

September 2007

QUICK HITS

4. Car clubs

CAR CLUB

A national network of car clubs could save an extra 115,000 tonnes of CO₂ annually by 2010

What are Quick Hits?

Quick Hits are a series of proposed initiatives developed by the Demand Reduction theme of the UK Energy Research Centre (www.ukerc.ac.uk). They are intended to make a useful contribution towards reducing carbon emissions by 2010, and are designed to be relatively easy for the Government or local authorities to implement. Legislative changes or expenditure needed would be small in nature, hence the title 'Quick Hits'.

The Quick Hit series is organised by Dr Brenda Boardman, Co-Director of the UKERC's Demand Reduction theme, at the Environmental Change Institute, University of Oxford. This Quick Hit was authored by Matthew Ledbury, also of the Environmental Change Institute. Further information on this Quick Hit is available from Matthew Ledbury, tel. 01865 275893 or Jillian Anable, tel. 01224 263136.

What is the Quick Hit?

Car-sharing using 'car clubs' is a successful way of reducing vehicle usage and ownership amongst those who join, and has proven to be effective in several countries. This proposed Quick Hit would reduce carbon emissions from vehicle use through the creation of a coherent, national network of 'car clubs', ensuring that in the long term there is at least one in every large town and city in the UK. Data collected from existing car clubs suggests that members who give up their vehicles upon joining can cut their car mileage by up to two-thirds¹.

The UK currently has around 42 car clubs running in 37 towns and cities, using a total fleet of 1000 cars. The total estimated membership is around 28,000 - a figure that has increased by 60% in the past year. However, support from London borough councils for the development of car clubs in the capital (see below) has largely been behind the strong growth recently, and their development elsewhere in the country has been haphazard. With greater government support and start-up funding, the growth could be accelerated nationwide, producing higher carbon savings that should be maintained for years to come.

Car clubs: the background

Car clubs work on the principle of individual members having access to a group of cars in their neighbourhood that are shared with other people, and that are charged for by the time used and distance travelled. The development of car clubs over the last few years has been assisted by the growth of modern technology, most notably the growth of internet access and mobile phones, which gives them advantages over informal car sharing or one-off liftshare organisations.

While car sharing has existed since private motoring began, car clubs began in their modern form in Switzerland in the 1980s, spreading

quickly to Germany, Austria, the Netherlands, and the USA. Small local car clubs have been in existence since the 1970s in the UK, but attempts to develop bigger, commercially-driven networks did not begin until the late 1990s, most noticeably with the inauguration of the Edinburgh City Car club in 1999. Their spread across the country has been patchy, driven largely by commercial priorities alongside active support from local authorities. Some of the earlier car clubs ran into financial difficulties due to over-optimistic forecasts and had to be financially rescued; Edinburgh City Car club was relaunched by Edinburgh City Council less than two years after it launched, having failed to meet the performance targets laid out in its initial business plan.

In the last five years, however, the 'learning hurdle' appears to have been overcome, and the car club sector has evolved rapidly. There are now four major operators: City Car Club (formerly known as Smart Moves), WhizzGo, Streetcar, and ZipCar, an American car club that has recently entered the London market. These have each been started by entrepreneurs and funded by venture capital firms. Growth in London has been aided by a car club consortium that was established in 2002 by seven London boroughs (Brent, Camden, Ealing, Islington, Kensington and Chelsea, Lambeth and Merton). Car club operator Smart Moves was awarded a contract to develop and operate a car club across the seven council areas using funding for the start up and piloting of car clubs from the proceeds of the central London congestion charging scheme.

Some of the councils have also been firmly proactive - Kensington and Chelsea decided to boost car clubs in the borough by expanding the number of on-street bays for exclusive use of car club vehicles from seven to 99, putting the spaces out to tender. Partly as a result of these moves, 70% of car club members in the UK are now in London². A pilot scheme to develop a region-wide network of car clubs in Yorkshire and Humber,

called 'Cars Cutting Carbon', has been backed by the regional development agency, Yorkshire Forward, which is investing almost £500,000 in the development of car clubs across the region as part of its drive to reduce carbon dioxide emissions. New car clubs were also mentioned as a possibility in over one-third of the second round Local Transport Plans produced by local authorities in 2006.

