Questions and answers on the Packaging Impacts Consultation Regulation Impacts Statement (RIS) and Attachments A, B and C

These questions and answers have been prepared as part of the consultation process following the public release of the Packaging Impacts Consultation Regulation Impact Statement (RIS) and the supporting technical documents prepared by PricewaterhouseCoopers (PwC) and Wright Corporate Strategy (WCS):

- Attachment A – Problem Statement for Packaging

- Attachment B – Packaging Options Report

- Attachment C – Cost Benefit Analysis (CBA) Report.

The responses need to be read in conjunction with these documents and the disclaimer for these comments is the same as in Attachments A to C. PwC and WCS have contributed to the preparation of these responses.

Packaging Consultation RIS

1. What is classified as away-from-home consumption? (e.g. does it include school lunches?); and what percent of total consumption is it?

The glossary on page vi of the Consultation RIS defines away-from-home consumption as "consumption that occurs in offices, industry, hospitality venues, institutions, shopping centres and public places". Schools would be included in this definition. Table 4 on page 10 of the Consultation RIS has information on the tonnages of packaging consumption that is 'away from home'. From this table you can calculate that 'away from home' consumption is 63.3% of total consumption.

2. Does the Consultation RIS cover primary, secondary and tertiary packaging?

Yes, the Consultation RIS covers primary, secondary and tertiary packaging. These classes of packaging are discussed on page 5 of the Consultation RIS.

3. Can you clarify whether global demand and the export of used packaging materials was taken into account in your projections to 2035?

The packaging recycling projections to 2035 were developed based on an assumption that Australian demand, global demand and the export of used packaging materials would continue to follow the trend. We acknowledge that there is a degree of uncertainty about this assumption.

4. Regarding options 4(a) and 4(b), page 30 of the Consultation RIS states that "It is assumed that the Australian Packaging Covenant (APC) would continue under these options". How would APC and CDS co-exist under this arrangement – in terms of operations? On what basis would the targets and the objectives of each arrangement be decided? Would brand owners fund both the schemes? If no, then on what basis would funding be decided?

The APC covers a broader range of packaging than beverage containers and its activities extend to sustainable packaging design. It is anticipated in the Consultation RIS that the APC and NEPM would continue under option 4. If option 4 were chosen for implementation, consideration may need to be given to how beverage companies participate in the APC.

5. Page 56 of the Consultation RIS states: "A national CDS would likely increase the price of beverages at the point of sale". Could there be an increase in the price of beverages and other products under option 3 with an ADF?

The potential impact of the options on the prices of products at the point of sale is discussed in Attachment C, pages 20-21. Any of the options could involve a price increase (depending on the elasticity of demand with respect to price), although this is more likely with options 3 and 4 given the increased transparency of the fees/charges.

Attachment A: Problem Statement for Packaging

6. The data tables in Attachment A (pages 78-79) for aluminium seem confused with the split-up of at-home and away-from-home. Please clarify which figures are correct.

The figures in Attachment A are incorrect. The correct figures for Table 36 to 39 are outlined below (noting that the reported figures were not the basis of the projections and table references match those in the original report):

Table 36 - Aluminium Cans: Estimated Recycling by Consumption Location (2010)

	Consumption (tonnes)	Recyclate Production (tonnes)	Recycling Performance (tonnes)
Overall	51,600[1]	34,800[1]	67.4%[1]
Away-from-home	25,800	14,800	57.3%
At-home	25,800[2]	20,000	77.5%

Source: WCS (2011)

Notes: 1. Australian Packaging Covenant 2010 Covenant Performance Data
2. Based on estimated 50%/50% at-home/away-from-home split.

Table 37 – Aluminium Cans: Recycling by Container Type (2010)

	Consumption (tonnes)	Recyclate Production (tonnes)	Recycling Performance (tonnes)
Beverage containers	51,600	34,800	67.4%

Source: WCS (2011)

Table 38 – Aluminium Cans: Consumption by Container Type and Consumption Location (2010)

	Consumption (tonnes)	At-home Consumption (tonnes)	Away-from-home Consumption (tonnes)
Beverage containers	51,600	25,800	25,800

Source: WCS (2011)

Table 39 – Aluminium Cans: Recycling Rates by Container Type and Consumption Location (2010)

	At home recycling (%/tonnes)	Away from home recycling (%/tonnes)	Total (%/tonnes)
Beverage containers	77.5%/20,000	57.3%/14,800	34,800

Source: WCS (2011)

7. Table 48 on page 84 of Attachment A states that it is assumed that 79% of glass packaging is used in beverage containers. The note for the table makes reference to a Hyder 2008 study. However, that report estimated glass use in beverage containers as 88% of total glass consumption based on data sought from O-I. For what reason was the 79% figure used?

