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Electric Dreams: A Roadmap for a Sustainable Transport Future?

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Department of Transport





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Houston - we have a problem!



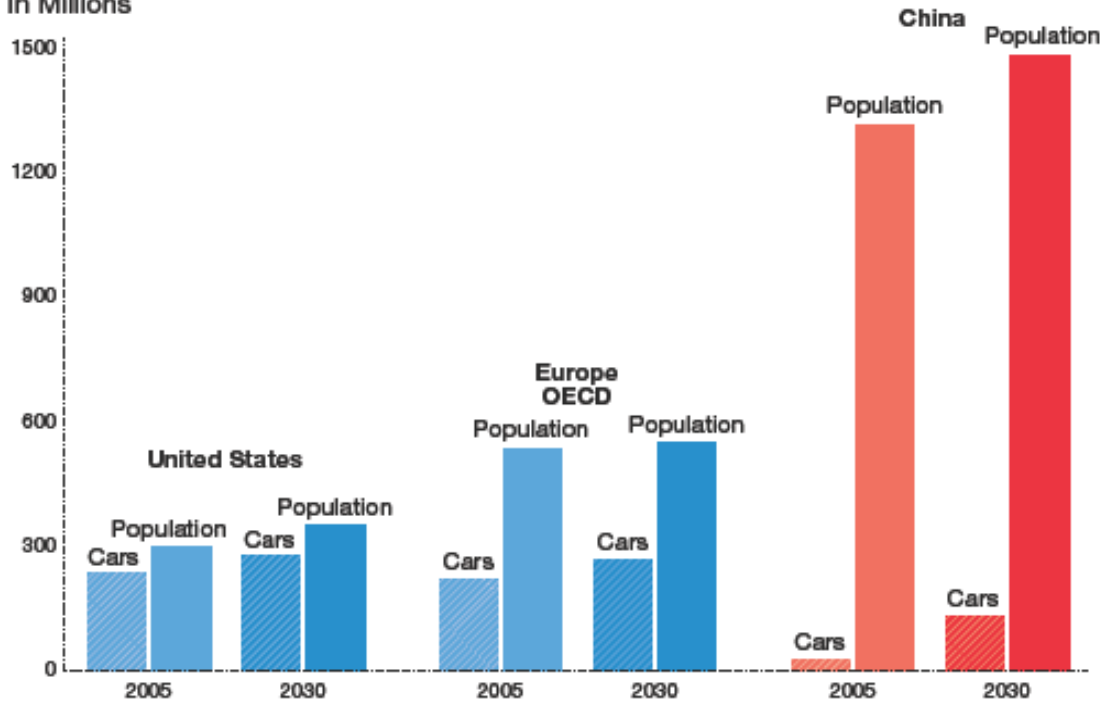


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Oil Demand – Onwards and Upwards

vehicle penetration

In Millions



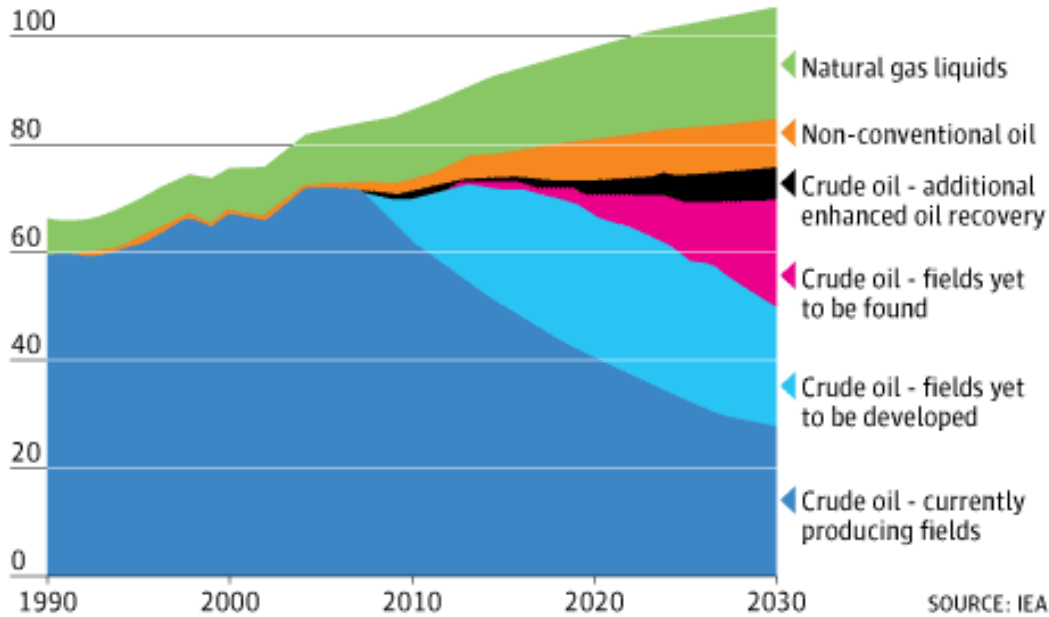


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Oil Supply – Uncertain

Oil production forecast

IEA forecast of global all-oil production, million barrels per day





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Our Dependence on Oil is Unsustainable



