

## Eurostat editorial and wording comments on SEEA draft chapters

9 December 2011

*NOTE: Eurostat fully supports the current SEEA text. The following comments are detailed editorial and wording comments. In general, Eurostat is fully aware of the intended meaning but has deliberately chosen to comment from the perspective of a new reader so as to help enhance clarity of the final text. To facilitate the work of the editor, simple typos are listed as well.*

### General comments

**Title of SEEA:** We really need to decide what the book is called. On the top of the contents page we have: "System of environmental-economic accounts" (with a hyphen and "accounts") and then "5.2 System of Environmental and Economic Accounting" (with "and" and "-ing"), all this under the auspices of the UN Committee of experts on Environmental Economic Accounting. Suggestion: we have a slight preference for calling the SEEA the system of environmental and economic accounting.

The term '**central framework**' is sometimes capitalised, sometimes not (e.g. in paras 2.54 or 2.109) – align across the book. Suggestion is not to capitalise anywhere.

There is a wider question whether SEEA part 1 should really be called 'central framework'. Part 1 will be a standard (or statistical framework). Part 1 will be a satellite to the SNA. The SNA calls itself the central framework – chapter 29 of the SNA is full of this term making clear that the central framework is the SNA so the SEEA Part 1 is an extension. Suggestion: call the SEEA part 1 the 'core accounts' or 'standard framework'.

**CEA** In chapter 5 (Para 5.9) CEA means Classification of Environmental Assets, while in Chapter 1 (para 1.99) and Chapter 4 (para 4.29 *et seq*) CEA means Classification of Environmental Activities. Neither of the two has the international status that the text suggests by using capitalisation and such an abbreviation. Suggestion: remove the capitalisation for all occurrences and in particular in para 5.9 and call it 'a' (not 'the') classification. Make clear in para 1.99 and in Chapter 4 that the CEA is not an international standard. (Alternatively, call the classification of environmental activities the 'classification of environmental protection and resource management activities'.)

**SEEA part 2 – ecosystem accounts:** there are numerous statements in several chapters about what SEEA Experimental Ecosystem Accounts will contain. Is this wise when we do not have a draft and this has not been discussed in detail in UNCEEA? Strongly suggest reducing the detail of these statements.

## Chapter 1

### Comments on structure

**The 3 parts of SEEA.** On the first page of chapter 1 (or in an introduction) it should be made clear that the SEEA consists of 3 parts. Currently, this is only explained starting with para 1.84, and again in para 1.102 sq. A much earlier explanation is necessary to avoid confusion, including in the following places:

- Paras 1.07 and 1.13 suggest eco-systems are covered by the SEEA in the same way and in the same places as e.g. physical flow accounts
- Para 1.46 introduces the SEEA Experimental Ecosystem Accounts and para 1.23 and 1.47 mention the central framework but the reader has not received an explanation that the ecosystem accounts are not part of the central framework (as indicated this explanation only follows much later - in para 1.84 sq).
- There is a slight logical inconsistency in the Chapter in that the SEEA is explained twice (on page 1 = section 1.1) and on page 23 (=section 1.61), and also that the structure of the 3 parts is explained twice (in paras 1.84-1.86 and in paras 1.102-1.104).

Suggestion is to move the text of paras 102-104 into section 1.1, adapt the title of section 1.6, adapt and shorten the text of paras 184-186. The other elements do not need to be changed.

**Definition and role of 'own-account activity (production etc.)'**. It seems that in the SEEA the term 'own account activity' is wider than in the SNA. This is emphasised especially in chapter 4 and for the energy accounts where the term 'own account' is used to mean activities the SNA calls own account as well as activities the SNA calls ancillary as well as activities internal to establishments which the SNA would not separate out at all.

In the current text, especially in chapter 2, this distinction is however not made explicit. This leads to some uncertainty as to what the text exactly describes in different places.

