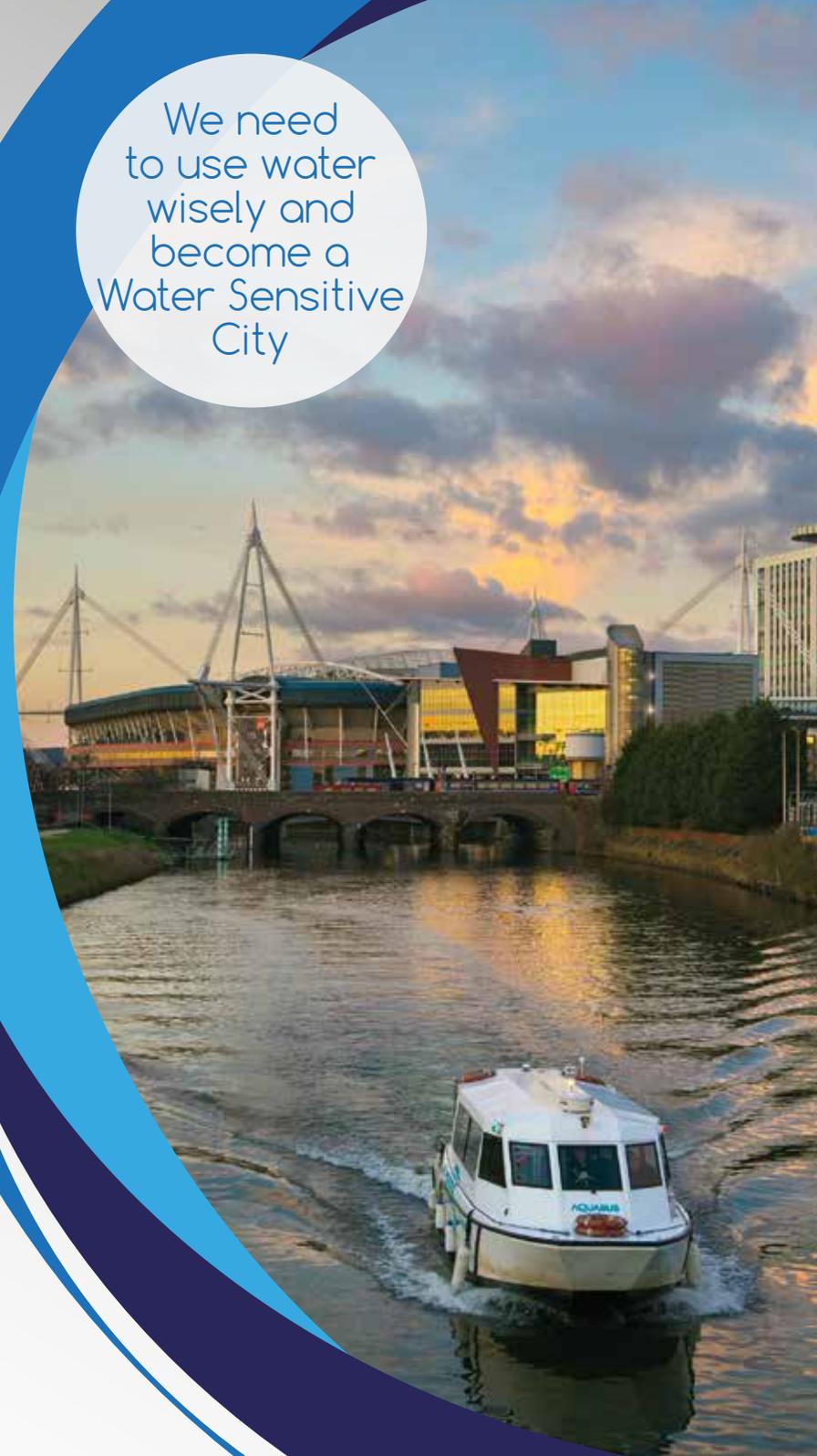
We are also exploring how the Taff, Ely, Rhymney and Cardiff Bay barrage could be used to generate energy. With the Severn Estuary with the world's second largest tidal range and many inlet rivers on our doorstep, the years ahead could see Cardiff become one of the world's most important cities for water and energy. We will continue to work with other authorities and business around the Severn Estuary to optimise these opportunities, whilst ensuring that any such opportunities take account of and protect this internationally recognised wildlife site.



