

European and Irish Policy Directions

Denise Keoghan, 28 November 2014

Policy Context - EU

- 20-20-20 Targets:
 - A cut in GHG emissions by at least 20% over 1990 levels (80-95% by 2050)
 - Improved energy efficiency – 20%
 - Renewables share of energy market – 20% (10% target for transport)
- Directive 2009/33/EC – Promotion of clean and energy efficient vehicle
- Directive 2009/28/EC - Renewable Energy Directive
- Energy Efficiency Directive 2012/27/EU
- Deployment of Alternative Fuels Infrastructure Directive

National Policy

- National Energy Efficiency Action Plan (NEEAP)
- Renewable Energy Action Plan
- National Low Carbon Roadmap
- National Policy Framework on Deployment of Alternative Fuels Infrastructure
- *Smarter Travel – A Sustainable Transport Future: A New Transport Policy for Ireland 2009 to 2020*

Energy in Transport- Highlights

- Transport sector responsible for largest share of energy demand (33%) and energy consumption (40%) in 2013
- Largest share of energy related CO2 emissions
- Energy use 97.5% dependant on oil imports (€3.5bn)
- Share in energy demand between modes in 2013: private cars (43%), road freight (21%), aviation (14%), passenger transport (5%), other (17%)

NEEAP

- Energy Efficiency Directive 2012/27/EU – Common Framework for 20% target by 2020
- Ireland is committed to 20% target and 3rd NEEAP to 2020 was published in 2014 – www.dcenr.gov.ie
- Ireland has achieved **12,337**GWh (primary energy equivalent) savings by end-2012 i.e. 39% of the national target to 2020 with expected savings of **31,955**GWh by 2020
- Transport has achieved **1,342**GWh (primary energy equivalent) savings by end-2012 with savings of **4,548**GWh expected by 2020

NEEAP - Transport

- Rebalancing VRT and motor taxation to incentivise purchase of lower emission/more energy efficient cars
- In 2013, 61% all new car purchases in lowest emissions 'A band'. Cars with CO2 emissions of 140g/km or higher now just 7% of new car purchases.
- A grant support scheme for EVs has been in place since 2011
- In 2012, the Department of Transport, Tourism and Sport (DTTAS) launched a Smarter Travel Initiative
- Incentive schemes such as the Tax Saver Scheme and the Bike to Work Scheme
- National ITS Strategy being developed

NEEAP – PT Highlights



- Iarnród Éireann (IE) - Configuration changes from locomotive-hauled trains with one large diesel engine to DMUs. Flexibility to match demand. Expected to reduce consumption by 7% (31GWh) per year.
- Bus Éireann - Savings from more eco-friendly driving and reduced engine idling expected to reach 14.6GWh in 2014.
- Dublin Bus - Improved bus priority of network along with eco-driving, a reduction of idle speed, automatic engine switch-off, acceleration limiting and the use of economy programmes in engine and gearbox management - fuel savings estimated to be in the region of at least 15GWh per year.

Rail Services

- Roll out of traction control software on DART
- IE to tackle issue of automatic engine shutdown for locomotives – plan to retrofit with Automatic Engine Start Stop (AESS)
- RPA undertaking two trials aimed at energy efficiency – lighting on trams being replaced with LED and energy saving cubicle (ECOMODE)

