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Cyfeillion y Ddaear Cymru

Friends of the Earth Cymru

CARBON REDUCTION IN WALES

TOPIC 2: CARBON REDUCTION IN TRANSPORT

SUBMISSION TO THE NATIONAL ASSEMBLY FOR WALES SUSTAINABILITY COMMITTEE INQUIRY

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1 Current situation

1.1 Carbon emissions from transport are rising, in both absolute terms and as a percentage of total UK emissions. In the last ten years, UK transport emissions (including those from aviation and shipping) have risen by about 10% and currently contribute 30.5% of total UK emissions. Total UK emissions have risen by 1.5% since 1997 (see Annex A). In Wales road transport is directly responsible for 12% of Wales's GHG emissions (mainly carbon dioxide) [1].

However, the production of road fuels in oil refineries release emissions amounting to an additional 1% or so due to indirect emissions (about 80% of oil refineries output is road fuels) and there are other indirect emissions associated with the extraction and transportation of crude oil. It should always be borne in mind that carbon dioxide (CO2) emissions avoided in the next 5 to 10 years are worth more than the same tonnage of emissions in the next and subsequent decades because carbon dioxide has a warming effect for 100 years or more. The work of the Tyndall Centre for Climate Change Research at Manchester University is particularly pertinent in this regard [2].

1.2 Transport is probably the biggest problem sector in terms of carbon dioxide emissions, both at UK and devolved nation level. In the energy, industry and even housing sectors the changes needed to achieve a low-carbon society do not necessarily require many significant lifestyle changes as such. Reducing emissions from transport activity may well require more noticeable lifestyle changes for more of the public.

For example, there may be a few wind turbines on a nearby hill or off the coast, or a biomass gasifier down on the farm, and many town and city households may even be linked in to their nearest Combined Heat and Power district heating system, rather than replacing their broken down boiler. But when it comes to transport the changes needed would be more noticeable, especially considering the scale of reductions needed, particularly in the short term (5 - 10 years). A couple of hours flying to a sunny holiday destination can wipe out even the most conscientious family's efforts to recycle, re-use and reduce in their everyday activities over the rest of the year. Avoiding long distance car commuting, driving one's children to school and ownership of fuel-guzzling status vehicles may require significant mind-set and lifestyle changes for some sections of the public.

1.3 Reversing the trend to more car dependency and use can require all manner of potentially complicated lifestyle changes. Cars could gradually become more fuel efficient but that will take time. So whatever Government can do to facilitate less flying and less car dependency and use is key. On a separate point, less fuel use would also improve the UK balance of payments and UK energy security. It may also help reduce the numerous oil-related tensions and conflicts experienced by people living in oil-producing regions. Unfortunately, because the public is still not sufficiently aware of the urgency of reducing carbon emissions, political parties and/or their representatives in a given constituency who try to promote lower-carbon transport and associated transport

infrastructure and planning policies can quickly loose votes. The result is that the Welsh Assembly Government, without too much political opposition, is anticipating, promoting and funding a truly massive increase in vehicle use in a policy of major road-building which will drive up car dependency at the expense of public transport.

1.4 Two 'gateway' road schemes and the north south rail link in particular illustrate the problem. The proposed M4 Gwent Levels Motorway (M4 GLM) and the 7-lane widening of the A494 at Queensferry are both schemes designed for increases in traffic of 60% or more, on flow rates which are already high. Meanwhile, as north-south air passengers get treated to 'first-class' service, subsidised by the taxpayer, the train journey from south to north Wales is taking longer not shorter. Cardiff-Bangor train journey times are now up about 15 minutes on the same journey two years ago. And even then it exceeded four hours at best (in 2007, Bangor-Cardiff : around 4 hours 20 minutes, compared to Bangor-London : 3 hours 15 minutes).

1.5 Attempts by Friends of the Earth Cymru to address safety deficiencies on the road network by proposing moderate road upgrades have usually been met with blank faces, hostility and even deception. Safety is often used as a leading argument to support the biggest of road building schemes. This is despite the fact that the extra traffic generated by large schemes may result in more casualties on the surrounding road network because most journeys start and finish in a street. Such wider road casualty impacts, or casualties caused in the wider world because of climate related stresses, fall outside the remit of public inquiries and objections on such grounds are dismissed.

