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Summary

- In *theory*, there is no cost advantage of tradable emission permits over a carbon tax in a perfect market. The advantages of tradable emission permits, if any, are based on practicalities, which depend on the details of implementation.
- The advantage of international tradable permits is their ability to encourage least cost emission reductions *when permits are allocated inequitably*, where “inequitable” means differing marginal emission-abatement costs in absolute dollar terms (poorer countries are allocated permits which give lower marginal abatement costs).
- In a national permit system, permits are likely to be allocated approximately “equitably” (as defined above), and therefore *trading* of permits will offer little cost advantage.
- Trading of permits between competing businesses within Australia is likely to be discouraged, because selling permits will reduce your competitor’s costs. Hence there will be little incentive to reduce emissions *below* permit levels.
- The prime advantage of permits themselves (as opposed to their trading) is likely to be that they can encourage the equivalent of effective “carbon tax recycling”. i.e. raising prices a small amount on the dominant fossil-fuel supply side of the business to raise revenue for subsidies for the emission-reducing side of the business. Since the level of emission reductions required in the short to medium term will be small (or at least not total), this has the potential to reduce energy price rises by a factor of 5-10 or more (see enclosed paper). Thus restructuring costs throughout the wider economy can be minimised.
- Auctioned permits are equivalent to a non-recycled carbon tax, and thus will not realise the potential advantages of permits (unless Government uses revenues effectively as subsidies for reducing emissions). Permits must be allocated freely (or at lower cost than their trading price) to minimise price rises.
- To minimise anticompetitive effects with free or cheap allocation of permits, they should be allocated to individual customers and non-energy selling businesses, and passed on to their chosen energy-service retailer.
- “Feebates” – comprising under-permit rebates and over-permit fees, with the “permit” set at the industry-average per-customer emissions, would maximise competition to reduce emissions at minimum cost, and encourage emissions to be reduced below Government-set permit levels.
- Assigning emission-reduction credits to most energy-efficiency products or activities (as opposed to renewable energy sources), based on an estimate of the likely emission-reductions, would be highly inaccurate and open to abuse. Therefore “credit” (or excess permits) for such activities can only practically be obtained by assigning permits to the organisation responsible for the emissions, and encouraging that organisation (through over-permit fines, or under-permit rebates, or excess permit sales) to reduce emissions to, and below the permit level.
- Since it is difficult to determine a fair allocation of permits to a variety of energy-service providers, customers should be encouraged to choose a single energy-service provider. This is compatible with present market trends.
- To gain credit for emission reductions, 3rd-party providers of energy efficiency (e.g. high-efficiency fridges), would have to go through the single permit-holding energy-service company chosen by the customer, and negotiate a payment with them. Such links are likely to assist product sales anyway.
- Integration of emission permits with the transport sector seems impractical, but the practical advantages of emission-permits in the energy sector are likely to far outweigh this theoretical imperfection. Alternative “feebate” permits can be applied to car efficiency standards, and public transport can be improved through restructuring and *increased* prices.

Regulatory Arrangements for Trading in Greenhouse Gas Emissions

Whilst the Inquiry's terms of reference do not include debate as to the advantages of emission permits over alternative regulation to reduce emissions, I believe it is crucial for policy makers to understand the potential advantages of permits in order to devise a detailed method of implementation that will make the most of these potential advantages. At present, it would appear that the prime advantage I describe in the accompanying paper – the ability to minimise energy price increases through effective “carbon tax recycling” (or equivalently with permits) – is not clearly, or at all recognised amongst researchers and policy makers at present.

At the national level, the advantages of tradable permits, if any, depend entirely on the details of implementation. Theory shows that in a perfect market, the cost of reducing emissions under a tradable permit system would be the same as that under a carbon tax. Since tradable permits will in practice have greater administrative costs, in order to be justified they must be implemented in a way which has real-world practical benefits.

I am therefore pleased to see that the Inquiry's framework discussion paper notes this fact (p.13),

“However the presumption that to whom the initial assignment of permit shares is made is of importance only from a distributive point of view, and has no efficiency effects, is unlikely to hold in practice”

The Advantages of Permit Trading

There has been a great deal of hype about the ability of tradable permits to reduce emissions at minimum cost. What these arguments depend on however, is an “inequitable” allocation of permits, where “inequitable” is defined as causing one permit holder to incur greater costs, in absolute dollar terms, from reducing their emissions to their permit level. This then encourages the permit holder with high emission-abatement costs to buy permits for a reduced cost from permit holders with an excess of permits (because the latter permit holders were able to reduce emissions to below their less challenging permit level at lower cost).

