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**Types of assets and the treatment of emission permits
in SEEA**

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**Prepared for the 15th London Group Meeting on Environmental Accounting,
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At the 14th meeting of the London Group in Canberra 27-30 April 2009 the treatment of CO₂ permits was discussed. There was a general consensus that SEEA should follow the SNA 2008 treatment of CO₂ permits, which involves that payments for the CO₂ permits acquired from the Government are treated as taxes.

However, some concern was at the same time raised whether a tax treatment of the permits is consistent with the fact that the atmosphere into which the CO₂ emissions are released is regarded as an asset in SEEA, and more broadly whether the atmosphere as an asset has the same characteristics as other types of assets. The London Group requested that a short paper discussing these issues should be worked out.

This paper first addresses the question about the characteristics of assets and then go on to treat some aspects of the recording of emission permits in SNA and SEEA.

Types of assets

Assets in the SNA

The SNA 2008 defines assets are the following way:

“An asset is a store of value representing a benefit or series of benefits accruing to the economic owner by holding or using the entity over a period of time. It is a means of carrying forward value from one accounting period to another. All assets in the SNA are economic assets.” (SNA 2008 3.30).

“The coverage of assets is limited to those assets used in economic activity and that are subject to ownership rights; thus for example, consumer durables and human capital, as well as natural resources that are not owned, are excluded.” (SNA 2008 3.46)

With regard to natural assets in general and the atmosphere in particular, SNA 2008 states:

“Assets need not be privately owned and could be owned by government units exercising ownership rights on behalf of entire communities. Thus, many environmental assets are included within the SNA. Resources such as the atmosphere or high seas, over which no ownership rights can be exercised or mineral or fuel deposits that have not been discovered or that are unworkable, are not included as they are not capable of bringing any benefits to their owners, given the technology and relative prices existing at the time.” (SNA 2008 1.46).

Further, the SNA 2008 argues that since there is no value placed on the atmosphere, it cannot be considered to be an economic asset (SNA 2008 17.363).

Thus, the qualifying criteria for an asset to be included within the SNA are that ownership is established and that the asset should be capable of bringing economic benefits to their owners. If neither of these criteria is fulfilled, the asset is not recognised by the SNA, and the asset does not appear in the SNA accounts.

Some mineral and energy resources, some forests and some rivers, lakes, and groundwater resources fulfil the criteria, while others do not.

The atmosphere is explicitly presented by the SNA 2008 as a natural resource which is not recognised as an economic asset. Other types of assets which fail to meet the SNA criteria are, for instance, the oceans, human capital and consumer durables.

Assets in SEEA 2003

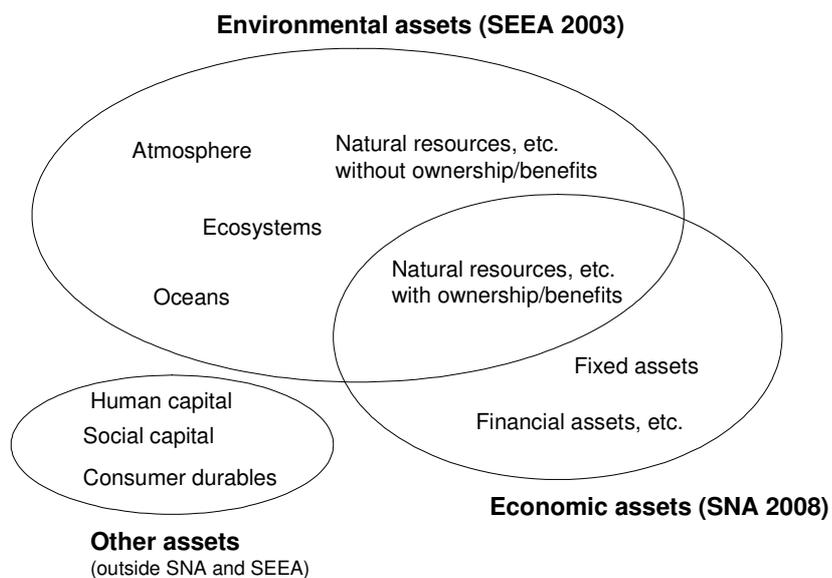
Assets are recognised much broader in SEEA 2003. Although there is in fact no clear definition of an asset in SEEA 2003, it states that the asset boundary of the SNA is expanded to cover all environmental entities which are of interest and measurable (SEEA 2003, 2.52), and that the concept of an environmental asset is linked to the provision of environmental functions. Further, the assets of SEEA 2003 are implicitly defined by the classification of assets, which include, for instance, “Atmospheric Systems” as one class.

