



DEPARTMENT OF ECONOMIC AND SOCIAL AFFAIRS  
STATISTICS DIVISION  
UNITED NATIONS

**SEEA Revision  
Chapters 1-6**

**Comment Form**

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## **Global Consultation Comment Form**

### **Revised SEEA Chapter 1 - 6**

**Deadline for responses: 7 December 2011**

**Send responses to: [seea@un.org](mailto:seea@un.org)**

Your name:	Michael Vardon
Your country/organization:	Australia, Australian Bureau of Statistics
Contact (e.g. email address):	<a href="mailto:michael.vardon@abs.gov.au">michael.vardon@abs.gov.au</a>

To submit responses please save this document and send it as an attachment to the following e-mail address:  
[seea@un.org](mailto:seea@un.org).

The comment form has been designed to facilitate the analysis of comments. In Part I general comments on the general style, content and coverage of the chapter are sought. In Part II any technical and other comments should be included.

#### **Relevant documents**

Before submitting responses you are encouraged to read the accompanying papers available on the website.

*Revision of the SEEA: Draft Version for Second Round of Global Consultation, October 2011 – Chapters 1 – 6*

*Reading guide for the SEEA Revision Second Round of Global Consultation*

*Supporting material for selected classifications and lists in the revised SEEA*

## Part I: General comments

This is the first global consultation based on the complete set of chapters for the SEEA Central Framework. In this section please provide general comments on the drafts chapters. You may like to consider providing comments on the style and tone, the content and coverage, and the general accessibility of the material.

A number of Australian and state government agencies and academics have provided comments on the draft. These include the Bureau of Meteorology, Commonwealth Scientific Industrial Research Organisation, the Department of Agriculture, Forestry and Fisheries and the Victorian Department of Sustainability and Environment.

The comments received by the ABS and reported below have been overwhelmingly very positive, with the general readability of the document widely applauded. The structure is coherent and logically takes the reader through the components of the SEEA. We were particularly pleased to see that the comments made on the earlier drafts were addressed. Significant progress on SEEA Central Framework has been made since the drafts of the chapter 2-5 presented earlier in the year and the earlier outcome papers. The result is a high quality document.

A few general, recurring points were made, which could help readers, and particularly new readers of the SEEA, better understand the system. These are:

- The use of the terms "Volume 1", "Volume 2" and "Volume 3", or the "Central Framework" and "Experimental Ecosystem Accounts" needs to be defined and used consistently throughout. A suggestion would be to include an outline of documents up front or in 1.6.1, for example, a very simple table that lists the 3 volumes, their title, and a very short précis of what each covers.
- In addition, consistent references to other volumes of SEEA would clarify relationships between the different sections, such as including a reference to volume 3 in paragraph 2.74.
- The chapters are written as if each chapter is a "stand alone" document, so that when you read, for example, chapters 1 and 2, it is quite repetitive and chapter 2 repeats material covered in chapter 1. The redundancy is probably appropriate given that few people will read the document straight through. Having said that, chapters 1 and 2 will probably be read as a pair and hence some of the repetition could be removed.

There are also some general points related to the relationship to the SNA.

- The treatment of flows to diplomatic enclaves, military operations and students should align with the treatment in SNA. Economic population from a SNA perspective has special treatment for personnel on military operations overseas, diplomatic missions overseas, short term workers, tourists and students. Do we want to include exports and imports of environment products, goods and services to these population groups?
- Treatment of household production in physical & monetary supply use tables. SEEA refers directly to the allocation of household production for own use to the related industry. SNA 2008 does not refer to this treatment in a direct manner and the guidance in SEEA may unintentionally limit alternative presentations of the SUTs.
- The treatment of emissions trading in the SEEA should follow the IGWSNA decision on the treatment of emissions permits. The wording in the final publication should reflect this.
- There is probably a need to be stronger on consistency for the treatment of merchanting and goods for repair in the material flow accounts with treatment for goods for processing (which is a departure from 2008 SNA and should also be noted).
- The treatment of goods for processing in 2012 SEEA also diverges from BPM6. The proposed treatment recommends capturing the goods flow in and out of a country, whereas SNA/BPM recommends only capturing the service component. While the divergence is logical from a material flow account perspective, two other flows need to be considered for SEEA. Merchanting, trade in goods that don't cross the economic border, which are treated as negative exports of goods in 2008 SNA and BPM. Goods for repair, processing of damaged/defective goods for another economy, are treated in a similar way to goods for processing - where only the service component is recorded - these should be treated as goods in the SEEA to remain coherent.

