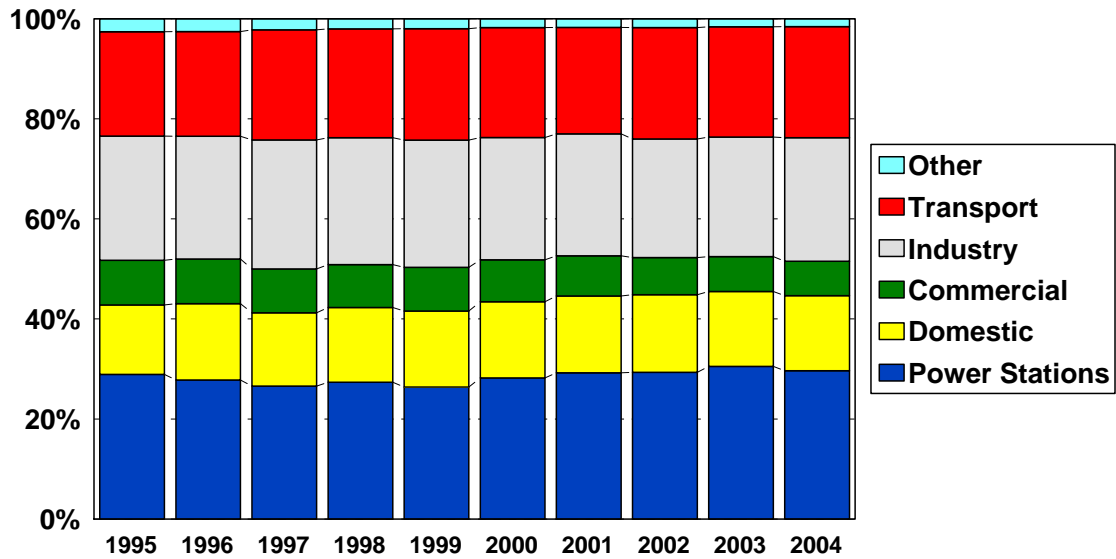


DRAFT NOTE

Role of Local Authorities
in introducing low carbon buses

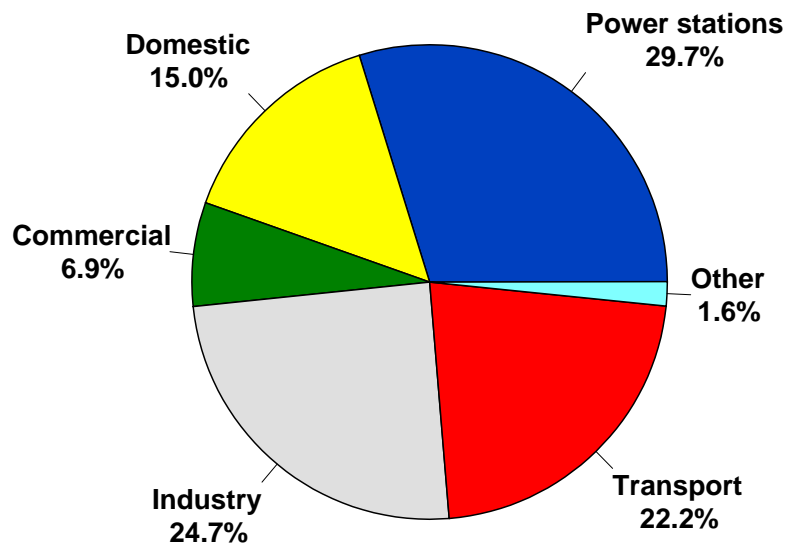
Myles Mackie
Coventry City Council
25 May 2005