    Also, if the consultants used an assumption of 79% of glass beverage containers, then out of a total of 991,000 tonnes of glass consumption, this would come to 782,890 tonnes (not 785,900 as referred to in the report). Using Hyder 2008 study estimate of glass beverage containers representing 88% of total glass consumption (of 991,000 tonnes), this equates to 872,080 tonnes (i.e. an extra 86,180 tonnes than that modelled in the report).

Wright Corporate Strategy (WCS) have advised that the reference to the Hyder study in Attachment A is incorrect, noting that:

*   The reference to Hyder's figure of 88% is a little misleading. The number was provided to Hyder by O-I as a rough estimate of commercial in confidence data. It is not based on either trend data or public data – it was a point estimate made by one person as a snap shot. WCS is not uncomfortable with the 79% estimate given the continuing progress of light-weighting glass beverage containers.

*   The issue should be considered in the context of the order of accuracy possible with forecasts of the relative distribution by weight of the various packaging materials stretching out 27 years from 2008 to 2035. It is probable that the relative distribution of beverage packaging materials has already changed between 2008 and 2012, with further light-weighting of glass packaging.

*   Comprehensive sensitivity analysis done in the CBA report demonstrates that the results are not sensitive to changes in these inputs.

8. The estimate for the percentage of steel can consumption that is beverage containers states: "Estimate based on discussion with industry" (pages 77 and 84). Who was this discussed with? Advice from the Australian Beverages Council is that Australian production of beverages is solely in aluminium cans, with no more than 1,000 tonnes of steel beverage packaging coming in via export markets. The consultants have taken the total steel can figure of 138,000 and made an assumption that 50% is in steel beverages (reaching a figure of 68,000 tonnes).

We acknowledge the point made. However, comprehensive sensitivity analysis done in the CBA report demonstrates that the results are not sensitive to changes in these inputs.

Attachment B: Packaging Option Report

9. Option 1: National Packaging Waste Strategy (outlined on pages 15-18 of Attachment B) is a "non-regulatory option [that] would entail the development of a national packaging waste strategy funded from additional resources". It states "the Strategy would be funded by State and Commonwealth governments". It is clear from the description that this option would be funded by additional resources from State and Commonwealth governments. But, where does the government intend to raise these funds from? Would these funds be raised through a levy on packaging brand owners?

This option would be funded by Commonwealth, state and territory governments. Governments would likely reallocate existing resources to fund this initiative. As this is a non-regulatory option, it would not entail additional levies on the packaging industry.

10. Option 2: Co-regulatory Packaging Stewardship (outlined on page 18-27 of Attachment B) involves co-regulatory arrangements for packaging under recently passed Product Stewardship Act 2011 (PS Act). How different would the functioning of the Australian Packaging Covenant (APC) and National Environment Protection Measure (NEPM) arrangement be under the PS Act compared to the existing arrangement? Would there be additional liabilities for packaging brand owners under the PS Act? If yes, what sort of liabilities could there be in addition to higher targets and penalties?

Replacing the APC and NEPM with co-regulation under the PS Act would lead to differences to the current arrangement. Liable parties would be required to join an approved arrangement. Approved arrangements would be responsible for achieving regulated outcomes (such as packaging recycling targets, litter management and sustainable design outcomes). As stated on page 28 of the Consultation RIS, liable parties will be based on the concept of a 'brand owner' in the APC and NEPM, but the definition may need to be refined to identify a discrete point in the supply chain at which obligations will apply. In addition, the outcome would be developed to reflect the commitments under the current APC. There would, however, be greater sanctions for not achieving these outcomes, the possibility of multiple arrangements rather than just one, and greater penalties for non-compliance.