“Business as Usual”
will leave us
“Out of Business”!



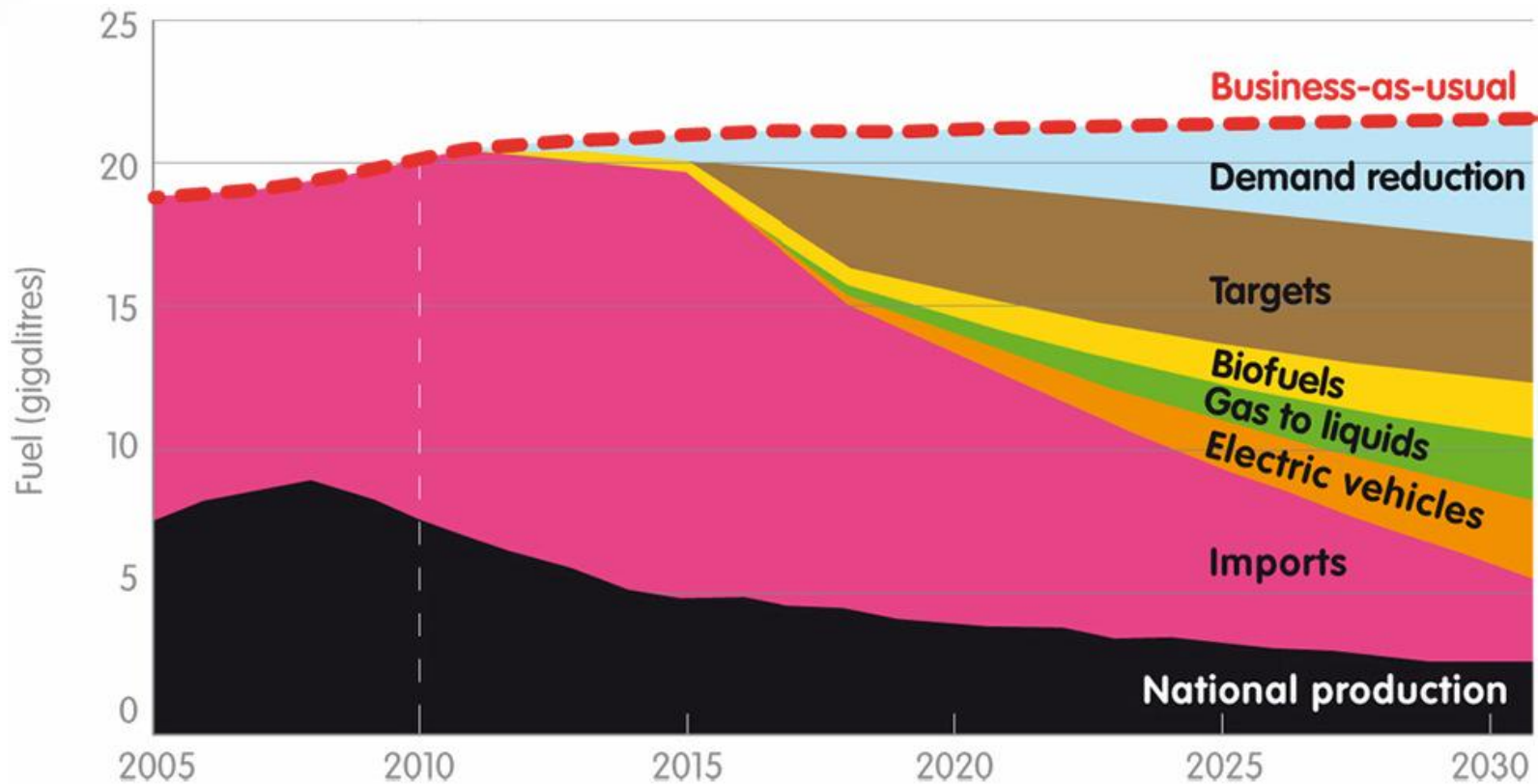
"One day we will run out of oil, it is not today or tomorrow, but one day we will run out of oil and we have to leave oil before oil leaves us, and we have to prepare ourselves for that day."

