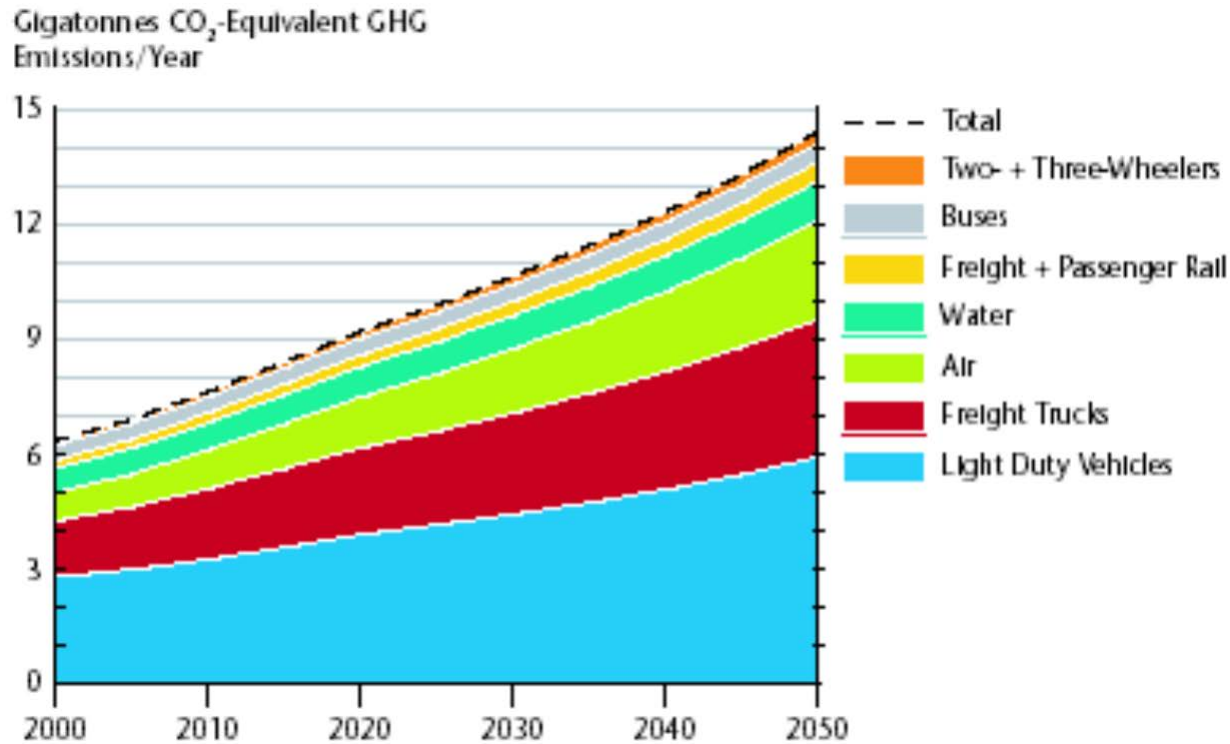


Closing the gap between research and action

John Whitelegg
BSEC Seminar, Berlin
8th November 2017

Transport-related Well-To-Wheels CO₂ emissions by mode



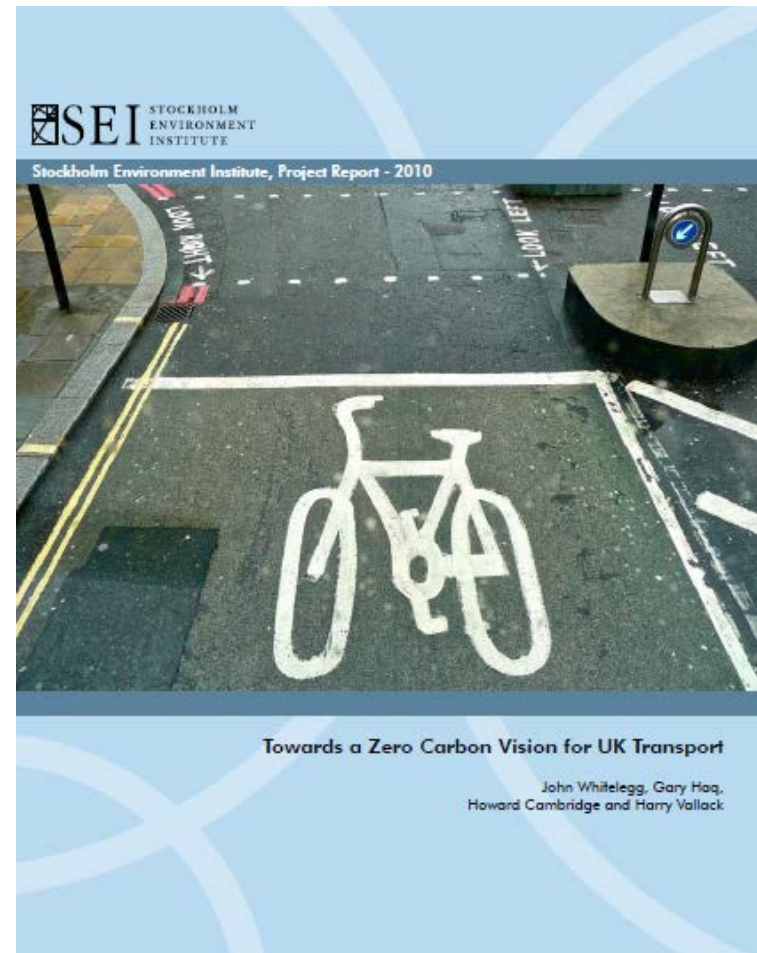
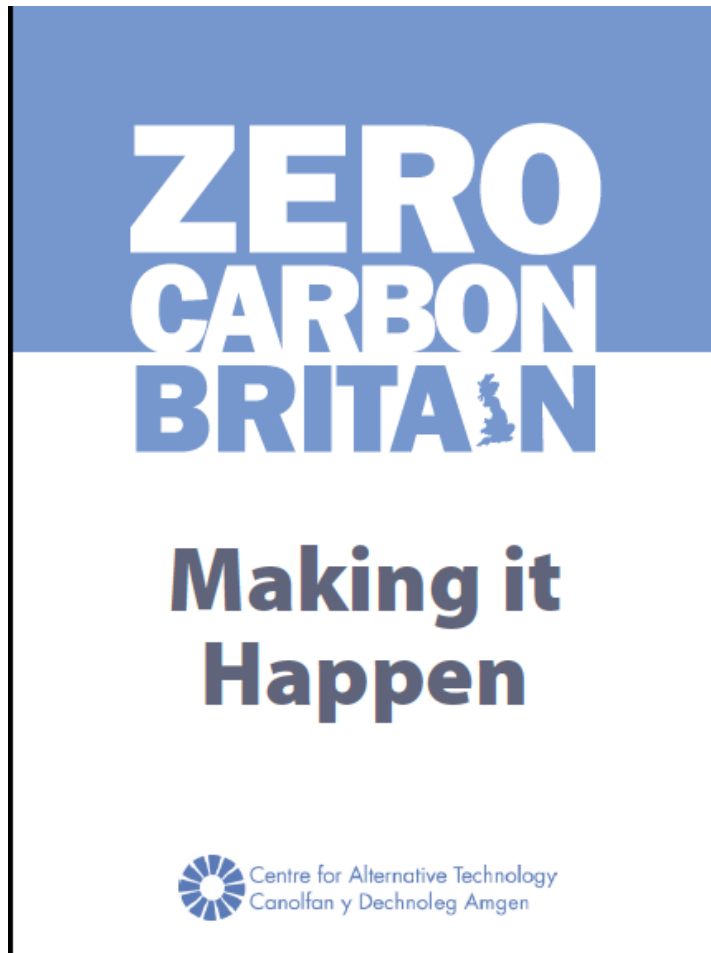
EU Transport GHG emissions

- The transport sector is the only main European economic sector for which GHG emissions have increased since 1990 — all other sectors have reduced their emissions.
- Transport emissions increased by 19.4% over the period. Passenger cars contribute almost 45% and HDVs a further 20% of the transport sector's emissions.

