

# How Sustainable is Sustainable Transport?

What matters and why and the potential economic, technical and regulatory improvement options  
Short course • 12-13 August 2010 • Brisbane

Sustainable transport is easy to say, but designing meaningful improvement strategies is a considerable challenge. Knowing the facts and understanding the relationship between transport, and drivers of transport demand to climate change, energy use and health is the starting point to identifying effective and efficient interventions which make good business sense.

A key theme of the course is to focus on good transport analysis, policy and projects which we maintain is the basis of designing sustainable transport that will bring with it desired energy efficiency, greenhouse gas reductions and associated environmental benefits.

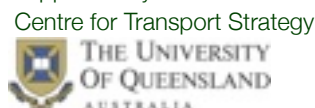
Based on established theory, the course is very practical, providing participants with facts, useable concepts, an understanding of methods, and promising instruments as well as an awareness of the commercial benefits, costs and legal compliance issues facing their organisations.

- Understand what sustainability really means in the context of transport
- Distinguish the 'feel good' from the truly effective and efficient policies and strategies
- Familiarise yourself with concepts, tools and methods useful for application in your workplace
- Identify business opportunities for your organisation
- Become aware of current and emerging legal compliance obligations
- Learn from internationally respected course presenters.

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**How sustainable is sustainable transport? – what matters and why and the potential economic, technical and regulatory improvement options.**

Transport is a significant and growing contributor to energy use, greenhouse gas emissions that impact on climate change and exhaust emissions that harm human health. Closely linked to economic activity, mobility and transport emissions are on an upward path unless effective mitigating strategies are put in place.

Land transport is particularly problematic as a comprehensive approach to reducing emissions and increasing energy efficiency involves economic, technical and regulatory interventions which can impact on tens of thousands of individual firms and millions of transport users, with an equal number of responses which often appear counterintuitive.

While there is a desire to make transport more 'sustainable' it is common for interventions to be narrowly-focused on energy efficiency or greenhouse gas emission reductions and associated exhaust emissions without a full understanding of the nature of transport demand and how it responds to the quality, quantity and pricing of transport services and other policy, behavioural, taxation and technological instruments. Gaps in understanding may lead to design of inappropriate interventions which could be counterproductive to achieving real sustainability.

Although the proposed Australian Carbon Pollution Reduction Scheme that was to take effect in 2011 is uncertain in its timing and form, it is likely that some form of legislation would be introduced in future that will impact on the price of carbon emissions. The National Greenhouse and Energy Reporting Scheme already imposes significant reporting obligations on firms that produce substantial amounts of greenhouse

gas, or produce or consume substantial amounts of energy.

**Day 1** provides an authoritative stock take of the current global status of, and trends in travel segments, modes, vehicle types by region and the nexus with energy use, climate change and health effects. It describes the conceptual ASIF framework – *Avoid, Shift, Improve/Mitigate and Finance* – for analysing transport sustainability.

**Day 2** looks in detail at the current and emerging legal obligations for firms and economic, technical and regulatory options for enhancing energy efficiency and reducing greenhouse gas emissions. The requirements for effective and realistic estimation of emissions reductions for sustainable transport initiatives using the ASIF framework are described along with the features and applicability of currently available methodologies. The technical potential for emissions reductions are also described along and how packaging of proposed interventions can enhance outcomes and assist in mobilising finance. Innovative practices for land use planners and urban designers to enhance transport and vice versa are discussed.

**Who should attend:**

This practical two day course has been designed to provide National and State policy makers, transport agency executives, local government officials, transport industry managers, researchers and consultants with an overview of the key factors influencing transport sustainability in all its dimensions and what can be done to implement effective improvement strategies that make sound business sense as well as satisfy emerging legal requirements.

**Venue:**

UQ Business School Downtown, 19th Floor, Central Plaza One, 345 Queen Street, Brisbane, Queensland Australia

**Course Leader:**

**Dr Lee Schipper** is Senior Research Engineer at the Precourt Energy Efficiency Center at Stanford University. He is also Project Scientist with Global Metropolitan Studies at University of California Berkeley and an affiliate of the Energy and Resources Group at UC. As a two-time member of the Intergovernmental Panel on Climate change, he is a co-recipient of the 2007 Nobel Peace Prize. Dr Schipper has authored over 100 technical papers and a number of books on energy economics, environment, and transportation around the world. He takes part in numerous prestigious international panels and studies on energy and transportation, and is on the editorial boards of five major journals in the fields. Dr. Schipper was a member of the Swedish Board for Transportation and Communications Research for four years, and is currently a member of the US Transportation Research Board's Committees on Sustainable Transport, on Energy, and on Developing Countries.