1.6 Perhaps the high oil prices of recent may begin to influence the public in general and motorists in particular into thinking about wider more global issues of climate change and energy security. It may even influence some car makers and associations who have successfully lobbied for voluntary as distinct from mandatory agreements of vehicle emissions which have delivered so little to date. Indeed, in the US the General Motors company in 2004 were literally repossessing the growing numbers of electric vehicles they leased to enthusiasts and celebrities in order to crush the cars and the market for them.

1.7 The Welsh Assembly Government, despite its much-trumpeted remit for sustainable development, is not leading positively on transport, far from it. Many countries are progressing more innovative and exciting transport schemes and policies while Wales is actually promoting a 'gateway to Wales' motorway across ecologically sensitive and protected SSSI ground (the highest national environmental designation) for economic development reasons. What example does that give to developing countries with much lower car ownership, income per capita and emissions per capita. Even worse, the UK Government supports the increased use of bio-fuels which may well incentivise such countries to exploit their own ecologically sensitive areas to produce bio-fuels that would marginally reduce UK transport emissions.

1.8 Below is a summary of some of the obstacles facing forward thinking policy-makers.

Key Problems
Key obstacles in reducing transport sector emissions include:

- Large section of public not seeing climate change as a sufficient reason for action and weakening resolve of political parties
- WAG supporting major road building (M4 GLM, scale of A494 Queensferry), a lack of influence by WAG on what people do / don't do
- Some solutions are seen as puritan and lowering the quality of life
- Large section of public seeing action on transport and climate as an excuse to raise regressive tax (e.g. concern about effect on the poor - by well off people driving 4x4s)
- A belief that cutting transport emissions is too costly / too difficult in the short term
- Why can't transport emissions grow, as long as we make bigger cuts elsewhere?
- WAG (and DBERR – the Department of Business and Regulatory Reform) have not got climate at the heart of their work (even in energy sector it is very much business-as-usual e.g. CCGT's (combined Cycle Gas Turbines) rather than CHP (Combined Heat and Power) around the LNG terminals at Milford Haven)
- Car use is getting cheaper and buses and trains more expensive
- There are lots of false solutions: technology alone can solve the problem, offsetting etc
- Aviation expansion is seen as beneficial, if not essential, to the Welsh economy and to enhance its 'national status'.

Why it isn't working right at the moment

Why haven't we won the argument for tougher action on climate and transport, given the obvious scale of the problem? What are the obstacles we face and the arguments we must win?

- *Government reluctance over intervening, influencing what people do / don't do*
  The fuel tax protests, which originated in Wales, marked a real turning point: it confirmed the Government in its unwillingness to intervene to

influence people's travel behaviour. This has been reinforced recently by the petition on road pricing. The only politician in recent years to really go out on a limb on transport has been Ken Livingstone on the congestion charge. The Government sat on their hands and didn't support Ken until they knew it had worked. Action on cheap flights is seen as a real vote loser

- *Our solutions are seen as puritan / hair shirt / unpopular / lowering quality of life*
  Like it or not, many solutions are seen by many people as wanting them to stay at home, not drive, not go on cheap flights to Spain, not visit their granny in Australia, travel by dirty and unreliable buses rather than in the comfort of their car etc. Research shows that almost half of people think that something else would suffer if the UK introduced more measures to protect the environment, with standards of living, business and the economy featuring high on people's concerns.

- *People see action on transport / climate as excuses to raise tax e.g. FDE, VED, APD*
  People have a built-in scepticism about transport tax rises. They are seen by many as using climate change as an excuse to clobber the motorist, or stop poor people flying. The lack of ring-fencing ("motorists pay £40 billion in tax but how much gets spent on roads?") aggravates this problem.

- *A belief that cutting transport emissions is too costly / too difficult in the short term*
  Stern concluded that *"deep cuts in the transport sector are likely to be more difficult in the shorter term, but will ultimately be needed"*. We believe this conclusion is not justified, or at least challengeable, because of the lack of adequate appraisal, particularly of demand management measures.