11. Option 4(a), as described by Boomerang Alliance, proposed to use the significant unredeemed deposits forecast for their scheme (their modelling indicates that this is in the order of $700 million) to incentivise domestic recycling of packaging instead of these activities being undertaken overseas (i.e. through a bounty).

This important aspect of Boomerang Alliance's scheme was not presented in Attachment B or C because it is a financial transfer which is not included in a CBA as it does not have a bearing in considering an economy-wide direct impact. Under this aspect of the Boomerang Alliance model, the deposits would be collected from consumers and the unredeemed deposits passed on through the bounty – these funds would therefore be treated as redistributions.

It is arguable that this bounty would have a positive impact on GDP/jobs which should be taken into account. However, indirect economic impacts such as GDP/jobs are not included in a CBA, which is limited to direct economic costs and benefits. Economic impacts can be taken into account by decision makers, in addition to the CBA results. However, it is not possible to make a definitive statement about the net impact of the proposed bounty at this stage given that:

- The bounty is funded from deposits, so it draws money from the economy. This money could be applied in other industries to create jobs and economic growth. It is not clear that the benefits to the Australian recycling industry would more than offset the costs from these foregone alternative uses.

- Without an additional (and complex) modelling exercise, such as Computable General Equilibrium modelling, the magnitude of the benefits to the recycling industry cannot be robustly estimated.

Attachment C – CBA Report

12. Attachment C expresses containers in terms of tonnes – however, what is the number of containers per tonne? (This would be approximate as it is made up of different materials.)

All waste data is expressed in tonnes for consistency. Table 62 on page 71 of Attachment C provides information on the assumed weight per container and number of containers per tonne for different materials.

13. Is waste to energy assumed in the base case and other options? What are the main materials it will use and what dollar values have been attributed?

Waste to energy is not assumed in the base case or any option. Rather, the concept was mentioned in the context of future initiatives, beyond 15 years, which may or may not apply. A number of options were flagged to indicate that beyond the initial 15 years there are a number of initiatives other than those applying today that might be feasible/appropriate. These also included:

*   Further development of precinct based recycling concepts to capture increased materials including packaging from both commercial and industrial (C&I) recycling and laggard domestic recycling precincts

*   National extension of business recycling programs (as described in Option 2c), and

*   End market development (as described in Option 2c).

For further information, please see Attachment C, pages 8-9.

14. With regard to the base case and projections, is it possible to provide: (a) a listing of the materials and distinction between beverage containers, non-beverage containers and flexible packaging over the modelled time period; (b) the key drivers for the projected recycling growth with justification and some indication of what influences material and type of packaging?

Recycling projections presented in Section 3 of Attachment C were developed on a "bottom up" basis for:

*   At home recycling by product (non-beverage containers, beverage containers and flexible packaging).

*   Away from home recycling by product.

Benefit and cost parameters used for the estimates presented in the Cost Benefit Analysis (CBA) were almost universally measured on a "per tonne" basis, meaning that they did not differentiate between material types.

The exception is the estimation of the market value of materials, which differs by material type. A separate modelling exercise was undertaken to estimate the material split of additional tonnes recycled. This was based on the materials/products/locations targeted by each option and it was assumed that the recycling rate of individual materials cannot exceed 90% (see Attachment C, Appendix F).

The assumptions driving the assumed growth in base case ("status quo") recycling are presented in Attachment C, pages 21-23. Broadly, the base case includes:

*   Continuation of the APC;

*   South Australian (SA) and Northern Territory (NT) container deposit schemes;

*   Non-regulatory national recycling and litter initiatives (e.g. National Waste Policy) - see Attachment A, Appendix A;

*   State and territory recycling and litter initiatives (e.g. landfill levies, strategy documents, strategic initiatives, recycling targets, landfill performance standards/best practice, extended producer responsibility and partnership programs with local government and industry) – See Attachment A, Appendix A;

*   Local government kerbside recycling improvements, event-based recycling and litter initiatives;

*   Continuation and progressive improvement of business (C&I) recycling; and

- Increased public place recycling infrastructure, at airports, rail stations, shopping centres, etc.

Feedback on the assumptions and projections are sought as part of the consultation process.