C02 emissions by source 1995 to 2004



Source: DEFRA

CO2 emissions shares by source 2004



Source DEFRA

1 : Introduction

- 1:1 At the time of the UN Rio Earth Summit in 1992, the slogan **global to local** was seen as the way in which sustainability could be promoted and delivered. Most local authorities in the UK established Agenda 21 teams and expanded their policies and work towards building sustainable communities. This approach included work mainly on environmental improvements, reducing pollution, waste and combating poverty.
- 1:2 The Kyoto Protocol of 1997, which came into force in 2005, tackled the issue of global warming and seeks 12½% reduction on 1990 levels in UK greenhouse gas emissions by 2008-12. This Treaty has, not yet anyway, produced the same push for local action on carbon emissions. It is seen as an issue which affects everyone and aims at creating greater efficiencies in those activities that are emitting carbon and are contributing to climate change. The charts on carbon emissions show that power generation, industry and transport (mainly airplanes, trucks and cars) are the leading contributors. To some extent local government action is often taken as being marginal.
- 1:3 Greenhouse gas emissions are caused in localities as a result of a number of activities. Industry is generally seen as a leading contributor to urban pollution and by default greenhouse gas emissions. Smoking chimneystacks reinforce this view. However industrial greenhouse emissions are stable at around 39 million tonnes. Domestic emissions at around 24 million tonnes of CO₂ are also stable. The main growth in greenhouse gases has been the transport sector despite significant improvements in vehicles technologies. Transport emissions have risen to just over 35 million tonnes from 33 million tonnes ten years ago. It is in this area in which action needs to be taken. There are a number of national and local initiatives that are taking place aimed at reducing the transport contribution to global warming gas emissions.
- 1:4 Transport and congestion are high on local agendas. There is still a need for local authorities to relate the general transport issues they face in their areas with the issue of climate change and greenhouse gas emissions. Much positive work has been taken in improving air quality, reducing congestion and promoting public transport but there are no local performance indicators for curtailing the emission of greenhouse gases.
- 1:5 Generally, any targets set by the Kyoto Protocol, EU or UK government have been established on a national basis with no local targets. This does not mean that local action is not needed or important. Most local authorities acknowledge that they have a role to play. Their energies have been devoted to reducing the need to emit global warming gases through energy conservation and improved efficiencies. Many of these moves generate, also, financial savings on local government and/or end users. In effect there is a social gain and a relatively quick payback.
- 1:6 Some local areas have taken action to substitute traditional energy sources in favour of low carbon technologies. This will be essential if the UK is to meet the Kyoto Protocol targets and it will require a major effort to make a significant impact. However, substitution does mean that low carbon technologies are replacing established technologies which are both more expensive financially and greater emitters of global warming gases. This is a key issue in introducing low carbon buses.
- 1:7 Local action means that local authorities do have a significant role to play in tackling climate change issues. This paper seeks to demonstrate how local authorities can take positive steps in reducing CO₂ emissions by substituting bus technologies in the provision of local public transport. Public transport is for most communities bus transport. In recent years, local authorities have been working with bus companies to improve the local bus transport offer. By taking a further step, it is possible to reduce CO₂ emissions by

employing innovative and practical bus technologies through the adoption of low carbon buses.

2 : Low Carbon Buses

2:1 If local action is to generate significant reductions in greenhouse gas emissions, then bus transport has a major role to play. A low carbon bus has been defined as:

Producing at least 30% fewer greenhouse gas emissions than a current Euro 3 equivalent diesel bus of the same total passenger capacity. The greenhouse gas emissions are expressed in grams of carbon dioxide equivalent measured over a standard test and covers WELL TO WHEEL performance therefore taking into account both the production of the fuel and its consumption on board.

The Low Carbon Vehicle Partnership Bus Working Group has developed a standard measure which helps remove any ambiguity in what is meant by a low carbon bus.

- 2:2 Local authorities and bus operators will now be able to acquire low carbon buses without the confusion of what low carbon means. It provides a clear CO₂ emission benchmark for manufacturers and purchasers of buses. This is a key step in establishing the market. Local purchasers of *low carbon* buses can, therefore, buy in the knowledge that if it passes the LCVP Bus Group standard, it is a low carbon bus. In effect, the standard removes any uncertainty as to what is meant by low carbon.
- 2:3 By substituting low carbon buses into local bus fleets, communities are contributing towards improved bus services and making a clear local contribution to meeting the Kyoto Protocol targets. Low carbon buses employ innovative technologies and may offer other advantages such as less noise or improve the operation / management of buses.
- 2:4 Change is often seen as barrier rather than as an opportunity, or at best, as apart of a transition process which will lead to further changes. This has been used as a reason for delaying procurement. The 2002 *Powering Future Vehicles Strategy* set as a target 600 new buses joining the national fleet will be low carbon. The fact that change is happening is no excuse for maintaining the procurement of old fashioned technologies. The adoption of a new generation of buses does offer positive opportunities to implement change in bus provision and passenger service.
- 2:5 Besides inertia, a key barrier to the adoption of low carbon buses is the institutional arrangements concerning the provision of public transport. Local authorities are constrained institutionally in how they can influence the market for low carbon buses.