A mix of substantive and editorial comments is noted in Part II of these comments. While the list of comments is relatively long, the comments mostly address minor issues and points for clarification.

There are some relatively minor issues for clarification and resolution of some of these could be deferred to the research agenda or to the development of the SEEA subsystems (e.g. SEEA Experimental Ecosystem Accounts, SEEA-Energy, SEEA Water, etc...).

## Part II: Technical and other comments

In the box below please supply any additional comments including those of a more technical nature. As this is the first consultation where the complete 6 chapters have been released, comments on the consistency of the technical content across the chapters would be appreciated.

Please reference your responses with the relevant paragraph number or section number.

## Comments by chapters

### Chapter 1

Paragraph/location	Comment
Chapter 1 – general comment	Better to use 'environmental - economic accounts' or 'environmental and economic accounts', but not both. The former is used predominately, but the latter appears periodically (eg paras 1.80, 1.81, 1.91, 1.93). Indeed the letter from the UNSD dated 26/10 uses both forms within the first two sentences.
	The chapter could benefit from some more diagrams illustrating the relationship between the various accounts – many readers are “visually” orientated.
1.17	The paragraph could be clearer that SEEA uses the residency basis in most circumstances.
1.28	'depletion' relative to what? Associated 'sustainable yield' of what?
1.41	As per the comment in Part I above, sometimes other SEEA account types are described but not referenced. Is paragraph 1.41 referring to SEEA Volume 3, as it seems to be describing an application of the accounts? Suggest including a reference.
1.43	Should make reference to the Vol 2 as it mainly discuss about the ecosystem
1.45	'Finer levels of geographic detail' – Than what, national level outputs? Perhaps need to say more explicitly that this means subnational levels, river catchments.
1.46	Suggest that the first sentence of paragraph should read "It is possible to place monetary values on flows of some ecosystem services" instead of "It is possible to place monetary values on flows of ecosystem services"
1.47	Consider revising. In particular the second sentence erroneously implies that there are parts of the environment that are not part of an ecosystem (at some larger scale). Are the "specific areas" referred to in paragraph 1.47 spatial or geographic areas? Or themes? The terminology should be made clearer here.
1.51	Could be clearer. Perhaps paras 1.51 to 1.54 should be dot pints under 1.50.
1.62	Include '...risks to sustainability and / or security (e.g. water and energy)
1.86	A broader explanation of SEEA vol 3 would be appropriate.
figure 1.3.1	There should be circular arrows to represent products movements within the economy. Only one facing left at present.

## Chapter 2

Paragraph/location	Comment
2.5	Would be helpful if this para matched more closely with para 1.21
2.11	It is unclear from Chapter 5 what SEEA is recommending to statisticians concerning reporting on the asset and production accounts for forests. If cultivated forests are considered to be relatively unmanaged land and aggregated with natural forests, are the goods produced considered to be 'outside the economy'?
2.39	The PSUTs would have significantly more policy relevant information if government enterprises engaged in wood growing were able to be dis-aggregated from non-government enterprises.
2.88	First sentence. Natural inputs could be '.directly incorporated...'. should also allow for indirect incorporation.
2.92	4th sentence, 'physical flows from' change to 'physical flows form'. (vice-versa???)
2.94	Same comments as above concerning 'depletion' and 'renewable resource'. See comment in Chapter 5 on the recoding of depletion for minerals (Section 5.5.5)
2.138	'horizontal double entry accounting' is mentioned but not explained. Some material on this should be added, similar to the way 2.133 explains 'vertical double entry accounting'.
2.50 to 2.57	Paragraph 2.50 and 2.57 could include something about changes in the quantity or value of stock due to seasonal or climatic variability (i.e. "seasonally adjusted" e.g. drought or fire affected ecosystems). Not sure if this is technically regarded as a "reappraisal" or an "adjustment".
Table 2.32	Should table 2.32 have a grey cell for supply of residuals from the environment?