- *Why can't transport emissions grow, as long as we make bigger cuts elsewhere?*
  A view recently expressed by David Miliband to the Environmental Audit Committee (*"it seems to me perfectly legitimate for a country … to say that aviation will be a rising share of our total allowable level of emissions"*). This follows from the problem above. The Government is fighting shy of setting carbon targets for sectors of the economy

- *Car use is getting cheaper and buses and trains more expensive*
  Despite recent fuel price rises, running a car is now cheaper in real terms than 10 years ago, while at the same time bus and train fares have gone up in real terms. While these trends continue, behavioural change will be more difficult.

- *There are lots of false solutions: technology alone can solve the problem, carbon offsetting etc*
  People are being seduced by offsetting, which lets them think they can

carry on as usual and not change their behaviour. Also a false solution is the idea that technology alone can solve the problems.

- *Do people see climate change as a sufficient reason for action?*
  Plenty of people still doubt how serious climate change is, and believe it has been over-hyped (a new MORI poll shows that 56% of people believe scientists are still questioning climate change). This means that dependence on climate change arguments alone will have less effect, and there is a need to show how the policies would make things better for people and improve their quality of life.

- *Aviation expansion is seen as essential for the economy*
  Bigger airports and more flights are still seen as inevitable and good for UK plc.

2 Motoring costs, pump prices and public transport fares

UK policies need to incentivise public transport even for car owners so that if or when a particular journey can be undertaken by bus or train then the trip maker has good economic and convenience reasons for choosing the bus or train. For example, the marginal cost of using the car is low and public transport is becoming relatively more expensive than the car even after ten years of this trend being pointed out. Reducing VED to a nominal fee and raising the revenue on increased fuel duty would help. The problem is that the motoring lobby, many newspapers and many in the public and political parties scream if there is any increase in fuel prices. This well organised lobby has to be shown what effect it is having on the lives of people around the world and will have on the children living today, including their own children (the work of the Tyndall Centre needs to be understood and explained in this context).

Also, if or when the fuel efficiency of vehicles begins to improve significantly then the cost of motoring will begin to correspondingly fall and traffic may well increase. This is called the 'rebound effect' of energy efficiency improvements and is one reason why the belief in 'technology without policy' can and has been less effect than expected. At worse, the efficiency savings made on fuel or heating bills may then be spent on a cheap (subsidised, low taxed) flight on a foreign holiday and energy-efficient bill payers emissions may well rise significantly. Pump prices need to rise at least in line with fuel efficiency year on year.

3 The way forward

3.1 So what is to be done? Where does Wales want to be in five years time? Transport emissions must have peaked and started to fall to show any sense of urgency and credibility regarding climate change. The WAG and political parties must have climate change and a reduction traffic levels as a key priority. Airport expansion must be off the agenda. WAG, with the help of environmental NGOs, must ‘win’ the solutions debate with solutions being, and seen as being, positive

rather than puritan. The reality is that to improve quality of life carbon emissions need to be cut. Reductions in traffic, coupled with mandatory fuel efficiency improvements, would deliver carbon reductions. Though if fuel prices, or motoring costs generally, are not rising in tandem then more fuel-efficient vehicles could result in a negative 'rebound' effect (i.e. more fuel-efficient vehicles - reduced mileage costs - cheaper to run - more miles – more carbon emissions).

3.2 Less traffic and more fuel-efficient vehicles would also improve energy security and UK balance of payments by reducing oil imports. This point is not well understood even by many in the business community. Both carbon and oil will become more expensive in the near future.

Friends of the Earth Cymru says that key deliverables, either at UK or WAG level, in the next five years should include the points below (where relevant powers are not devolved to WAG then pressure should be put by WAG on Westminster):

