

Response to the National Emissions Trading Taskforce Discussion Paper on a Possible Design for a National Greenhouse Gas Emissions Trading Scheme from the Public Transport Users Association

1. Introduction

The Public Transport Users Association (PTUA) congratulates the National Emissions Trading Taskforce (the Taskforce) and state and territory governments for progressing work on a carbon pricing scheme for Australia. The weight of scientific evidence pointing to anthropogenic climate change is now so overwhelming, and the costs of inaction so significant (Stern 2006), that prompt and decisive action to encourage a low carbon economy is the only appropriate action from both moral and enlightened self-interest viewpoints.

A range of studies have demonstrated that early abatement action will be more effective and less disruptive than delaying serious action to reduce emissions. Early adoption of a carbon pricing mechanism also provides investment certainty and puts in place the appropriate incentives for innovation and efficiency measures to be pursued across the economy. On the other hand, failure to introduce carbon pricing could isolate Australian businesses from opportunities to participate in global carbon trading schemes and subject Australian goods to border controls when seeking entry to markets with emissions controls (e.g. see Taylor 2006).

The PTUA wishes to comment on a number of issues raised in the discussion paper, predominantly inasmuch as they relate to transport.

2. Scheme cap

Much of the consensus around climate change has developed behind the view that global temperatures should not be allowed to climb by more than 2°C above pre-industrial levels. In the absence of major positive feedbacks that amplify the warming effect, such a goal would imply that greenhouse emissions should be reduced by 70% by 2050 (Stern 2006, p.200). Some researchers, when publishing outside the constraints of laborious horse-trading underlying international climate negotiations, suggest that global carbon dioxide concentrations may already be close to levels that could trigger dangerous climate change (Harvey 2006). In view of this, the 60% cap proposed in the discussion draft may be too lenient and an ultimate emissions reduction target of at least 80% may be more appropriate (Stern 2006, p.197).

Significant analysis also indicates that early action will reduce the need for costlier measures later (Stern 2006, p.202), hence meaningful emissions reductions should not be deferred until too late in the century if the scheme is to be effective in mitigating climate change at reasonable cost.

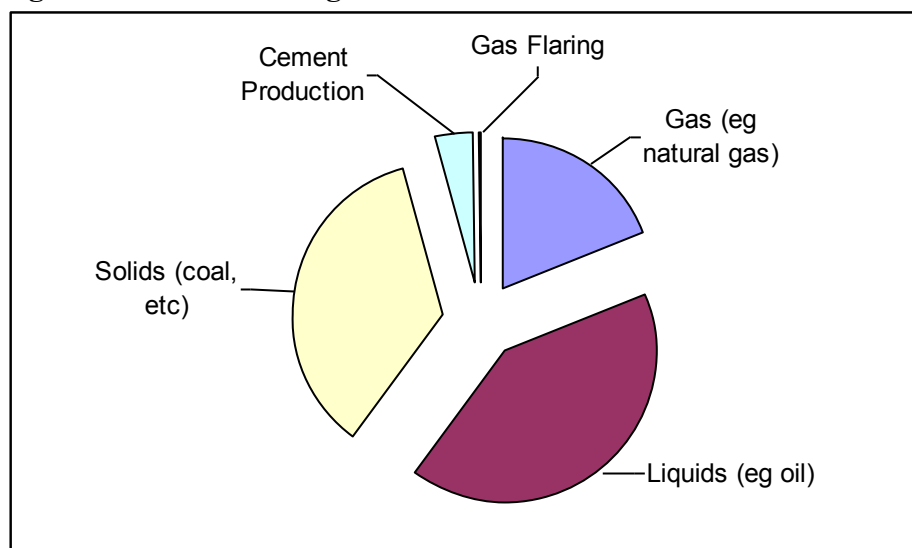
3. Coverage

If the Scheme is to be effective in achieving the required reductions in national emissions (see *Scheme cap* section) it must encompass sectors that are responsible for more than just 33-45% of national emissions (NETT 2006, p.34). As the Taskforce has noted, increasing the scope of any Australian emissions trading scheme broadens access to cost-effective abatement (Information sheet No. 13 - International linking). In effect, many hands make light work. In order to ensure that individual sectors do not bear a disproportionate share of the burden, the coverage of the Scheme should be as broad as possible.