## Chapter 3

Paragraph/location	Comment
Chapter 3	
3.45	'Natural resource inputs comprise physical inputs to the economy from environmental assets defined as natural resources. Thus natural resource inputs comprise inputs from mineral and energy resources, soil resources, natural timber resources, natural fish resources, other natural biological resources and water resources. Natural resource inputs exclude the flows from cultivated biological resources.' We suggest you add a sentence to this paragraph for clarification, along the lines of: 'Cultivated biological resources are produced by economic activity and hence are not flows from the environment.'
3.194	Related to the general comment in Part I on household production. The suggested treatment hides flows of great policy interest. Some form of words needs to found to say that household own-use can be shown separately. It is certainly not the current practice not to add household own-use to the water supply industry (and is not what is outline in the SEEA-Water)
3.213 and 3.214	<p>These paragraphs on urban runoff say that these flows should not be shown in the supply use table as it is not used in production. The same would be true for mine dewatering, but this would be recorded as a natural resource residual. Urban runoff would seem to be like mine dewatering in that while the water is not used in production, it has to be moved in order for production process to take place (e.g. transport of goods and services). As such, it does flow through the economy; even if the water itself is not used in production, it has to be moved for production to take place.</p> <p>As such, we suggest the paragraph is altered to be consistent with paragraph 3.261 where emissions related to urban run-off are allocated to the sewerage industry (why would there be a difference in the treatment of the emissions contained in the water compared to the water itself?).</p> <p>It is also noted that this treatment of urban runoff is a departure from SEEA-Water and, as such, the issue could be dealt with in the planned revision of the SEEA-Water, rather than in the Central Framework.</p>
Para 3.215.	Water incorporated into products is now separately shown. This is shown as supply against the industry producing these products, but the use is shown in a single space - a new accumulation column. This is not strictly right as these products are often (may be usually) consumed by industry or households in the year they are created. May be a sentence noting this could be added.
3.215 to 3.223.	These deal with the defining hydrological water consumption (formerly just water consumption). It also adds an additional consumption identity called economic use of water. The second is created to line up with national accounting notions of consumption. We do not mind it, but cannot see an obvious use for it.
3.257 to 3.266	Para 3.257 to 3.266 cover the water emission accounts. The terminology of gross and net emissions is not used, but the concept as described in SEEA-Water is described in paragraph 3.265. The diagram from SEEA-Water could aid the description of this.

## Chapter 4

Paragraph location	Comment
Chapter 4 – Title	'Monetary flow accounts' is probably not the right title for this chapter. It is about EPEA and EGSS. The title may mislead readers to think that this is a continuity of the previous chapter such as putting monetary value for the physical flows that were mentioned in Chapter 3.
General comment	We note there are many conceptual and practical complications with compiling EPA, RM and EGSS accounts. Interpretation by compilers, users and policy-makers must be made carefully. It may be worth explicitly stating that these accounts are not designed specifically to indicate improvement of the environment. Increases may reflect things are getting worse or better. A similar statement is made in para 4.140 regarding environmental transfers.  On this there could be more references to compilation guidance (e.g. from Eurostat)
General comment	We suggest the inclusion of text on the compilation of resource management (RM) expenditure accounts in Chapter 4 for completeness and the mechanism for capturing expenditure on climate change activities.  This could help to address the provision of Environment Goods and Services Statistics where much of the current (and likely to be future) policy debate is on climate change, energy savings and renewable energy sources all of which falls into the resource management expenditure account, which isn't mentioned in the Volume 1 of SEEA  This could also provide some clarity for allocating environmental activities to environment protection expenditure account by primary purpose.  For policy application in Australia it would be better to have a total environment protection and RM expenditure aggregate.  The RM account would use the same format as the EPE accounts with a different primary purpose.
4.1	Use of environmental and economic accounts (should be environmental-economic accounting)
4.31, 4.64, 4.75 - 4.79, 4.100	Is there a test for the recognition of 'Adapted goods, often known as "cleaner" or "environmentally friendly" goods (for example, energy efficient washing machines, and glass bottles made from recycled glass)'. The current open ended definition (Para 4.100 seems to be the only section that discusses this issue, albeit without sufficient testing framework re cleaner and resource efficient goods) and non-existence of a recognition test would lead to subjective interpretation or even data manipulation, as incumbent would have incentives to recognise as much green goods as they can. Reference could be drawn from SNA, such as the test for what is a financial lease etc.
Section 4.2.4 4.26 to 4.29	We note that the version of the CEA included in this draft of SEEA is different from the version of the classification sent recently for discussion in the classifications expert group. This could create some confusion in countries (it did at the ABS).  ABS comments on the CEA provided via the classifications expert group are attached as an annex and also form part of our comments on the SEEA Central Framework.  It would be useful if there was some more consideration of the coherence in waste statistics and Classification of Environment Activities  There should be some mention of an alignment of the physical (residual) flows with monetary flows, which are likely to be EPE.  There should be some consideration of how the current physical supply-use table can be mapped to a previous version, which focuses on the stages of waste generation and recovery (was table 3.3.4 in previous draft from 18 March 2011) as this has better alignment with waste data and concepts.