- International aviation included in the Climate Change Act - this is the fastest-growing sector for carbon emissions in the UK and failure to tackle these emissions will make it at least very difficult for the UK nations to meet longer-term carbon reduction targets.
- Climate change accepted as the main problem with surface transport (rather than congestion or air pollution)
- WAG transport spending focused on cutting carbon emissions (alternatives to the M4 GLM and the seven-lane A494, etc by funding public transport e.g. trams in south East Wales)
- Tough, mandatory EU standards for car fuel efficiency – decisions over the next 2 years will set the scale of cuts made over the next 15 years
- New Aviation White Paper with no expansion plans
- Aviation included in the EU ETS but with acceptance that more action is needed - the next few years are critical: key decisions will be taken (inclusion in ETS, airport expansion decisions, international action through ICAO etc)
- Real movement on transport taxation: fuel duty escalator, Air Passenger Duty, Vehicle Excise Duty or equivalent
- The next round of Local Transport Plans (LTPs) include real action on cutting carbon emissions, including targets to reduce traffic in urban areas. WAG could increase the pressure on councils to address climate change adequately in LTPs, rather than just paying it lip-service.

3.3 The south east / south central region of Wales is where 60% of the population in Wales live (it includes a mix of urban, suburbs, the Valleys and some rural areas). The WAG should focus on the key major conurbations (or travel-to-work areas) and work particularly for traffic reduction in these areas. This could be about cities for people, about how cities could be. A metro type train and tram service, which has been spoken about by some transport specialists, should be seriously considered. There are opportunities for re-instating train or tram links along the numerous sections of disused railway lines in the region. The WAG should at least fund a study of such public transport scenarios.

3.4 The M4 Gwent Level Motorway should be abandoned. The most sustainable way to address the safety issues on the sub-standard alignments on the existing M4 around Newport is to upgrade the existing M4, probably to dual three-lane standard (3+3) NOT, REPEAT NOT (4+4). This would remove the dual-carriageway (2+2) lane bottlenecks (e.g. Brynglas tunnels) which are a safety problem due to the need for traffic merging (three-lane to two-lane) particularly at peak times. This can lead to traffic incidents which are probably the biggest cause of delays and unreliable operation, as distinct from peak hour flows which cause mild congestion, certainly compared to many other stretches of UK motorway. Improvements to the Newport Southern Distributor Road (SDR) could resolve some of the 'resilience' issues, as would the proposed dual carriageway 'Queensway' SDR extension to the M4 Magor junction. See Annex B for a comparison of options for the M4 around Newport.

3.5 Freight and HGVs is the fastest-growing source of carbon. The solutions include more efficient lorries, better logistics and more freight on rail, all of which are eminently sensible and necessary. Reducing, or at least enforcing, speed limits would lead to sizeable cuts in carbon emissions.

3.6 WAG must help facilitate behavioural change. This is about traffic reduction – fewer cars on the road, less car ownership or leaving cars at home more, using public transport, cycling and walking more, using technology to reduce the need to travel. A strong Climate Change Act is needed and tackling traffic levels will be essential in meeting that need. WAG transport spending and policies need to become more inspirational and solutions-based. The priority is reducing carbon emissions, but less traffic can also help improve people's and the nation's quality of life. The focus should be on urban areas where most of the traffic is and where alternatives to car use can be best provided. In the more rural areas car dependency is becoming harder to address – e.g. schools, hospitals post offices, shops and even fuel stations are closing down. Fuel efficient vehicles, and not bio-fuels, are best to reduce carbon emissions in the more rural areas.

4 Response to Questions

4.1 Is the proposed 3 per cent annual reduction target by 2011 'in areas of devolved competence' sufficient to enable Wales to make its full contribution to meeting UK-wide targets? If not, what targets should be put in place?

In addition to below, we refer you to our response to this question in our submission to Topic 1 of this inquiry on residential carbon reduction.

The 3% figure should be seen as a minimum and the figure is likely to be significantly higher, not least because of delays in reducing demand and inertia in the system. The actual level will need to respond to the developing scientific consensus of the cuts required to avoid the more serious effects of global

climate change. Currently, the consensus is for global average temperature rise to be kept below 2 degrees Centigrade and that a reduction of at least 80% by 2050 from developed world countries is needed to achieve a fair contribution. However, such 2050 targets do not really show what scale of reductions are needed each decade to achieve an equitable share of reductions. UK emission inventories also need to include aviation and shipping emissions caused by UK residents. When such emissions are factored in then UK 'inland' emissions have to decline more quickly than the Government has in any way acknowledged.