Recommendation 1.

In order to encourage equitable contributions across sectors and access to a comprehensive range of cost-effective abatement options, the coverage of the Scheme should be as broad as possible.

Figure 3.1: Cumulative global carbon emissions to 2003



Source: Carbon Dioxide Information Analysis Center

After stationary energy, transport and oil consumption are among the largest and fastest growing sources of greenhouse emissions (Australian Greenhouse Office 2006, pp.7-8). Stern (2006, Annex 7c) reports that transport emissions are expected to double by 2050, however he also notes that "the sector's contribution to climate change is likely to be significantly greater than this because of the use of synfuels [oil produced from coal and gas]". In view of this, the PTUA does not believe that the omission of petroleum from coverage under the Scheme can be justified.

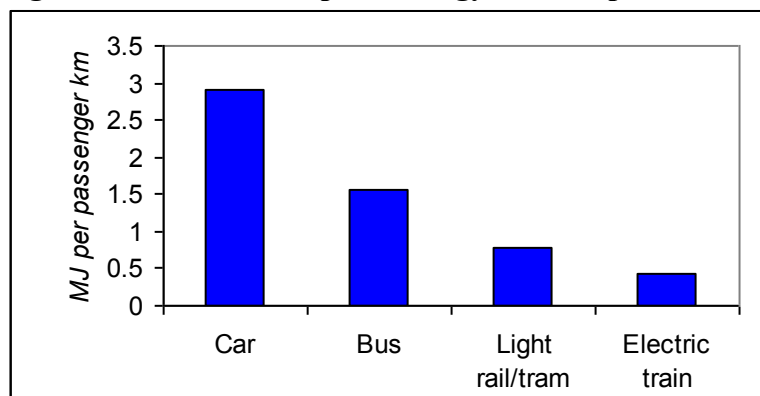
Transport infrastructure and associated patterns of urban development are arguably longer-lived than stationary energy plants. Current transport and landuse practices in Australian cities are dominated by planning and infrastructure decisions made decades ago. The transport and

landuse patterns resulting from decisions that are made today will also strongly influence those in the middle of the century. As such, it is vitally important to send the right signals now to ensure that future emissions constraints are taken into account when making investments in such long-lived infrastructure.

Similarly, the motor vehicles being developed now will remain in use until well into the century based upon typical life spans of 10-20 years. Carbon dioxide is the major component of motor vehicle tailpipe emissions and the most significant greenhouse gas (Beer, Grant & Watson 2004). Immediate inclusion of transport/petroleum emissions under the Scheme will encourage an earlier peak in transport emissions and a more substantial contribution to economy-wide emission reductions by mid-century.

Failure to price emissions from transport and/or petroleum could also harm the environmental integrity of the scheme by distorting transport choices. While the energy used by grid-connected public transport services would be captured under the Scheme along with other stationary energy, the fuel used by private motor vehicles would be exempt under the coverage proposals put forward in the discussion draft. This anomaly could make public transport more expensive relative to private motor vehicles and discourage its use despite the superior energy efficiency of public transport.

Figure 3.2: Land Transport Energy Consumption



Source: Newman, P. (2000), *Sustainable Transportation and Global Cities*

The PTUA therefore believes that all transport fuels should be covered by the Scheme in order to facilitate competitive neutrality between electrified public transport and petroleum-fuelled private transport.

Recommendation 2

All transport fuels should be covered by the Scheme in order to facilitate competitive neutrality between electrified public transport and petroleum-fuelled private transport.