3 : Local Authority Legal Powers.

- 3.1 Local Authority legal powers are a bit of a maze. This section seeks to demonstrate in a rough and rather ready fashion that the current legal powers of local authorities are limited and directed towards achieving better bus services, reduced congestion and increased passenger numbers.
- 3.2 There is no direct and simple power which would enable a local authority to demand that a bus operator to use a low carbon bus. Under deregulation, how a bus operator works in a community is a commercial issue and not one for local authority intervention. However the use of legal powers by local authorities may, if there is agreement, support the operation of low carbon buses within a community. It would depend on:
- ~ The low carbon technology employed in the bus
 - ~ The additional costs generated
 - ~ The routes used for the low carbon buses

Using a number of legal powers, moral suasion, consensus, a local authority might be able to work with local bus operators.

- 3.3 The **1985 Transport Act** generally precludes local authorities from operating regular bus services. This means Local Authorities are not bus operators in their own right and, generally therefore, do not procure new buses. Bus operators, in the main private sector companies who operate and run bus fleets.
- 3.4 Section 7 of the 1985 Act, gives the power to Local Authorities to ask the Traffic Commissioner to place traffic regulations to operators' public service licence. However, a condition to use low carbon buses would not be likely to get through as the Traffic Commissioner has to be satisfied that there is a *compelling* case for imposing a condition. The criteria for regulations do not necessarily cover environmental issues. The **1984 Road Traffic Regulation Act** does give powers to Local authorities to issue Traffic Regulation Orders. These orders cover the making or regulations on environmental grounds. Practical issues and issues of fairness does tend to limit the use of the power.
- 3.5 The Part IV of the **Environment Act 1995** does give power to Local Authorities to declare Air Quality Management Zones which in theory could lead to limiting access to specific types of vehicles. Nitrous oxides, a greenhouse gas, are being tackled mainly through stronger emission controls on vehicles. However, CO₂ emissions are not covered in the air quality assessments that are made under the Act. Most local authorities faced with air quality problems have sought to divert traffic away from affected areas rather than undertake a pro-active vehicle substitution strategy for which it would be difficult to get consensual support.
- 3.6 Where routes are socially necessary but not economic, local authorities can put routes out to tender. 15% of bus routes outside London are allocated this way. Specific routes such as Park and Ride routes are also put out to tender by local authorities. The tender specification can set conditions concerning the provision of the service. A careful balance is needed as, however, too stringent conditions might generate a Judicial Review. Newcastle upon Tyne has tendered for a zero emission electric bus service along the riverfront. This is already a pedestrianised area and has a high quality environment.
- 3.7 Local Transport Authorities under the **Transport Act 2000** are required to produce a *Local Transport Plan*. This plan is developed in conjunction with the local authorities, local bus operators and representatives of local bus users. The requirements in the Act are concerned with meeting the transport needs of people within the area, bus services conforming to standards and ensuring appropriate facilities are available. There is no specific requirement that enables local transport authorities to require buses to be low carbon. Though this legal power could be used as a basis for getting low carbon buses on tendered routes. It may, however, incur a higher subsidy element which might not be politically acceptable given other pressing priorities faced by local authorities and transport executives.
- 3.8 The Transport Act 2000 established the concept of **quality partnerships**. These partnerships seek to get a kind approach between bus operators, local (transport) authorities and users. Over 30 areas have Secretary of State approval for Quality Partnerships. However, the aims of quality partnerships are the improvement of the bus service offer in an area rather than climate change issues. The partnership has also to ensure that there is no discrimination in favour of particular operators i.e. guarantee open competition amongst would be bus operators. The Neath - Port Talbot Quality Partnership have aims seeking to improve the bus offer in terms of routes, bus priority routes, pedestrian access to bus stops, inter modal public transport nodes, attractive fares, low floored buses, customer care etc. Lower carbon emissions do not feature in the quality partnership agreement.