A point that needs to be stressed is that the carbon savings made in this decade are worth proportionately more than carbon savings in each subsequent decade because the warming effects of carbon last for around 100 years and more. In mathematical terms it is the overall area under the line on a graph of CO2 emissions / year to 2050 and beyond that needs to be considered. The less carbon reduced in the next five to ten years would mean that disproportionately larger reductions would need to be made by today's children in future years. That is why flying is such an issue - a return flight to Spain from the UK would result in around a tonne or more of carbon dioxide emissions, equivalent to several thousand miles of vehicle use and may represent about 10% of an individuals per capita emissions (just over 9 tonnes per capita in UK - excluding emissions from international flights).

That is why policies in Wales (and the UK and world wide) cannot afford to wait for technical improvements to improve the fuel efficiency of vehicles. The vehicle fleet could become significantly more fuel efficient, which could take well over a decade, even given conscientious new car buyers and an absence of hostility and obstruction by car manufacturers to mandatory fuel efficiency targets.

The Climate Change Act should bring in measures to include emissions from aviation and shipping and to enable annual reduction targets to be agreed and adjusted in a timely way.

4.2 No response

4.3 What particular challenges does Wales face in reducing carbon dioxide emissions from transport, and how can these challenges be overcome?

Perhaps the big current challenge is that numerous policies that affect transport are UK-wide for understandable reasons. Cross-border anomalies would be created if different levels of fuel duty, Vehicle Excise Duty were set by English and Welsh governments. Yet the absolute cost of motoring, as well as its relative cost compared to public transport, is a key to encouraging a shift to public transport, the purchase of fuel efficient vehicles and less car travel. Network road-pricing, if it were introduced, could reduce this linkage because the revenue raised by the tolls would likely mean some level of reduction in the revenue raised fuel duty and VED. It has been proposed that the revenue should be fiscally neutral but we advise that as the current cost of motoring is not deterring excess traffic (e.g. long distance commuting) and unnecessary

traffic (e.g. long distance travel between areas served by public transport). Consequently, road toll revenue should be in large part additional to current fuel duty and VED and focussed on areas and times that the road network is experiencing congestion (e.g. peak am and pm hours on the M4 Newport, A494 Queensferry, Cardiff, etc).

It is often said that Wales is disadvantaged because it is a predominantly rural country that is peripheral to the UK and European economic centres. In terms of its rural nature, as stated in the section above, most of the significant traffic reduction effort would be focussed on south east and south central Wales where about 60% of the population live, and also north east Wales and along the A55 corridor. Emission reductions in the deeper rural areas will be harder to achieve until vehicles of significantly improved fuel efficiency are available and are purchased by rural dwellers. As deeper rural areas are often economically less well off then the availability of fuel efficient 'second-hand' vehicles is likely be key. The availability of fuel efficient vehicles to 'second hand' car buyers in ten years time is very dependent on the fuel efficiency of vehicles bought in showrooms in the next 5 years.

Peripherality
In terms of perhiperality, this is an old chestnut. Fast road access is a double-edged sword. What can be quickly exported from Wales can also just as quickly be imported, and the more peripheral region can loose out to stronger competition from afar (also resulting in more 'produce-miles'). Also, many companies use better road access to reduce costs by 'centralising' their operations to reduce warehousing and other logistics costs which often results in more traffic (e.g. food miles, just-in-time deliveries). Reducing the levels of the less-essential and non-essential traffic on the existing Welsh road network, be it on M4, the A55, suburban streets or town centres, would be more beneficial to businesses in Wales and everyone.

Car ownership
Wales is currently considered 'disadvantaged' by many policy makers and the motoring lobby because car ownership levels are less than in England and some other countries. Yet, less car ownership is not necessarily a bad thing depending on the level of access to services, shops and facilities by non-car owners. As an 'indicator' it should be treated with great caution; it is not an indicator of 'poverty'. The figures may include a growing number of people who have given up their vehicles due to concern about climate change and or because of effective public transport improvements in their area. Car ownership per se is not the main issue regarding carbon emissions, car use is.

