

BCC wind turbines at Avonmouth

Introduction

**Paul Isbell
Energy Manager
Bristol City Council**

A rectangular warning sign with a yellow-to-orange gradient background is mounted on a weathered brick wall. The sign is held in place by four small circular fasteners at its corners. The text on the sign is in a bold, black, sans-serif font. The word 'WARNING' is at the top, and 'CO₂' is in the center, with the subscript '2' being smaller than the 'CO'.

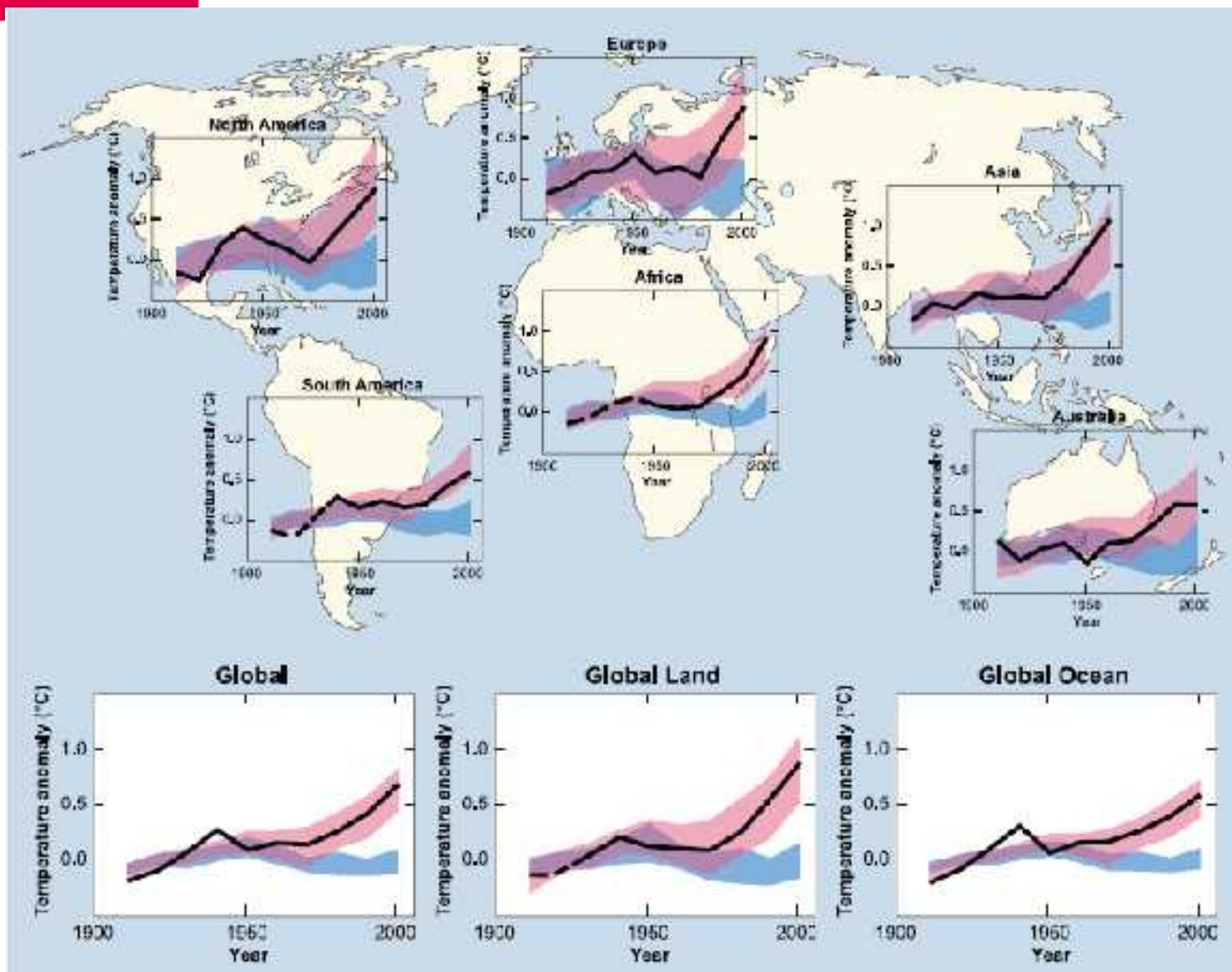
WARNING

CO₂

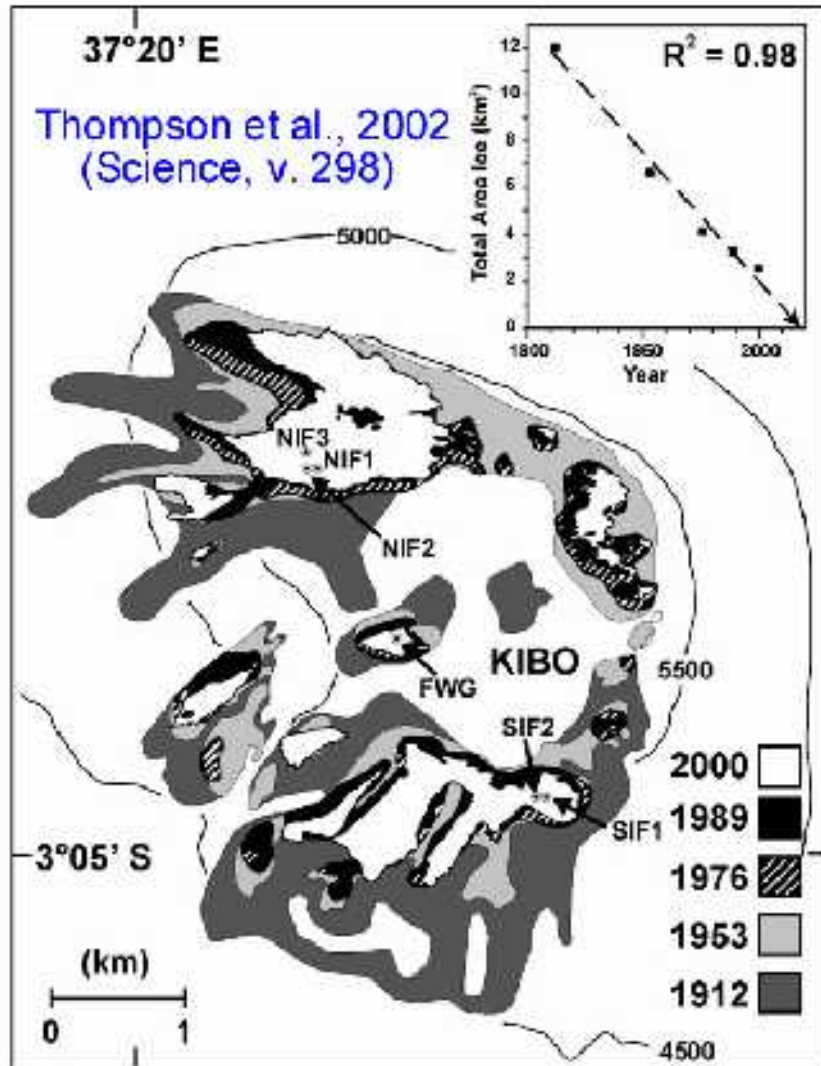
“Eleven of the last twelve years (1995-2006) rank among the twelve warmest years in the instrumental record of global surface temperature (since 1850)”

The 100-year linear trend (1906-2005) of **0.74°C** [0.56 to 0.92]°C

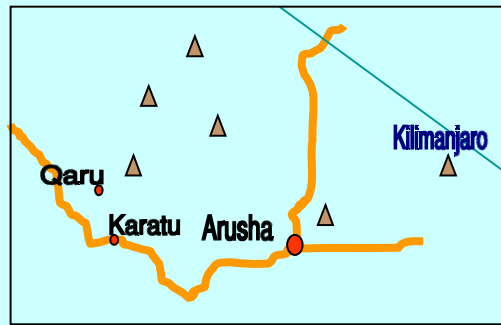
An Assessment of the Intergovernmental Panel on Climate Change



Mount Kilimanjaro



©Javed Jafferji;



Source 45 km

Only 1 tap

**2 taps no longer
supplying water**



**800 people in an area 4 km
with 1 tap and no school**



Carbon
Neutral



**A local solution to a global
problem**

A world map with a color-coded background: North America is blue, South America is green, Europe and Africa are yellow, and Asia and Australia are red. A dense network of red lines is overlaid on the map, representing a global network or infrastructure. The word "Reality" is written in white on a green rectangular background in the upper right. In the lower right, a green box contains the text "National Atmospheric Emissions Inventory".

Reality

N ational
A tmospheric
E missions
I nventory

Whole City Foot Print

If the world lived like the people in Bristol we would need **three** planets



Bristol – Green Capital

“Making Bristol a low carbon city
with a high quality of life.”

Pledge

I pledge on behalf of

to help make Bristol a low carbon city with a high quality of life.

We will:

- Develop and deliver an action plan
- Regularly report progress publicly
- Work with others to make a real difference





onecitytogether

All Sectors of the City encouraged to **PLEDGE** to:



- **Reduced contribution to climate change**
- **Greener commerce**
- **Better homes and buildings**
- **Sustainable transport**
- **Less waste and improved recycling**
- **Improved local environmental quality**
- **Healthier, locally produced food**
- **Improved health**
- **Balanced and sustainable communities**
- **Enhanced environmental education and awareness**
- **Improved biodiversity**



Annual award from 2010

Bristol is entering for this award !

The award will be given to a city that:

- **Has a consistent record of achieving high environmental standards**
- **Is committed to ongoing and ambitious goals for further environmental improvement and sustainable development**
- **Can act as a role model to inspire other cities and promote best practices to all other European cities.**