- 3.9 The **Quality Partnerships** could gain a general consensus to employ low carbon buses in its area. It is not certain that the Traffic Commissioner would approve the condition as a criterion for the public service licence but here is nothing to stop a voluntary agreement by the partners to establish local agreements. This voluntary agreement is already done in respect of improving, in general, existing local bus services.
- 3.10 **Public Service Agreements** are a 'contract' between central and local public services aimed at delivering improvements in the delivery of services or their outcomes. A number of authorities have signed PSA agreements which can cover a wide range of services. The Government pays a performance reward grant if the targets are achieved.
- 3.11 Middlesbrough 2001–2004 PSA agreement covered education, creation of local jobs in disadvantaged wards, older peoples needs, children's and young persons needs, use of class A drugs, local environment, traffic congestion, crime, local neighbourhood management. The congestion target aimed to reduce late running of buses by 10%. Buckinghamshire 2005 PSA targets included a 10% increase in the use of local urban bus services in Aylesbury. In effect PSA targets are aimed at practical delivery outputs and not at substituting technologies.
- 3.12 Under Part 1 of the **Local Government Act 2000**. Local authorities have *the power to do anything which they consider is likely to achieve any one or more of the following objectives*:
- ~ *The promotion or improvement of the economic well being of their area*
 - ~ *The promotion or improvement of the social well being of their area, and*
 - ~ *The promotion or improvement of the environmental well being of their area.*

This legal power is constrained by other primary statutes such as Transport Acts but in theory a local authority can incur expenditure on low carbon buses provided that (a) it does not break an existing primary law or regulation or (b) benefits all or part of the local authority area and / or its residents or (c) state aids regulations given that most bus services are operated by private companies.

- 3.13 This power requires local authorities to draw up for their area a community strategy in respect of the socio-economic and environmental well being of there are in line with the sustainable development of the United Kingdom. These community strategies are developed by **Local Strategic Partnerships**. These partnerships consist of public sector representatives (i.e. local and central government) and representatives of the higher education, community, business and voluntary sectors. They form an increasingly important element in local policy formation. The Partnership oversees the development of a strategy and asset performance markers so that the strategy's implementation can be measured.
- 3.14 Few Community plans have a sufficient time profile that would enable local areas to make any serious impact on global warming gas emissions in their area. Indeed most Community Plans concentrated on immediate issues: environmental matters centring on reductions in litter, recycling, composting, bio-diversity and maintaining green open space; and , transport matters working to increase bus service frequencies, park and ride and cycling. Issues of vehicular emissions are low down on the list though some local authorities promote car free days and clearzones. These latter initiatives are usually short-term and/or limited events rather than an incremental strategy.
- 3.15 This power could be used to support the introduction of low carbon buses but the scope is limited not only by the Transport Acts but also by restrictions on state aid to private sector companies. **State aids** include subsidies, grants, loans, procurement orders, tax holidays, cash injections, write-offs etc. There are four tests for state aid:

- ~ Does the state grant aid or resource private sector actions?
- ~ Do the actions benefit certain businesses but not all
- ~ Are the activities tradable [including in theory] amongst EU member states?
- ~ Do the activities have the power to distort or potentially distort competition?

A positive answer to any question suggests state aid is being given and the proposed aid should be checked with the DfT or DTI state aids offices. The state aid regime needs to be taken seriously as the penalties that can be imposed can be very heavy