Figure 1 presents historic and forecast recycling (tonnes) between 2003 and 2035. Between 2003 and 2010 significant gains were made as a result of existing actions (a compound annual growth rate (CAGR) of 7.8% per year). As gains from relatively valuable materials such as paper reach their limit (assumed to be 90%), this rate is forecast to significantly reduce over time – from 2.3% p.a. between 2010 and 2015 to 0.5% p.a. between 2030 and 2035.

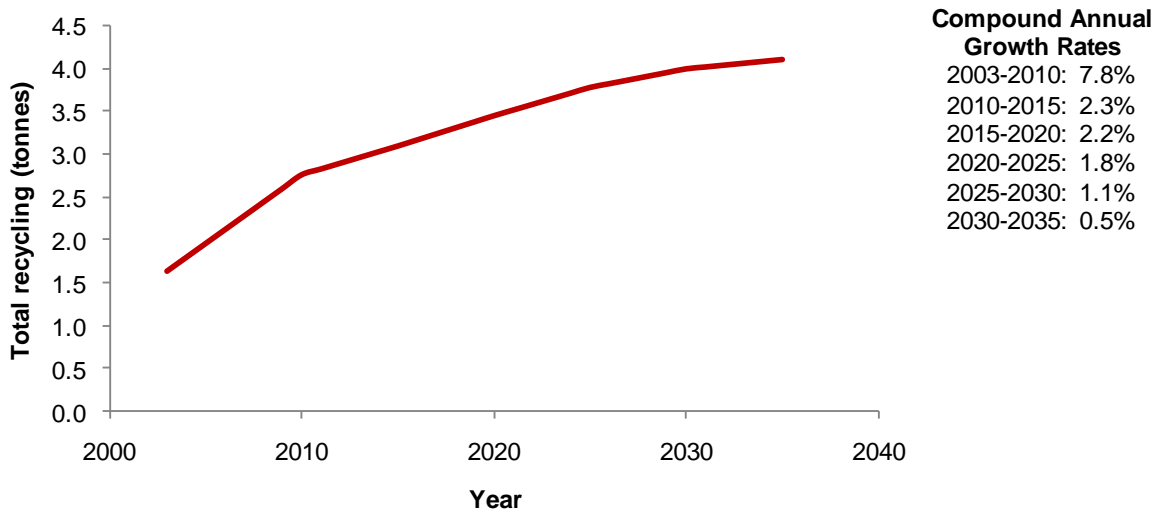**Figure 1 – Historic and projected recycling (million tonnes)**

Compound Annual
Growth Rates
2003-2010: 7.8%
2010-2015: 2.3%
2015-2020: 2.2%
2020-2025: 1.8%
2025-2030: 1.1%
2030-2035: 0.5%

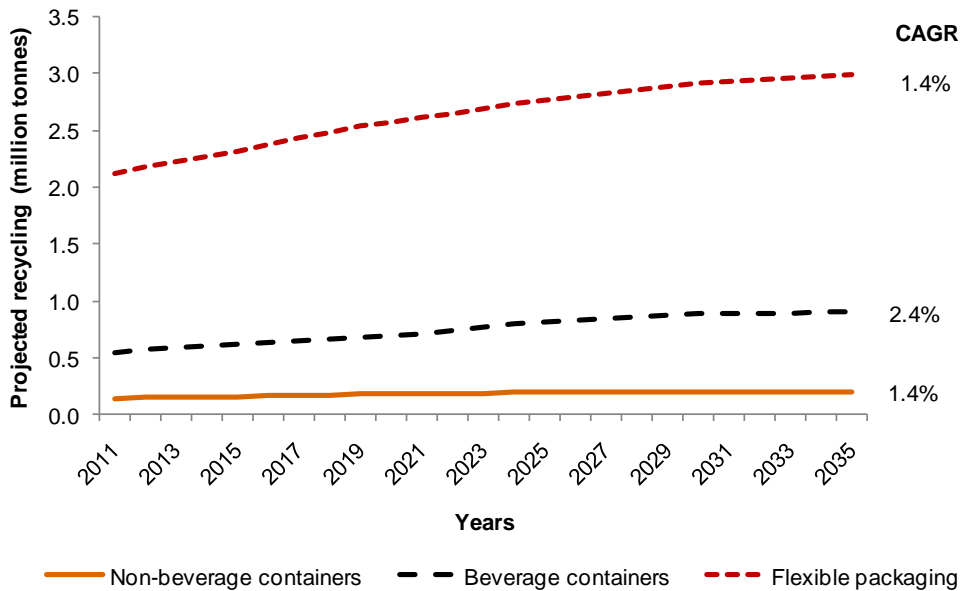**Figure 2 – Recycling projections (million tonnes) by product**