In particular, paragraphs 2.118 - 2.121 seem to introduce the wide meaning of 'own account' activities. Para 2.142 then uses the term 'own account consumption' without being clear whether this is the SNA or the wider meaning. Para 2.148 speaks about goods and services produced and used on own accounts. Paras 3.64-3.67 explain largely the same as paras 2.118 - 2.121 but seem to follow much more strictly the SNA meaning, so that 'own account' seems to have the narrow SNA meaning here. In the energy accounts (para 3.160 and others) the own account production and use of energy products seems to refer quite clearly to the wider meaning for the physical flows but not for the monetary flows. For Chapter 4, para 4.36 explains the SNA and SEEA meanings. Para 6.32 suggests that the wide meaning of 'own account' only applies to chapter 4. Para 6.85 suggests that the wide 'own account' is also captured in physical flow accounts but without affecting the monetary accounts.

Also the valuation of own account and of non-market output is not fully clear mainly with regard to an inclusion of a net operating surplus. Compare paras 2.142, 2.148 and 4.84. (see also the comments on para 2.142 below.)

The SNA and SEEA meanings of 'own account activity' should be made more explicit in paras 2.118-2.121. The occurrences of the term 'own account' should be checked for clarity (where needed, the SNA or SEEA meaning should be indicated).

### Other comments

Paras 1.1 -1.9 and in particular 1.12 and 1.14 (first bullet point) claim the SEEA describes the composition and state of the environment – that is a bit broad and usually understood to include air quality or water quality (as the SEEA text states later, e.g. in para 3.32). In the chapter 1 text it remains unclear exactly what part of SEEA describes the 'state of the environment'. In general, it would be better to delete 'state of' whenever possible. The whole first bullet point of para 1.14 – which also includes 'state of the economy' where again it is not quite clear what this is in the context of the para - should be deleted.

Para 1.32 – last sentence states that the valuation of the full range of environmental benefits is incorporated in ecosystem accounts. This would claim that both all SNA environmental benefits and all non-SNA benefits are valued in the ecosystem accounts. The second claim can most probably not be met. The last sentence should say something like '...ecosystem accounts...include a range of environmental benefits that go beyond the SNA valuation' (See also para 1.103 which states that the Experimental Ecosystem Accounts describe the '...broader valuation of ecosystems and the environmental assets within them.' Furthermore, see para 2.104 which speaks of '...a broader range of benefits..')!

Para 1.33 states: 'In monetary terms, monetary supply-use table....However, there is a range of other monetary transactions....grants from government' The second 'monetary' is unnecessary and the third 'monetary' is incorrect as it would e.g. rule out that grants given by governments can be in kind. (Note the SNA makes clear that "Non-monetary transactions are transactions that are not initially stated in units of currency.") Suggest deleting the 2<sup>nd</sup> and 3<sup>rd</sup> appearance of 'monetary'.

Para 1.48 – first bullet includes: 'Asset accounts in the Central Framework focus on the individual components and can be extended to describe the interaction between the economy and the environment'. The meaning of this phrase is not clear – is this in fact an introduction to the bullet points that follow (in which case it should not itself be in a bullet point)? Also, the sentence does not make clear whether the extension is part of the central framework or not - See also comment at the beginning of this document.

Para 1.51 to 1.54: these should all be bullet points coming under para 1.55.

Para 1.99 implies that the CEA is an international standard (especially if read together with para 1.100). Please align with the text in the Classification annex where it is explained that only the CEPA is an international standard.

Typos, editing etc.

Para 1.25 ...'to included consideration'... (??)

Para 1.26: the last sentence de facto states that nutrients are not specific flows – the sentence should be rephrased – the term 'specific flows' and the brackets should be removed.

Para 1.102 – typo in last sentence 'needed for to present'

Para 1.103 – first sentence somewhat hard to read: 'The SEEA Experimental Ecosystem Accounts is not a statistical standard but rather describes a range of best practice approaches to the measurement of the condition and health of ecosystems through the changes in the capacity of ecosystems to deliver ecosystem services and the flows of material and non-material benefits between ecosystems and the economy.' Suggest splitting this into 2 or 3 sentences.