<p>Section 4.2.4 4.26 to 4.29 Cont...</p>	<p>Private R&amp;D for environment protection and resource management activities need to be classified to capital formation to be coherent with SNA. This could potentially be treated incorrectly under existing guidelines. Treatment of environmental R&amp;D needs to be coherent with SNA (or noted as a departure).</p> <p>ABS suggests that there should be some recognition that within R&amp;D for environment activities, private R&amp;D should be attributed to capital formation by specialised producers and other producers, and final consumption expenditure by government and related entities (e.g. higher education).</p> <p>Table 4.2.2: Are class 12 aquatic resources and class 14 water mutually exclusive? Also, Is water meant as 'freshwater'?</p>
<p>Para 4.31, 4.64</p>	<p>The term 'environmentally beneficial' is used freely. However the determination of what is genuinely beneficial to the environment is very complex and contestable. What is best will depend on many factors, including the characteristics of the environment in which the account is being compiled. Countries with water scarcity will utilise designs and products that help to relieve that pressure, sometimes at the cost of another aspect of the environment (as is the case with desalination for example).</p>
<p>Para 4.31:</p>	<p>General comment - use of recycled glass as an example of 'environmentally friendly' may not be ideal - is the energy, chemicals, water etc used to gather, clean, melt and reconfigure collected glass helpful or harmful to the environment? Simplistically it may sound helpful but on closer inspection, and after life cycle analysis it may not be.</p>
<p>Para 4.100 dot point ii).</p>	<p>The inclusion of desalinated water is an interesting choice. While desalinated water improves freshwater supplies, it uses vast amounts of energy. This nexus between energy, water and climate is problematic, and generally relates to big ticket expenditures. Therefore inclusion or exclusion can alter the EGSS accounts considerably.</p>
<p>Table 4.3.5, Para 4.115</p>	<p>These refer to 'connected products'. However this term is not defined/used in para 4.99, instead the term 'environmental sole-purpose products' is used. For consistency and clarity, one term should be defined and then used subsequently.</p>
<p>Table 4.3.6</p>	<p>'Area of difference' column heading doesn't work for the row 'coverage of types of environment goods and services' where there is no difference between EGSS and EPEA. Maybe just Area.</p>
<p>Para 4.173:</p>	<p>Second sentence - is sustainable yield usually the only criteria or is it just one of the criteria in determining limits?</p>