www.europeangreencapital.eu

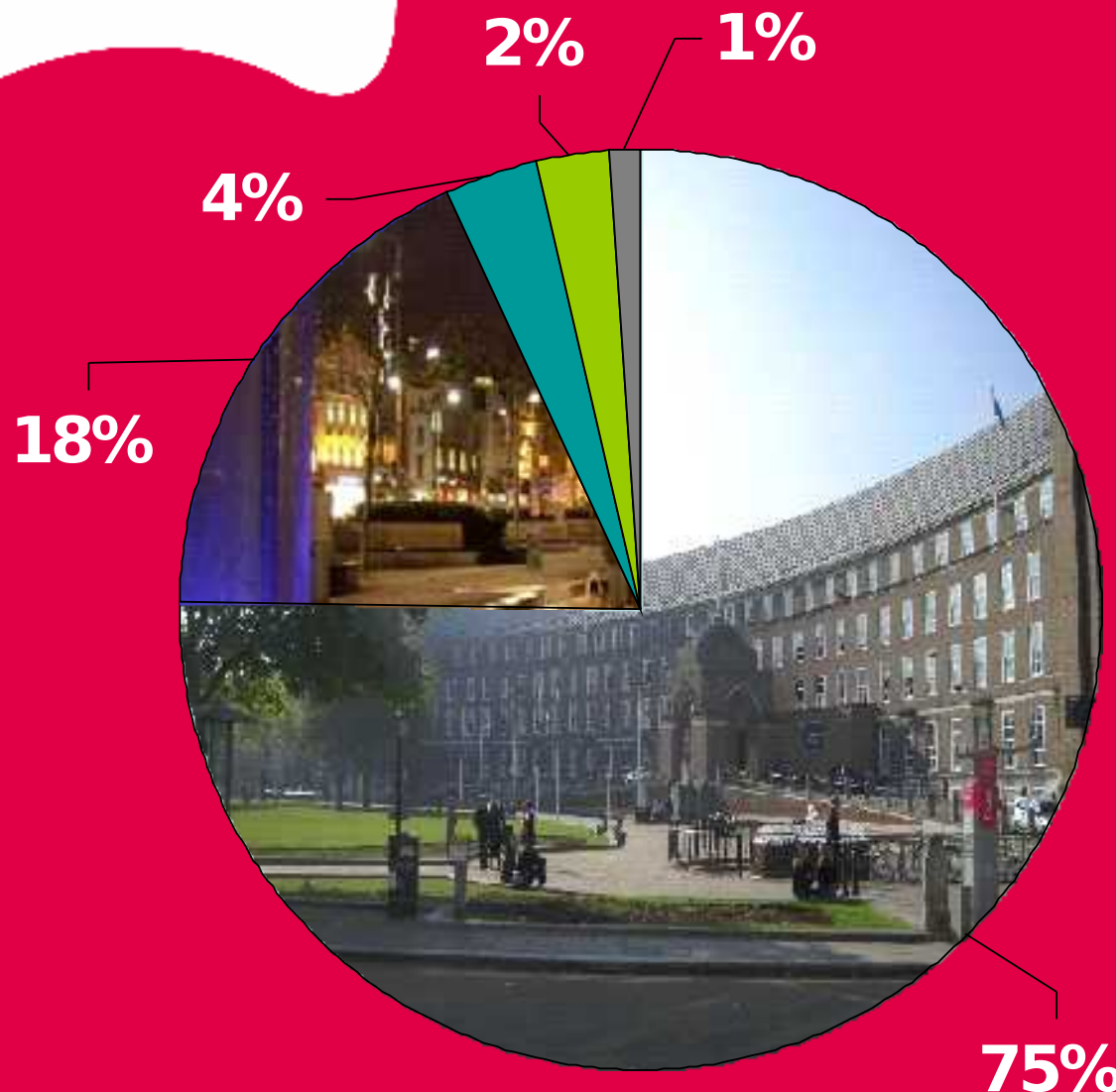
Cutting the Council's Own Emissions

- What is the starting position
- What are we trying to achieve
- How are we going to get there



