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System of
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Accounting

SEEA Central Framework update

Scoping note for issue C3: “Extending the scope of environmental activities”

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Note: This Scoping Note has been prepared in the context of the SEEA Central Framework update, mandated by the United Nations Statistical Commission in 2024. A set of [29 issues](#) was identified for the update process and endorsed by the United Nations Statistical Commission in 2025. As an initial step, Scoping Notes were developed for each issue to elaborate on its description and provide a common understanding of the work required to fully investigate and formulate recommendations for the updated SEEA Central Framework. Each Scoping Note was prepared by a lead author and discussed in the relevant Task Team. They were subsequently reviewed by the SEEA CF Technical Committee and the UNCEEA, and approved by the SEEA CF Technical Committee.

1 Background to the issue

1. The short description of issue C3: “Extending the scope of environmental activities” from the March 2025 final list of issues endorsed by the UN Statistical Commission (https://seea.un.org/sites/seea.un.org/files/documents/CF_update/seea_cf_issues_final_list_march_2025.xlsx) is:

“Environmental activities currently include only environmental protection and resource management activities. It should be investigated if and how to extend the scope to include for a) include climate change adaptation b) environmental disaster management activities, c) resource use activities, d) potentially damaging subsidies. This issue focusses on the extension of the scope, when they are included separate issue papers are needed to elaborate on the specific items.
2. The SEEA Environmental Activities accounts are developed to identify the “economic transactions within the SNA that may be considered environmental.” (SEEA-CF §1.30, see below). However, not all transactions that might be considered to be environmentally related economic transactions were included in the SEEA-CF (2012). The only ones that were included at that time were, “those economic activities whose primary purpose is to reduce or eliminate pressures on the environment or to make more efficient use of natural resources.” (SEEA-CF §1.30, see below).
3. Here is the full text of §1.30:

“1.30 Chapter IV, entitled “Environmental activity accounts and related flows”, focuses on the identification of economic transactions within the SNA that may be considered environmental. Of particular interest are those transactions that relate to environmental activities, i.e., those economic activities whose primary purpose is to reduce or eliminate pressures on the environment or to make more efficient use of natural resources. These types of transactions are summarized in the environmental protection expenditure accounts (EPEA), and in statistics on the environmental goods and services sector (EGSS).”
4. The current definition of environmental activities is very limited in terms of what is included. Policy changes and changes in our analytical needs indicates that we now need to take a larger view of the human-environmental interface. Consequently, section 4.2.2 of the SEEA-CF 2012 can be expanded beyond the scope of environmental activities beyond environmental protection (EP) and resource management (RM) to also include climate mitigation, climate adaptation, environmental disaster management expenditures, and potentially environmentally damaging subsidies.
5. These topics were the only ones mentioned in the global consultation for this issue. It is important to **note that there has not been any formal decision made regarding exactly which topics should be included in this C3 issue of extending the scope of the SEEA-CF**. From an examination of the other Group C topics to be developed, C8 – sustainable finance and C7 – tax abatements, could also potentially require some type of expansion of the SEEA-CF scope. **Until a decision is made regarding which topics need to be considered with respect to the extension of the SEEA-CF scope, in this C3 Scoping Note (SN), only those 4 topics named in the text of the global consultation will be discussed.**
6. One of the main challenges will be to develop consistent definitions and inclusion/exclusion criteria for the different types of transactions that will make up the new accounts. But C3 focusses on the extension of the scope of environmental activities – and the justification for this extension. There are other issues papers which will focus on the specific extensions (see Section 4 for the links to

other update issues). But these are all inter-dependent, i.e. if the scope is not extended then all of these potential extensions will not be able to be included in the revised SEEA-CF. These inter-dependent topics will need to be addressed in a coordinated fashion.