## Chapter 5

Paragraph/location	Comment
Chapter 5 - General comment	While the SEEA Central Framework primary intent is not to provide compilation guidance on the application of the proposed techniques, some reference to compilation guidance could be usefully added to this chapter and others too.
5.25	From a research and policy perspective, separately linking the natural forests and cultivated forests asset accounts to their separate production accounts is important. It supplies users with highly relevant information that links wood products back to their growing regime and, therefore, enables highly policy relevant information in both the economic and environment domains. Achieving this will take time: pragmatic criteria to classify forests (see 5.350) need to be worked through and processes implemented to report wood products' production by grower regime.
5.27	If the natural forest/cultivated forest classification is adopted because of its economic and environment policy relevance, then 'level of management' as a criteria for classification should be replaced with criteria based on the capacity for natural forests to regenerate with little human assistance and the degree forests are established through planting.
Section 5.4.2 5.75 to 5.93	The section of defining depletion in physical terms is much improved from the previous draft. There are still some reservations, but have no obvious way to improve the conceptual basis for depletion or the text provided
5.76	Perhaps this para could provide some detail on the 'refinement' for resources like timber.
5.77	It is difficult to understand what 'same economic benefits to be earned' means without clarifying 'depletion'.
5.82	Here 'sustainable use' is being applied to animals and plants. This is different to timber, which is a component of a tree where the nature of demand and supply works to change the size of the tree.
5.83 Figure 5.4.1	Without clarifying 'sustainable yield' of timber in natural forests, this graph is difficult to understand in a forest context. Note also that the growth curve for a regenerating natural forest (m <sup>3</sup> of wood or carbon on the Y axis) is exponential.
5.167	If volume measures of assets are changes due to changes in estimated quantities and quality (i.e. effect of price change is removed), how is 'quality' defined in the case of the changing mix of log grades from natural forests and cultivated forests when a combination of supply and demand factors is at work?
Section 5.5.5 5.223 to 5.230	<p>This is the text on depletion of mineral resources and the split asset approach (Chapter 5, Pages 213 and 214, paragraphs 5.223 to 5.230, table 5.5.5)</p> <p>It is noted that the treatment of depletion of mineral and energy resources proposed in the SEEA Central Framework is different from SNA 2008. It is acknowledged that SEEA can be different to SNA, but we do not want it to be unnecessarily different. It is also acknowledged that the issue raised in the paragraphs below has not previously been raised in the process of the development of the SEEA Central Framework.</p> <p>The suggested adjustment of extractors' accounts for depletion may not be the best reflection of the economic activity of extractors for the SNA. While it is true that extractors exploit a resource rental, which includes depletion, they will mainly behave with respect to what they actually have to pay for that resource rental.</p> <p>Thus the costs to extractors are confined for what they have to pay for extraction rights, such as royalties and taxes, and the costs of exploration (either incurred by them or purchased from another entity). Ideally, the depletion component of the resource rental should be recovered by the owners of the resources in the form of royalties and taxes. If it is not, then that is an issue for the resource owners, whose net worth is diminished by depletion but not compensated by payments.</p>

	<p>From this we suggest that the situation may be better represented by two assets: (1) the right to extract and (2) the resource. Allocating depletion compensation costs and depletion between the extractors and the owners may better reflect the economics of the situation and avoid the need for splitting the depletion of physical assets between extractors and owners, irrespective of the legalities of ownership.</p> <p>If the "two asset" approach is followed rather than the "split asset" approach, then it follows that the notions of depletion adjusted GVA, GOS, and Saving are not meaningful. The depletion adjustment is a hit on net worth in the form of other volume change, not a hit on income.</p> <p>This is related to para 1.89 of the draft SEEA notes that there are two "distinctions" between SNA and SEEA...</p> <p>(a) scope of physical flows (SEEA somewhat broader) as a result of a different asset boundary, and  (b) "incorporation in SEEA of depletion as a cost against income earned from the extraction of natural resources rather than as only a reduction in the value of natural resources".</p>
5.248 to 5.258	<p>The text on land use classification is much improved and the guidance provided on the treatment of forest (land cover) used for maintenance and restoration of environmental function is a welcome addition.</p> <p>Continued work on the underlying classification of FAO should provide further clarification and remove the anomaly previously identified.</p>
Section 5.6.3 5.265 to 5.271	<p>Accounts for land: It would be useful to include an account for land according to land cover, which would also be a template for the land use. This would be similar to table 5.6.6 (the account for forest land).</p>
	<p>Clarity on the treatment of forests.</p> <ol style="list-style-type: none"> <li>i. Strong collaboration with the FAO on the classification of forests is recommended due to the importance of old-growth forests as a source of avoided emissions in any carbon accounting. An ecologically based classification is a preferred model for forests.</li> <li>ii. Clarity around the production boundary for forests is needed in the SEEA.</li> <li>iii. Clarification around the economic boundaries for emissions from forests is needed within SEEA.</li> </ol> <p>There should be some consideration to including a few paragraphs on the relationship between chapter 2 and chapter 5, as well as the links to ecosystem services in Volume 2.</p>
5.253	<p>From an ecosystem perspective, cultivated forests align with agriculture and natural forests align with the natural environment comprising self-regenerating ecosystems. With limits on agricultural land and increasing demands for food and fibre (including wood), incorporating cultivated forests with agriculture is highly policy relevant.</p>
5.277 -5.280	<p>The separations and definitions for natural forests (including primary forest and naturally regenerating forest) and cultivated forests is a major improvement on the area/heath/canopy cover criteria.</p> <p>From a policy perspective, there is likely to be great attention on the extent of primary forests (maintaining them is akin to avoided emissions) and 'naturally regenerating forest' and its carbon carrying capacity (i.e. atmospheric CO2 removal potential of regenerating forests). The quality of this information will be enhanced by splitting 'naturally generating forest' into natural forests and plantations, as far as pragmatically possible and to allow for continuous improvement. [Natural forests have a higher carbon carrying capacity than plantation forests and plantations are becoming more important in wood supply.] Collaboration with the FAO is important.</p>
Section 5.7 5.313 to 5.336	<p>We are very pleased to see the inclusion of accounting for soil resources and the incorporation of material supplied by soil experts in response to earlier consultations. The section is brief, but technically sound and provides very good guidance for those wishing to pursue these types of accounts.</p>
5.327	<p>Missing word: "point time" should read "point in time".</p>
5.350 (and other paras)	<p>Ecologically determined criteria, rather than the proposed management activeness criteria, are preferred to classify forests. Here the challenge is to find workable criteria for classifying land according to its self-regenerating capacity – i.e. longevity as functioning ecosystems and therefore carbon storage capacity.</p>

