Energy Innovation Emporium

Transport

Chair: Prof. John Nelson,

Centre for Transport Research – University of Aberdeen

1145 - 1315, Wednesday 31st May 2017

TIC, University of Strathclyde, Glasgow

The Panel

- Prof John Nelson, Director – Centre for Transport Research, University of Aberdeen (Chair)

- Graeme Scott, Deputy Regional Director, UK and Ireland, IBI Group

- Graham Edmond, Smarter Workplace Project Manager, Transport Scotland

- Gary West, Engineering Director Scotland, UK Bus, FirstGroup

Overview

- Chair's remarks
  - Objectives of the session
  - Transport and Energy in Scotland
  - Global trends in motorisation
  - The policy response via the Scottish Energy Strategy
- Panel opening statements
- Discussion - Innovation / Research wish list:
  - Government / Public
  - Industry
  - Academic

Transport Session Aims

Present
- Present sectoral perspectives on the decarbonisation of transport, research & innovation challenges in light of the draft Scottish Energy Strategy.

Discuss
- Discuss innovation and RD&D required to support the decarbonisation of transport.
- Discuss avenues of cross-sectoral cooperation to support the Scottish Energy Strategy.

Outcomes
- Produce a summary of suggestions for innovation and RD&D as an output from the session.
- Take these discussions further in follow-on transport workshops to identify collaborative projects and activities.

Transport & Energy: Scotland

- Scottish Energy Strategy [para 167]
  - **25% OF SCOTLAND'S ENERGY IS USED IN (ROAD) TRANSPORT**
  - The split of energy used to transport people and goods on the roads is around 60:40 respectively

Traffic and Passenger numbers (Scotland)

	2010	2014	2015	Percentage Change Between 2014 and 2015 (%)	Percentage Change Over Five Years (%)
Car Traffic on all Roads (m/veh km)	33,591	34,415	34,669	+0.7	+3.2
Pedal cycles on all Roads (m/veh km)	298	369	342	-7.3	+14.8
ScotRail Passengers (millions) (based on financial year)	78.3	92.7	93.2	+0.5	+19.0
Bus Passengers (millions) (based on financial year)	432	414	407	-1.7	-5.8
Air Passengers (millions)	20.91	24.08	25.51	+5.9	+22
Ferry Passengers (millions)	8.02	7.88	7.82	-0.8	-2.5

Source: National Statistics Publication for Scotland (2017)