06-07 Carbon Emissions & CO₂

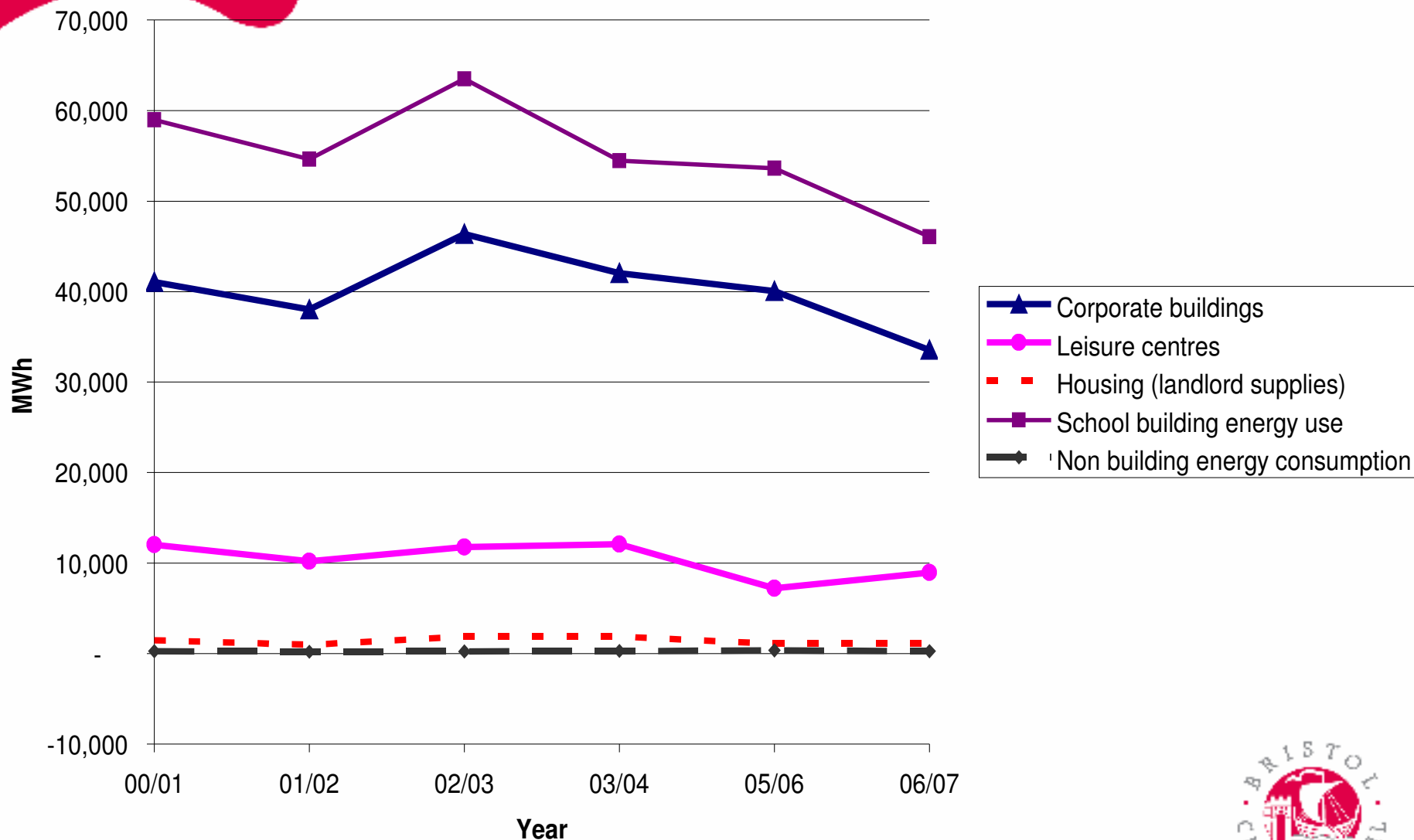
56,400



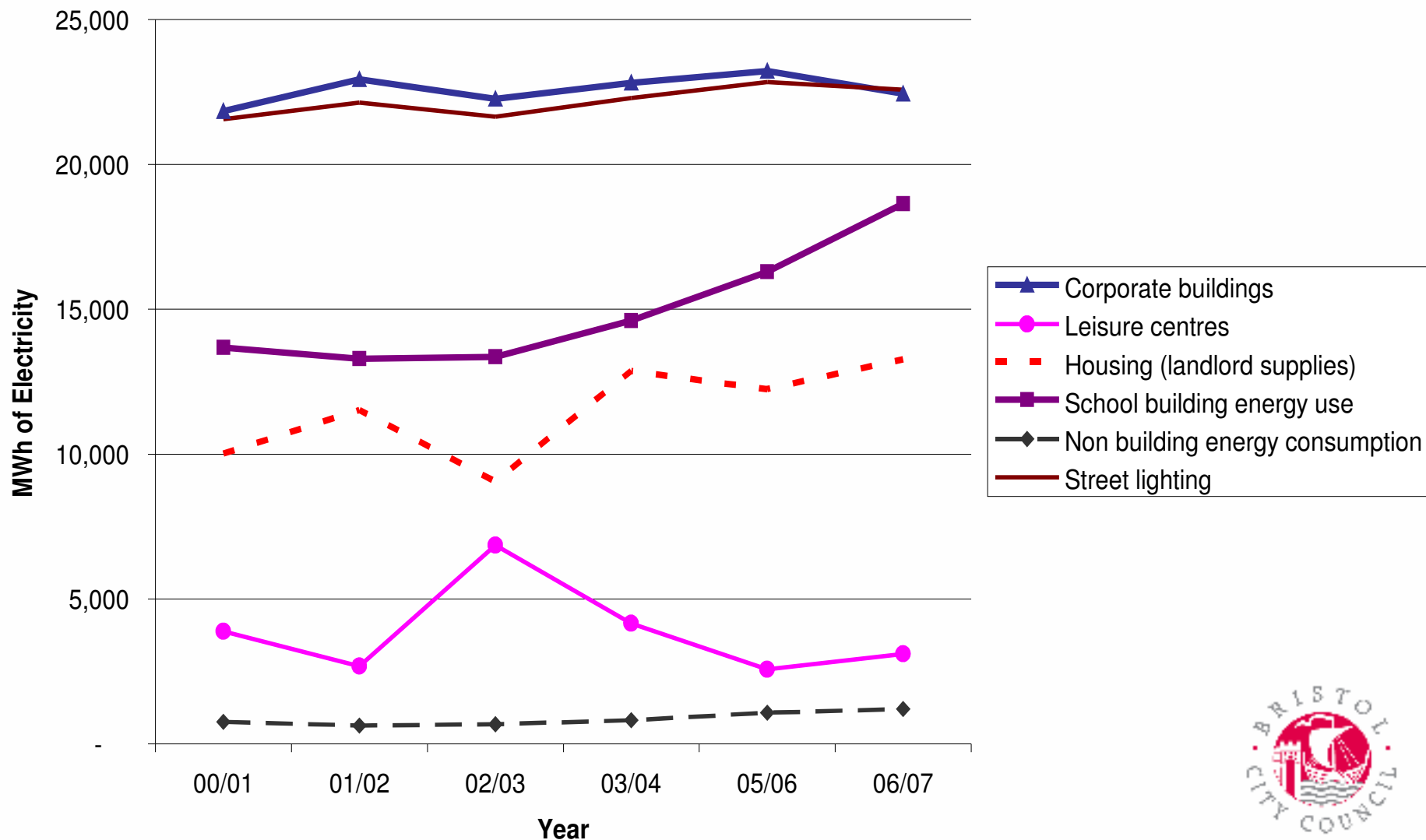
-  **Buildings**
42500
-  **Street lighting**
10000
-  **Transport fleet**
2000
-  **Business travel**
1400
-  **Non-buildings**
600

Trends in fossil fuel consumption (MWh)