Dr Schipper earned his Ph.D. at Berkeley in astrophysics, but has devoted his career to earthly problems of transport, energy and environment. Previously he had been Director of Research for EMBARQ, the World Resources Institute (WRI) Center for Sustainable Transport, which he helped found in April, 2002. Dr. Schipper came to EMBARQ from the International Energy Agency (IEA) in Paris, where he had been visiting Scientist from 1995 to 2001. Previous to that he was Staff Senior Scientist at the Lawrence Berkeley National Laboratory for two decades. He worked in Group Planning at Shell International Petroleum Company in the 1980s and again in 2001, where he worked on two sets of Shell Scenarios. He has been a guest researcher at the World Bank, VVS Tekniska Foerening (Stockholm), the OECD Development Center, and the Stockholm Environment Institute.

**Course Leader:**

**Philip Sayeg**, Principal of Policy Appraisal Services Pty Ltd, Brisbane has over 34 years of experience in transport planning, strategy and policy. With degrees in engineering, urban and regional planning and technology management, he has prepared sustainable transport plans and worked on relevant issues including public transport, non motorised and motorised transport including their relationship to land use and urban design since the outset of his career. Since 1990, he has worked extensively in the field of transport, environment and energy as a principal researcher on several significant projects for the World Bank, International Institute for Energy Conservation and the Asian Development Bank. Current and recent projects of specific relevance to the course include his role as adviser to: the German Enterprise for Technical Cooperation for the implementation of the "Clean Air for Small Cities in ASEAN Project" for the ASEAN Secretariat which is preparing and implementing Clean Air Plans in 14 cities in seven ASEAN countries to 2014; the World Bank's Clean Development Mechanism Unit on developing methodologies for estimating reductions in carbon dioxide emissions from modal switch interventions as part their proposed 'City-wide' basket of methodologies; and the World Bank for undertaking a Strategic Environmental Assessment of the Lao PDR Transport Sector Program.



**Presenters**

**Professor Lidia Morawska** of the School of Physical and Chemical Sciences, Queensland University of Technology, Brisbane

Lidia Morawska is the Director of the International Laboratory for Air Quality and Health at QUT (ILAQH which is a Collaborating Centre of the World Health Organization on Research and Training in the field of Global Burden of Disease due to Air Pollution). She conducts fundamental and applied research in the interdisciplinary field of air quality and its impact on human health and the environment with a specific focus on science of ultrafine particles. Professor Morawska is a physicist and received her doctorate at the Jagiellonian University, Poland for research on radon and its progeny. She has also been involved at the executive level with a number of relevant national and international professional bodies and has been acting as an adviser to the WHO. She is the immediate Past President of the International Society of the Indoor Air Quality and Climate.



**Associate Professor Adam Pekol,**

is Director of Adam Pekol Consulting, which incorporates the Centre for Transport, Energy and the Environment. He has recently been appointed an Associate Professor at the University of Queensland, School of Civil Engineering. He has over 25 years experience in traffic engineering and transport planning, having worked throughout Australia and overseas in both the public and private sectors. The Centre for Transport, Energy and the Environment established in 2001 by the Apelbaum Consulting Group is the premier source of information on Australia's transport task. It tracks the freight task, passenger task, energy use and emissions on an annual basis for air, sea, rail, road and pipelines. Historical time series data back to 1984/85 and 10 year forecasts are produced at the State and National level. The Centre was transferred to Adam Pekol Consulting in July 2009.



**Dr Reena Tiwari** is an urban designer and an academic in the Departments of Urban and Regional Planning and Architecture at Curtin University of Technology in Perth. Her focus on the transport and associated CO<sub>2</sub> challenge within a framework of sustainable urbanism. Her recent works on 'context sensitive multimodal corridor design' for Perth and 'urban form solutions for green cities' have been funded by the Department of Planning and the Public Transport Authority, WA.



**Nick Sayeg Associate, Energy and Resources Division, Minter Ellison Lawyers, Brisbane** focuses on the energy and resources sector with particular emphasis on climate change involving provision of advice to industry on their obligations to register and report under the National Greenhouse and Energy Reporting Act 2007 and the implications of the proposed Carbon Pollution Reduction Legislation.



**Shol Blustein, Climate Change Research Analyst, Minter Ellison Lawyers, Brisbane.** In November 2009 Shol was awarded the Minter Ellison Climate Change Law scholarship to undertake his PhD at QUT and was appointed to Minter Ellison as a Climate Change Research Analyst working part-time while completing his studies. Prior to joining Minter Ellison, Shol worked for a number of years as a banking and finance lawyer. Shol's PhD research is focussing on the deficiencies in Australia's regulatory response to the challenge of anthropogenic climate change.