Figure 2 presents forecast recycling (tonnes) by product between 2011 and 2035. Beverage container recycling is forecast to grow at a faster rate (2.4% p.a.) than flexible packaging and non-beverage containers (1.4% p.a. respectively). This largely reflects the fact that:

- Flexible packaging recycling rate is already relatively high (70%), largely driven by relatively valuable paper/cardboard. The recycling of all materials is assumed to be capped at 90%.

- Beverage container recycling rate is relatively low (49%), however, recycling is likely to improve as a result of the increased provision of public place recycling bins which is occurring in the absence of regulation.

- Non-beverage container recycling is relatively low (40%), but there are a number of barriers to further recycling including contamination of food containers (see Attachment A, Chapter 3).

15. Page 33 of Attachment C refers to Keep Australia Beautiful (KAB) data showing "that on the sites surveyed SA was 18.2% below the national average of litter items and 5.6% below the national average of litter volumes. It is recognised that this includes beverage and non-beverage containers. However this data does indicate that a reduction of up to 30% in beverage container litter may be possible". Where is the data to support this statement (i.e. up to 30% reduction)? Victoria and ACT are also well below the national average of litter volumes (even more so than SA).

We acknowledge that Victoria and ACT are also below national averages for litter in the KAB data. The Consultation RIS litter reduction projections were determined based on an analysis of the various actions under each of the options. It was not intended to draw a causal relationship between the KAB data and potential reductions under options. This statement could be redrafted for the Decision RIS.

16. With regard to Table 22 on page 33 of Attachment C, if option 4(a) would not commence until 2016 (2015 is the year infrastructure would be established), how is a 14.5% reduction achieved in 2015 relative to 2010?

Scheme benefits for the CDS options do not commence until 2016. The 14.5% reduction achieved in 2015 (relative to 2010) is also realised in the base case, so there are no net benefits.

17. It is unclear which option does the most for beverage container litter reduction. Table 22 on page 33 of Attachment C seems to imply that 4(a) does most. How does this compare to the other options?

The relative litter reduction projections for each option are provided in Table 24 on page 35 of Attachment C. This table shows that options 4(a) and 4(b) achieve the highest beverage container litter reductions. An example was provided for Option 4(a) in terms of the reduction relative to 2010 for illustrative purposes. However, this was not the basis of the projections and so was not replicated for all options in an effort to avoid confusion.

18. Has the method of using vehicle operating costs (VOC) and in-vehicle travel time (IVT) to estimate participation costs (outlined on pages 44 to 50 of Attachment C) been used elsewhere and is it a peer reviewed method?

The use of VOC and IVT is common in transport economics. PwC had previously used this method in conducting transport related cost-benefit analyses, and developed the methodology for assessing packaging waste initiative participation costs based on this approach.

19. A number of additional measures are outlined in table 53, page 65 of Attachment C – what are the estimated tonnages recycled from each action (noting tables 53 and 54)?

The "additional initiatives (TBC)" identified in Table 52 (Attachment C, page 65) are estimated to account for 15% of additional recycling, relative to Option 2(c), over the period 2026-2035. This assumption underpinned the recycling projections, but was not explicitly reported in Attachment C.

20. Is it possible to provide more detail on the costings for option 4(a), including assumptions about split-up of collection?

The costs for option 4(a) and the methodology used to develop these costs are presented in Attachment C, pages 68-72.

21. Attachment C notes that handling fees for options 4(a) and 4(b) have been informed by the NT and SA models – how exactly? What figures were supplied by the two states?

Note 1 on page 70 of Attachment C states that Wright Corporate Strategy estimated the container handling fees based on work it had undertaken for the NT government in 2010/11 and discussions with SA container deposit scheme operators.

22. Should the baling and transport component of the Option 4(a) costs (0.72 cents/container) be applied to all infrastructure as is currently the case in the CBA?