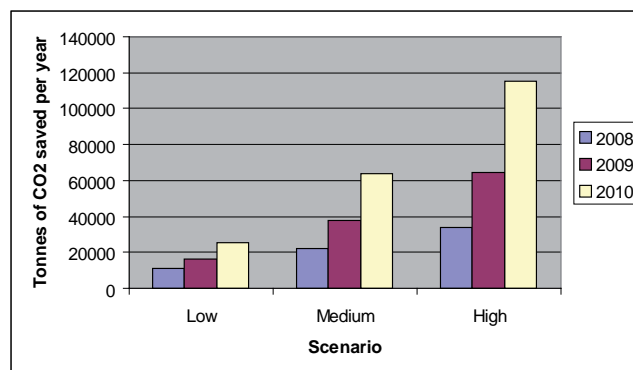
How much CO₂ could be saved?

Research in Switzerland³ suggests that those that gave up their car as a result of joining a car-share scheme reduced their amount of car travel by around 6700km (approximately 72%) a year. A similar study in Netherlands in 1997⁴ found that those who gave up their car on joining decreased their mileage by 65%. However, when calculating overall benefit, it has to be borne in mind that some members were previously non-car owners, and car usage can therefore actually rise as a result of joining a car club.

The potential CO₂ savings in the UK have been calculated using 'low', 'medium', and 'high' scenarios using the following assumptions:

- Active support for car clubs allows total membership to rise by 2010 from the current level of 28,000 members as follows:
 - the 'low' scenario - by an additional 39,000 members (an annual increase of 13,000 members)
 - the 'medium' scenario - by an additional 60,000 members (an increase of 15,000 in the first year followed by 20,000 in 2009 and 25,000 in 2010)
 - the 'high' scenario - by an additional 90,000 members (20,000 extra in the first year, followed by 30,000 in 2009 and 40,000 in 2010)
- 79% of people drive petrol cars, while 21% drive diesel cars, and this proportion would remain the same with car club vehicles⁵
- Average fuel consumption is 40 miles per gallon (mpg) for diesel cars, and 30 mpg for petrol cars⁶
- The amount of CO₂ emitted is 2.31kg per litre of petrol and 2.68kg per litre of diesel⁷
- The annual distance travelled per member before joining is 6838 miles⁸
- The overall drop in mileage per member is an average of 50% under the 'high' scenario, 40% under the 'medium' scenario, and 30% under the 'low' scenario
- That car club vehicles are, on average, 10% cleaner than the cars that owners previously drove⁹.

The following bar chart illustrates the amount of carbon dioxide that could be saved as a result of the Quick Hit:



If a national network is planned and supported, the total CO₂ emissions avoided during 2010 as a result would be 26,000 tonnes under the low scenario, 64,000 tonnes if the medium scenario was met, and 115,000 tonnes under the high scenario.

A higher membership figure still is not impossible, given the growth in Swiss membership from 500 in 1990 to 58,000 by 2003, the levels of growth seen in the USA, and the recent growth in London. Research conducted in the USA¹⁰ estimated that intense marketing on carefully selected target groups who are most likely to join car clubs, could lead to long-term participation rates of up to 15%. If the full UK potential is at a similar level, this suggests a potential market of 9m people, who could produce annual savings of 7.75 million tonnes of CO₂.

Other benefits

Cleaner vehicles can be used as an incentive to encourage new members and to increase local authority support - in Kensington and Chelsea in 2007, Streetcar decided to introduce an entirely hybrid vehicle fleet. In Switzerland, the national organisation Mobility Car-Sharing has invested consistently in energy efficient vehicles, and in 2005, the average fuel consumption of the Mobility fleet was approximately 15% lower than the fuel consumption of all new cars in Switzerland in 2005. Compared to the average for all private cars in Switzerland, this figure was around 26% lower. The average CO₂ emission of the Mobility fleet was around 18% lower than new cars in Switzerland, and 25% lower than for private vehicles. Mobility concludes that if a customer potential of 100,000 customers can be achieved in the medium term, an additional 19,000 tonnes of CO₂ emissions can be avoided.