Germany

- Not on target to reach GHG reductions by 40% by 2020 on a 1990 base
- Transport sector is the main culprit (Agora)
- First half of 2017, diesel use +6.5%, petrol +2.5% and kerosene +8%

Zero Carbon



Stockholm Environment Institute

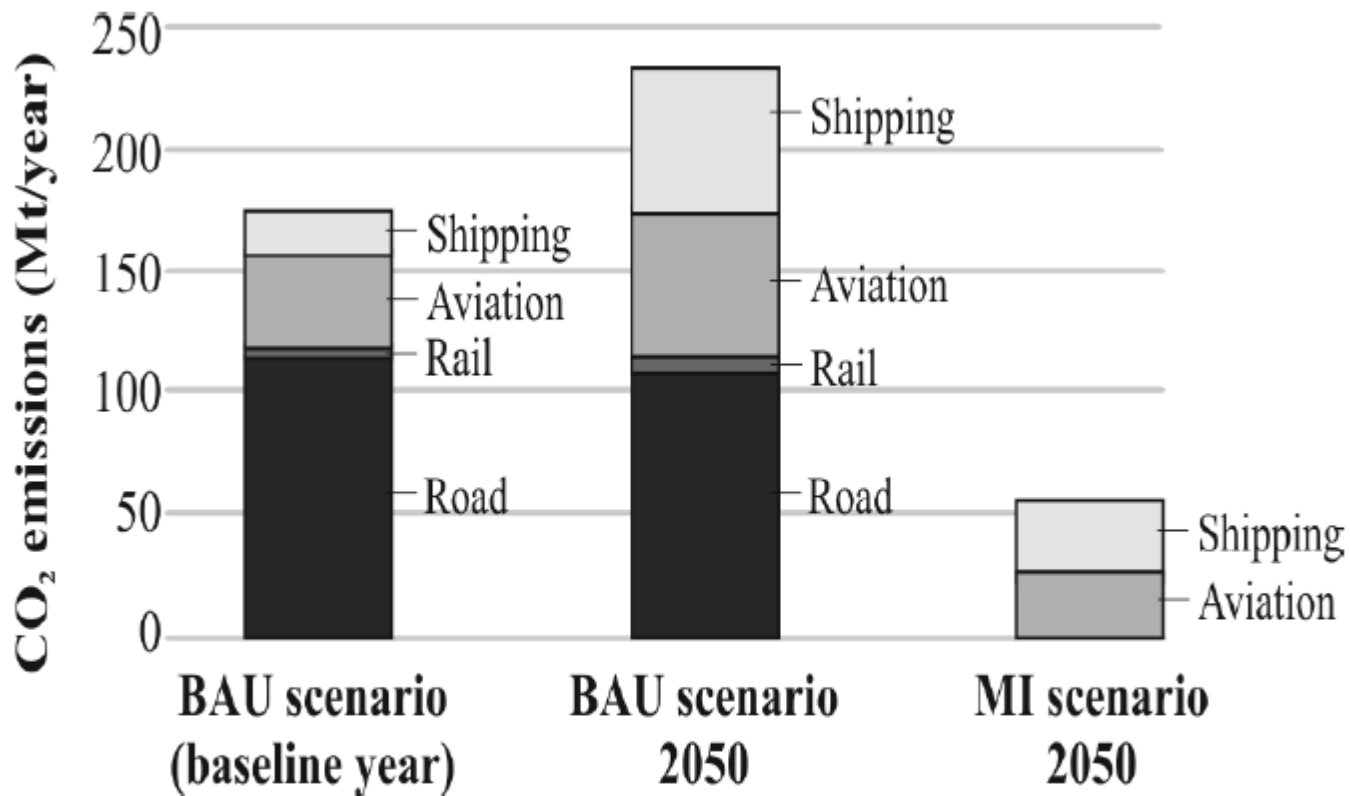
- Policy pathways towards achieving a zero carbon transport sector in the UK in 2050
- <https://www.sei-international.org/mediamanager/documents/Publications/SEI-ProjectReport-Whitelegg-TowardsAZeroCarbonVisionForUKTransport-2010.pdf>

Methodology

- BAU versus MI
- Meta review of global evidence in 4 intervention areas (spatial, behavioural, financial and technological)
- Aviation, shipping, road and rail
- Elimination of double counting

Examples

- Pedestrian oriented design to shift car trips to walk trips over short distances
- Road space reallocation
- Compact development/no sprawl
- Road user charging including London CC
- Regional co-operation for road freight
- Travel Plans x 3
- Reducing motorway speeds



Reality: mind the gap

- Sweden is planning for a 25% increase in vkm (road traffic) in the period 2010-2030
- Germany predicts a 9.9 % increase (2010-2030) in MIV (Mrd.Pkm)
- The EEA estimates that climate policies in the transport sector will reduce GHG in 2050 to 8% below the 2010 level or X3 higher than the target of a 60% less than the 1990 level

Why?