## **Chapter 2**

General comments

It remains somewhat unclear what the relationship between the accounting framework (title of chapter 2), the SEEA framework (title of section 2.2.) and the SEEA central framework (title of section 2.3) is. Probably, these are three different things but the text does not explain this.

Other comments

Para 2.12: the '..natural resource inputs and inputs absorbed by the economy..' should read: '..natural resource inputs and **other natural** inputs absorbed by the economy..'

Para 2.14 : the footnote should refer to '..solid waste collected in **controlled** landfill sites' as the statement is only true for controlled landfills.

Para 2.16 states: 'The use of natural inputs by the economy is linked to reductions in the stock of environmental assets that generate those inputs.' As the natural inputs include air and solar energy, it would be better to state that 'The use of natural **resource** inputs...'

Para 2.51 states that reclassifications are 'differences in definition or composition of the asset' – this should be rephrased e.g. to 'changes in the category'.

At the end of the para the example given is a change 'in land use between agriculture and urban area' Urban area is not a category of the land use classifications shown in the SEEA. Change to 'in land use from agriculture to built-up land'.

Table 2.3.4: the 'emissions from landfills' should read 'emissions from controlled landfills'

Para 2.59: same comment as the one on para 1.33: delete the 2<sup>nd</sup> and especially the 3<sup>rd</sup> occurrence of ‘monetary’.

Para 2.70: includes the term ‘environmentally related transactions’ and links this term to activities and products. The term means in chapter 4 payments of environmental taxes, subsidies etc. and is unrelated to activities and products. Therefore, please replace the term by ‘identifying these transactions’.

Para 2.71 also speaks of ‘environmentally related transactions associated with environmental activities’. Here, it is suggested to delete the ‘environmentally related’ so that the ‘ transactions associated with environmental activities’ remain.

Para 2.81. The 3<sup>rd</sup> sentence starts with ‘This linkage could, in principle, be examined...’ and then brings the example of emission accounts. The ‘could, in principle’ seems to imply that this is rarely done. As the opposite is true, it is better to say instead ‘can’.

Para 2.106: the table does not really add to the text in paras 2.105 and 2.107. The labels in the table are not clear. Suggest deleting the whole para.

Para 2.126: The last sentence comes too early (presumably it talks about supply-use tables but these are only introduced in the next para) – should be moved to the next para and adapted to that text.

Para 2.129: Para does not make clear the difference between this ‘more active role alternative’ perspective and the ‘supply-use perspective’ of paras 2.127 and 2.128 where the environment is passive. Perhaps, the source of confusion is the first sentence of para 2.129 in that the difference does not refer to how active a role the environment plays but rather to the types of units that are distinguished? Suggest re-phrasing first sentence and delete ‘active role’. Alternatively, the difference should be better explained using e.g. wording from para 3.33 which indirectly hints that the environment will be a producer in the eco-system accounts.

Para 2.138: introduces ‘horizontal double entry accounting’ – this term is not explained. Only vertical double entry accounting is introduced in 2.133. Please review the need for this vertical and horizontal terminology and remove or explain.

Para 2.148: there are perhaps some small mistakes here. In the SEEA we have defined ‘own account’ in a much wider sense than in the SNA, so the statement that ‘own account and more generally non-market production’ is valued at costs of production is a bit imprecise but largely correct if it means to include ‘SEEA own account production’. However, to state that ‘Following the SNA, such production should be valued ...(with a mark-up).....’ is wrong. The text should be clearer on:

- what exactly the SNA requires for SNA own account (namely to use either market prices or add an appropriate mark-up to allow for a net operating surplus for market producers but no such mark-up/return to capital for non-market producers)
- what is done for the SEEA own account where by a deliberate extension of terminology we add in ancillary activities (namely that this ancillary output is valued at sum of costs, without a mark-up/return to capital)

- what exactly the SNA states about non-market production of government and NPISH units (i.e. not to make a mark-up for NOS). In other words, the ‘net return to fixed capital’ in the last sentence of para 2.148 does not apply to ‘non-market production more generally’ but only to own account production by market producers in the SNA sense.