***Fatih Birol
Chief Economist
International Energy Agency***



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Breaking our Oil Addiction



Source: Jamison Group, February 2010



Demand Reduction

Fewer/Shorter Trips:

- Integrated transport/land use planning
- Smarter freight logistics systems

More Efficient Trips:

- 'Eco-Driving'
- Using more efficient vehicles
- Using more efficient modes
 - people (walking, cycling, public transport)
 - freight (rail, ship)





Targets

Emissions performance of new vehicles in Australia

Vehicle Class	CO ₂ Emissions (g/km)		Annual Difference Between Lowest and Highest
	Lowest Emissions in Class	Highest Emissions in Class	Tonnes CO ₂ per vehicle per year
Small Car	120	200	1.2
Medium Car	130	270	2.1
Large Car	160	300	2.1
People Mover	200	330	2.0
Light truck	210	330	1.8

Source: Vehicle Fuel Efficiency – Public Discussion Paper, 2008

2008 average carbon emissions from Australia's new passenger
and light commercial vehicles: **222 g/km**

EU target for 2015: **130 g/km**

EU target for 2020: **95 g/km**



Biofuels

Advantages:

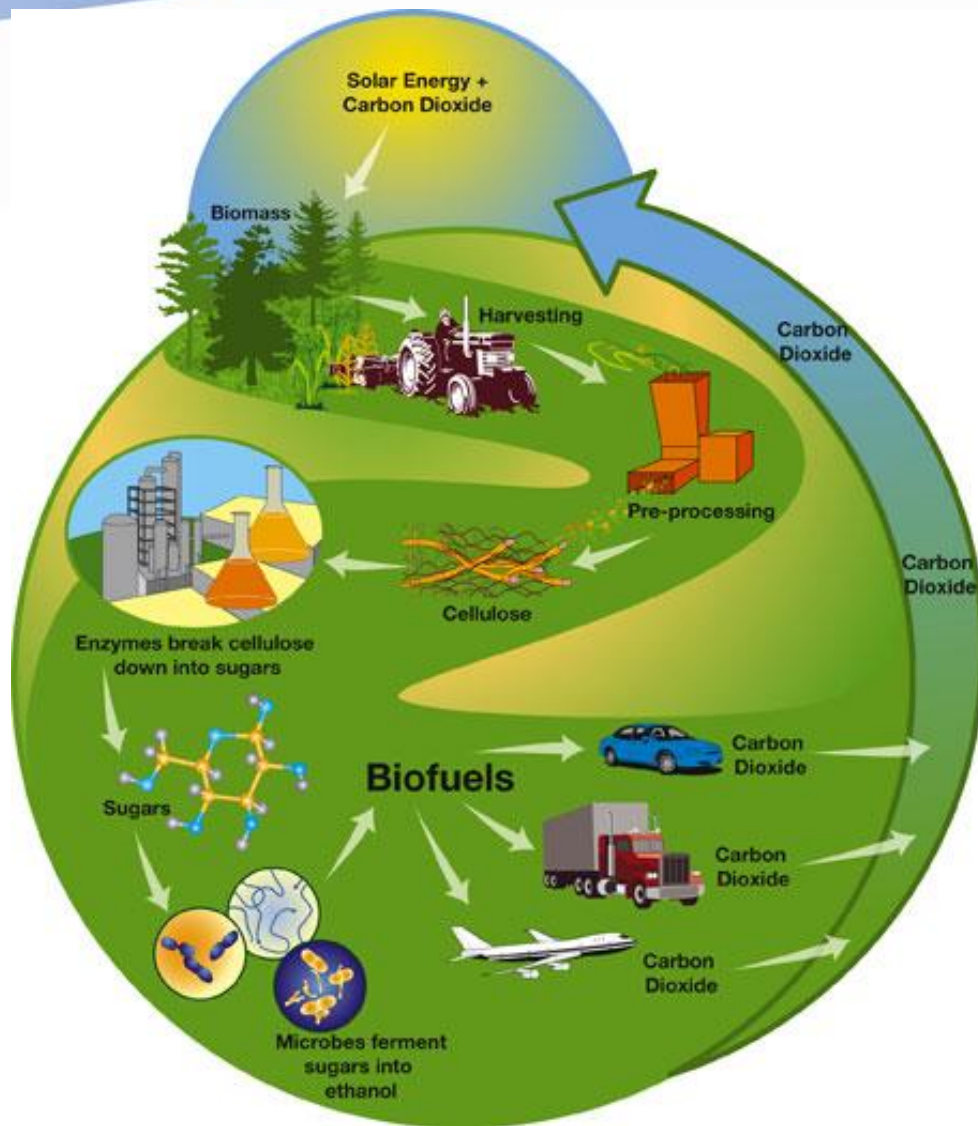
- Existing Distribution Infrastructure
- Local Industry Opportunities