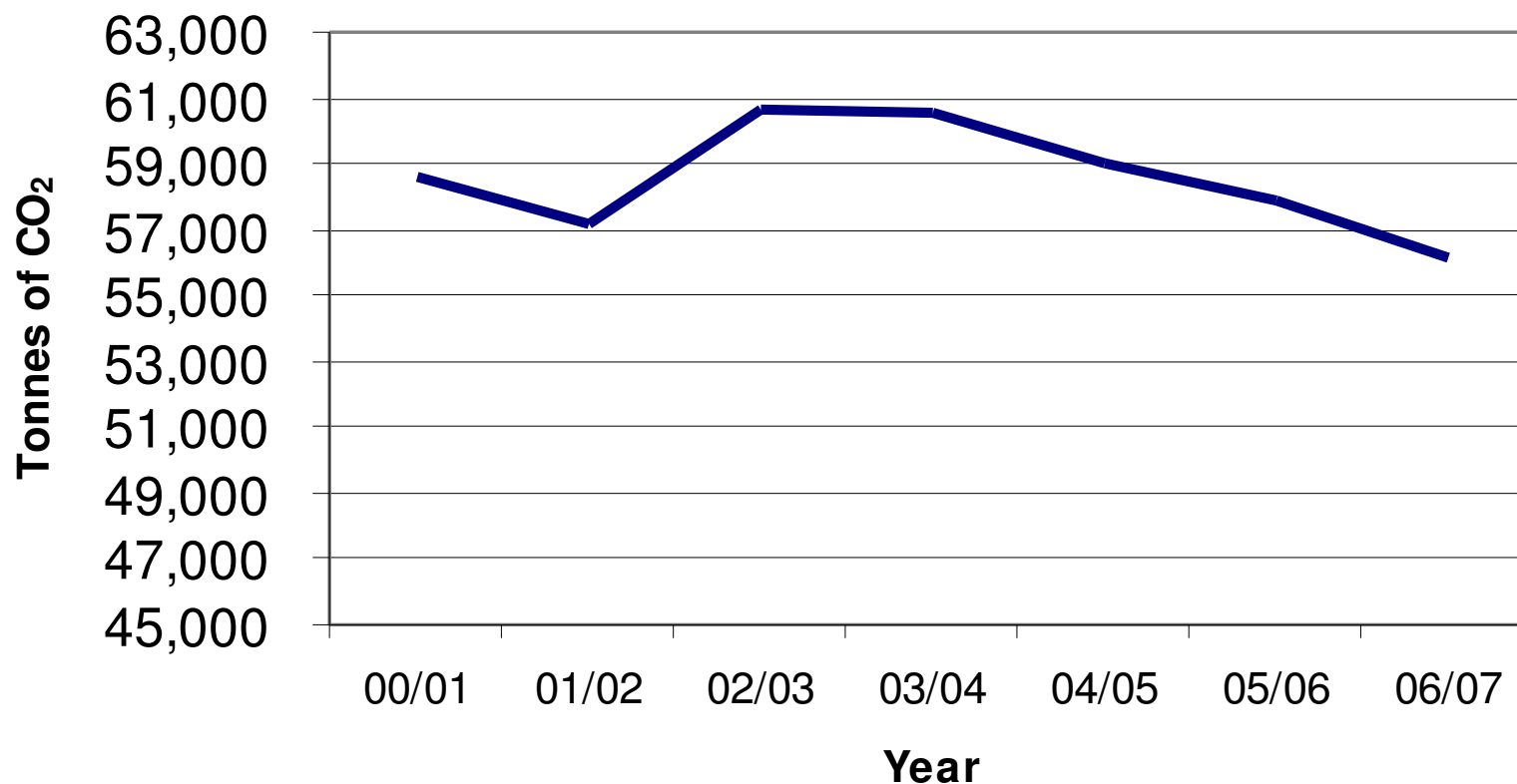
Fossil Fuel Consumption (MWh)



Trends in Electricity Consumption (MWh)



Trend in CO₂ Emissions (not including green energy purchase)