Fairness

In the context of international tradable permits, such an “inequitable” distribution of permits is justified because a preferred true measure of equity takes account of *relative* costs. i.e. It is considered fair for wealthier nations to pay more of the costs of reducing emissions. (For example, because \$2 would buy a single loaf of bread in Australia, but a week's supply of food in a poorer country; it is preferable therefore, for the Australian to sacrifice the single loaf of bread or equivalent.) Without this fairness criteria, worldwide emissions could in theory be reduced at the same cost as with tradable permits (and with reduced complexity), simply by applying a fixed carbon tax the world over. This would, in theory, result in least cost emission-abatement options the world-over being adopted. In practice however, it would ensure that the majority of these costs fell on those least able to bear them.

Hence, if these advantages of international tradable permits were to be duplicated in a national permit scheme, it would imply that poorer members of the Australian community were granted permit levels which could be met at very little cost, whilst richer members of the community were granted permit levels which would require significantly greater compliance costs. Thus the rich would instead buy permits from the poor, and the poor would use the money to reduce their own emissions below their now reduced permit level. Such a scheme seems likely however, to be politically and administratively impractical.

If however, permits were applied to particular industries within Australia, it would be hard to argue that any particular business was poorer than another, and thus deserving of lower-cost emission-abatement targets. If businesses were therefore granted a level of permits such that the marginal cost of reducing emissions was the same for each business, there would be little incentive to trade.

A final option for justifying an “inequitable” distribution of permits could in theory be based on the principal of “unfair” retrospective legislation. This would provide an argument for granting companies with higher *total* emission-abatement costs (i.e. higher emissions) a level of permits that gave lower marginal abatement costs than the rest of the business community. Low-emission businesses, with relatively high marginal abatement costs, would then fund (by buying permits) emission reductions in high-emission businesses. This option also seems politically intollerable, because it turns the “polluter-pays” principle on its head.

Therefore it is far from clear that the advantages of tradable permits in the international context would apply to a national permit trading scheme.

Incentives to Trade

With an international trading system, businesses in developed countries buying permits from businesses in poorer countries may not be competing directly against each other.

However, in a national tradable permit system, holders of permits are most likely to be competing against each other. For example, two different electricity supply businesses. In this case there is a major disincentive for a holder of surplus permits to trade, because by trading he will be helping his competitor avoid greater costs (the cost of his competitor reducing emissions, or the over-permit fee, will always be greater than what his competitor is prepared to pay for permits).

The costs imposed on a competitor by not selling excess permits will always be greater than what is gained by selling them, unless the competitor can buy permits elsewhere anyway. This latter possibility will only occur if there is a surplus of permits towards the end of the permit time period. However, participants in the market will only produce a surplus of permits if there is a good chance of more than recovering the costs of doing so, and if marginal emission-abatement costs are similar for all participants, then this is only likely if there is a good chance that there will be a lack of permits towards the end of the time period. *Thus the very conditions which encourage participants to reduce emissions below their permit levels (and thus produce excess permits) – a lack of permits in the market – are those that discourage the selling of these excess permits.*

Thus there may be significant barriers to trade (and to reducing emissions *below* the permit level). This may well explain the low level of trading observed in existing tradable permit systems.

The Advantages of Carbon Tax Recycling, and Energy Retailer Permits

Given the likely lack of advantages from *trading* permits in a national system, the prime advantage of permits appears to be from effectively “recycling carbon taxes” as subsidies for emission reductions, as discussed in the enclosed paper, “Recycling Carbon Taxes – the Real Advantage of Emission Permits”. This minimises energy price rises, thus minimising restructuring costs (and political opposition) throughout the economy. Note that no carbon taxes are involved as such. Emission permits, if appropriately applied, merely encourage competing businesses to impose their own recycled carbon “tax” – i.e. raise prices on the fossil-fuel supply side of the business to provide subsidies for low-emission services provided by other parts of the business.

The Federal Australian Government has already recognised the overwhelming practical advantages of the permit approach (relative to a carbon tax) by declaring that retailers will be required to source at least 2% of their electricity from renewables.

With this advantage in mind – the ability to effectively allocate subsidies, and thus minimise energy price rises – one can more clearly consider the relative advantages of various approaches for implementing permits.