4.4 Do the current transport policies of the Welsh Assembly Government give sufficient emphasis to carbon reduction?

No, not at all, the current transport policies are encouraging a significant increase in carbon emissions with its major road building programme. As already mentioned the M4 Gwent levels motorway plan and the A494 Queensferry scheme are designed to facilitate a very significant increase in

traffic. The business case for the M4 GLM is dependent on large traffic flows. Also the draft Wales Transport Strategy (WTS) hardly gives the impression that traffic growth would or even should be tackled. Indeed, it was constructed in such a way, within its three themes, to look as though it was promoting public transport and tackling traffic growth yet closer scrutiny showed it could be used to justify a major road building agenda. A relevant extract from our response to the WTS strategy is copied below:

'Given the Strategy identifies traffic growth as a key challenge it would seem reasonable to reorder the themes thus:

Theme 1'minimising the need to travel' ; Theme 2 'greater use of the more sustainable and healthy forms of travel' ; Theme 3 ' achieving a more effective and efficient road network'

Various trends and policy targets are listed but there is little indication of how the themes, or measures within the themes, would be selected if and when competing or contradictory outcomes are identified. So, it is unclear if or how key outcomes would be determined and prioritised within the wide range of outcomes. It is unclear about processes, if any, which would decide which themes, or measures within the themes, and how much resources should be applied or allocated to which outcomes, especially considering that some outcomes and measures can be competing or contradictory.

Given this lack of strategic priority or process to address the numerous challenges and outcomes, it is unclear how the most appropriate measures from the three themes and 'tool-kit' of responses listed would be selected. Also, as there are no clear objectives set out within the wide range of desired outcomes it is unclear how progress would be identified, monitored, assessed and revised over the planned 30 year strategy period.

For the above reasons, we consider that the draft WTS is fundamentally flawed. The strategy should be radically revised to clearly set out key and prioritised objectives, which contain appropriate targets, limits, timetables and indicators of progress, which would be monitored where possible. The selection of measures within the themes and the focus of Theme 1 particularly need to be revisited. It also needs to set out a clear process which identifies how the various themes or measures should be selected and resources allocated to best achieve the objectives.'

The WAG position is that increasing car use and traffic is a result, if not an indicator, of increasing economic activity in Wales because it includes the newly employed travelling to work by car. So its policies really do need to focus on incentivising employment creation either close to communities and or which are served by public transport. Long-distance car commuting is highly wasteful activity.

4.5 To what extent has the Welsh Assembly Government been successful in utilising the powers available to it in order to reduce carbon dioxide emissions from transport ?

The WAG has used some of its powers in the public transport sector to bring about some improvements. Passenger numbers are up though to what extent this is modal shift from car use or new journeys which would otherwise have been by car, is not clear and is probably low.

Free bus travel for older people has been successful and a similar 'reduced fare or free travel' scheme should be extended to young people. This should be done in addition to lowering public transport fares generally.

4.6 Could alternative targeting of Welsh Assembly Government financial resources lead to greater reductions in transport emissions than is currently being achieved? If so, where could additional resources lead to greatest impact? (Please provide details to support your evidence).

Obviously much less funding for major road building is fundamental to providing the funds for any programmes (capital and revenue) and projects needed to achieve significant modal shift to public transport, cycling, walking or changes which reduce the need to travel in the first place. It is difficult to say here and now what relative or absolute levels of funding a 'mix' of such carbon-reducing transport investments would have. This would need to be studied once the concept of such a significant switch in funding has been agreed.

We note the point about providing 'evidence'. This provision of 'evidence' does seem to be used more and more by civil servants whose advice to ministers is being challenged. However, how can respondents, even including environmental NGO's provide evidence of what public transport investments and other possible investments could do what. Professional studies cost tens of thousands of pounds, far beyond the budget of most NGOs. Even when some degree of evidence is provided, it may count for little. For example, the 2005 Friends of the Earth funded 'Chepstow Road Toll Study', carried out by the Wales Transport Research Centre (WTRC), the preliminary findings of the study were studiously ignored by WAG.