- Subsidy
- Prices do not “tell the ecological truth”
- Infrastructure/carbon “lock-in”
- Inappropriate spatial planning
- Neglect of walking/cycling/public transport

Subsidy (EEA, 2007)

Direct transfers and tax breaks (Euros)

Total= 270-290 billion pa

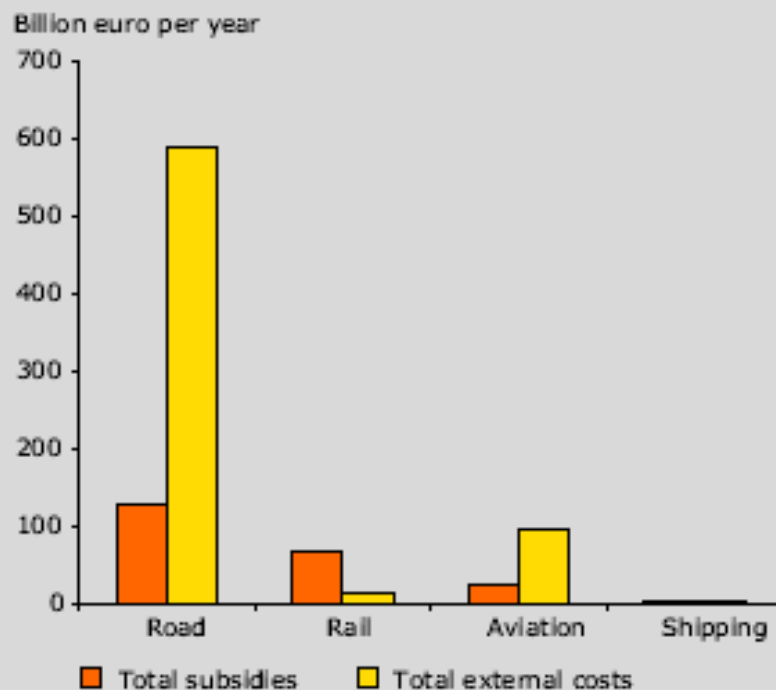
Road= 125 billion pa

Aviation = 27-35 billion pa

Rail= 73 billion pa

Water = 14-30 billion pa

Figure 7.2 Total external costs and transport subsidies found for EU-15



Note: The numbers for subsidies comprise on-budget subsidies, annual public funding of infrastructure and exemptions from or reductions to fuel tax and VAT. The numbers for external costs includes costs of accidents, noise, air pollution, climate change, nature and landscape, up- and downstream processes and additional urban costs.

Source: EEA, 2007b.