4 : Local Authority Carbon Management approaches

- 4:1 Legal powers only provide local authorities a limited approach to transport policies in their areas. The powers have more service delivery approach than one aimed at influencing vehicle types. Some global warming gases are clearly identified such as Nitrous Oxides and Carbon Monoxide but generally the most abundantly produced gas CO₂ is not. The start of carbon trading and vehicle emissions regulations – road fund charges are more of an exception to the concentration on toxic gas emissions..
- 4:2 Over 100 local authorities across the UK have turned to developing **carbon management strategies**, many have done this using the expertise and pro-formas of the Low Carbon Trust. These strategies look across the bulk of local government activities and establish performance indicators for various activities. Reduced carbon emissions in many cases are a result of reduced energy consumption and/or better energy efficiency. Bristol, for example has a target to reduce by 2010 carbon emissions by not less than 15% of 2000 emission levels. Many of the actions contained in the policy will generate expenditure savings to the City Council, which will help offset any initial costs.
- 4:3 Most Carbon management strategies seek to improve transport efficiencies and reduce fuel use. Some authorities link Air Quality plans with their climate change policies which aim to cut pollution and promote alternative fuelled transport. Green travel planning and promoting car sharing. Coventry has for example, an electric car pool. Bus travel is usually promoted against car usage. However, few local authority carbon strategies seek to substitute standard buses with low carbon buses and those that do are usually general or are aimed at meeting very specific local needs as in Newcastle upon Tyne.
- 4:4 Carbon Management Programmes are still in their infancy though tied in legal powers and local contracting powers; local authorities can build a substantive carbon management strategy for their areas. Most local authorities have started to think about energy use and emissions but an overall carbon management strategy is still relatively new and needs time to develop innovative approaches. It is an area where most Regional Development Agencies have not yet adopted regional lower carbon strategies.

5 : Project Initiatives

- 5:1 Over the years local authorities have participated in a number of projects, trials and initiatives which have tried to change the balance in transport vehicle procurement. These programmes originate from **company promotions** arising out of their own strategies to move research and development towards the market. The DTI **Foresight Programme** has played a significant role in vehicle development and through initiatives such as Clearzones contributed to the spread of best practice. The **Energy Savings Trust** has been a leading UK institution in promoting the use of the alternatively fuelled vehicles. The **European Commission** Framework Programme and Directorate initiatives have also played a significant role. These programmes sometimes work together to reduce the costs of innovation.

5:2 Individual local authorities have taken advantage of all these forms of support in their attempts to influence public transport in their areas. They have done so for various reasons:

- ~ Meet specific vehicle needs. Camden bought electric mini buses for its Community Transport Programme using Energy Savings Trust and EU Framework 5: Zeus project funding
- ~ Cities have helped local manufacturers demonstrate vehicles in their area this has been done using company funding and / or Energy Saving Trust funding with perhaps some European funding. The Merseyside Electric Buses
- ~ Part of a major project aimed at improving the public transport offer in their area – this is usually done through a quality partnership and a Transport Bid with perhaps some European Funding.

London fuel cell buses are a result of a partnership between Transport for London, London Buses, First, BP – the hydrogen fuel supplier, the manufacturer – Daimler Chrysler, the Energy Savings Trust and the European Union CUTE project. This project demonstrates the potential of new type of pioneering bus which is widely seen as major innovative project with a long term beneficial prospect.

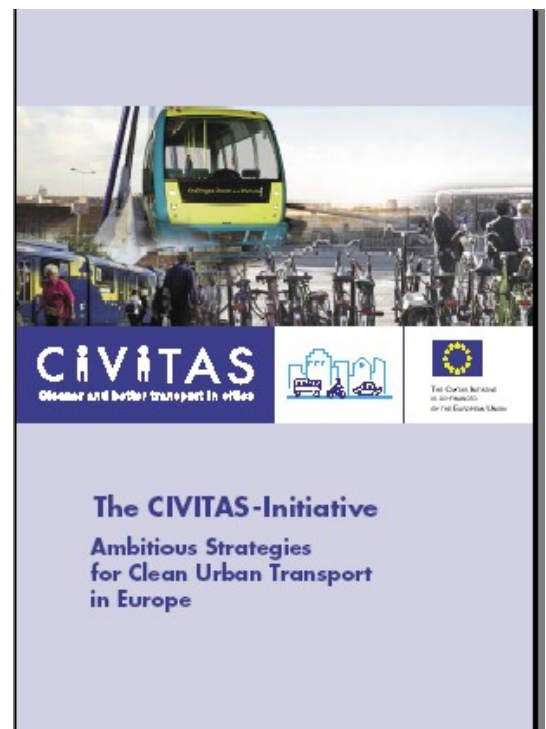
5:3 Projects require a commitment by local authorities to support the partners and to demonstrate a local political commitment to its aims. Change involves some element of risk by all the partners and a local authority commitment in supporting an innovative project helps broaden the support for the project and can spark follow on initiatives. This commitment can help local champions ensure that the project remains coherent and on course.