WCS developed these costs based on existing SA contracts (commercial in confidence) and advised that no change to the CBA is warranted given:

• The 0.72 cents is an overall cost for all transport from spokes to hubs. The term "baling" was used because a number of depots do in fact bale plastic and aluminium containers. Glass is not baled, but rather is retained within the storage cage for loading onto the truck by crane or fork truck.

• The inclusion of baling costs is based on a continuation of baling of plastics and aluminium. In WCS's view, the full costs used in option 4(b) are appropriate and should not be changed.

23. Does the 4(a) scheme operation cost (table 79, page 92 of Attachment A) include collection and (non-consumer) transport costs?

Yes, collection and transport costs for the container deposit schemes are included in the operation costs. The costs for collection and transport for options 4(a) and 4(b) are shown as negative in the CBA as they are the savings to existing municipal and commercial and industrial operators.

24. In option 2(b), shown as the 'least cost' option (table 79, page 92 of Attachment A), the cost of litter bin servicing is shown as lower than kerbside costs. Why is this? How is that figure derived?

Option 2(a) is the least cost option. The costs of litter bin servicing are not disaggregated in the Consultation RIS. The "collection and transport" costs for 2(b) are lower than the costs for "processing at MRFs". This is because a higher proportion of collection under 2(b) is from the commercial and industrial (C&I) sector, as opposed to municipal kerbside collection, and WCS's estimate for C&I collection and transport costs is lower than for municipal waste. The industry proponents of the National Bin Network claim that most bins will be located in C&I public spaces, rather than in municipal locations. Further detail about the National Bin Network is available on its website (nationalbinnetwork.com.au).

25. Options 4(a) and 4(b) have been modelled in the CBA on the basis of national operation. Should the costs be reduced to account for the SA and NT schemes being part of the base case?

Further review of the CBA model in light of these comments reveals:

• It has not been possible to separately model recycling projections by jurisdiction due to data limitations identified in the Problem Statement (see Attachment A, page 23). As a result, additional costs specific to a CDS were reduced in proportion with the relative SA and NT populations. This was the case for the following components of household participation costs:

- Vehicle operating costs (a component of household participation costs (HPC))
- In vehicle travel time
- Container deposit redemption time.

- It is acknowledged that the estimation of container handling fees (labelled "scheme initiatives and infrastructure costs" in the CBA) should be reduced in proportion with the SA/NT populations (see Tables 1 and 2 below). However, this would also require a consequential reduction in the estimates for the avoided costs from collection, transport and processing, and the market value of resources. As such, the net impact on the CBA results is not estimated to be significant, as discussed below.

Tables 1 and 2 present the results of PwC's preliminary analysis of the potential impact on CBA results from adjusting the container handling fees for options 4(a) and 4(b). However, updating the approach to estimating container handling fees also necessitates re-examination of the methodology to estimate the following benefits, which would somewhat offset the estimated reduction in costs:

- Avoided kerbside and C&I collection and transport costs;

- Avoided material recovery facility (MRF) processing costs; and

- The market value of materials.

In addition, the impact of the differences in scheme coverage between the SA CDS (excludes plain milk and wine bottles, which make up a significant proportion of total packaging by weight) would need to be considered.

These additional changes are not reflected in Tables 1 and 2, which represent the upper bounds of the potential change. Capturing the impacts of these additional changes would involve a more complicated modelling exercise which could potentially be undertaken as part of a Decision RIS, although the reduction in costs is expected to exceed the reduction in benefits, resulting in a relatively small net improvement in the CBA results for the CDS options.

Table 1 – Preliminary analysis of the potential impact on CBA results from removing SA and NT container handling fees from the CDS option costs (Option 4A)

	CBA results	Preliminary update of CBA	Difference (absolute)
Costs (PV, $M)	$2,125	$1,774	$351
Benefits (PV, $M)	$710	$710	$0
NPV	($1,414)	($1,064)	$351
BCR	0.33	0.40	0.07

Note: Totals may not sum due to rounding

Table 2 – Preliminary analysis of the potential impact on CBA results from removing SA and NT container handling fees from the CDS option costs (Option 4B)

	CBA results	Preliminary update of CBA	Difference (absolute)
Costs (PV, $M)	$2,471	$2,094	$377
Benefits (PV, $M)	$710	$710	$0
NPV	($1,761)	($1,384)	$377
BCR	0.29	0.34	0.05

Note: Totals may not sum due to rounding

26. On page 51 of the Consultation RIS the savings from options 4(a) and 4(b) in local government and business collection, transport and recycling is $2.72 billion – could you please disaggregate for councils and business? Similarly, could you disaggregate the costs of option 2 on collection, transport and recycling?