2 Motivation for considering a change to the SEEA Central Framework

7. In the research agenda of the SEEA-CF (2012) an extension of the scope of environmental activities was already foreseen over a decade ago:
“A2.19 The SEEA Central Framework limits the scope of economic activities considered to be environmental to environmental protection and resource management activity. However, it is recognized that there are a number of other economic activities that are related to the environment which may be of particular interest for policy and analytical purposes (see sect. 4.2). A specific set of activities encompasses efforts to minimize the impact of natural hazards (such as floods, cyclones and bush fires) and efforts to mitigate, or adapt to, the effects of climate change.” (SEEA-CF, §A2.19, Annex II, pages 307-308)
8. Due to the demands of our changing world, it is becoming more and more important to provide information for policy makers, researchers, and society regarding a more fully embedded picture of the human-environment interface and the expenditures relating to these responses.
9. The evidence of this need is the proliferation of various ad hoc initiatives aimed at identifying environment-related activities/expenditures/products. The numerous examples of government budget tagging, which identify activities/expenditures and products for specific policy objectives developed on an ad hoc basis (e.g. for climate, biodiversity, disasters, etc.), are evidence of the need for standardization. A key SEEA-revision objective is to build on these experiences and try to develop a standardized approach to measurement. Ongoing work within the statistical system, such as the update of the COFOG, also presents an opportunity for the SEEA-revision.
10. When there are diverging initiatives for developing statistics, it becomes imperative that the official statistical system brings clarity to the situation and that it develops a standardized approach to measurement.

3 Nature of the proposed changes and research questions

11. The main goal is to broaden the scope of economic activities considered to be environmental – by expanding from the current environmental protection and resource management categories, based primarily on the principle of “primary purpose,” to include other relevant environmental activities which encompass more of the human-environmental interface in order to provide more of a multi-purpose framework for recording data about environmental-economic activities.
12. It has been noted that, many of the proposed extension areas are strongly related to secondary purposes, e.g. climate change adaptation (everything about adjusting our lives that is not directly environment, such as buildings, infrastructure, agriculture, consumption, travel and tourism, etc.), climate mitigation (electrification of transportation, energy efficiency). Since this is the case, the need for including secondary purposes as part of the identification of the scope is vital.
13. The other type of proposed extension has to do with potentially environmentally damaging (PED) economic instruments – specifically PED subsidies and PED tax abatements. Including these types of economic instruments (some of which are actual transactions, others are implicit subsidies or tax abatements) will need a different logic for inclusion since primary purpose or even secondary purpose do not apply in these cases. Tax abatements pose a particular problem since they are not

actual transactions and are therefore not included in the SNA which has been a boundary for inclusion in the SEEA-CF.

14. In order to reach the main goal, the first step needs to determine, “What needs to be included?” and the second step is to figure out how to include these additional activities. The four issues described in the SEEA-CF revision issue list (see §1 above) appear rather arbitrary and ad hoc but only these topics will be discussed in this SN – see §5 above for this justification.

3.1 What needs to be included?

(A) Climate Change (CC) Expenditures and (B) Environmental Disaster Management Expenditures

15. The research agenda of the SEEA-CF 2012 describes two specific sets of activities which are named as potential activities to be included, these are (1) climate change and (2) activities to minimize the impact of natural hazards – see Annex II, §A2.19:

“A2.19 The SEEA Central Framework limits the scope of economic activities considered to be environmental to environmental protection and resource management activity. However, it is recognized that there are a number of other economic activities that are related to the environment which may be of particular interest for policy and analytical purposes (see sect. 4.2). A specific set of activities encompasses efforts to minimize the impact of natural hazards (such as floods, cyclones and bush fires) and efforts to mitigate, or adapt to, the effects of climate change.”

16. The inclusion of **climate change (CC) expenditures, including both mitigation and adaptation expenditures**, were already mentioned in the research agenda of the SEEA-CF 2012 and are considered of high importance to be included in the revised SEEA-CF. It may appear that CC mitigation is already included in Environmental Protection Expenditures (EPE) and Resource Management (RM) expenditures, but there are some economic activities which are considered CC mitigation activities, but which are not included as EPE/RM activities, for example, non-carbon emitting energy production from nuclear energy facilities. For this reason, it is important to carefully consider CC expenditures – both mitigation and adaptation – for inclusion in the revised SEEA-CF. The way to include CC expenditures must be developed in a manner that allows for all the relevant types of expenditures to be included.
17. **Environmental disaster management activities** were also envisioned to be environmental activities and are named in Annex II, §A2.19 (see above). The Sendai Framework for disaster risk reduction (DRR) has led to the development of a statistical framework for supporting and informing the DRR work by countries. This has been ongoing work which resulted in the UNESCAP-UNDRR’s Disaster-Related Statistics Framework (DRSF) which includes Disaster Risk Reduction Expenditures Accounts (DRREA) (see p. 64, and p. 112-113 Tables DRRE_A & DRRE_B of the DRSF manual, https://stat-confluence.escap.un.org/download/attachments/16155350/DRSF%20Manual_20220411.pdf?version=1&modificationDate=1649660412114&api=v2). It is worth noting that the DRR Expenditure Accounts are currently undergoing further development during the revision of the DRSF manual. The revised DRSF is planned for global consultation in the summer of 2025, and will be submitted to the UN Statistical Commission in 2026 for approval.
18. For the revision of the SEEA-CF, there needs to be a review of the Disaster Risk Reduction Expenditures Accounts (DRREA). Identifying which of these DRREA accounts, and the corresponding categories used in the DRREAs, are relevant to the SEEA and determining how to include the

relevant DRREA accounts and categories within the scope of the SEEA-CF's environmental activities will be part of this task.