See SNA 3.135 and SNA 6.94. Compare text also to SEEA para 2.142 which is more correct than para 2.148.

Note: the exact valuation of own account output in Chapter 4 is not explained so Chapter 4 remains silent whether a mark-up or a return to net capital need to be included – see our comments on chapter 4.

### Typos, editing, etc.

Para 2.5 typo: (ii) should be ‘the stocks...’

Para 2.11 typo in ‘plantations forests’

Para 2.92: typo in 3<sup>rd</sup> sentence: ‘..flows from three distinct..’

Para 2.109: typo (grammar): economic units who ....and that are able?

Para 2.121: last sentence needs correction (‘As in the SNA, where the activity is of significance its activity is recorded together with that of other units...’

Para 2.123. Typo in (ii): ‘and other nation’s water’ should be ‘and other nations’ water’?

## **Chapter 3**

### General comments

#### **Inputs from renewable energy sources**

In the SEEA, this term covers only the energy supplied from non-fuel natural resources, i.e. it excludes all wood from cultivated forests, agriculture-based biofuels, animal wastes, biogas from sewage sludge, municipal waste etc.

According to the International Energy Agency renewable energy sources includes biofuels (wood, biogas, part of municipal waste...). According to IRIS, renewable energy includes wood, animal waste, biodiesel, biogas and (municipal) waste.

Para 3.57: The heading ‘inputs from renewable energy sources’ just above para 3.57 is hence somewhat misleading. A reader would assume biodiesel, biogas or timber from cultivated forests is included among renewable energy sources.

Table 3.4.1 (just after para 3.152): The two corresponding headings in Table 3.4.1 read:

- inputs from renewable energy sources (in the supply table)
- non-fuel energy inputs (in the use table)

Both these categories have a last sub-category that states:

- other heat and electrical energy

The two headings should be aligned.

Please compare also to paras 3.142 and 3.143.

Suggestion is to clarify the coverage of the term 'inputs from renewable energy sources' at the end of para 3.57 e.g. add the following: ....'nor does it include timber from cultivated forests or any other energy from biomass.....' In para 3.142 it should also be made clear what is not covered.

The role of waste as energy source should be clarified somewhere in the section on energy accounts (see specific comments below).

It should also be made clear in the text that table 3.4.1 does not really balance and by which components (i.e. by all energy sourced solely from domestic cultivated biomass or waste, energy from waste that does not appear to be supplied even in the product part).

### Specific comments

Paras 3.7, 3.8 and 3.9: in each para, please delete 'monetary' from 'monetary transactions' as the SNA clearly defines monetary transactions. The SEEA text is about both monetary and non-monetary transactions here.

Para 3.18: delete 'physical' before supply and use approach.

Figure 3.2.1: The phrase 'Residuals collected in economy (e.g. landfill)' is misleading. Either the figure wants to highlight the storage of residuals in controlled landfills. Then the phrase should read 'Residuals stored in economy (e.g. controlled landfill)'. Or the figure wants to highlight the fact that some residuals flow within the economy and are treated/reduced/reused there. Then the 'e.g. landfill' should be deleted or the phrase should be expanded to something like 'Residuals treated or stored in economy (e.g. landfill)'.

Para 3.68: Nutrients not absorbed by the plants are said to 'hence remain in the soil'. This phrase should be deleted as it is problematic. First it is not correct as usually the reason the plants do not absorb the nutrients is that the nutrients are no longer available have already disappeared from the soil (most often they have been lost to water). Second the phrase seems to suggest that this enriches the soil to make it more valuable from an asset perspective (see chapter 5). Compare to para 3.93 which has better wording.