# Scottish Greenhouse Gas Emissions and Transport Emissions (1990 – 2014)
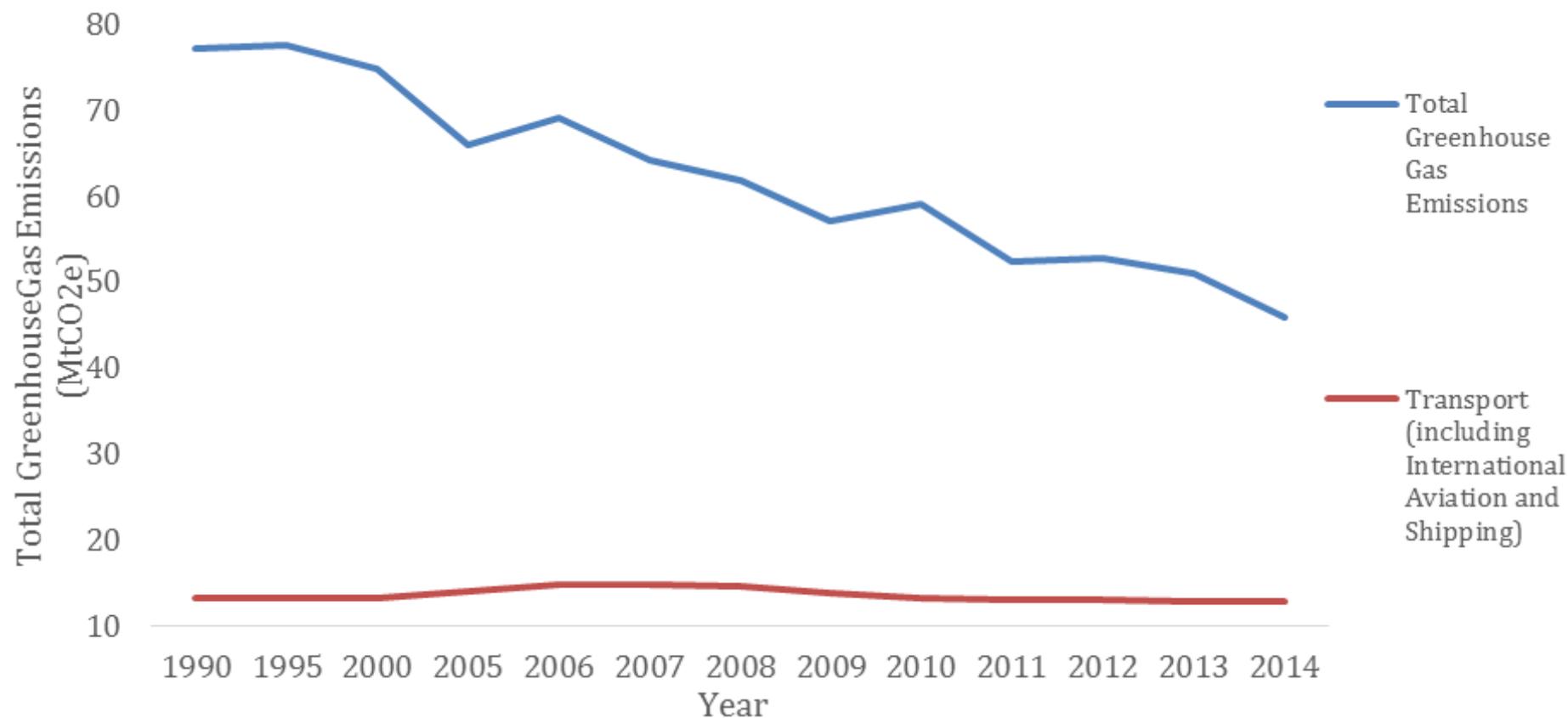
Source: The Scottish Government (2014)

Consequences of traffic growth

- Greenhouse gas emissions
- Air pollution / health
- Noise pollution
- Land take / destruction of the countryside
- Accidents
- Congestion
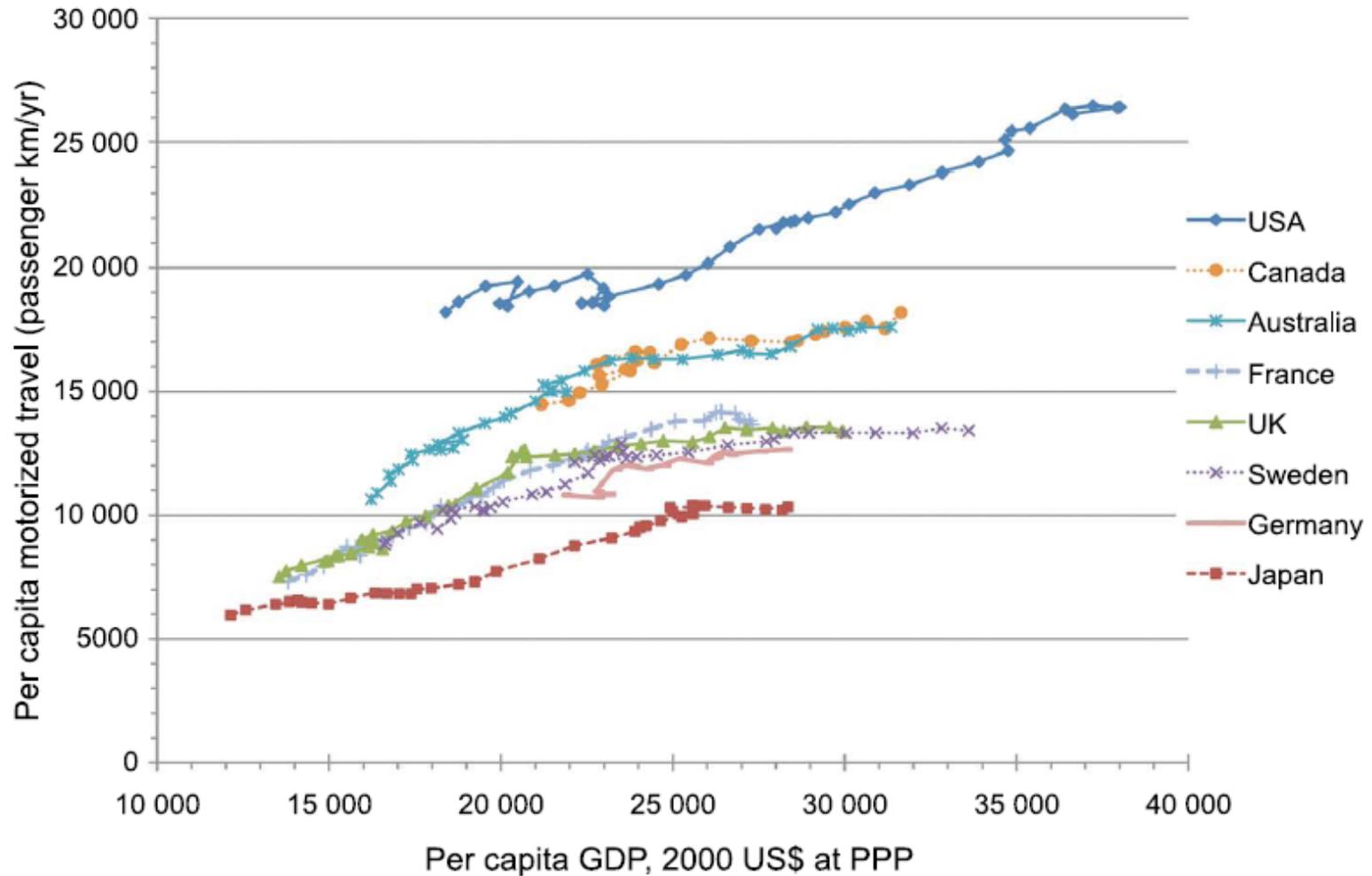- Obesity
- Social Exclusion