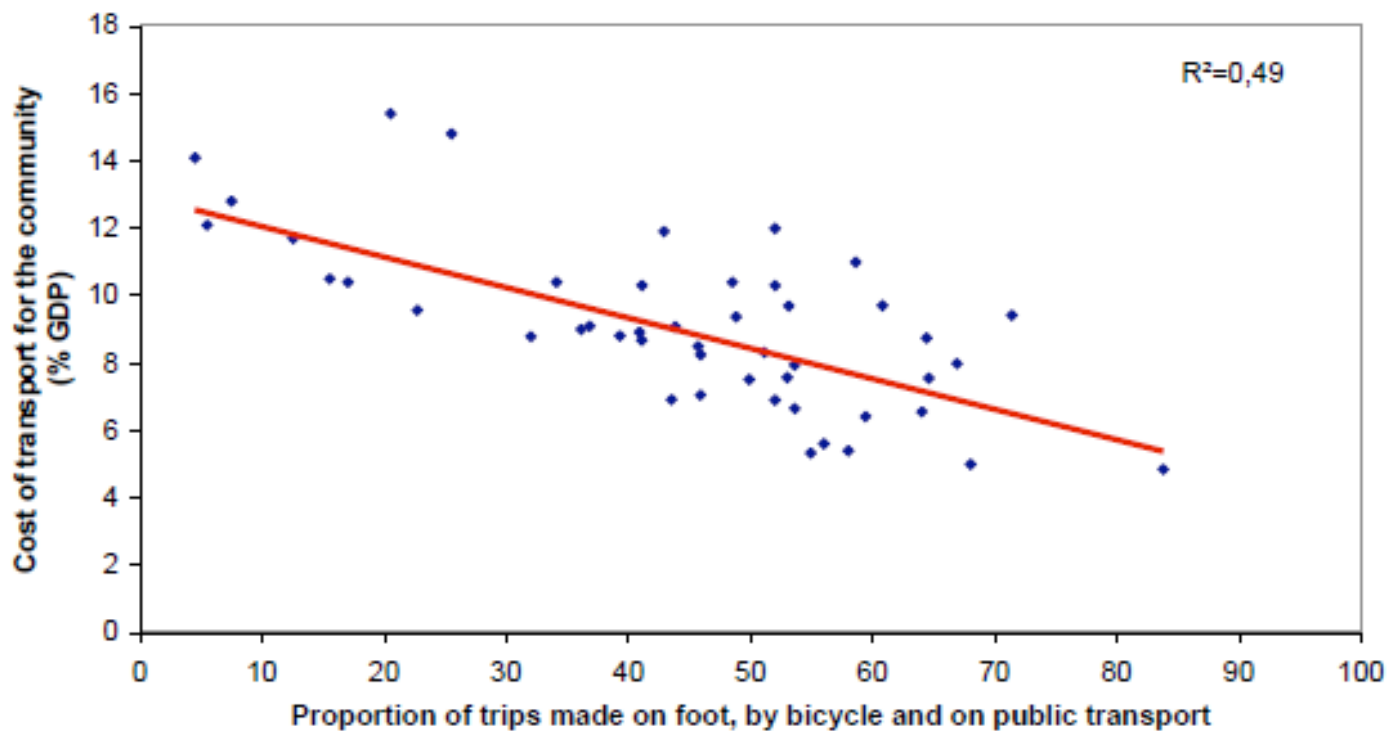
Co-benefits

- Reduce Fiscal stress
- Reduce carbon emissions
- Reduce air pollution
- Improve public health including huge negative health impact of low levels of physical activity
- Space

Fiscal Responsibility

2

Cost of transport for the community vs. Modal split



Which world do we want?

- Healthy, financially optimal, best use of space, zero carbon
- Unhealthy, expensive, inefficient use of space, climate threatening

Fundamental Issues (EEA 2016)

- Do we need all the transport activity that has been estimated for the next decades?
- Ultimately we must reconsider our consumption patterns and lifestyle choices
- Is growth in transport a necessary condition to achieve the aim of living well within the limits of the planet?
- Systemic change and not incremental change

The Anthropocene: Politik–Economics–Society–Science

Maja Göpel

WHAT IS NOW
PROVEN
WAS ONCE
IMAGINED

The Great Mindshift

How a New Economic Paradigm
and Sustainability Transformations
go Hand in Hand

With Forewords by Simon Dalby and
Uwe Schneidewind

 Wuppertal
Institut

 Springer Open

10_Impulse zur Wachstumswende | Wuppertal, Juli 2017

Autofreie Innenstadt Wuppertal Elberfeld

Ein Leitbild für die Verkehrswende
im Stadtteil



*Von Oscar Reutter
in Zusammenarbeit mit
Thorsten Koska,
Ulrike Reutter,
Frederic Rudolph und
Olivia Spiker*



Politics: making connections

- Is a total of deaths due to air pollution in Germany of 84000 (EEA, 2016) each year acceptable?
- Climate policies and air quality are intertwined
- High cost inefficient cities v lower cost healthier cities

Synergy: 5 overriding policies

- Zero death and injury on roads (Vision Zero)
- Zero air pollution (FFF, Freiburg modal split, car-free streets)
- Zero carbon
- Internalisation of external costs
- End carbon “lock-in”

Technology: help or hindrance?

- Electric vehicles
- Driverless cars

EVs and PM Pollution

- Non-exhaust sources account for 90% of PM_{10} and 85% of $PM_{2.5}$ from traffic.
- “Non-exhaust PM emissions from electric vehicles” *Atmos. Environ.* 134 (June 2016) 10–17
- Victor R J H Timmers and Peter A J Achten

German and Swedish increase in vkm



John Whitelegg