Auctioned Permits

Since permits should auction at a price equal to the trading price, which in turn equals the marginal emission-abatement cost, auctioning permits would result in permit holders paying a fixed price for every unit of their emissions which was equal to the marginal emission-abatement cost. *This is exactly equivalent to a non-recycled carbon tax*, and therefore such a permit system would not realise the potential advantages of permits (unless the Government used revenues *effectively* as subsidies for reducing emissions). Like a non-recycled carbon tax, the cost of auctioned permits unnecessarily (and significantly) raises the price of energy for no environmental benefit. Political opposition to such price rises would ensure that auctioned permits would be based on extremely weak and ineffectual emission-reduction targets (to give low emission-abatement costs and hence low permit prices).

Emission permits also seem ill-suited for auctioning, due to their identical “commodity” nature. Since all permits would be of equal value, an industry participant that had already bought one lot of permits would be encouraged to bid for all the others at the same price, in order to prevent its competitors obtaining permits at a lower cost.

Bidding would also be complicated if the Government were to set the total permit level (see “Feebates” below for an alternative), because then the marginal cost of reducing emissions below the permit is unknown, and depends on how the entire market responds throughout the year (the permit time period). So because the value of permits will be determined by the actions of the entire industry, any individual bidder has very little ability to determine the value of the permits (especially small participants). Therefore bidding can not be based on a judgement of each bidder’s likely marginal emission-abatement costs, as would be desired, but rather must be based on an estimate of the entire economy’s marginal abatement costs for the total permits specified by the Government!

Auctioning permits also creates the danger of large players in the market with “the deepest pockets”, buying up all

permits and excluding new competitors. This danger is especially high when one considers the lack of incentives for creating excess permits for trading, as discussed above, and the just-mentioned lack of control over permit value of small participants.

Free Allocation of Permits to Customers, Passed on to Retailers

Given that auctioning permits would not deliver the advantages of carbon tax recycling (or equivalent), this implies that in order to minimise energy price increases, permits should be allocated free of charge. To whom should they be allocated? “Grandfathering” of permits (allocation based on previous emissions) to energy industry participants would be anticompetitive. Whilst it has been argued that this is not necessarily so, because failure to sell permits implies an “opportunity cost”, the benefits of retaining them and producing emissions would almost certainly exceed this cost, and these surplus benefits would be denied to new market players (or existing ones attempting to gain market share). That these benefits would exceed the “opportunity cost” can be seen by considering the permit value translated to a carbon tax, where a large number of emissions would continue to be produced because the benefits of doing so exceed the cost of the carbon tax.

The only way permits can be freely allocated without being anticompetitive is to allocate them to end consumers. i.e. to give each individual (and non-energy company) a right to consume energy causing a certain level of emissions. Since this would be administratively impractical (and perhaps unfair to certain individuals or companies), these *permits should then be automatically passed on to the consumer’s chosen energy supplier.* Note that grandfathering could be used in the initial allocation to individual customers (i.e. related to each customer’s previous energy consumption), because customers are not in competition with each other, although this does raise the issue of fairness, with low energy consumers being denied the right to increase their emissions to match those of higher energy consumers. Alternatively, each person may be granted the same amount, and as a compromise, this level of permits could be phased in from an initial grandfathered allocation.

Grandfathering of permits to companies (whose prime product is not energy) may be considered anticompetitive; however, in practice in most businesses, energy accounts for a small proportion of total costs (typically 2-10%), and so increasing energy costs as a business expands are unlikely to be significant. Where the potential increase is significant, it will provide an incentive to incorporate energy efficiency designs into business expansion plans right from the start – this approach is always more effective in terms of emission-reduction potential and cost. Retailers will have an incentive to help (and subsidise) with such energy-efficiency measures; rarely will the cost of doing so be so great as to make it preferable to discontinue supplying that business (retailers certainly won’t discontinue supplying all businesses!). Even if the retailer does not cross-subsidise to that business with revenue from other customers (or with “free” credits from contracting businesses they supply), the “leverage” obtained from spreading the cost of subsidies over all sales to the single business would still apply.

For example, if a business grew by 4% and its energy costs accordingly increased by 2% under BAU, and if the marginal emission-abatement cost was, say, a 20% premium on fossil-fuel energy costs (usually it is negative when proper thought goes into the design), then the 2% energy cost increase would rise to 2.4%, but total energy costs would have increased by only 0.4% relative to BAU. If energy costs were 5% of total costs then total costs would have increased by only 0.02% relative to BAU. Since revenue has grown by 4%, and productivity increases (reduced labour costs) will typically be more than 1% (with labour costs being a greater proportion of total costs than energy), such increases in energy costs are highly unlikely to restrict a typical businesses’ expansion plans. (Note this argument can be similarly applied to the economy as a whole.)