Para 3.86 and 3.87: Para 3.86 seems to very clearly define emissions as being the residuals received by the environment (emissions to water, air..). But para 3.87 reads as if it would contradict para 3.86 due to its apparent confounded use of the terms

(gross) releases and emissions. It would be better to delete the 'however' and to explain what releases are. Suggest also to say 'emissions to water bodies' in para 3.86.

Para 3.91: see comments above.

Para 3.110: Eurostat does not believe that the first alternative presented as the 'ideal' is feasible or particularly meaningful. The suggested identity of owner and user in the first sentence is misleading. Apart from issues of leasing very often large equipment or former military, industrial or building sites are sold and the new owner arranges for the scrapping or demolition. The difference between 'industry responsible for the scrapped asset' and 'scrapping enterprise' is not made clear enough.

As a minimum, the para should read:

3.110 A particular interest in recording these residuals is attributing the residuals to the former **user (which may also be the former owner)** of the scrapped and demolished produced assets. Ideally, this recording would be possible by classifying the accumulation column by industry and appropriately attributing the residual flows to the industry 'responsible' (**i.e. formerly using or owning**) the scrapped asset. However, if classifying the accumulation column in this way is not possible, then two additional entries may be recorded in the first column. One entry is in Cell N reflecting the implicit use of the scrapped asset by the scrapping **industry** and the second entry is in Cell I reflecting the generation of residuals by the scrapping industry that are subsequently collected by the waste treatment industry. Two entries are required to maintain a balance of flows for the industry that is scrapping the produced asset

Para 3.142: see comment on para 3.57

Para 3.143: states that energy products include ... 'solid waste'. The text should make clear that not all incinerated waste is a product so that some energy will not come from products in the standard meaning of the word (i.e. as defined in para 3.62 and as explained for waste in 3.83) but from residuals. Typically, sorted waste may have a positive value whereas e.g. mixed household waste that is incinerated has a positive calorific but not a positive monetary value.

Para 3.149: The first phrase is not correct: 'Energy incorporated into non-energy products represents the use of energy from energy products to manufacture non-energy products.' The energy from energy products that is used to manufacture non-energy products is not the energy incorporated in these products. Suggest deleting 'energy from' so the phrase reads '...represents the use of energy products to manufacture...'. The example should also be corrected, as follows: '...naphtha (an energy product) is used in the manufacture of plastics..' (i.e. delete: 'the energy in').

Para 3.175: States that energy incorporated into non-energy products should be recorded as a flow to accumulation. This begs the question of energy from these products that come from this stock (i.e. waste as energy source). Suggest to mention this in the context of energy from waste (see above – e.g. para 3.143).



Para 3.193 states: 'Abstraction is .....water removed from any source ...for consumption or production activities.' And: 'All flows of abstracted water are treated as flows of products.' This is somewhat ambiguous.

- First, para 3.193 makes clear that abstracted water is only water abstracted for use. So is water that is immediately returned as a natural resource residual by definition not abstracted? A link should be made from here to the description of natural resource residuals in para 3.48 sq. Return flows of water are called natural resource residuals in para 3.48. The text seems to suggest that all return flows are in scope. But would that not mean these return flows in para 3.48 are different from the return flows recorded in table 3.5.1? Mine dewatering is considered a natural resource residual as well (Table 3.2.3). On the other hand all abstracted water in table 3.2.3 and in para 3.193 seems to be a product. Does this mean that mine water is not abstracted?
- Second, the phrase 'water removed from any source ...for consumption or production activities' is itself a bit ambiguous as it does not make clear whether this really means for use or for any purpose (including not to get wet in which case urban runoff or mine dewatering would be abstraction).
- Third, abstraction is also defined in para 5.485. Here it is stated that abstracted water may be either directly returned to the environment or used for production activities.