An economic CBA was undertaken as part of the Consultation RIS, noting that:

- An economic CBA should be distinguished from a financial analysis, which identifies the financial impacts on individual parties.

- Attachment C, Table 84, page 98 qualitatively identifies the distribution of economic costs and benefits. It is not possible to further disaggregate these results by individual party without significant additional modelling.

Table 3 presents a high level distribution of economic costs by party (Commonwealth Government, packaging industry, Local Government, recyclers, households and employees/business).

Table 3 – Distribution of economic costs by party

Cost	Party	Option 4A	Option 4B	Option 2A	Option 2B	Option 2C
Scheme design and implementation	Cth Government	$11	$11	$6	$6	$6
Scheme operation and compliance	Packaging Industry	$4,383	$4,720	$183	$348	$345
Kerbside collection and transport	Local Government	($737)	($737)	$58	$26	$76
Away from home collection and transport	Recyclers	($23)	($23)	$12	$33	$49
Recycling at MRF	Local Government/recyclers	($1,964)	($1,964)	$66	$118	$194
Household participation	Households	$447	$457	$84	$152	$251
Business participation	Employees/businesses	$7	$7	$20	$37	$61

Note: Totals may not sum due to rounding

27. How can you arrive at a financial figure of cost per container per year?

An economic cost benefit analysis was undertaken by PwC as part of the Consultation RIS. The purpose of this is to compare the (present value) costs and benefits accruing to society as a whole, rather than individual parties. An economic CBA should be distinguished from a financial analysis, which identifies the financial impacts on individual parties. Such an analysis would require significant adjustments to be made to the CBA model.

28. Regarding the costs of option 2(b), what allowance has been made for additional bin costs to counter terrorism/security concerns in public spaces? Would governments force local councils to co-operate if they don't support the NBN or it becomes too costly with labour and contamination or loses impact?

The development of the costs assumed for option 2(b) is presented in Attachment C, Table 51, page 64:

Note: Estimate of costs of $10 million for 'increased public place recycling opportunities' is based on an additional 5,000 to 6,000 stainless steel indoor bins at a capital cost of up to $2,000 per bin based on discussions with David Carter (Packaging Council of New Zealand) and the National Bin Network.

No addition costs were included for counter-terrorism/security concerns in public places.

Additional collection, transport and recycling costs from this initiative were captured by applying standard cost parameters ($/tonne) to additional tonnes recycled with Option 2(b). The following note below Table 51 points out that no additional costs to operators above this level have been assumed:

It should be noted that there are not assumed to be additional operating costs for facility owners because this cost is assumed to be incurred in the base case for beverage containers discarded to the residual waste bin and collected on a commercial contract.

Option 2(b) would involve mandatory targets, which it would be the responsibility of industry approved arrangements to meet. As such, the outcomes of this policy are not dependent on whether local government supports/contributes to this option.

29. Why were the co-benefits of option 4 not quantified?

Co-benefits have not been quantified for any of the options. Co-benefits for the various options are discussed qualitatively in Attachment C, pages 82-85. With respect to option 4, it could be argued that there is a significant benefit with a CDS due to the ability to collect non-CDS material at CDS infrastructure. However, the net impact is uncertain given:

- The magnitude of the benefits is uncertain. A separate forecasting and market value exercise would need to be undertaken for each product potentially collected. The breadth of potential coverage means that this would be a complicated exercise, although it may be possible to extrapolate historic data from SA based on relative population (or a similar measure)

- It is not clear that there are additional benefits above the status quo. Many of these materials are already being collected and recycled through other means. As such, these benefits are already captured in the base case and the co-benefits simply redistribute this material from one form of collection infrastructure to another

- Achieving these benefits comes at a cost. Any benefits would need to be offset by collection, transport and recycling costs. It is not clear that the benefits would exceed the costs.

