

Towards the  
2025 SNA

Issue Note C.2

# Treatment of (services from) the atmosphere

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# Background

## Action item A.2 arising out of the October 2023 AEG meeting:

“prepare a holistic note to: (a) address other implications raised such as the recording the various services derived from the atmosphere; (b) develop appropriate terminology on the use of atmosphere-related services; and (c) reconcile the recording of radio spectrum and emission permits in the national accounts.”

## An Issues Note has been prepared which:

- Reviews the recording of the radio spectrum and emission permits in the national accounts
- Discusses the definition of an economic asset and asks “Is the atmosphere an economic asset?”
- Drawing on this, proposes a treatment for other uses of the atmosphere, such as for transportation services, or as a ‘sink’ in the case of noise or air pollution
- Summarises the treatment of the atmosphere in SEEA
- Draws conclusions on the treatment of the atmosphere in the SNA
- The Issues Note benefitted from comments provided by Sarah Barahona, Carl Obst, Paul Schreyer, Herman Smith, Peter van de Ven, John Verrinder and Jorrit Zwijnenburg

# The recording of the radio spectrum and emission permits in the national accounts

## The radio spectrum

According to the 2008 SNA:

- The radio spectrum (which is a component of the atmosphere) is an economic asset
- Payments for the use of the spectrum constitute the sale of an asset when licencees acquire effective ownership rights over the use of the spectrum
  - When the life span of the license coincides with the (economic) life span of the spectrum, a sale of the spectrum arises; otherwise the license is considered a non-produced intangible asset

## Emission permits

The 2008 SNA states “these permits do not involve the use of a natural asset (there is no value placed on the atmosphere so it cannot be considered an economic asset)”

In its discussion of the treatment emission permit (GN WS.7) the AEG has recommended that the permits be treated as a financial asset with taxes on production recorded as surrender

# The recording of the radio spectrum and emission permits in the national accounts

## Similarities

- Both involve the use of the atmosphere.
- Both involve 'permissions' granted by governments for such us.

## Differences

- The use of the radio spectrum requires exclusivity, emissions do not.
- The radio spectrum is a fundamental requirement for production (of mobile phone services). Conversely, in the case of emission permits the atmosphere is being used as a 'sink' for waste.
- Is this sufficient to warrant different treatments?

# What is an economic asset?

- According to the 2008 SNA (para 3.30) 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.”
  - An asset must have an economic owner.
  - An asset provides a benefit or series of benefits
  - An asset is a store of value that can be carried forward from one accounting period to another, which implies that an asset must be able to be valued.
- Regarding the last point, issues arise about how a value might be established, and how reliable that value would be. While it could be considered that these are empirical, rather than conceptual, questions, the fact is that for an asset to be included in the national accounts a value needs to be attached to it.

# Is the atmosphere an economic asset?

In the cases of both the radio spectrum and emission permits:

- The atmosphere has an economic owner (typically the government, unless in the case of mobile phone licenses economic ownership transfers to the holder of a license)
- The economic owner receives benefit from the use of the atmosphere

In the case of the radio spectrum, because the use of the atmosphere involves exclusivity and because the rights to use the spectrum are assigned on the basis of commercial arrangements, a value can be assigned to the asset

In the case of emission permits, because of their non-exclusive nature, the assignment of a value to the atmosphere is (at least currently) problematic

- This could be an area for further research

The atmosphere could be considered as an asset if it is capable of being valued for a particular use, where:

- The use of a particular aspect of the atmosphere is exclusive AND
- Licenses or similar arrangements based on commercial arrangements are put in place

# Treatment of other uses of the atmosphere

## Examples of other uses of the atmosphere

The case of permits for transportation services

- Does not involve exclusive use of the atmosphere

Permits for air or noise pollution

- Does not require exclusive use of the atmosphere

Fines or other penalties for air or noise pollution

- Does not require exclusive use of the atmosphere

The atmosphere would not be considered an asset in any of these cases

## General conclusions

In circumstances where the atmosphere is considered an asset, payments for use that do not constitute an asset would be considered as rent (that is, the SNA 2008 treatment of such payments in the case of mobile phone licenses)

In circumstances where the atmosphere is not considered an asset:

- Payments for permits (both to use the atmosphere in production and as a sink) would be considered as taxes
- Compulsory payments for unauthorised use would be treated as “fines and penalties”

# SEEA and the atmosphere

In SEEA, the atmosphere is considered an environmental asset

However SEEA is silent on whether the atmosphere should be treated as an economic asset

The treatment of the atmosphere in SEEA is subject to further research

- This research should be monitored for any insights that would be helpful in regard to the treatment of the atmosphere in the national accounts



# Questions for AEG

1. Does the AEG with the following conclusions?
  - a The SNA should consider the atmosphere to be an asset in those cases where (a) the use of a particular aspect of the atmosphere is exclusive AND (b) licenses or similar arrangements based on commercial arrangements are put into place, which enables a reliable value to be put on the atmosphere.
  - b In those circumstances where the atmosphere is considered to be an asset, payments for licenses that do not constitute an asset should be treated as rent.
  - c In the circumstances where the atmosphere is not considered to be an asset:
    - i Permits to use the atmosphere, either to enable the production of a service such as transportation services or as a sink, should be treated as taxes.
    - ii Compulsory payments for unauthorised use of the atmosphere, such as noise pollution, should be treated as fines and penalties.
2. Does the AEG consider that the treatment of the atmosphere as a sink should be added to the post-2025 SNA research agenda?

A scenic landscape featuring a calm lake in the middle ground, surrounded by rugged, brownish-green hills. In the background, majestic mountains are partially covered in snow under a cloudy sky. A gravel path leads from the bottom center towards the lake. The overall atmosphere is serene and natural.

THANK YOU FOR YOUR INTEREST