Overall, it seems the current text suggests that abstraction is the dislocation of water for use or for other purposes. In that case the phrase in para 3.193 that 'All flows of abstracted water are treated as flows of products.' would not be quite correct. Maybe this reflects a slight ambiguity in the use of key terminology that should be cleaned up.

Para 3.200 (and shading in table 3.5.1): waste water is (physically) imported and in practice municipalities along European borders operate common sewage treatment facilities. Please note that this possibility is foreseen in section 3.6.4 and is nicely described in para 3.266 and shown in table 3.6.2. So this possibility should be foreseen also in para 3.200 and table 3.5.1 for consistency reasons.

Para 3.204: the para uses both 'intra-sectoral' and 'intra-industry', apparently as synonyms. In a national accounts book this should not be done. Suggest using only 'intra-industry'.

The logic of the third sentence (the example) seems to be a bit upside-down (*a producer's distribution network does not reach the water user therefore the producer must sell the water to another producer*). The simplest may be to delete this example.

3.215: the last sentence is not really convincing: '...water incorporated into products (...) is removed from and does not return to the inland water system. This reads like a factual statement whereas it only reflects the practical simplifications introduced later that evapotranspiration and water incorporated into products are measured as a single (residually derived) item. A reader seeing the example (beverages in para 3.217) will suspect that part of that water will indeed reach the inland water system via the wastewater treatment plant. The cleanest would be to delete the last sentence from para 3.215.

Para 3.260: mentions 'the direct discharge to water resources of heavy metals (in solid state) and hazardous waste not through wastewater...' This is somewhat unclear. First,

it may be better to say 'water bodies' rather than 'water resources' to be coherent with the rest of the paragraph. Second, could 'direct discharge not through wastewater' be made clearer – is this dumping of waste into water bodies? Finally, is there a reason why is it only 'heavy metals and hazardous waste'? Also non-hazardous waste (e.g. animal waste) can cause significant water pollution.

Para 3.261: the last sentence states: 'By convention, the emissions and releases associated with urban runoff are allocated to the sewerage industry.'

The above sentence is problematic as urban run-off enters the environment in different ways not all of which pass through structures of the sewage industry. The SEEA text makes this clear in para 3.213 which states that 'Urban runoff that is not collected by a wastewater treatment or similar facility but flows directly to inland water bodies is not recorded in the PSUT.'

So it would perhaps be more correct to say that all emissions passing through the sewage system are allocated to the sewage industry (provided this is the final word on this issue of allocation elsewhere in the text as this is part of a wider issue of how exactly urban run-off should be recorded - see also comments above).

Para 3.262: Sentence not clear, especially '...pesticides spread on the soil during infiltration into groundwater...' and 'return flows from agricultural land'. Does the latter mean that the rain falling on agricultural land is recorded as abstraction and then as a return flow?

Para 3.277: 'Sales of recycled products'. The text in the example talks about a secondary raw material (collected bulk waste paper ready for recycling). It should be clarified what 'recycled products' are. Are these products things made of recycled materials (final products) or are these the same as the 'solid waste as product' as explained in para 3.268? Note this term 'recycled products' only occurs once in the SEEA text so perhaps the best is to avoid it.

Para 3.286 summarises that the boundaries of EW MFA and SEEA are not aligned. This is superfluous and repeating text in earlier paragraphs of this sub-section (esp. paras 3.281 – 3.282) which is entitled 'Differences in treatment between EW-MFA and PSUT'. The only content of this para 3.286 would be to imply that EW-MFA are not part of SEEA. Surely this cannot be the intention so para 3.286 could be deleted.

#### Typos, editing, etc.

Para 3.33: 'in the way as units' – should this be 'in the same way as units...' or should the 'as' be deleted?

Para 3.34: '...a product supplied must also (missing be?) used...'

Para 3.49: '..returns of abstracted (delete:) of surface water..'

Para 3.141: in (ii), delete 'flows of'

Para 3.173: Delete 'if there are' (or change the sentence)

Para 3.176 and 3.178: 'organization' in 3.176 but 'organisation' in 3.178. In second sentence of 3.178: 'Since one of main purposes'.