The WAG does not necessarily even follow up on its own expensively acquired 'evidence'. For example, the 1999 Ove Arup M4 Newport Common Appraisal Framework (CAF) funded by WAG detailed various favourable public/ hybrid transport scenarios to tackle future congestion on the M4 around Newport. Yet, in December 2004, following an 'internal review', the 'go-ahead' for the M4 GLM was announced on the premise that increasing transport capacity along the south east Wales corridor was identified as a need in the Wales Spatial Plan. There was little mention of the CAF study or of Friends of the Earth Cymru's calls for consideration of a widening of the existing route to 3+3 lanes. Indeed, there has been no study of a 3+3 widening, only a 1994 Ove Arup study of a much more intrusive 4+4 lane widening which would have resulted in huge costs and disruption including the demolition of over 200 houses.

Looking at it the other way, perhaps 'evidence' about the effect of a M4 GLM in achieving reductions in Wales's carbon dioxide and reductions in car dependency should be provided by the WAG. The WAG should also fund a study into a 'metro' style public transport services in south east/central Wales, a public transport study for the Deeside area, and north-south Wales rail journey time improvements.

The WAG could use some funds to increase public awareness about the need to reduce car use for climate and other reasons. For example, there have been some good WAG-funded TV 'adverts' about smoking, reading and waste issues.

References

1. www.airquality.co.uk/archive/reports/cat07/0709180907_DA_GHGI_report_2005.pdf

2. Phil William's Memorial Lecture, Nov 2007: 'Drinking in the Last Chance Saloon' Dr Kevin Anderson, Tyndall Centre

Annex A

According to the latest DEFRA figures (which differ from other figures, but do give the general trends):

Since 1990:

- Total UK emissions have fallen by 5.6%.
- Transport emissions (including international aviation and shipping) have risen by 22%.
- Transport emissions (including international aviation and shipping) have risen from 23.6% to 30.5% of total UK emissions.

Since 1997:

- Total UK emissions have risen by 1.5%
- Transport emissions (including international aviation and shipping) have risen by 9.8%.
- Transport emissions (including international aviation and shipping) have risen from 28.2% to 30.5% of total UK emissions.

Annex B

Assuming Gwent levels M-Way (GLM) is 14.9 miles long and existing M4 is 18 miles long (point to point) and assuming 60,000 vehicles a day of induced traffic travels 25

miles per trip e.g. typical commute. Assume current traffic levels are 100,000 vpd which would rise to 120,00 before severe congestion.

Possible scenarios:

1. Do minimum
   Probable effect on traffic levels : congestion limits M4 traffic to say 110,000 - 120,000 vehicles per day (vpd) + overcrowded public transport, freight loss at Welsh ports, safety issues

2. *CAF*
   Assume traffic levels off at 100,000 vpd (i.e. additional public transport and peak hours road tolls, at least) - this is roughly the current level. This would generate 100,000 vpd on M4 x 365 days per year x 18 miles = 657 million vehicle miles/year (at 35 miles per gallon ?)

3. *Widen M4 to dual 3 throughout*
   Assume 120,000 vpd on widened route (widening, plus some additional PT plus peak hour roads tolls). This would generate 120,000 vpd on M4 x 365 days per year x 18 miles = 789 million vehicle miles/year. This 132 m more than CAF or an increase over CAF of 20%

4. *GLM built*
   Assume GLM is built and that 20,000 vpd transfer from existing M4 to GLM and 60,000 vpd is 'induced'. The GLM would then carry 80,000 vpd (any less and one would be asking why dual 3 instead of dual 2). Assume existing M4 traffic falls to 80,000 vpd (seeing would be believing!), hence total traffic flow on both roads would be 160,000 vpd both roads included (80,000 + 80,000).

   This would generate 60,000 vpd x (25 - 14.9) miles x 365 additional or 'induced' vehicle miles per year at either end of their GLM section = 221.2 m vehicle miles hence (80,000 vpd on GLM x 14.9 mls + 80,000 vpd on M4 x 18mls) x 365 + 221.2 m = (1,192,000 + 1,440,000) x 365 + 221.2 m = 435.1 + 525.6 + 221.2 = 1.182 billion vehicle miles per year

Hence there would ROUGHLY be a traffic increase of 525 million vehicle miles a year over CAF if the GLM were built - and increase over CAF of 80%, or if the existing M4 were widened to dual 3 then the increase would be 20%.