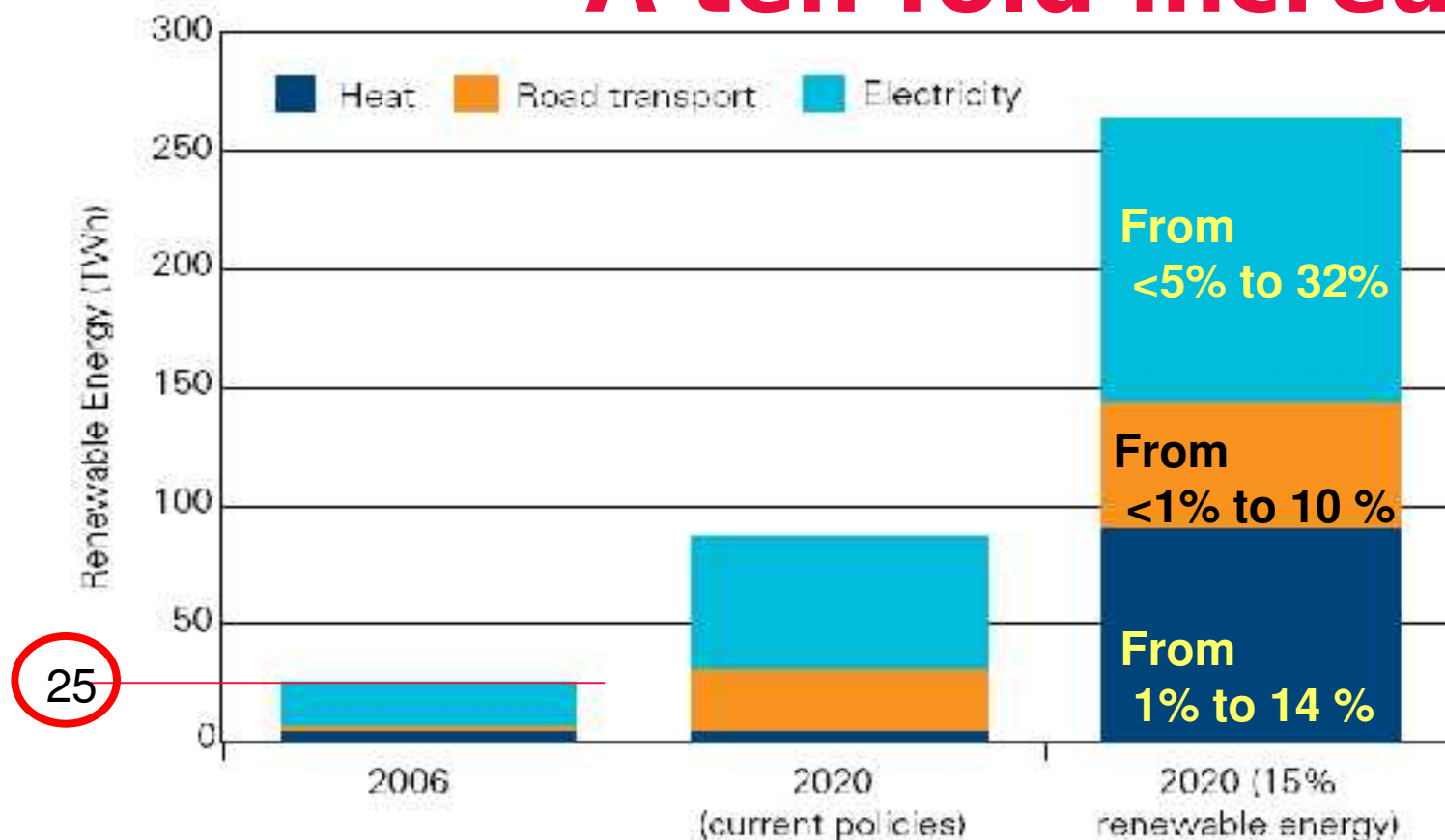
Bristol City Council Targets

- **3% year on year cut in carbon dioxide emissions up to 2020**
- **15 % Renewables By 2010**
- **12.5% Kyoto Target EU**

BUT - UK needs to meet EU 15 % Renewables by 2020

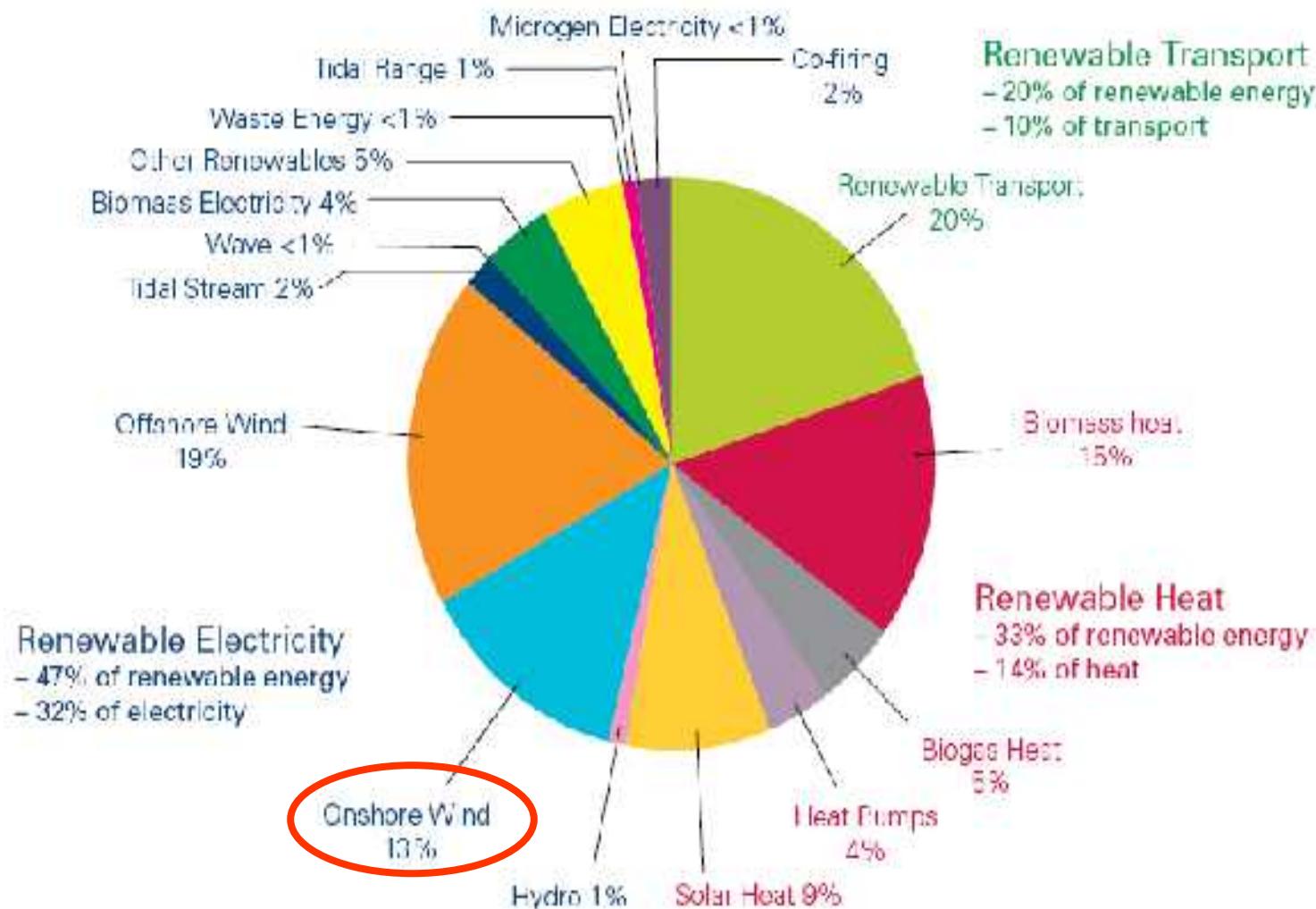
Figure 1: The size of the challenge – a potential scenario to reach 15% renewable energy by 2020