Typo 'water for own use for distribution'.

Para 3.201: typo ' water is shown is...'

## **Chapter 4**

Paras 4.6 and 4.7 use 'environmentally related' whereas text before uses 'environmental' activities – para 4.9 then clarifies that 'environmentally related' means things such as extraction of minerals or fossil energy need coherent terminology.

Para 4.20 lists types of investment covered for water. The text first mentions distribution but then excludes distribution networks under relevant investment and activity from the list it provides. Should clarify that distribution networks are part of the investment and activities.

Para 4.30: uses the term 'ecological goods and services'. As it is not made clear what this could mean, maybe better to delete the term.

Para 4.31 to 4.33: this seems to be a leftover from an attempt to introduce a generic typology of environmental products. The paragraphs include some problematic ideas. For example, the definition of connected products is not correct (compare to para 4.63) – need to delete the term 'activity' and replace 'undertaking' by 'for purposes of'. It is not necessarily very clear to the reader what 'end-of-pipe technologies' in the field of resource management could be. The text is perhaps not very helpful as all the product categories are properly defined later in the chapter. The simplest solution would be to drop these 3 paragraphs.

Para 4.40: the last two sentences use the term 'goods and services'. As the tables only show services, the 'goods and' should be deleted twice.

Para 4.53 separates 3 categories of producers (specialist, non-specialist and own account), in line with table 4.3.1. However, para 4.54 defines non-specialist producers as producers of secondary or own account output. This is not correct as a description of the table. Delete 'or own-account'

Para 4.58: it would be useful to explain here or in an extra paragraph added immediately after para 4.58 how the output of own account producers and of government non-market producers is valued (specifically that no net operating surplus is recorded). Some of the text in para 4.81 could be moved here.

Para 4.66: would be clearer if a last sentence would be added to say something like: 'However, if e.g. households have to purchase their own wheeled rubbish containers, then they should be added as connected products used by households.'

Para 4.70: seems to be a leftover from earlier versions and does not align with the text in paragraphs 4.71-4.72. Suggest to delete para 4.70.

Para 4.72: the last word should not be 'excluded' but 'counted only once'

Para 4.76: the first sentence is not very clear. Suggest to merge the first two sentences into one, as follows: 'The steady integration of environmental standards into equipment and processes makes it more difficult over time to distinguish between a cleaner good and the equivalent normal good.'

Para 4.81: We suggest that the part explaining how own-account output is valued should be moved to a paragraph that should come immediately after para 4.58. Furthermore, as it has been chosen to show the non-specialist and own account producers together in a separate column (which deviates for example from the SERIEE framework), it is necessary to explain where their environmental output should be recorded. The third sentence should read: 'The amount to be recorded as intermediate consumption **of environmental specific services by the producers in the column for non-specialist and own account producers in Table 4.3.3 is the total value of own account output**, since ... In the last sentence, delete also 'goods and'

Para 4.94: As a last sentence please add: 'EGSS statistics also provides valuable source data for the EPEA or for resource management accounts.'

Para 4.102: states that the same difficulties of measurement of adapted goods apply. However, as no extra costs need to be identified, some such difficulties do not apply. Better to say 'Some of the difficulties...'

Para 4.107 states the EPEA can be an important data source for EGSS. Consider adding 'and vice versa'.

Para 4.148: the European Environment Agency should be deleted as it was not involved in establishing the initial list. In the footnote, unfortunately further research has shown that the OECD document is a restricted document so the reference may not be useful.

Para 4.154: the formula in brackets is misleading. In the formula in brackets, it should be added that this is 'less the part that is deductible by the tax payers'.

Para 4.156: the role of the end of the first sentence is somewhat unclear ('...since government is both owner and taxation authority'). Suggest to add before the 'since': '*in the form of taxes*' (as is explained in more detail in para 4.159) or to remove the part of the sentence starting with the 'since'.