Expected urban private motorised travel (passenger kilometres)
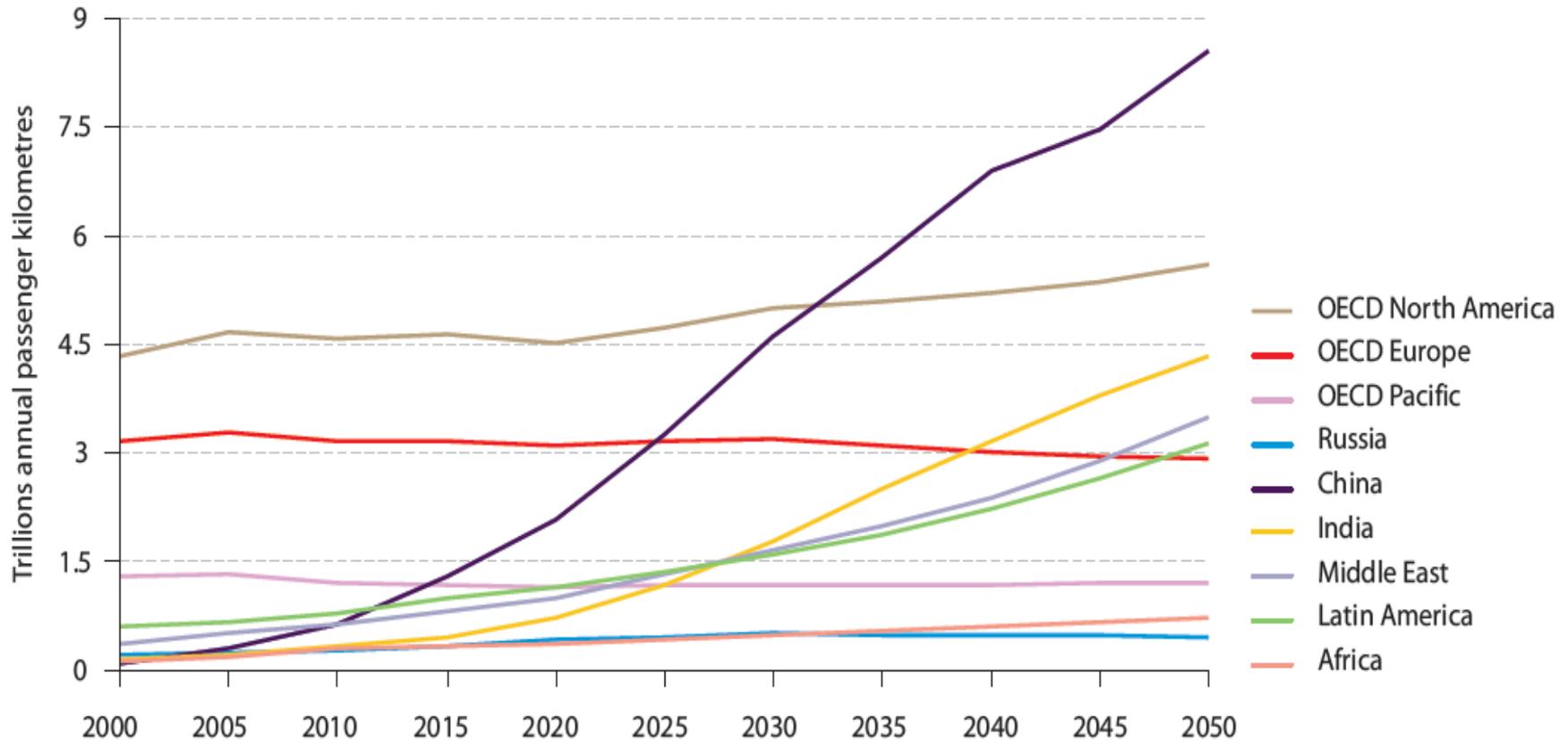
Source: unless otherwise indicated, figures and tables in this document are from IEA data and analysis.