3.2 How to include these additional activities?

(A) CC expenditures and (B) Environmental Disaster Management Expenditures

19. There are currently only two activities that are already included in the SEEA-CF as environmental activities – EPE and RM. To include additional activities there are two possible ways forward that should be examined. First, other relevant environmental activities could simply be added to an enlarged single “master” list of environmental activities, i.e. adding (1) CC mitigation, (2) CC adaptation expenditures, and (3) environmental disaster management activities.
20. In order to do this, the process for identifying which activities should be included needs to be clearly described. In particular, a conceptual scope or set of criteria needs to be identified that can then be applied to figure out if an activity belongs to the scope – often using a step-wise evaluation covering (a) primary purpose, (b) secondary purpose, and finally, (c) technical aspects.
21. By way of example, we already have the practice of considering secondary purposes based on technical aspects in the Environmental Goods and Services statistics. It may be relevant to extend the definitions/boundaries with respect to secondary purpose for the development of certain accounts, while maintaining the core criterion of main purpose in other cases.
22. Alternatively, a selection of themes might be determined, including EPE and RM, but also additional themes such as climate change and disaster related expenditures. For each theme, a set of relevant environmental activities would be determined each having its own list. The list of activities for each theme may overlap with those of another theme. This approach would support potentially having different criteria for inclusion of activities depending on the theme.
23. The development of the indicative lists of relevant economic activities would be based first on the primary purpose, secondary purpose, and technical aspects of the economic activities but then to aid in the development of the statistics and to increase the comparability, indicative lists would be developed.
24. If lists of indicative economic activities are developed, then the process would become a 4-step process: covering (1) primary purpose, (2) secondary purpose, (3) technical aspects, and finally, (4) using a list of indicative economic activities relevant to that environmental activity (EP, RM, CC mitigation, CC adaptation, environmental disaster management).

3.3 What needs to be included?

(C) Extraction industries

25. It has been long standing practice that the **extraction industries**, ISIC Section B Mining and Quarrying, **are excluded** from the scope of environmental activities since **they do not fit the existing SEEA-CF definition of environmental activities, i.e. environmental protection and/or resource management**.
26. In addition, there are already adequate coverage of this activity in the standard production of the national accounts from the SNA guidelines and in the [Ulaanbaatar City Group's Handbook on Statistics for Economies Based on Natural Resources](#) which was approved by the 2017 UN Statistical Commission.

27. Although a proposal that the extraction industries continue to be excluded from the scope of the SEEA-CF could be made, the Guidance Note work should consider the treatment of extractive industries as environmental activities. For example, would satellite accounts that show the relationship between certain non-ISIC grouped economic activities and the environmental resources upon which they depend be included to illustrate these relationships. For example, USA BEA's: [Outdoor Recreation](#) accounts and [Marine Economy](#) accounts, Portugal: [Ocean Satellite Accounts](#), the European Commission/Eurostat: [Bioeconomy](#) and [Circular economy](#), and the UN Tourism statistical standard [Measuring the Sustainability of Tourism](#).
28. SEEA-CF §4.19 is very relevant for this work and should be considered when discussing the inclusion of resource use. It is noted that water accounts may also provide some insights that could be of help.

“4.19 Natural resource use activities involve the extraction, harvesting and abstraction of natural resources, including related exploration and development. These activities are not considered environmental but owing to the specific and direct effect of the production processes involved on the environment, they may be of particular interest in the assessment of environmental impacts and the development of environmental policy.”