#### *Typos, editing, etc.*

Para 4.33: full stop missing.

Para 4.95: at the end 'has not be defined'

Para 4.113: second sentence not clear ‘...should only refer ...should not be related...’

Para 4.135: ‘..other residents or non-resident units’

Para 4.178: ‘..long term arrangement recreational purposes...’

Para 4.203: ‘...an entry in the of other ...of assets accounts..’

## **Chapter 5 Asset accounts**

### General comments

**Subsidies** during calculation of resource rent needs to be reviewed and reconciled

- 5.115 says economic theory would suggest that over the long term resource rents should not be negative.
- Table 5.4.1 omits subsidies in the descent from Output to Gross operating surplus so this is not consistent with SNA
- 5.123 says "subsidies should be deducted in the derivation of resource rent" Perhaps we mean added?
- 5.454 recognises "governments subsidise fishing so fishing continues even when the resource rent is negative"
- 5.487 admits for water resources "NPV does not work because resource rent derived from standard definitions is commonly negative". (and this applies elsewhere e.g. coal in Germany for decades)
- So what do we recommend – add subsidies to GOS and thus RR, or leave out 'specific' subsidies and if RR still seems negative assign zero value to the asset?

**Tables.** 5.5.3 Omits catastrophic losses for mineral and energy resources in contradiction to its monetary counterpart Tab 5.5.4 and to para 5.195 (iv)

In general it would be good to review all the tables in sections 5.5 to 5.11

- For example in 5.6.6 clarify the relation between the SEEA's usual term reclassifications with afforestation/deforestation
- 5.305 talks of reclassifications where the land use changes, but this is not in tab 5.6.7
- Tab 5.9.2 has for the first time "uncompensated seizure" but it is not defined until 4 pages later (5.434)

### Clarification and drafting points

5.14 introduces the idea the asset boundary is more restricted in monetary than physical accounts. A better formulation would be to say some assets included in the physical accounts are assigned zero value in monetary accounts. The formulation in 5.41 is therefore better.

5.16 Replace "ocean" by "sea".

5.24 -30 Most forests in the EU are cultivated by hundreds of years of activity. It seems very unclear in these paragraphs whether they are biological assets, natural resources or what?

5.43 The first sentence is muddled and should be deleted.

5.49 iii insert "physical" before size of the stock. In all the tables (such as 5.3.2) consider replacing "reappraisals" by "reappraisals of volume" to distinguish clearly from revaluations.

5.50 replace "by-catch" by "discarded catch" ?

5.60 Second sentence "Revaluations relate to changes in the value of assets due solely to price changes..."

5.63 Differentiate more clearly revaluations from reappraisals.

5.156 to 166. Contains massive duplication with 5.88-5.93.

5.171 a "volume" index with base-weighted quantities does not bring quality change into volume contrary to 5.167.

5.195 (ii) introduces classes A, B, C then says "in cases in which a quantity of potential deposit becomes known to a higher degree of confidence this increase should be treated as discoveries". It would be good to clarify why this is not reappraisals or even reclassifications between A, B and C.

5.391 introduces "aquatic" resources. Bring up the first sentence of 5.400 to explain what they are.

5.410 Penultimate sentence add "...not be included in the asset accounts".

5.434 Illegal fishing. 'excludes these flows from estimates of gross catch of the country in whose EEZ the fish were caught.'

5.467 Figure 5.11.1 replace by "liquid/solid flows and precipitation"

5.475 The term "Purpose built reservoirs" is not very clear when we dam a stream to flood "a depression in the earth's surface". Is this approved hydrology terminology?

5.484 (ii) "The majority of precipitation falls on the soil but generally would be recorded as run-off to rivers, especially in the case of flooding" is far from clear. Why doesn't it simply soak in?

5.485 (iii) Delete the last 7 lines which repeat the first 4!

5.493 It would be more correct to replace "...for national accounts many countries use a financial year" by "some countries".