The diffuse nature of motor vehicle tailpipe emissions should be no barrier to the inclusion of transport emissions under the scheme. The structure of the petroleum industry, with a limited

number of importers, refiners and wholesalers, should permit the inclusion of petroleum under the Scheme with minimal administrative complexity.

The only justification ventured in the discussion draft for the exclusion of petroleum refining was the increase in oil prices over the last two years (p.23). We do not believe this is adequate justification for the exclusion of petroleum refining from the Scheme given the major contribution to global greenhouse emissions from oil. Although we view the International Energy Agency's (IEA) forecasts of future oil prices with scepticism, it is worth noting that modelling for the Taskforce accepts the IEA's projection of long-run prices in the region of US\$35-39 per barrel (p.89). If the Taskforce accepts that oil will trade in this range or not increase beyond current levels, it should move for immediate inclusion of petroleum under the Scheme so that appropriate price signals are factored into current decisions about long-lived transport infrastructure and landuse.

Recommendation 3

Any National Emissions Trading Scheme should include conventional and synthetic petroleum fuels upon initiation of the Scheme.

While it would be clearly preferable for the full petroleum life cycle to be covered under the Scheme at the outset, a transitional measure could include the administrative allocation of permits to public transport agencies in accordance with the scale of their electrified rail operations. Unlike the *ex ante* allocation of permits to generators described in the discussion draft (pp.125-126), permits should be allocated to public transport agencies on an *ex post* basis to encourage continued operation of electrified rail services while ever petroleum emissions are not covered by the Scheme.

Recommendation 4

Any National Emissions Trading Scheme that excludes liquid transport fuels and refining should provide permits to public transport agencies on an *ex post* basis in accordance with the scale of their electrified rail operations.

4. Offsets

The discussion draft states that allowing offsets will enable the trading scheme to encourage emission reductions in sectors not directly included under the cap (p.63). The PTUA does not dispute this in principle, however we believe that the trading scheme will not effectively reduce emissions and may have perverse outcomes without robust rules relating to offsets. If offset provisions are too generous or lax, the central principle of "additionality" may not be achieved and the scheme will fail to encourage genuine emissions reductions.

4.1. Transport-related offsets

As one of the largest sources of emissions not covered under the proposal put forward in the discussion draft, the eligibility of transport-related emission reductions require close attention. On one hand we are seeing a trend towards smaller and more efficient vehicles as a result of rising petrol prices, hence the requirement for financial additionality may not be satisfied where more efficient motor vehicles are introduced. On the other hand, hybrid technology is being adopted across a range of vehicles with the primary benefits of enhanced performance with comparable fuel consumption rather than reduced emissions *per se* (Wald 2005).

Strict rules around offsets for transport may, however, make energy efficient public transport ineligible, so there may be a need to favour public transport in other ways (e.g. see *Complementary measures* section).

Recommendation 5

Any National Emissions Trading Scheme should adopt the guiding principle of no disadvantage to public transport relative to private motorised transport.

4.2. Sequestration

In geological and climatological terms, 100 years would be better described as "momentary" rather than "permanent", hence care should be taken to avoid excessive reliance on sequestration as a tool for reducing emissions.

In terms of specific examples of sequestration, we believe the principle of additionality is not satisfied in many cases. CO₂ injection is increasingly being used as part of Enhanced Oil Recovery (EOR), especially in light of rising oil prices, so in our view it does not satisfy the requirement for financial additionality, especially if oil obtained from the project is not subject to carbon pricing and the practical effect is to facilitate greater extraction of fossil fuels for combustion. It should be noted that the quantity of carbon embodied in fossil fuels obtained by means of EOR is likely to exceed the amount of carbon sequestered during the EOR process.