A ten fold increase !

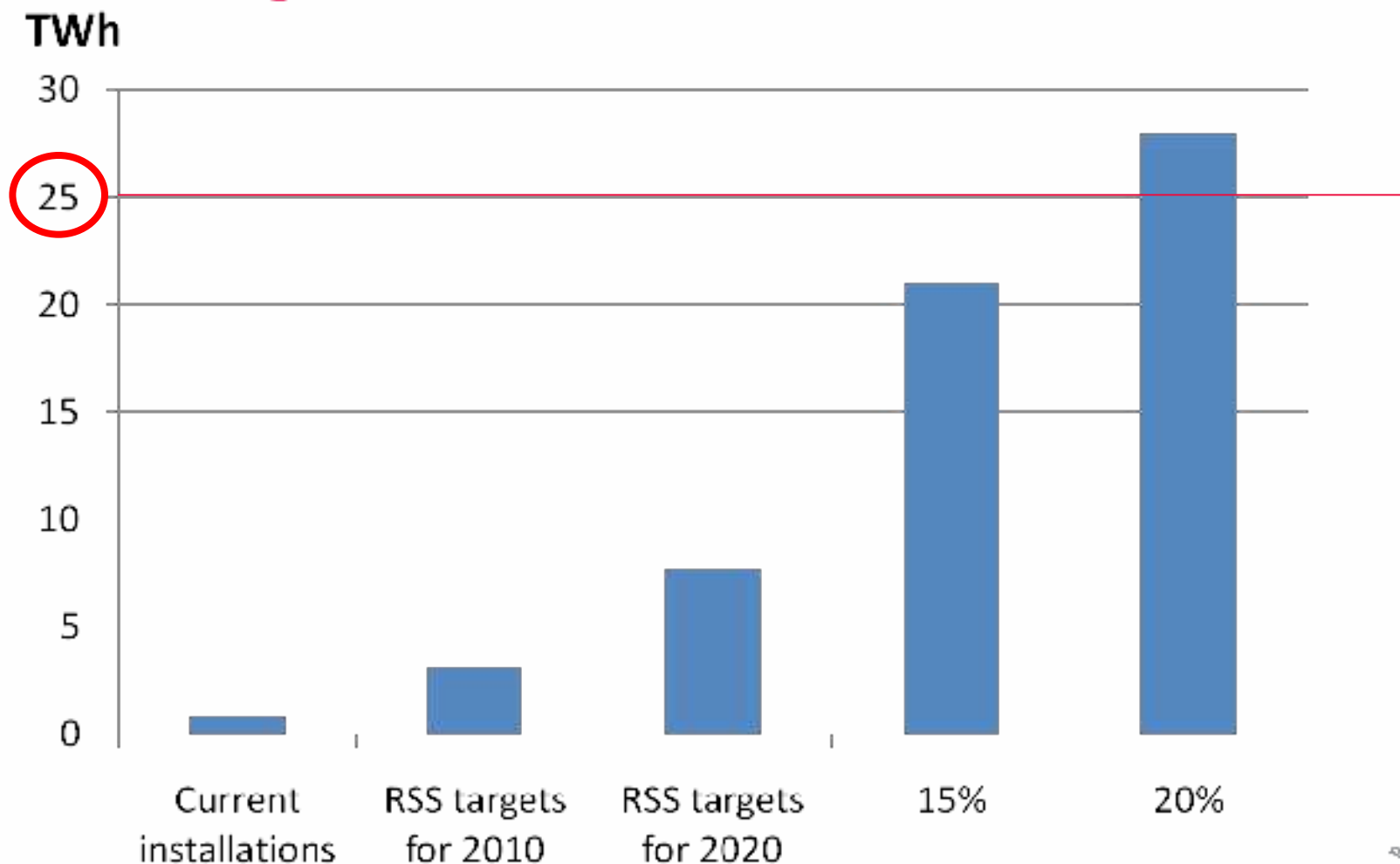


Source: BERR analysis

UK Proposals to meet 2020 Target



South West Target

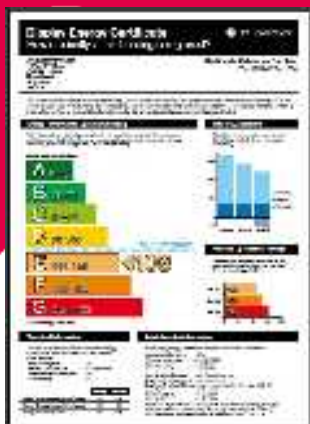


Source REGEN SW consultation into new UK 15% renewable target July 2008

Bristol 3% Year on Year Target

BCC CO₂

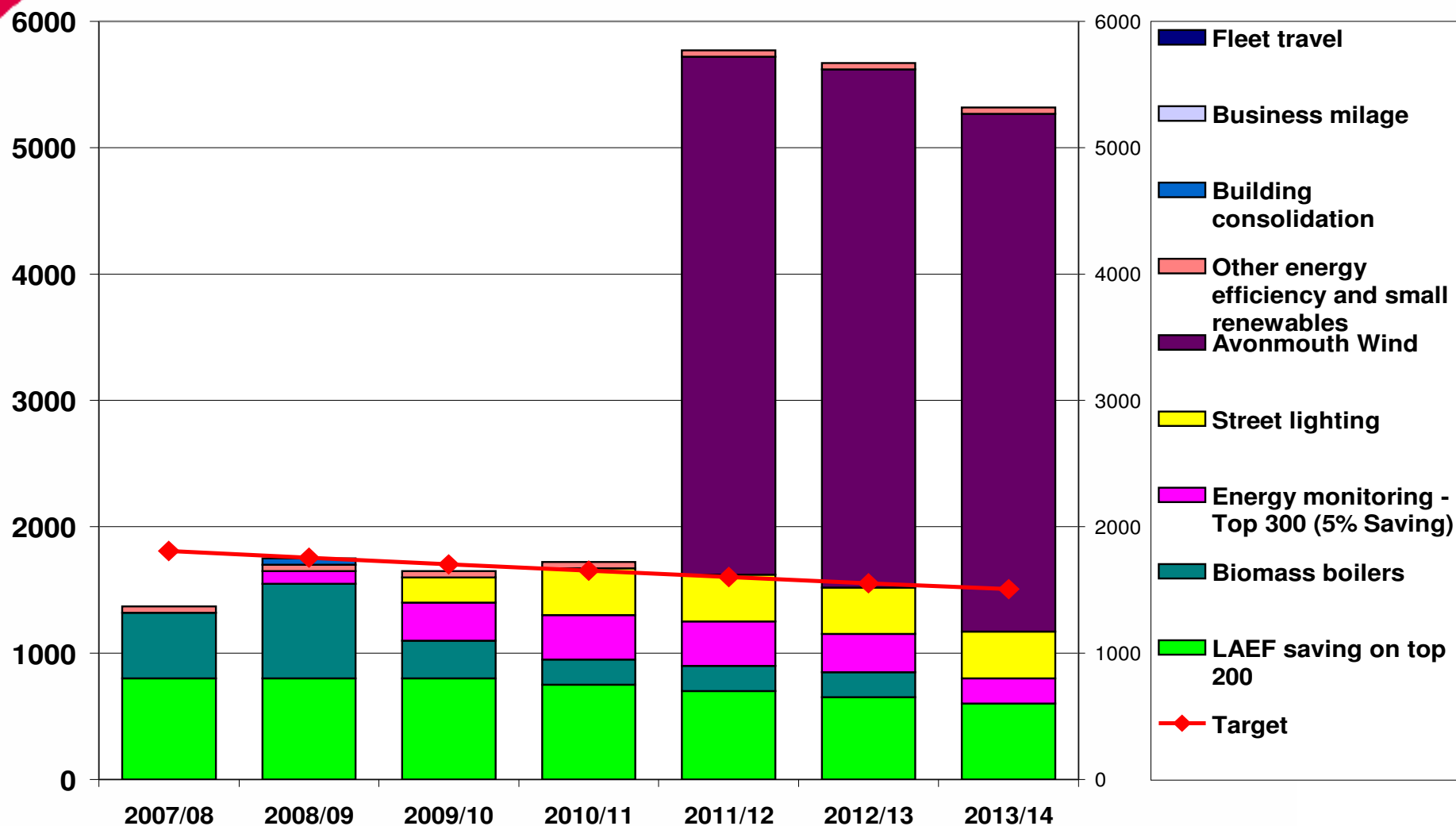
Year	Emissions Target (tonnes CO ₂)	Annual CO ₂ to save	Cumulative CO ₂ savings
2006/07	60,300	-	
2007/08	58,500	1800	1,700
2008/09	56,700	1750	3,400
2009/10	55,000	1700	5,100
2010/11	53,400	1650	6,800
2011/12	51,800	1600	8,400
2012/13	50,200	1550	10,00



Existing Actions

Energy Efficiency	Installation of energy saving measures i.e. lighting controls, pipe insulation
Biomass Boilers	Installation of biomass boilers in appropriate BCC buildings
Energy Monitoring	Monitoring of high energy using sites and identifying inefficient usage
Energy Awareness	Promoting Energy awareness to council staff
Street Lighting Improvements	Trialling of a new energy efficient lamps
Small Scale Renewables	Installation of solar water heating and micro wind turbines on council buildings
Micro CHP	Small combined heat and power units in tower blocks
Avonmouth Wind Turbines	Installation of large scale wind turbines at Avonmouth on council owned land

CO₂ Reduction Plan



Proposed Wind Turbine Locations



Legend



Proposed Wind Turbine Locations



Site Boundary





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 **Our city**
making a difference