5.353	Reporting timber resources from forests not available for timber supply is necessary for reconciling physical and monetary asset accounts. There may be an unintended consequence for SEEA with its attempt to generate environment-economic information to assist in building more sustainable economies. Without a biodiversity account, information on stocks of timber resources in forests not available for timber supply may lead to increased attention to capitalising on these resources.
5.362	Here 'depletion' is defined as the amount of timber that can be harvested without eroding its 'productive potential'. Effectively this is saying there is no difference in the sustainable yield for a natural forest and a cultivated forest (plantation). Perhaps in defining 'depletion' a comment is required that clarifies this and that sustaining 'timber' may be very different to sustaining natural forest ecosystems and their biodiversity.
5.387	<p>The Central Framework is appropriate for recording the stocks and flows of carbon stored in wood products. It requires applying wood density factors to wood products tracked through their life cycle. It could also be linked to land cover accounts (ie not just carbon in timber resources). This could be mentioned as a potential extension here or elsewhere.</p> <p>The papers on carbon accounting presented at the Expert Meeting on Ecosystem Accounting (London, 5-7 December 2012) address the broader accounting issues for all carbon stocks and flows, not just in natural forests and cultivated forests. May be some of this material from this could be used. Generating policy relevant information from carbon accounting requires an ecologically grounded framework and is significantly more challenging than applying scaling up factors (See also comment on paragraph 5.390).</p>
5.389	Yes, carbon remains bound in wood products until burning or decomposition. Carbon will be released when natural forests and cultivated forests are harvested (over and above how timber extractions are accounted for). These emissions won't be reported in the SEEA Central Framework because it is constrained to a timber account not a carbon or biodiversity account. This is a boundary issue that should be clarified.
5.390	<p>The challenge is not just data generation, but also the conceptual framing for generating policy relevant information. The last sentence is over-stretching: at a broad level the stock and flows framework is highly relevant, but important decisions are required for building a carbon stocks framework and integrating it with flow accounts.</p> <p>The comment on paragraph 5.387 is also applicable here. Some more material could be usefully be added to this paragraph or maybe additional paragraphs.</p>
Section 5.9 5.391 to 5.457	<p>This section is quite thorough in a theoretical sense and the methods proposed are robust from an economic perspective. The main sections that are relevant to economics are sections 5.440 — 5.457.</p> <p>The authors point out some of the key assumptions used in the valuation, and the potential problems associated with basing valuations on those assumptions. A key assumption is stated in 5.450 where it is noted that the market for quotas is rarely perfect, meaning that any market price taken as a basis for a net present value calculation may not truly reflect the discounted value of the resource.</p> <ul style="list-style-type: none"> <li>▪ There are several reasons the market may not be perfect in the fisheries context: for example there may not be 'free entry' or 'transaction costs' may exist. The significant physical (vessels, gear etc) and human (expertise, experience) required mean that there are significant barriers to entry. Transaction costs may also exist, for example, (value of time spent advertising/exchanging, and cost of customs duties etc associated with the trade).</li> <li>▪ There does not appear to be an easy way to address these issues, but they may require recognition.</li> </ul>
5.446	There are several potential data issues recognised, but one that may require some focus is the market values of quota and licences. In point 5.446, it is recognised that there is no observable market valuation for access rights that have been granted, but where trading is prohibited. It should be noted that the existence of many more licences, even if legally tradeable may not have an observable market valuation, because the market may not be very liquid, the use of non-standard trading arrangements. This applies for both licences and quota.
5.464	We have a concern with the expression in para 5.464. Kangaroo harvest is legal but it might seem otherwise to some readers. A form of words should be adopted.
Appendix A5.1 - NPV	<p>The Draft acknowledges that NPV is a 3rd best solution to asset valuation (after direct market observations and perpetual inventory methods). This is because of the required assumptions in the calculation.</p> <p>One of the key assumptions is the discount rate. The results of NPV calculations are particularly sensitive to the choice, especially when used over intergenerational time frames. Academic debate following the Stern report on climate change seems to have settled on an uneasy consensus that intergenerational discount rates should be "low", and not at short(er) term market discount rates.</p>