Conceptually, SEEA 2003 is talking about two groups of assets: Economic assets and environmental assets. Economic assets are the assets within the boundary of SNA (i.e. ownership established and economic benefits), while the environmental assets are assets which are of interest and provide environmental functions. SEEA 2003 states that some of the SEEA assets have no economic values. Nonetheless, they are within the SEEA asset boundary as they bring indirect use benefits, option and bequest benefits or simply existence benefits which cannot be translated into a present day monetary value (SEEA 2003, 7.92).

For natural resources in a broad sense (including, for instance, land) the economic assets are a subset of the environmental assets, namely those natural resources which are connected with ownership rights and bring economic benefits to the owner.

Figure 1 aims to illustrate how the main groups of entities are related to the concepts of environmental assets and economic assets according to the definitions of SEEA 2003 and SNA 2008.

Figure 1. Groups of assets



For SEEA it seems to be useful to maintain the distinction between those environmental assets which are recognised by the SNA (i.e. those with ownership and economic benefits) and those which are not. Not only is it useful to be clear about what is included in the SNA, and what is not, but the ownership and benefit criteria are also important factors, which determines how the natural resources are being used or preserved, and whether externalities may exist or not.

As a result of the different characteristics of the two groups of assets, the statistical basis for the treatment of them in the accounts, are also different. For the non-economic environmental assets, there are no observable market prices. For some of them, for instance, the atmosphere, it is impossible - and even without any meaning - to assign monetary values to the stock in order to include them in the asset accounts.

However, maintaining the distinction between the two types of assets does not necessarily mean that the presentation and the terms used by SEEA 2003 should be carried on into the revised SEEA.

Mark De Haan argues in his paper¹ that it is unfortunate that SEEA distinguish between “economic” and “environmental” assets. The problem with such a distinction is that it suggests that the environmental assets are without relevance for the economy.

It is difficult to disagree with Marks’ views that the environmental assets are crucial for the functioning of the economy, and that, in that sense, they are really economic assets. It is also in line with the spirit of SEEA 2003 to apply such an interpretation of the environmental assets.

Recognising, that a substantial part (but not necessarily all) of the environmental assets are crucial for the functioning of the economy, and that it is misleading to use terms which indicate that some of them are non-economic, does however, not mean that it is expedient to give up the distinction between the two groups of assets. Although, they are all economic, and share some of the same characteristics with regard to their functioning in the economy, they do actually, as argued above, also have some quite different properties.

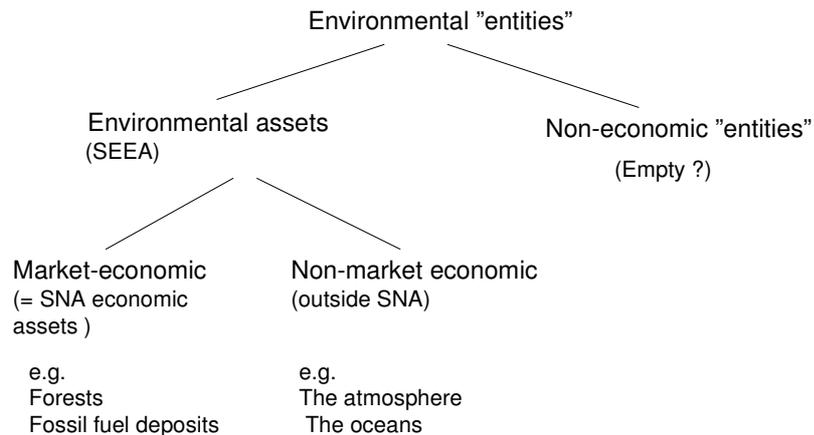
Therefore, it could be suggested to maintain in SEEA the fundamental distinction between environmental assets, which are connected with ownership and (market-) economic values and those which are not, but that other terms are used to identify the two different groups. Although not very precise, one first suggestion for such alternative terms could be: “Market Economic” and “Non-Market Economic Environmental Assets”.