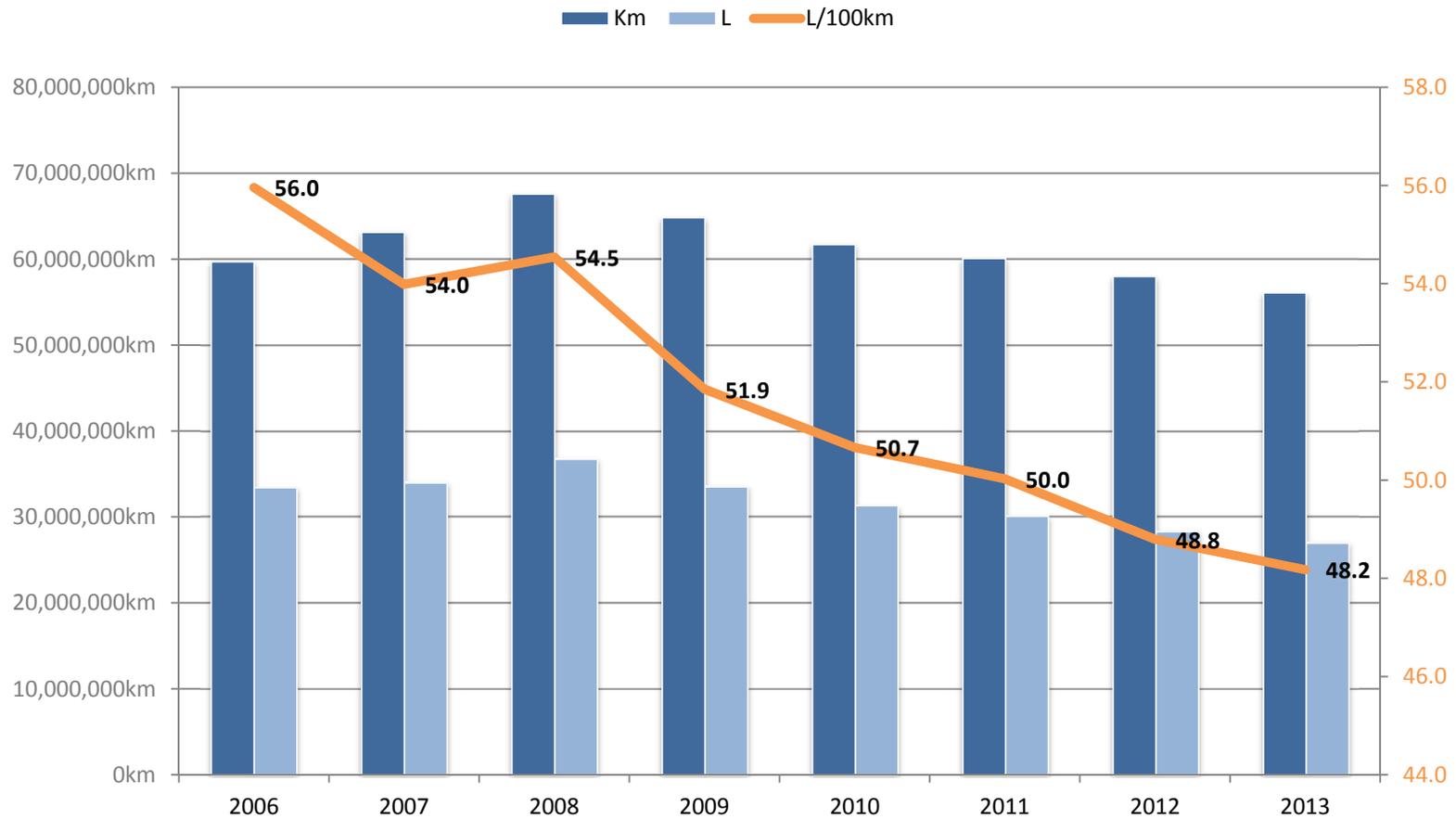
Bus Eireann

- To complement eco-driving training, all new vehicles (since 2011) have been fitted with telematics system to provide continuous on-board driving style improvements
- Since 2009, all new vehicles have automatic engine idle shutdown (support company policy)
- Vehicle replacement in 2014/2015 – up to 80 new vehicles meeting Euro 6 emissions standard.
- BE, with Bord Gáis, have undertaken feasibility trial on a CNG powered citybus on two routes in Cork.