New businesses, and new individual consumers (e.g. in new homes), could be granted new permits by the authorities, based on typical energy consumption for the type of business or building.

The Need for a Single Energy-Services Supplier

In the enclosed paper I have argued the advantages of passing on customers’ permits to energy retailers. The prime advantage of this is that retailers that help customers reduce emissions by subsidising energy efficiency measures, *automatically* receive credit for doing so, *if it is effective.* i.e. the emissions the retailer is responsible for (caused by its energy sales) will be reduced to below (or towards) the level of the permits passed on to it by its customers. Importantly, this behaviour that is intended to be encouraged by permits is consistent with the developing competitive “energy service” retail market.

In order to initially grant a retailer permits however, it is necessary to determine that a customer has chosen them to provide an “energy service”. This may seem obvious in the case of an electricity provider, but a customer may also choose a gas supplier, and on a temporary basis, vendors of high-efficiency fridges, lights, insulation, hot-water systems, energy auditors etc. Unfortunately, allocating permits, or emission-reduction “credits” (excess permits) to all these different providers would be impractical (although a split in the allocation of customer permits between

electricity and gas providers might be possible according to the services provided by each). Clearly, estimating the likely emission reductions resulting from a large number of products and activities are open to huge errors and abuse. For example, how many emissions will be avoided by installing high-efficiency, reverse-cycle air-conditioning? (it could lead to increased consumption) Therefore, *for energy-efficiency measures (as opposed, perhaps, to renewable energy sources), emission reductions can only be practically measured by a reduction in fossil-fuel based energy consumption relative to a pre-allocated permit.* Even the verified generation and sale of renewable energy (and certainly gas) could be rejected as a true emission “reduction”, because it could be supplied in addition to existing fossil-fuel based energy sources.

Therefore, in order to receive credit for the emission-reduction potential of their goods or services, all 3rd-party suppliers would have to sell their services through the single energy-service retailer chosen by the customer (which should be granted *all* of the customer’s permits), and negotiate an increased price based on the value of emission reductions that are expected to be achieved. Alternatively the energy-service retailer could pay the 3rd-party supplier in a mutually agreed amount of permits (but it would not be practical for the authorities to mandate how many permits any product or service supplied would be worth).

Thankfully, retailers are likely to be increasingly interested in forming such alliances with other energy-service providers, because in an increasingly competitive “commodity” market, profit margins are being squeezed to a minimum, and differentiation is required to distinguish a retailer’s service from its competitors’. Links with the prime energy-service companies are also likely to be of benefit to 3rd party energy-efficiency providers (selling products with high up-front costs, but reduced ongoing costs), because such companies’ sales are often held back by consumers’ lack of access to capital, and the link provides access to a convenient form of loan finance by allowing repayments through the monthly energy bill. “One stop” energy-service companies could also lower the indifference barrier displayed by many energy consumers, due to the low priority placed on reducing energy costs (due to their relatively low proportion of total costs). These trends are already being displayed in the reregulated market, including a move towards single company suppliers of both electricity and gas.

Although customers may choose a single energy-service company, their ability to choose a different one at any time raises the risks associated with a retailer investing in non-material emission-reducing activities, or assets with high retrieval costs (for example, energy audits, or window insulation respectively). To increase the likelihood of retaining customers, and thus receiving excess permits, customer shareholding, “frequent flyer” pricing, and other loyalty schemes could be used. For example, non-retrievable investments could be repaid by low-interest loans to customers, but with the interest rising to standard levels if the customer chooses a new retailer. Competing retailers could offer to refinance these loans at low-interest rates if customers chose them as their retailer (this would be equivalent to buying emission-reduction credits from the original retailer, but the new retailer would make their own judgment on the likely emission reductions resulting from the investment).

In contrast with allocating permits to a single “energy-service company”, ABARE have argued that permits could be simply applied to the source, i.e. power stations or fuel suppliers. However, even ignoring the anticompetitiveness of such grandfathering (or the unnecessary costs of auctioning), when one considers that the object of the exercise is to encourage permit holders to subsidise emission reductions (directly or by buying emission permits from a participant that had produced excess permits), these industry participants do not seem to be well placed to do so. In order for them to claim credit for energy-efficiency measures, an estimate would have to be made as to the likely emission reductions that this measure would achieve, and a permit apportioned to this measure. As mentioned above, this is clearly open to large errors and abuse. To legitimately and accurately claim credit for emission reductions they would have to expand their operations (directly or through alliances) and become a customer’s chosen sole energy-service provider. i.e. become energy retailers as described above.