The CIVITAS Project Winchester

5:4 The CIVITAS project in Winchester consisted of a consortium of Hampshire County Council, Winchester City Council, Transport Research Group, University of Southampton, Atkins Transport Systems, and the Met. Office. This public and private mixed partnership gave the project a coherency. The local authorities were members and played a leading co-ordinating, planning and delivery roles within their legal powers.

5:5 The project was far reaching in that it aimed to focus a number of measures building on a former Clearzones project. The outcomes aimed at an integrated approach to transport issues in the city. It included improving patronage of public transport, bus services and quality of service, cycling, access restrictions based on pollution measurements. Work Package 12 of the project aimed at cleaner buses. Older bus engines were replaced with new cleaner engines; traps were put on vehicles to reduce PM10's; and, catalysts to reduce toxic emissions. The aim was to ensure that 40 out of the 60 buses operating in Winchester met Euro IV standards.

5:6 The Winchester CIVITAS project is one of the few projects that have tackled the issue of vehicle change. The lessons to be learnt here is that the project approach was a partnership, had a series of interlocking and integrated objectives and was undertaken using local authority legal and contractual powers. There is no reason why a project approach could not work for the introduction of low carbon buses.



Merseyside Electric Buses

5:7 The Merseyside electric bus project started as a partnership between Merseytravel, E.A. Technology, Energy savings Trust and local authorities. The project aimed at retro fitting particulate traps, promoting cycling and walking, and introducing electric buses. Operating in central Birkenhead, the electric buses were seen as part of a series of integrated passenger transport improvements taking place in the area. Like the Winchester project, this project also had a focus on changing – adapting bus vehicles.

Some lessons

5:8 These two projects illustrate that local authorities can play a key role in helping create the conditions in which private sector bus companies will invest in change. In most projects, the partners have benefited from financial grants to meet management costs and the additional cost innovative actions.

5:9 These project approaches could be adopted within the framework of a transport carbon management partnership where improvements in bus operations and perhaps tendered routes could be combined in an integrated approach where transport revenues and cost savings could be generated. This might be in the context of a Transport Bid to generate investment funds to improve operational services. Economic regeneration might also provide any necessary training support. The additional resources could then benefit the procurement of buses.

6 : A Role for Local Authorities

6:1 Local authorities are at the centre of their communities and as such can play a major lead in bringing about change in their areas. Throughout the United Kingdom local authorities have managed to establish local policy approaches which provide a best practice approach. This can also be achieved in the transport area where local authorities – counties and Passenger Transport Authorities can generate an agenda.

6:2 If local authorities wish to introduce low carbon buses in their areas then there are a number of steps that need to be taken. These are:

1. Establish a local political commitment in the Council
2. Have a local champion to promote low carbon initiatives
3. Make low carbon initiatives part of the Local Community Plan
4. Perhaps introduce a low carbon management strategy
5. Establish a quality partnership for local transport
6. Develop an integrated transport initiatives aimed at generating operational savings - i.e. new or better routes, less congestion more passengers etc.
7. Consider tendered routes options.
8. Seek funding from the EU and, perhaps, the EST for low carbon buses

These steps do not guarantee a low carbon outcome for it does depend on the willingness of all the members of the quality partnership to work together and seek the kudos of being seen as a leader in the low carbon and anti global warming campaigns. Support from the Regional Government agencies would also be helpful.

6:3 There is still a need to demonstrate that the issues of global warming require local action and cannot be left to national governments to sort out. Transport is a major issue in local affairs as traffic congestion is high on the agenda of most local areas. It is also a major contributor to global warming emissions. It seems logical that the two issues should be

linked together. Bus transport is a key link and reducing bus carbon emissions has to be part of a 60% reduction in CO₂ emissions as part of the UK national long-term target.

7 : Conclusion

7:1 This note has sought to scope the role and limitations faced by local authorities in a policy of reducing carbon emission sin transport by means of substituting low carbon buses for diesel standard buses. Some local authorities have already made step changes in their approach to global warming issue. It is perhaps these authorities which could take a lead in the change towards low carbon vehicles in public transport.