Dublin Bus

- The KPI used by Dublin Bus to monitor and measure fuel consumption is litres per 100 km travelled (L/100km).
- The next graph shows the results of last 8 years as part of DB's commitment under NEEAP to reduce its overall consumption by 33% by 2020

Dublin Bus – Fuel Consumption



Dublin Bus

- Annual review of energy consumption informing goals under Energy Mgt Strategy
- 70 new, more energy efficient vehicles currently being delivered –
 - smaller engines, reduced emissions from fuel efficiency
 - Lighter chassis and body – additional standee capacity and better fuel consumption
 - LED lighting and wireless bell push – increased reliability

EU Emissions Standard

Standard	Date	CO	HC	NOx	PM
Euro 1	Oct. 1992	4.5	1.1	8.0	0.36
Euro 2	Oct. 1998	4.0	1.1	7.0	0.15
Euro 3	Oct. 2000	2.1	0.66	5.0	0.10
Euro 4	Oct. 2006	1.5	0.46	3.5	0.02
Euro 5	Oct. 2009	1.5	0.46	2.0	0.02
Euro 6	Jan 2014	1.5	0.13	0.4	0.01
% Reduction		67%	88%	95%	97%

Hybrid Technology

- Dublin Bus are considering leasing Hybrid buses (subject to funding)
- Trial of Volvo hybrid double deck is currently on going in Conygham Road
- Looking to achieve energy efficiency savings of 30% by 2020
- International experience - UK

Renewable Energy in Transport

- 2009 Renewable Energy Directive – Ireland assigned 16% renewable energy target with at least 10% of energy used in transport to be from renewable sources by 2020 (RES-T).
- EVs will make a small contribution (less than 1%)
- Biofuels expected to make greatest contribution

Biofuels Obligation Scheme

- The BOS requires all road transport fuel suppliers in State to include 6% biofuel (by volume) in overall annual fuel sales
- Certain conditions on type and origin of the biofuels
- Further increase in the obligation will be required so Ireland can meet target under Directive

Sustainability of Biofuels

- The RED specifies a set of sustainability criteria that must be applied before biofuels can be counted as part of the REW-T.
- Concerns have arisen in respect of possible ILUC
- In 2012, Commission look to amend Directive to mitigate potential of ILUC – Limiting certain biofuels
- EU Parliament seek 6% cap on biofuels with risk of ILUC with Council advocating 7% cap. Negotiations currently underway.

Bioenergy/Biogas

- Biogas may have a role with increased use of CNG
- Biomethane can be directly fed into the grid and is a direct substitute for CNG.
- Draft Bioenergy Plan recently published – SEA and AA processes to commence shortly
 - Continued support for BOS
 - Economic assessment of cost/benefits of biogas/biomethane potential
 - Based on analysis, possible demo projects for use of biomethane with CNG in public transport and freight sector

EVs in Ireland

- Positive contribution across a number of policy goals
- Help with integration of variable renewable energy sources such as wind
- EVs suitable for Ireland
- Technology improving and choice increasing
- Grant support given to 551 vehicles to date with 269 grant aided to date in 2014.

EV R&D in Ireland

- ESB is a partner in a number of EU Commission funded projects as well as major projects in place with IBM and Inter.
- SEAI – Research project on Aran Islands
 - 3 year trial of 8 EVs
 - Results – Fossil imports reduced by 67%, wind energy input from mainland supply was 19% and measured energy cost savings were 80%.

Deployment of Alternative Fuels

- EU Directive on Deployment of Alternative Fuels Infrastructure adopted in **November 2014**
- Requires Member States to develop national policy frameworks for the market development of alternative fuels and infrastructure;
- Foresees common technical specifications for recharging and refuelling stations;
- Paves the way for setting up appropriate consumer information on alternative fuels, including a clear and sound price comparison methodology.
- Member States must make targets public and present national policy frameworks by **end-2016**.

Required Coverage and Timings

	Coverage	Timings
Electricity in urban/suburban and other densely populated areas	Appropriate number of publically accessible points	by end 2020
CNG in urban/suburban and other densely populated areas	Appropriate number of points	by end 2020
CNG along the TEN-T core network	Appropriate number of points	by end 2025
Electricity at shore-side	Ports of the TEN-T core network and other ports	by end 2025
Hydrogen in the Member States who choose to develop it	Appropriate number of points	by end 2025
LNG at maritime ports	Ports of the TEN-T core network	by end 2025
LNG at inland ports	Ports of the TEN-T core network	by end 2030
LNG for heavy-duty vehicles	Appropriate number of points along the TEN-T core network	by end 2025

Conclusion

- A range of policy supports and targets in place
- On going technological improvements
- Creating markets for alternative fuels
- Ensuring supply
- Opportunities

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