Furthermore, even if fossil-fuel power stations could legitimately claim emission-credits for subsidising renewables (based on measured energy output), they may be less inclined to do so than retailers, because renewables would be their direct competitors. In contrast, retailers have been separated from substantial power generation assets and so now have extremely small profit margins in the new competitive market. Therefore retailers would require much smaller incentives (over-permit fees or permit trading price) to encourage them to forego electricity sales than existing fossil-fuel power stations, who would require bigger compensation for lost profits.

Large Incentives Without Necessarily Large Costs

An additional advantage of permits, partly related to the “mechanical advantage” of carbon tax recycling (i.e. spreading the cost of subsidies over a large number of sales), is the ability to impose relatively large over-permit fines, and thus create large incentives for emission reductions without substantially increasing the price of energy. In fact, the incentives (fines) can be set at a value much higher than the marginal abatement cost, just to ensure

compliance. For example, permits could be set to 1% below BAU levels, with an over-permit fine of 10c/kgCO₂, but the actual cost incurred in avoiding these emissions (and fines) could be substantially less than 10c/kgCO₂. The actual average emission-reduction cost, say 2c/kgCO₂, is then spread over the remaining 99% of fossil-fuel sales, thus increasing the price by only 0.02c/kgCO₂, (or about 0.02c/kWh – a 0.2% increase). In contrast, to produce the same incentive to reduce emissions with a carbon tax would require a doubling of energy prices!

“Feebates” – Competition to Reduce Emissions

The main disadvantage of permits, besides their practical implementation, is the lack of incentive to reduce emissions below the permit level, as discussed above under “Incentives to Trade”. Therefore it appears desirable to introduce a “feebate” system (over-permit fees funding under-permit rebates) in parallel with a Government-set permit, as discussed in the accompanying paper. The permit level then becomes the industry-average level of emissions per customer (weighted for past consumption), and all retailers compete to reduce emissions below the average.

This is not to say that trading of permits should not be allowed – permit allocation will never be perfectly “fair” (with identical marginal emission-abatement costs), so permit trading may have some value. However, given the disadvantages discussed above, it would be unduly optimistic to expect trading to produce vigorous competition to reduce emissions at least cost, especially for emission reductions below permit levels.

Note that with “feebates”, there is no need for the Government to decide on a “feasible” emission-reduction target – they can merely decide on the level of marginal emission-abatement cost to be incurred, set the “feebate” to this value, and hence cause emissions to be reduced until marginal emission-abatement costs equal the value of the feebate. A reasonable initial feebate level might be 1-2c/kgCO₂. With “GreenPower” renewable energy tariffs currently at a premium of about 4c/kWh (reducing emissions by 1 kgCO₂/kWh), such a rebate could significantly increase their attraction, especially since surveys have shown a much greater willingness of consumers to pay a premium if the whole community contributes to fixing something that is a community problem. Over an extended period of time (10-20 years) such a feebate might reduce emissions by over 30%, which would increase energy prices by 0.4-0.9c/kWh, or 4-9%.

Transport

The bulk of this submission concerns itself with the energy supply industry, and especially the electricity supply industry, which contributes to a large proportion of Australia’s greenhouse-gas emissions. Nevertheless, transport is an important source of emissions, and perhaps increasingly so.

Unfortunately, in this case it appears practically difficult, or even impossible, to allocate emission permits to customers for them to pass on to their chosen transport provider, because customers do not have a single transport provider. Consequently it is virtually impossible for transport companies to subsidise low-emission transport alternatives and verifiably claim reductions in emissions.