30. In Appendix C.1: "At home (domestic kerbside) collection" the consultants arrive at a cost of $187/tonne to collect recyclables and deliver them to a drop off point. However, in Appendix C.2: "Away from home collection" they arrive at a cost of $26/tonne to collect recyclables and deliver them to a drop off point – is this a typo? Or does it reflect the additional cost of recycling to businesses as opposed to sending it to landfill?

This is not a typo. The $187/tonne and $26/tonne reflect the different costs for collecting and transporting recyclables between the municipal and C&I waste streams. Wright Corporate Strategy estimate that the average cost for municipal kerbside collection is $187 per tonne, whereas the average cost for C&I collection is $26 per tonne. This differential reflects the difference in scale between small household pickups and larger commercial pickups.

31. Do the market value of resources figures quoted in Attachment C account for regional differences – i.e. material collected in Melbourne (for example) is more likely to be recycled (as distinct from collected) than material collected, for example, in far north Queensland, rural and regional NSW and outback WA and therefore has a higher market value. Is that difference in value reflected in the modelling?

As stated on page 124 of Attachment C, the market values for resources represent indicative prices that are paid for materials recovered from MRFs in capital cities across Australia. Regional differences have been factored into the analysis in terms of the collection and transport costs for transporting collected materials to capital city markets.

32. Based on the report, it appears that PwC have assigned a value for glass of $30/tonne for all other options other than CDS, despite acknowledged advice that O-I purchase glass for as much as $72/tonne. The report states that this more conservative price of $30/tonne was applied in the core cost benefit analysis, based on advice from WCS. How did WCS arrive at this $30/tonne figure?

The $30/tonne figure for co-mingled glass reflects the fact that a lot of glass that is collected through kerbside and public place recycling is contaminated and does not attract as high a price as glass conforming to recyclers' specifications.

33. For Options 4(a) and 4(b), the consultants have applied a 'price premium' of $100/tonne for glass collected through a CDS. Does this 'price premium' mean the modelling of the market value of materials for Options 4a and 4b were based on $130/tonne (i.e. $30 core + $100 premium) or does it mean modelling was based on $100/tonne (i.e. $30 core plus a 'price premium' of $70 per tonne).

We acknowledge that the 'price premium' terminology is slightly confusing. The value of glass collected through options 4(a) and 4(b) was $100/tonne in the analysis, not $130/tonne. The BDA report suggested a glass value of $70/tonne - including a price premium (p. 91). The $100/tonne figure was based on current prices received by SA CDS operators.

34. It should be noted that this price premium for glass is only paid in SA by one of the major glass manufacturers (in order to guarantee supply). It is unlikely that this 'price premium' would be paid nationally should a CDS be introduced, with a more likely rate the current $72 per tonne paid nationally for beneficiated glass. The consultants' assumption may therefore significantly inflate the market value of materials (glass) modelled under options 4(a) and 4(b).

The price premium for glass is based on estimates from an existing plant in SA, although it is arguable that this price premium is overstated as its objective is to guarantee security of supply rather than source separated glass. The price paid by O-I, referenced on page 124 of Attachment C, is likely to be more representative of the price premium for source separated glass.

Tables 1 and 2 present the preliminary analysis of the potential impact on CBA results from reducing the price premium on glass to $72 (i.e. $30 price for glass and an additional premium of $42).

Table 4 – Preliminary analysis of the potential impact on CBA results from reducing the price premium on glass (Option 4A)

	CBA results	Preliminary update of CBA	Difference (absolute)
Costs (PV, $M)	$2,125	$2,125	$0
Benefits (PV, $M)	$710	$668	$42
NPV	($1,414)	($1,457)	$42
BCR	0.33	0.31	0.02

Note: Totals may not sum due to rounding

Table 5 – Preliminary analysis of the potential impact on CBA results from reducing the price premium on glass (Option 4B)

	CBA results	Preliminary update of CBA	Difference (absolute)
Costs (PV, $M)	$2,471	$2,471	$0
Benefits (PV, $M)	$710	$668	$42
NPV	($1,761)	($1,803)	$42
BCR	0.29	0.27	0.02

Note: Totals may not sum due to rounding