*Disclaimer: The information in this brochure is correct at the time of printing. The Organisers reserve the right to cancel or change any aspect of the program without notice.*

**Registration fees:** \$1,320 per person (1,200 plus GST) this includes attendance at all sessions, course materials, morning and afternoon refreshments and lunch. All prices are in Australian dollars and include GST. Registration, travel and accommodation enquiries: Sally Petherbridge, OzAccom Conference Services Tel 07 3854 1611 E-mail: [sallyp@ozaccom.com.au](mailto:sallyp@ozaccom.com.au)

## DAY 1: Thursday 12 August 2010

Understanding the linkages between mobility, energy efficiency, carbon intensity and health impacts of vehicle pollution.

start 8:30

### Session 1: **Sustainable Transport.** Role of energy and CO<sub>2</sub> within larger context of transport variables

- Why is transport important, and why sustainable transport more important
- Motorisation and its problems
- Transport externalities
- Transport policy issues
- Energy and Environmental policy issues

### Session 2. **Fuels or Fools?** Transport and environment

- Introduction to ASIF (Avoid, Shift, Improve/Mitigate and Finance)
- Current mix – heavily weighed to oil and liquid fuels (oil slide)
- Alternative fuels and their impacts
- Air Pollution and other fuel based externalities
- Necessity for life cycle analysis
- Biofuels and alternatives

Break 10:15-10:45 am

### Session 3. **Travel** – Class + peak travel

- Car ownership, mode shares
- Review of main modes Japan, US and Europe
- Urban transport
- Congestion pricing

### Session 4. **Freight** What is hauled, where, how & why

- Drivers of freight demand
- Why freight transport is more complex than personal transport
- Future trends

Lunch: 12:15 to 1:15pm

### Session 5. **Fuel Economy of Light Duty Vehicles** – The fuss and the must

- Defining fuel economy and importance
- How Australia compares
- Pitfalls and opportunities

### Session 6. **Transport and Developing Countries** – Focus on Asia and Latin America

- Why developing nations matter
- Comparison to USA and Australia
- What needs to be done

Break 2:45-3:15 am

### Session 7: **Health Impacts**

- Key pollutants and impacts
- Significance of transport
- Priorities for mitigation
- Synergies with transport and energy policy

### Session 8. **Key Transport Issues:**

#### Mobility and CO<sub>2</sub> in the future

- Boundary conditions for policies- transport, CO<sub>2</sub>, fuel or all three? In which order?
- Global forecasts of International Energy Agency

close 4:30

## DAY 2: Friday 13 August 2010

Designing CO<sub>2</sub> interventions for land transport – making effective use of the available economic, technical and regulatory instruments

start 8:30

### Session 9. **Policy and Legislative Context** – Emissions trading, transport, energy, industry

- Current Australian policy/ Australian legal framework - voluntary schemes. Current compliance requirements for transport firms
- The Clean Development Mechanism
- Emerging policy and regulatory change
- Impact on National, State and local government, transport industry and consultants

Break 10:00-10:30 am

### Session 10. **Quantifying 'Business as Usual' in Australia** – What are the CO<sub>2</sub> trends? Where should interventions be focused?

- Current baseline – sources of emissions (modes, vehicle types, fuel types, geographic areas etc)
- Expected Business as Usual – trends, factors affecting emissions
- Array of interventions – different instruments for firms and individuals – building on ASIF
- Innovative Practice:** Transport and Urban Design in the context of Climate Change

Lunch: 12:15 to 1:15pm

### Session 11. **Reducing CO<sub>2</sub> Emissions from Transport** – The practice

- Technical Challenges for Forecasting CO<sub>2</sub> Emission Reductions: defining the Business as Usual and baseline, defining the project case, treatment of induced/ demand or rebound and consequent leakage, upstream emissions – including embedded emissions
- Design of Appropriate Methodologies – common requirements; scope for modal switch, fuel efficiency, fuel switching; road infrastructure, demand management and pricing; key requirements for verifying reductions on the ground; use of ex ante methods featuring transport models; addressing induced demand and leakage
- Audit of current methodologies – what do they address? (eg Clean Development Mechanism methodologies, World Bank 'City-wide' methodologies, Nationally Appropriate Mitigation Actions)
- Technical potential – what is being realised in real life implemented projects? What are the \$ value of reductions?

Break 3:00-3:30 am

### Session 12. **Co-benefits** – The Economic and Funding Opportunities

- User benefits – the necessity and the potential for funding
- Co-benefits: flow on effects to industry & development – harnessing funding; health impacts – reducing costs to society
- Expanding the potential – case studies.

close 4:30