The evidence in Switzerland also suggests that car club membership helps bring about behavioural change, including the greater use of public transport. Mobility Car-Sharing had 63,700 customers at the end of 2005, an increase of almost 70% since 2000; however, the growth curve has flattened in recent years due to an increase in cancelled subscriptions. The most frequent reasons given for cancelling customer subscriptions is an increase or decrease in the household's need for regular access to a car. Car clubs can also encourage further behavioural change themselves; Streetcar provides all its London customers with a free Oyster card (the smart card for public transport use in the capital) that is used for access to vehicles as well as for customers' public transport needs.

How could it be implemented?

Current evidence suggests that for car clubs to be viable in the UK, they need political support from local authorities, the provision of 'usable' on-road parking bays, and finance and organisation to assist with marketing. Providing proper support and start-up funding would allow the establishment of a comprehensive network, rather than a piecemeal approach led by commercial considerations focussed on the most profitable areas.

The UK Government at Westminster as well as the devolved governments in Scotland, Wales and Northern Ireland could offer support through policy statements describing how car sharing can help to achieve environmental, social and economic objectives. They could facilitate links between car clubs and public transport operators to encourage more integrated ticketing that would improve take-up. Support for car clubs could also be given in national guidance linking in with other measures designed to reduce car dependency, such as workplace travel plans and neighbourhood regeneration, giving local authorities greater justification to help and support them.

Stronger financial support for a planned national network is needed, which the government could lead on; the creation of a seedcorn fund of £2.5m, allowing £50-100,000 for each car club start-up that could be allocated through the annual local transport settlement, would enable the creation of 40 new car clubs. The national organisation for car clubs, Carplus, has already proposed that the government invests £12.8m as part of a £70m four-year plan to develop car club growth and recruit an additional 180,000 more members. According to Carplus, the plan

would deliver the benefits approximately ten times faster than if development is left to market forces.

Local authorities could also be required to set up car clubs where none exist in the authority area as part of their Local Transport Plans. Most local transport authorities in England outside of London are required to produce a plan every five years, that set out transport plans along with an implementation programme. Further incentives could include exempting car club vehicles from congestion charging schemes, and the development of a voucher scheme whereby owners who sell or scrap their vehicle are given a voucher offering low-cost membership of their local car club.

Notes

¹Carplus (2006) 'National Network of Car Clubs – Economic Appraisal'

²Streetcar currently has the largest membership of UK car clubs, although only 2% of its members are outside of London

³Muheim, P & Reinhardt, E. (1999) 'Car-sharing – the Key to Combined Mobility' in World Transport Policy & Practice Vol. 5 No. 3

⁴Cited in Sloman, L (2003) 'Less Traffic Where People Live: How local transport schemes can help cut traffic'

⁵Based on the details of cars currently licensed (DfT Transstats, 2005)

⁶Fuel consumption figures for 2004 (DfT Transstats)

⁷Based on the CO₂ content of fuel, NAEI

⁸Based on the average annual mileage figures for main drivers and 'other' drivers in a household (National Travel Survey 2005). According to the NTS, 82% are main drivers, averaging 7,663 miles a year, while 18% are 'other' drivers, averaging 3067 miles a year.

⁹Car club vehicles tend to be more modern and hence cleaner and more fuel-efficient than the average UK private car, so there would be additional savings purely through the shift to using a different vehicle; a 2004 study suggested that this switch alone would cut driver's CO₂ emissions by nearly 11% (see Ledbury, M (2004) 'UK car clubs: an effective way of cutting vehicle usage and emissions?')

¹⁰Cited in Sloman, L (2003) 'Less Traffic Where People Live: How local transport schemes can help cut traffic'