For example, ABARE propose that petrol suppliers could be allocated permits. Since we have seen (in the enclosed paper) that the best way to reduce emissions is to then subsidise emission-reducing activities (rather than raise the price of energy and lose customers), petrol suppliers might then, for example, subsidise the development of high-efficiency cars. However, if they are to do so, they will want to claim the full emission reduction credit (this subsidy is thus equivalent to buying a permit), so as to reduce their associated emissions below their original allocated permits. But even if this subsidised activity did result in fewer emissions, they could not *automatically* take the credit, because they are not the sole suppliers of petrol to all drivers of the high-efficiency cars (i.e. other petrol suppliers would also see a reduction in sales, and emissions, without having paid the subsidy). Full credit for subsidising high-efficiency cars could only be given to the petrol company if the authorities were to assign an estimated level of emission reductions resulting from the car’s development and sale. These permits would be highly inaccurate and further, would have to be gradually released over time (on the basis of estimated car use). For the same reasons, any future home-based transport refuelling technologies (e.g. battery charging) would have to be excluded from the energy-services permit system (e.g. by being placed on a separate meter).

Car Efficiency Feebates

It is tempting at this point for the theoretical market economist to decide that the concept of emission permits is impractical, and should be discarded in favour of a carbon tax. However, even a casual inspection of the real world shows that it is preferable to discard theoretical perfection in favour of practical usefulness and relevance.

Specifically, it is necessary to refocus on the prime advantage of emission permits – the ability to provide large subsidies for a minority of the industry, funded by relatively minor price increases across the remaining fossil-fuel industry. The prime advantage is NOT the ability to *trade* permits. It is necessary therefore to identify major industry participants who have a realistic capability to respond to “permits” (not necessarily emission permits) and cross-subsidise activities to produce desirable change.

For example, expanding the concept of “feebates”, new cars could be charged a fee of say, \$100 for every mile per gallon that they were better than the average new car fuel consumption. This would make little difference in price to most cars (perhaps price increases could be balanced by a reduction in import tariffs!), but if a manufacturer were to bring out a new car with a fuel consumption that were say 50mpg better than the average (e.g. a light-weight hybrid-drive “hyper-car”) then it would receive a rebate of \$5000. As the market penetration of such cars increased, the average fuel consumption would decrease and hence so would the rebate. However, the market penetration required to significantly reduce this rebate would be so large as to bring significant economies of scale, thus most probably making such cars competitive anyway. Evidence of the near term potential of such “hyper-cars” is provided by the work of Amory Lovins, and in a more commercially convincing manner by the recent release and rapidly expanding production of the Toyota “Prius”, which many observers believe is already selling profitably.

Economists at ABARE have been critical of such approaches for their lack of theoretical perfection, arguing, for example, that the resulting increases in car prices will discourage sales, thus reducing turnover of the total car stock, and hence actually increasing average fuel consumption. Such arguments seem oblivious to reality, which is that the size of price increases being considered in practice would have a negligible effect on existing car sales, whilst the introduction of a very new kind of “differentiated” car to the market could substantially boost sales. In fact, discouraging the sale of existing cars could well be beneficial for reducing emissions (by encouraging alternatives such as public transport), whilst the leverage obtained by focussing subsidies on a small proportion of the market could be so great as to actually reduce the cost of high-efficiency cars to below the present average car price.

Public Transport

ABARE’s arguments also expose a dangerous preoccupation with private cars, thus failing to consider the best way of not just reducing emissions, but also reducing costly congestion and improving transport efficiency – that is, improving public transport. The barriers here are not price, but rather, if anything the contrary. It is perhaps primarily restrictive Government regulation of public transport, and especially artificial restrictions in the price of services, that prevents public transport from being a convenient and viable alternative to the private car. Such arguments are easily supported by a simple comparison of the relative costs of public transport and private motor cars. The cost of public transport could, for most users, be more than doubled (thus improving the quality and attraction of service), and still be cheaper than using a private car.

The reason for such Government regulations (and ownership) is of course to prevent abuse of a natural monopoly. The consequence however, is that most public transport organisations lack incentives for improving things, access to investment capital, and perhaps above all, customer focus. The solution is “customer-stakeholder” privatisation, where customers become majority shareholders and voice their desires via competitive investment trusts (and thus prevent monopoly exploitation of customers). Such “stakeholder” concepts, in the form of “frequent flyer” customer loyalty programmes are becoming increasingly popular throughout the economy for their benefits to both customers and business, and could be given a major boost in the form described by the coming choice for employee superannuation trusts. These ideas, along with detailed operational changes to the “Sydney Buses” system, including integration with taxi and rental car services, are proposed in a separate report (D. Thorp, “Transforming Sydney Buses”, report in preparation).

ADDITIONAL INFORMATION HELD BY THE SECRETARIAT

ATTACHMENT TO SUBMISSION NO. 63

Recycling Carbon Taxes - the Real Advantage of Emission Permits, David Thorp.