The "well to wheels" carbon intensity of transport fuel obtained through coal liquefaction with sequestration is broadly comparable to that of conventional oil which it displaces (Hawkins 2006), hence the sequestration of carbon from coal liquefaction cannot be regarded as "additional" nor should it be eligible as an offset. Furthermore the transport fuel produced from coal liquefaction with sequestration is not materially better than conventional oil with regard to tailpipe carbon emissions. It is clear that petroleum, including synthetic petroleum production, should be covered by the Scheme proper rather than relying on narrow coverage with offsets and potentially distorting impacts.

Recommendation 6

Petroleum, including synthetic petroleum production, should be covered by the Scheme proper rather than be eligible for offsets.

5. Assistance to other groups

The PTUA considers that there may be two scenarios to be considered in this regard:

1. Transport/petroleum not covered by the Scheme
2. Transport/petroleum covered by the Scheme

5.1. Transport/petroleum not covered by the Scheme

As discussed above, omission of transport and petroleum from the Scheme would create a cost disadvantage for energy efficient electrified public transport relative to private motor vehicles. In order to correct this anomaly, revenue from the Scheme should be directed towards public transport authorities in accordance with the scale of their electrified rail operations.

Recommendation 7

If transport and/or petroleum is not covered by the Scheme, revenue from the Scheme should be directed towards public transport authorities in accordance with the scale of their electrified rail operations.

5.2. Transport/petroleum covered by the Scheme

The PTUA favours a Scheme with broad coverage as discussed in the *Coverage* section above. If the transport and petroleum sectors are covered by the Scheme, revenue from the Scheme could be directed to improving the coverage and quality of transport alternatives so that households are able to reduce their car dependence and car-based emissions and divert a larger proportion of journeys onto public transport, walking and cycling. Similarly, the backlog in rail freight infrastructure investment and maintenance could be corrected to ensure businesses are able to access competitive and energy-efficient rail transport solutions.

Recommendation 8

Revenue from the Scheme should be directed towards improving the coverage and quality of transport alternatives so that:

- households are able to reduce their car-based emissions profile and divert a larger proportion of journeys onto public transport, walking and cycling.
- businesses are able to access competitive and energy-efficient rail transport solutions.

6. Complementary measures

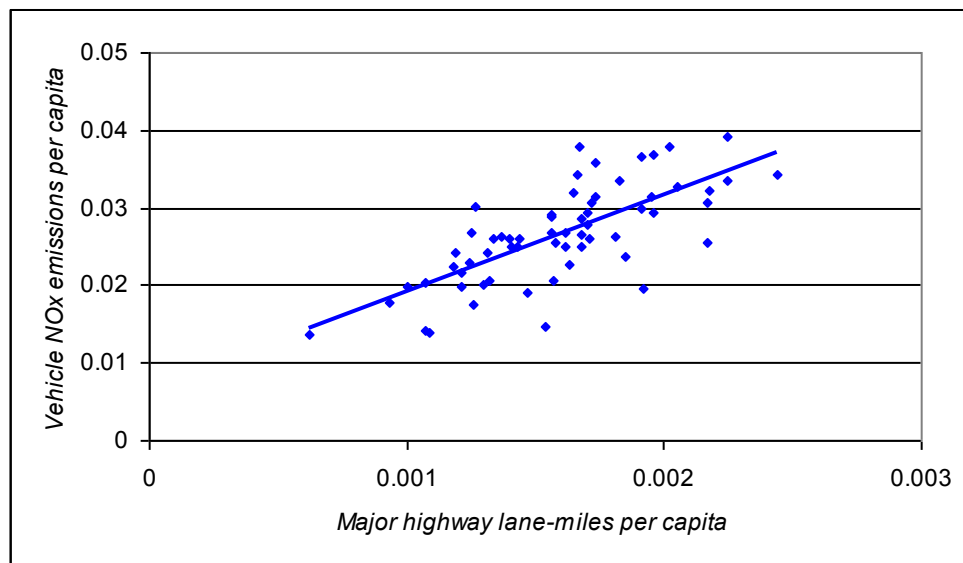
While the PTUA believes that the Scheme should not impose cost disadvantages on electrified public transport relative to petroleum-fuelled transport (see *Coverage* section), the PTUA also recognises that price is only one factor influencing transport mode choice. Numerous surveys have shown that service quality factors strongly influence the choice between sustainable transport modes and private motor vehicles (PTUA 2006, pp. 31-39). Without other supportive measures, it is unlikely that carbon pricing alone will be sufficient to unwind the effects of decades of car-dominated transport policy and encourage adequate modal shift to significantly reduce transport emissions.