Water is a resource we can all collect and use more wisely. Cardiff will work with partners to optimise water as a resource, to support sustainable drainage and development schemes as well as supporting residents to do more in their homes for grey water use. Cardiff Council is offering discounted water butts for households to collect their own water. Used in this way water for watering the garden or washing the car is not only more sustainable but also a free resource.

A number of projects are underway or developing on flood risk management, water energy generation, and sustainable drainage schemes which are included in the delivery plan.

We need  
to use water  
wisely and  
become a  
Water Sensitive  
City





# One Planet: Place

Sustainable communities will be at the heart of our approach to One Planet Cardiff. Cardiff is famous for its vibrant communities and strong sense of place. It's these places that need to evolve to meet the key challenges in meeting our One Planet Cardiff aspiration.

## One Planet: Live

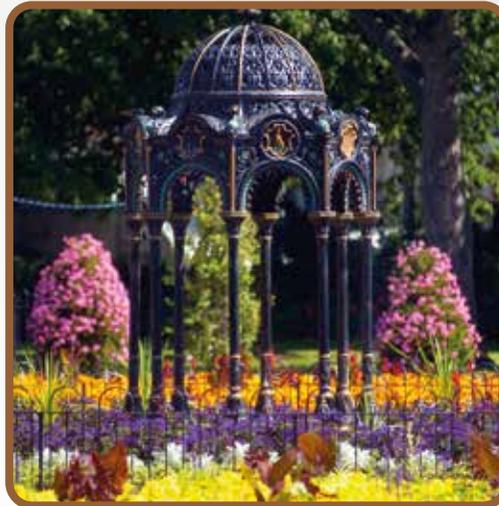
Cardiff is set to grow. The city is projecting a population increase of around 20% over the next 15 years. A Local Development Plan is being prepared to plan how the city grows which responds to key sustainability factors. A growing population will mean the creation of new houses and new communities which will be designed and built to the highest sustainability standards, and be connected to the city via active and sustainable transport choices. But this isn't just about new communities, it's about ensuring that the services people need are locally available and to every community across the city.

## One Planet: Work

We will work with local businesses to make their operations as green as possible, as well as encouraging production of sustainable products and services. A large part of the city centre has been declared an enterprise zone. This is an opportunity to masterplan a high density commercial development avoiding the out of town business park approach, incentivising the development of sustainable buildings and maximising the potential of great sustainable transport links to a wide catchment area.

## One Planet: Play

Cardiff is a green city. It has more green space per person within the settlement boundary than any of the other major British cities, plus easy access to green space even in the city centre. The city contains a vast network of Rights of Way that include the Taff, Ely and Rhymney River Trails and the Wales Coast Path. Access to good quality open space is beneficial to our resident's physical and mental wellbeing - it also supports a wide array of biodiversity and provides green corridors around the city. We'll be making sure that this thinking is continued in all our new developments and masterplans across the city.



Cardiff has more green space per person than any of the UK core cities





# One Planet: People

Becoming One Planet Cardiff is all about making sure that Cardiff is an enterprising, prosperous, healthy, happy, clean and green city in the future. It's about making sure that Cardiff will be an even better place to live in 2050 than it already is now.

## To get there:

- We'll aim for Cardiff to become a world-renowned centre for sustainable thinking and doing
- We'll build on our many relationships with academia, interest groups and innovative businesses to help inform our decisions and projects
- We'll make it as easy as possible for you to make changes to your home which will save energy, money, create jobs and lower our collective footprint
- We'll make it as easy as possible to reuse, reduce and recycle the waste we produce which will save the city energy, lower our footprint and help us to avoid hefty fines from the European Union
- We'll make it as easy as possible to leave your car at home and get around the city sustainably
- We'll design the growth of the city with sustainability built in as a first principle
- We'll make it as easy as possible to access information on sustainability issues so that you can make better informed choices

Above all, becoming One Planet Cardiff will be about responding to the big challenges and grasping the big opportunities of the 21st Century.

This will require new solutions to be invented, designed and tested, which in turn will require talent, imagination, enterprise and invention. Cities don't have these qualities, people do – and these are qualities the people of Cardiff have in abundance. The people who make smart, sustainable lifestyle choices and achieve positive behavioural change are the people who'll make a difference to the city.

In short, becoming One Planet Cardiff will rely on us all becoming One Planet People.

For further information on sustainable development issues please contact:

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County Hall  
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CF10 4UW**

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One Planet  
Cardiff needs  
One Planet  
People