Disadvantages:

- Competition for land
- Variable energy efficiency/sustainability outcomes

Opportunities:

- 2nd and 3rd Generation Biofuels have potential to overcome current concerns (but still to be proven).





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Gas (CNG/LPG/LNG/GTL)

Advantages:

- Cheaper than petrol (except GTL)
- Reduced air pollution, small reductions in greenhouse gases
- WA has lots of gas!

Disadvantages:

- Alternative uses for gas (i.e. power generation)
- Limited production/distribution infrastructure
- Limited vehicle availability





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Electric Vehicles

Advantages:

- A zero emissions option
(when powered by renewables)
- Ideal for city commuting
- Low fuel costs

Disadvantages:

- Limited range, long recharging time
- Limited greenhouse benefits if charged from a coal powered grid
- Expensive vehicle costs

Opportunities:

- Vehicle to Grid Applications
- Plug-in-hybrids





Driving Change – Policy Settings

- Pricing
- Information
- Infrastructure
- Innovation
- Regulation





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Getting the Price Right



Sustainable transport prices should reflect full environmental, social and economic costs.

Market failures (and distortions) exist in all three areas.

Technology will facilitate more sophisticated transport pricing (congestion, time of day charges, etc)

Reliance on fuel taxes will need to change.

Increased cost recovery from public transport also required.

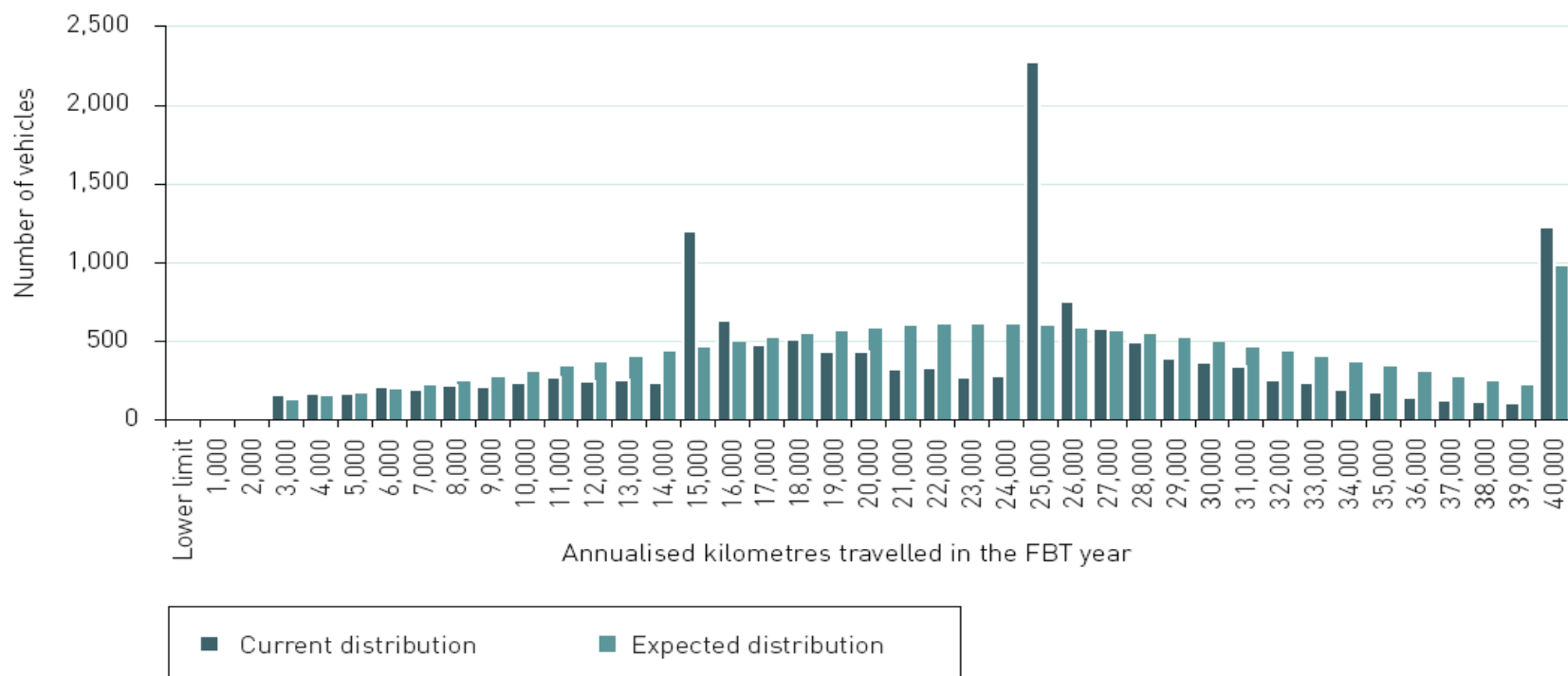
Emissions Trading Scheme (properly designed) has a role.