## Chapter 6

Paragraph/location	Comment
General comment	<p>The chapter provides a useful summary of ways to integrate and present accounts. ABS and other readers found it very useful and easy to follow.</p> <p>Tables 6.5.1 and 6.5.2 were particularly useful.</p>
Combined presentations for forest products 6.5.5	<p>Comments on Table 6.5.4 (p. 321):</p> <ul style="list-style-type: none"> <li>▪ Types of timber resources could be expanded to primary forests, naturally regenerated forests and planted forests and other wooded land (consistent with Annex A5.4 Land use classifications UN Framework Classification for Fossil Energy and Mineral Reserves and Resources 2009).</li> <li>▪ Intermediate consumption and final use information could be disaggregated by forest type. This would increase the SEEA's policy and research applications.</li> <li>▪ Carbon captured in forests – a very useful set of information but, as noted in comments on chapter 5, requires accounting methods to be worked through. This is a task requiring more than application of scaling up factors to log volumes extracted.</li> </ul>

**General comments on Classification of Environmental Activities**  
**Graeme Brown – Australian Bureau of Statistics**

1. The biggest issue with the Classification of Environmental Activities (CEA) is that it tries to cover a wide scope of activities, with these activities having decreasing relevance to environmental issues (the conceptual basis of the CEA). The Environmental protection Group is clearly classifying environmental activities, and is fine. The Resource management Group could, at a stretch, be considered to contain environmental activities, as the focus of the listed activities is on efficient natural resource management. But I would prefer these not be included in the CEA. The Resource Use Group is clearly not classifying environmental activities and it is inappropriate to include this group in the CEA.

There appears to be two options to address this issue:

- (a) split the classification into three separate classifications, one for each group. This would enable a clear conceptual basis to be defined for each classification; or
- (b) rename the classification (something like Classification of Environmental Activities, Resource Management and Resource Use) and make it clear that it is based on three different conceptual bases.

Option (a) is the preferred approach.

2. In many of the Explanatory notes/Examples the phrase "...measures and activities aimed at ...". These measures and activities could have multiple aims, one of which could be the environmental activity referred to. But this could be a second or third order aim of the activity, and with the current wording would still fall within the Group/Class. Propose this be changed to "...measures and activities primarily aimed at ...".

There is also inconsistent terminology used around this phrase. Sometimes "encompasses", sometimes "comprises". Sometimes "measures and activities", sometimes "activities and measures". Unless there is a different meaning, keep terminology consistent.

3. In Class 2.4, extra cost is mentioned in the Explanatory notes/Examples. This is not only unnecessary, but could add to confusion. I have heard this classification referred to as the Classification of Environmental Activities and Expenditures, which is clearly incorrect (the classification is of activities, not the expenditure on those activities; which presumably would be classified according to monetary ranges). But the mention of "extra cost" or "expenditures" in the Explanatory notes/Examples may lead the unwary to this erroneous conclusion.
4. There are many references to CEPA (12). These should be CEA.

5. The Resource Management Group is a poor title. Resource management in general includes the management of non-natural resources and for a whole raft of reasons (e.g. for economic benefit). The activities listed clearly do not include non-natural resources and focus on the environmentally efficient management of natural resources. So my proposed title would be “Environmentally efficient natural resourcemanagement”.
6. Similar to 5) above, the Resource use Group is a poor title. Resource use in general includes the use of non-natural resources. The activities listed clearly do not include non-natural resources. So my proposed title would be “Natural resourceuse”.