At the same time the definition of environmental assets covered by the SEEA should be clarified. As mentioned, there is no clear definition in SEEA-2003. One of the qualifying criteria mentioned in SEEA 2003 is that assets should be able to bring indirect use benefits, option and bequest benefits or existence benefits. While such a statement makes reference to theoretical economic concepts it is in practice so broad that it is hard to see that it in fact excludes anything. Can we think of any species, piece of land or natural resource, which is totally without existence value? If this is not the case, we do in principle include everything which is in our natural surrounding, and could just as well state that directly. If we think that something should not be included, we need to have some better criteria to exclude them from the SEEA asset boundary.

The above characterisation of environmental assets is summarised in Figure 2.

¹ Mark de Haan, 2009: Treatment of emission permits in the SEEA

Figure 2. Characterisation of environmental assets



The atmosphere as an asset and the recording of emission permits

SNA 2008

The SNA 2008, does not, as described above, recognise the atmosphere as an economic asset, since no ownership exists to the atmosphere. By SNA convention, one implication of this is that payments made by companies to the government for the emission permits should be recorded as pre-payments of taxes, and final payments of taxes when the permits are surrendered to the government. The rationale for recording the payments/surrendering of permits as taxes is that, since the government does not own the atmosphere, the payments can hardly be seen as linked neither to the sale of the atmosphere nor to a rental agreement in which the government are renting out the atmosphere to the polluter.

For the analysis of the economic consequences of the CO₂ permit scheme it seems desirable that the costs borne by the industries when they surrender CO₂ permits should be shown in the current accounts and e.g. affect the gross operating surplus. This is case for the tax payments.

It seems also desirable to have a quite consistent and parallel recording of CO₂ tax payments and payments for the permits, when they are acquired from the government.

On the other hand, the SNA 2008 tax treatment does not involve any impact on the current accounts if the permits have been acquired originally in other ways than by buying them from the government. The fact that permits originally acquired from others than the government falls without the scope of the current accounts compromises a full understanding of the economic functioning and the effects of the permit market as seen from the companies' point of view.

Another, related, aspect to consider is what the recording practise would have been in the SNA in the hypothetical situation that the atmosphere was actually recognised as an economic asset in the SNA 2008, for instance, owned by the government?

So, if we assume, for a moment, that the atmosphere was actually associated with property right and benefits for the owner, how should the recording then be done in the SNA?

Firstly, the payments for CO₂ permits would, by convention, not be regarded as tax payments. Instead, the payments would be regarded as related to an asset sale or to

the renting out of the underlying resource, i.e. the atmosphere. One of three general recording options would need to be favoured (cf. SNA 2008, 17.315). The three recording options correspond to the following alternative understandings of the payments for the emission permits:

a) The payments for the emission permits are seen as the sale of part of the atmosphere.

This option requires that all economic ownership rights over part of the atmosphere is ceded over to the buyer. The payments for the emission permits are then recorded as acquisitions and disposals of a natural resource (the atmosphere) in the assets accounts.

b) The payments for the emission permits are made for the allowance to use the atmosphere for an extended period of time in which the user controls the use of the specific part of the atmosphere.