Peak Car – Global Trend

Source: Millard-Ball, Adam and Schipper, Lee (2011) 'Are We Reaching Peak Travel? Trends in Passenger Transport in Eight Industrialized Countries', Transport Reviews, 31: 3, 357 — 378.

Policy Response (Scotland)

- Scottish Energy Strategy
  - 'all-energy' target for the equivalent of 50% of Scotland's heat, transport and electricity consumption to be supplied from renewable sources
  - "system-wide approach" (Chapter 3)
  - Focus on low carbon transport continues to grow [para 36] → EV uptake / Renewable energy
  - **2050 Vision:** Scotland has successfully managed a widespread shift to a low carbon transport system – by 2032 over 40% of all new cars sold each year are Ultra Low Emission Vehicles. [p53]

Policy Response

- **Electric vehicle** (EV) uptake is increasing:
  - At end June 2016, there were 3,575 electric cars and vans licensed in Scotland (eligible for the UK Govt's plug-in car and van grant schemes). This is compared to 2,050 at end June 2015. More EVs were sold in Scotland in 2015 than the previous four years combined, with 2016 sales on track to rise further.
  - ChargePlace Scotland network has expanded to over 600 publicly available EV charging points, equating to over 1,200 charging bays. This includes over 150 'rapid' charge points.
- **Renewable energy** is an input to the transport sector in the form of biofuels - which, in 2015 made up 3.2% of total road fuels used in the UK.

Energy Strategy: SG Proposed Actions [para 167f]

- Fund **active travel infrastructure** and **behaviour change programmes** at record levels until at least 2021;

- refresh 'Switched On Scotland – A Roadmap to **Widespread Adoption of Plug-in Vehicles**' by Spring 2017;

- with the EU and UK Government, negotiate stretching **emission standards** for new cars (and vans) beyond 2020 (2021);

- with the UK Government, negotiate **vehicle excise duty differentials** between ultra low emission vehicles (ULEVs) and conventional vehicles support and encourage the take up of ULEVs;

- enhance the capacity of the **electric vehicle charging network** (ChargePlace Scotland);

- provide interest-free loans through the Energy Saving Trust to **enable the purchase of EVs** by both consumers and businesses until at least March 2020;

- with local authorities, review licensing regulations and consider introducing incentives to promote the **uptake of ULEVs in the taxi and private hire sector**, with loan funding for vehicle purchase until at least March 2020; and

- **promote the benefits of EVs** to individuals and fleet operators and increase awareness and confidence in the viability of EVs as an alternative to petrol and diesel vehicles.

Concluding remarks

- Should we accept that traffic growth is inevitable?
    - How can we break the circle of unsustainable transport?
    - Is "peak car" a precursor to a more sustainable transport system?
- What is the role of technology in influencing energy use?
- How can we effectively promote behaviour change?

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The wish list…

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