



# Getting a grip on **emissions**

Ten capital cities and the Californian government have recently signed up to a greenhouse gas inventory system that will help cities and regions make deep cuts in their emissions. Sebastian Carney explains.

**C**ities occupy just three per cent of the world's land yet are responsible for 80 per cent of greenhouse gas emissions. Across Europe, more than a hundred metropolitan areas house 60 per cent of the population. Reducing their emissions is a big headache for local authorities and central government. But the European Union's commitment to reduce greenhouse gas levels by at least 80 per cent by 2050 means work needs to start now.

At the heart of the solution is a good understanding of the future shape of a city's energy system. The energy system includes what types of energy are consumed, for example, oil, gas, biomass, solar or wind, and how they are consumed – either heat or electricity.

The starting point is a greenhouse-gas emissions inventory for each metropolitan

area followed by a way of exploring different tactics for cities to reduce their emissions.

With this in mind, in 2001 the Tyndall Centre for Climate Change Research set up a system for governments and local authorities to assess their region's emissions. Additional funding provided a way to create tailor-made scenarios for reducing emissions.

The new service is called GRIP – Greenhouse Gas Inventory Protocol. I devised it as part of my PhD and have since developed it further.

The first stage of the GRIP process is to detail the sources and sizes of greenhouse gases in a region.

Greenhouse-gas sources are the usual suspects: burning fuel for heating, petrol to fuel cars, waste disposal, industrial processes and agriculture. We use a consistent baseline

so regions can compare themselves to each other and see how their emissions have changed over time.

The second stage of the GRIP process is future gazing, or scenario formation in the jargon. Scenarios are stories of what could happen to a city's emissions in the future.

We focus on how to achieve a desired end point by creating different low-carbon-energy futures. These give cities a really good idea of the scale of the changes necessary, and, crucially, how economic growth offsets reductions. The scenarios become a key part of a city's climate-change strategy.

What is interesting is that there is no single solution to reduce emissions that works for everyone. But, through interactive sessions using GRIP, policy-makers representing all the various interests of a city

can move towards an agreement on the most effective way forward.

An 80 per cent reduction for the UK does not have to mean an 80 per cent reduction for every sector in every region. The important issue is that we meet our reductions to prevent dangerous climate change. So, the domestic sector may meet a 70 per cent reduction and another sector, such as road transport, may meet a 90 per cent reduction – but this depends on the policy-makers own visions.

GRIP is used as a mechanism for policy-makers representing different backgrounds to communicate with each other – to show how their ‘respective bits of the pie’ contribute to making an emissions reduction. The scenario tool can work on most scales from local to the national.

### European cities sign up

So far, we’ve developed the GRIP emissions baseline for all the English regions and devolved administrations. Four further regions have already used the system: Stockholm County, Veneto, Bologna Province, and Glasgow and the Clyde Valley.

A further 17 regions have put forward finances to participate in the study including many capital cities: Madrid, Paris, Stockholm, Helsinki, Brussels, Athens, Oslo and Ljubljana in Slovenia. We’ve just secured funding from the Californian government and are in discussions with

Washington DC and North Carolina.

My hope is that GRIP will become a standard tool for cities and regions. Already we have made a major step in that direction. Demand has been so great that we have set up a private company Carbon Captured Ltd.

But the work does not stop at simply producing inventories and scenarios. What is important is the action. After we do the GRIP scenario sessions with a city or region,

they need to put the policies in place to make the reductions.

We work with the Centre for Urban and Regional Ecology

(CURE) at Manchester University to develop action plans decision-makers need to move to low-carbon-energy systems.

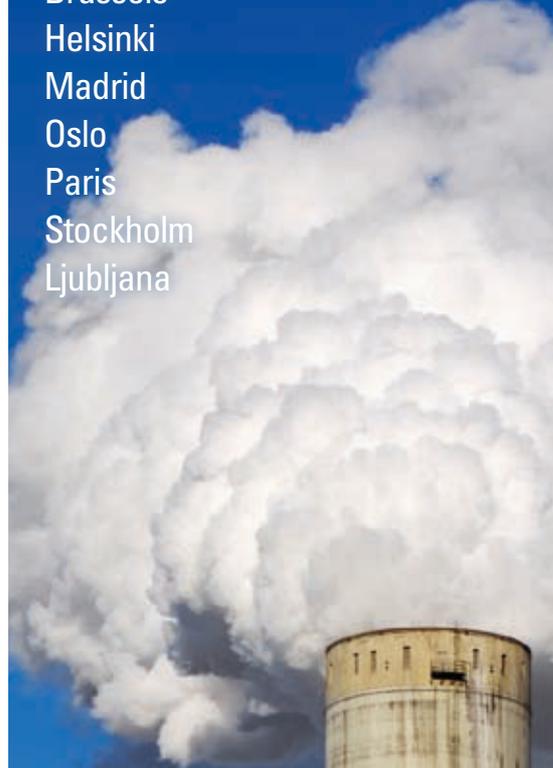
This latter point is vital. Even if we meet the greenhouse-gas reductions proposed by the UK’s climate-change committee (published 1 December 2008), we will still need to adapt and protect ourselves from climate change in the future, in our cities and regions.

Planning at the city scale for reducing emissions by 80 per cent over the next four decades is not enough without also considering the challenges to our cities of a world that may be warmer by two degrees, four degrees or more. The two issues are not exclusive – the consequences of not planning in this fashion may, for want of a better word, be disastrous. ❖

**The tools give cities a really good idea of the scale of change necessary.**

## CITIES SIGNED UP TO GRIP

Athens  
Brussels  
Helsinki  
Madrid  
Oslo  
Paris  
Stockholm  
Ljubljana



### MORE INFORMATION

Sebastian Carney is director of Carbon Captured Ltd.

The UK’s Committee on Climate Change published *Building a Low-carbon Economy – The UK’s contribution to tackling climate change*, on 1 December 2008.

The United Nations Climate Change Conference in Poznań, Poland, 1-12 December 2008, is the ‘halfway mark in the negotiations on an ambitious and effective international climate-change deal to be clinched in Copenhagen in 2009’.

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