This option leads to the creation of an asset for the user, distinct from the resource itself but where the value of the resource and the asset allowing use of it are linked (SNA 17.315). In other words the permits and the atmosphere are seen as separate (but linked) assets. The argument is that even though the owner of the permits does not own the corresponding part of the atmosphere, he owns the permits, and can sell them and gain an economic benefit from it. The payments for the emission permits are recorded as the acquisitions and disposals of non-financial assets (contracts, leases and licences). This option seems to be the one, which implicitly was behind the perception of emission permits in SEEA 2003.

c) The payments for the emission permits allows the owner to use the atmosphere from one year to the next.

This option corresponds to a rental situation. The legal owner of the atmosphere makes it available to the buyer of the permits in return for a regular payment described as (resource) rent. The rent is the income receivable by the owner of a natural resource (the lessor or landlord) for putting the natural resource at the disposal of another institutional unit (a lessee or tenant) for use of the natural resource in production. (SNA 7.154)

While option a) seems to be irrelevant to the characterisation of the actual circumstances applicable to the trading of emission permits, it is less clear whether option b) and c) should be preferred.

Some emission permit trading schemes give the owner the right to choose within a span of years when he wants to use the atmosphere as a sink for the emissions. On the other hand, he is not allowed to use it more than once during the period. So the time aspect does probably not in all cases give a clear indication whether option b) or c) are the most appropriate to choose from.

However, to help the decision, SNA 2008 (chapter 17, Section Q) lists some criteria which can be used to decide between the options. Generally, they aim to clarify whether the risk and benefit of ownership have been handed over from the owner of the resource to the contract holder. If this is the case it speaks in favour of option b). If not, it speaks in favour of option c). Thus, if the emission permit system has some of the following characteristics, it speaks according to SNA 2008 in favour of option c), the resource rent treatment:

- The contract (i.e. the permits) is of short-term duration, or renegotiable
- The contract is non-transferable (i.e. it cannot be traded). If, on the other hand, transferability exists, it is considered a strong condition to characterize the licensing act as the sale of third-party property rights.

- The contract contains detailed stipulations on how the lessee should make use of the asset.
- The contract includes conditions that give the lessor the unilateral right to terminate the lease without compensation,
- The contract requires payments over the duration of the contract, rather than a large upfront payment.

Whether, these criteria are fulfilled or not will in practice depend on the exact design of the permit system. For some existing systems, for instance the EU Emissions Trading System, the transferability seems however to be an indication that the payments should not be regarded as rents (option c), but instead as the acquisition and disposal of assets (option b).

Now, leaving the hypothetical situation, that SNA 2008 actually recognised the atmosphere as an asset, we turn to the treatment of the emission permits in the SEEA.

SEEA

For the recording of the emission permits in SEEA various recording principles can be thought of. First, the tax payment approach of SNA 2008 could be applied. The argument for this option could be that although the atmosphere is recognised as an (non-market) economic asset in SEEA, it is still not owned by anyone, and therefore the payments to the government are similar to taxes.

However, one may instead argue, that recognising the atmosphere as an (“non-market”) economic asset in SEEA should lead to a recording of the payments for the emission permits as if the atmosphere were a SNA recognised asset. To comply with the SNA conventions, as described above, the payments should then instead be recorded as either payments for the acquisitions and disposals of contracts, leases and licences (option b) above) or as rent payments to the owner of the atmosphere for his renting out of the atmosphere (option c) above).

Recording it as payments for the acquisitions and disposals of contracts, leases and licenses seems to be in accordance with the treatment of emission permits in SEEA 2003, but will introduce differences in the accounting practice and some of the macro-aggregates when compared to SNA 2008.

Recording it as rent payments for the use of the atmosphere is different from both SEEA 2003 and SNA 2008. One additional aspects to be considered in relation to such a new accounting practice in SEEA seems to be whether all payments to the government related to the use of environmental resources should be recorded as rents for using the resources? Should it then include conventional CO₂ taxes, and various other types of pollution taxes? If not, what is the rationale for treating the payment for a CO₂-permit as a rent of a natural resource, while a CO₂ tax payment, or any other environmental tax payment, is not?