To ensure other impediments to greater use of sustainable transport are reduced, all jurisdictions (possibly aided by the revenues raised under the Scheme) should also commit to enhancing public transport systems in the following key regards:

1. **Coverage** - ensuring that frequent, full-time public transport services exist, especially in growth areas. Motorists cannot be expected to leave their car at home when no alternative is provided.
2. **Integration** - ensuring that individual services integrate to form a comprehensive network and that transfers between connecting services can be made quickly and easily with minimal waiting times.
3. **Speed** - to attract discretionary passengers, a comprehensive backbone of frequent, high-speed, grade separated rail services should be provided, while road and traffic light priority measures should be provided for road-based public transport (trams and buses).
4. **Reliability** - providing road and traffic light priority measures for public transport and enforcement thereof, as well as adequate maintenance of rolling stock and infrastructure.

Where public transport offers an attractive alternative as measured in these key regards, demand for motor vehicle use and petrol will be more elastic and travel demand management strategies (such as pricing the carbon in transport fuels) will be more effective in encouraging sustainable transport choices.

In contrast, road capacity expansion (particularly freeways) generates additional motor vehicle traffic, especially along corridors where congestion is already high. This additional traffic comprises new and/or longer journeys as well as existing journeys that had previously taken place on more sustainable modes of transport. The resulting impact on travel and landuse behaviour more than offsets any short-term benefits in the form of freer flowing traffic, as illustrated in the graph below.

Figure 6.1: Highway provision and transport emissions

Source: Environment California 2004

Instead of expanding freeway networks, all jurisdictions should therefore focus on improving public transport, walking and cycling facilities, while minimising the need to travel through the integration of transport and landuse planning and other demand management measures.

Recommendation 9

Revenue from the Scheme should be directed towards complementary enhancements to public transport systems in areas of coverage, integration, speed and reliability. All jurisdictions should impose a moratorium on the expansion of urban freeway networks.

7. Summary of Recommendations

1. In order to encourage equitable contributions across sectors and access to a comprehensive range of cost-effective abatement options, the coverage of the Scheme should be as broad as possible.
2. All transport fuels should be covered by the Scheme in order to facilitate competitive neutrality between electrified public transport and petroleum-fuelled private transport.
3. Any National Emissions Trading Scheme should include conventional and synthetic petroleum fuels upon initiation of the Scheme.
4. Any National Emissions Trading Scheme that excludes liquid transport fuels and refining should provide permits to public transport agencies on an *ex post* basis in accordance with the scale of their electrified rail operations..
5. Any National Emissions Trading Scheme should adopt the guiding principle of no disadvantage to public transport relative to private motorised transport.
6. Petroleum, including synthetic petroleum production, should be covered by the Scheme proper rather than be eligible for offsets.
7. If transport and/or petroleum is not covered by the Scheme, revenue from the Scheme should be directed towards public transport authorities in accordance with the scale of their electrified rail operations.
8. Revenue from the Scheme should be directed towards improving the coverage and quality of transport alternatives so that:
 - households are able to reduce their car-based emissions profile and divert a larger proportion of journeys onto public transport, walking and cycling.
 - businesses are able to access competitive and energy-efficient rail transport solutions.
9. Revenue from the Scheme should be directed towards complementary enhancements to public transport systems in areas of coverage, integration, speed and reliability. All jurisdictions should impose a moratorium on the expansion of urban freeway networks.

8. References

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