Social costs (health, safety, equity, community) best addressed through regulation.



What happens when we get the price wrong....Fringe Benefits Tax.

Figure 8.4. Current and expected distribution of kilometres travelled





What happens when we get the price wrong....Carbon Pollution Reduction Scheme.

Year 1:

Electric rail fuel (electricity) prices up.

Cars, buses, trucks – no change due to offsetting reductions in fuel excise.

Year 2:

Bus, Truck fuel charges up.

Cars – no change.

Year 4:

Car fuel charges up (maybe) but no claw-back of previous excise offsets.

Outcome: Increased relative price of 'green' transport.



CARBON POLLUTION
REDUCTION SCHEME:
**Australia's
Low Pollution
Future**

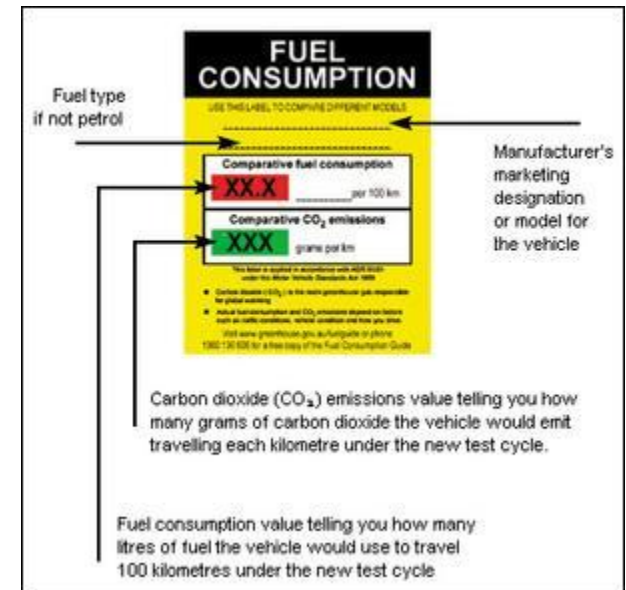


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Getting the Information Right

Facilitating sustainable travel behaviour through informed choices:

- Travel Smart / Living Smart
- Product Labelling
- Eco-Driving
- Green Truck Guide





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Eco-Driving: from little things big things grow.

CleanRun pilot in Perth (Toll Ipec, 2008)
87% reduction in idling – 3 hours per driver per week.

Significant reductions in fuel consumption and emissions (~10%) by adopting eco-driving behaviours.

National framework to be developed (as part of the National Strategy on Energy Efficiency). National symposium to be held in Melbourne, Nov 2009.



CleanRun
Let's drive down emissions



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Getting the Infrastructure Right

Adopting a system wide approach to:

- Planning (integrated with land use planning)
- Financing (cost recovery, investment analysis)
- Prioritising (across modes, not just within)

Infrastructure Australia - National infrastructure Priorities:

- A national rail freight network: development of our rail networks so that more freight can be moved by rail;
- Transforming our cities: increasing public transport capacity in our cities and making better use of existing transport infrastructure.





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Getting the Innovation Right

- Appropriate support for R,D&D
- Adopting a Transport Systems focus
- Supply Side vs Demand Side support
- Government leading by example





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Regulate ... if we can't get the rest right

- Standards:
 - vehicle design/emissions, urban land use
- Rationing:
 - access to vehicles, fuels and transport networks, rights to pollute



Vehicle Standard (Australian Design Rule 80/03 — Emission Control for Heavy Vehicles) 2006

I, JAMES ERIC LLOYD, Minister for Local Government, Territories and Roads,
determine this vehicle standard under subsection 7 (1) of the *Motor Vehicle Standards
Act 1989*.

Dated 16 November 2006



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