3.4 What needs to be included?

(D) Potentially Environmentally Damaging Subsidies (PEDS)

29. Eurostat has briefly considered the topic of **potentially environmentally damaging subsidies (PEDS)** in their compilation instructions. Here Eurostat notes that the transfers that are considered as relevant for inclusion in the PEDS has “the opposite scope of activities” included in the environmental subsidies and similar transfers. Since PEDS is outside of the definitions and system boundaries of the current SEEA-CF (but is a topic being considered in the update process), it becomes necessary to figure out a way to revise/update the SEEA-CF to include these types of environmental activities. See Eurostat's Guidance: (<https://ec.europa.eu/eurostat/documents/1798247/6191541/Guidance+material+for+PEDS+compilation.pdf/f0f177d5-5bcd-0902-54e1-e39b7ce4d132?t=1671143474732>).
30. Ireland's NSO publishes fossil fuel subsidies (<https://www.cso.ie/en/releasesandpublications/ep/pffes/fossilfuelsubsidies2023/>) which are important figures for the Irish policy makers. It is these types of figures that are proposed for inclusion in the SEEA-CF. The IEA, OECD and IMF also have relevant statistics on these types of subsidies.

3.5 How to include these additional activities?

(D) Potentially Environmentally Damaging Subsidies (PEDS)

31. Including PEDS is not so simple as to just add PEDS to a list of environmental activities since these transactions are actually not positive for the environment but are negative for the environment. In SEEA-CF §4.1 subsidies are specifically named and are described as being a part of “a range of transactions, such as taxes and subsidies, that reflect efforts by governments, on behalf of society, to influence the behaviour of producers and consumers with respect to the environment.”
32. In this case, the new element is to make room in the SEEA-CF monetary accounts for transactions, or other measures that may have a negative environmental impact through their effect on relative

prices. In this perspective, PEDS – the part that corresponds to SNA transactions – are not entirely out of scope in the SEEA-CF.

33. The first proposal is to use SEEA-CF Section 4.4.3 Environmental payments to government: Environmental Taxes, as a model. Environmental taxes are defined in §4.150 as, “an environmental tax is a tax whose tax base is a physical unit (or a proxy of it) of something that has a proven, specific, negative impact on the environment.” And then the tax bases are defined as: energy, transport, pollution, and resources. Something similar could be developed in order that PEDS and environmental abatements are included in the scope of the revised SEEA-CF.
34. A definition for PEDS needs to be developed as well as a list of the related subsidy basis/bases. These need to be specified in as much detail as possible, using the SEEA-CF’s environmental taxes definition and bases as the example to follow.
35. Another important aspect that needs to be decided is whether the economic instruments to be included need to be actual transactions as specified and located within the SNA definitions, or not. In other words, are only explicit subsidies to be included or are implicit subsidies also included, i.e. the non-SNA PEDS. And if implicit subsidies are to be included, which would be a derogation with respect to the SNA principles, that a justification for going beyond the SNA is clearly provided and the boundary for inclusion is clearly identified. This topic is also applicable to the tax abatement issue (C7: Elaborating environmental tax abatements).
36. A second proposal on how to include PEDS is to divide up economic activities into 3 different groups, descriptions of how the economic activities/instruments are potentially influencing the environment potentially with colors as describers: Green, Grey, and Brown.
37. This would mean that the process for identifying which activities are included in the SEEA-CF would need to use a set of criteria that includes, Improves Environment (Green); Neutral (Grey); Damages Environment (Brown). This categorization that would then be applied to figure out if an activity belongs to the SEEA-CF scope – perhaps using a step-wise evaluation. Defining which activities are in each category is the challenge.
38. One concern with this approach is the category, “Brown (negative)” since this then opens for the extraction industries to be included in the SEEA-CF. The extraction industries have been excluded since these economic activities do not fit within the SEEA-CF definition of environmental activities, i.e., neither environmental protection nor resource management. This problem could perhaps be solved by simply identifying which “Brown” economic activities/transactions are included in the SEEA-CF. But this could prove to be a difficult and a very time-consuming task which could easily delay the revision of the SEEA-CF.
39. Regardless of how the inclusion of PEDS and environmental tax abatements is approached, a broad spectrum of environmental damages needs to be included and not only a focus on carbon emissions. For example, a subsidy that supports planting trees could be a positive environmental subsidy since trees take carbon dioxide out of the atmosphere but if the types of trees planted are non-native species or even worse are invasive species then this would be a negative environmental result. A subsidy may be both a positive and a negative environmental subsidy. How to deal with these situations needs to be carefully considered.
40. Perhaps other proposals concerning how to include the PEDS need to be developed in order to allow these to be included in the revised SEEA-CF. Additional work for this will be needed, and since this is a very different type of scope expansion when compared to the CC and Disaster types of extensions, the following proposal is made:

41. **Since there is already a separate PEDS Scoping Note (SN), it is proposed that the PEDS SN deal with the issue of how this topic can be included in the updated SEEA-CF, i.e., how the scope of environmental activities can be expanded to include PEDS. If the approach for inclusion needs a definition and delineation of the ‘bases’ for the subsidies, i.e. proposal 1, then this needs to come from the C6 PEDS SN and not in this C3 SN.**
42. **It should also be noted that C7 environmental tax abatements SN are outside of the current SEEA-CF. Tax abatements also need some type of extension since tax abatements are not included in the SNA since there are no recorded transactions covering tax abatements. Tax abatements cannot be included based on the proposed ways for including PEDS.**

3.6 What needs to be included? Other topics?

43. The four topics included in the SEEA-CF revision list of issues seems to be rather ad hoc. It is not comprehensive. There could be other topics to be considered for inclusion as an SEEA environmental activity. The topics of Green budget tagging and issue C8 Green/sustainable finance are issues already being named in the revision list of issues.
44. In determining what should be included, it is important to identify the system boundaries and principles that form the basis for expanding the SEEA-CF framework. It is important that the proposed extensions are consistent with the concepts of the SNA-2025, and the variables are consistent with the SNA.
45. Exactly how to describe the extension will need to be considered in the Guidance Note for this issue since the work on the relevant topics (climate change expenditure accounts, environment disaster relevant expenditures, and cross-cutting, natural resource dependent/based, economic activities) has been occurring without always considering the SEEA-CF’s scope of “environmental activities.”
46. With the number of environmental activity accounts increasing, it may be helpful to develop Venn diagrams to help see how the various environmental activity accounts relate to each other – EPE, RM, CC-mitigation, CC-Adaptation, DRREA, etc. in order to maintain consistency in these new areas/accounts. This comment highlights that given the range of potential accounts it is expected that for any given topic there will be some overlap with other topics. Careful description of the boundaries between accounts for different topics will be needed.
47. Finally, from the perspective of compilation, the Guidance Note will consider the potential to use data based on ISIC classes to support the compilation of accounts at the same time recognising that there is no fundamental conceptual connection between ISIC and CEP.

4 Links to other SEEA CF update issues

48. The following update issues are closely related to C3: extending the scope and perspective of environmental activity accounts to encompass a more imbedded view. C3 is related to and influences the following topics:
49. C1: Classification of Environmental Purposes (revised CEA) – The CEA will continue to apply to the EPE-, RM-, EGSS-, and integrated EPE Accounts. But new categories/classifications will be needed to encompass the structure of Climate Change Accounts, Disaster Expenditure Accounts, PEDS, etc.

50. C2: Inclusion of the integrated framework for monetary accounts – exactly how this will be impacted by expanding the scope of environmental activity accounts will need to be determined.
51. C4: Primary and secondary purpose (new) – the secondary purpose is the first step towards expanding the scope of the environmental activities account.
52. C5: Climate mitigation and climate adaptation expenditure (new) – expanding the scope of the environmental activities account is needed to be able to include CC adaptation expenditures and activities.
53. C6: Inclusion of potentially environmentally damaging subsidies/related transfers – the current scope does not include PEDS so an extension of the scope would be needed to have these included – this work is left to C6 to develop how to extend the scope.
54. C7: Elaborating environmental tax abatements – the current scope of the SNA only includes actual monetary transactions so an extension of the scope of the SEEA-CF would be needed to allow the inclusion of non-SNA, non-transactions in the SEEA-CF. This work is left to C7 to develop exactly how to extend the scope to allow non-SNA economic information.
55. Missing from this list is the disaster related expenditures accounts – see Disaster Risk Reduction Expenditure and Transfers in the Disaster-related Statistics Framework (https://stat-confluence.escap.un.org/download/attachments/16155350/DRSF%20Manual_20220411.pdf?version=1&modificationDate=1649660412114&api=v2).

5 Existing materials

56. Potential materials that may be considered in developing the Guidance note include (but are not limited to):
 - a. Climate Change mitigation and adaptation expenditures
 - i. LG papers

Hass, Julie L. and Scott Wentland (2023). Measuring climate mitigation and adaptation expenditures in the economy: Methodological challenges. 2023 London Group Meeting.
https://seea.un.org/sites/seea.un.org/files/measuring_climate_mitigation_and_adaptation_expenditures_in_the_economy_-_hass_and_wentland_u.s._bureau_of_economic_analysis_bea.pdf

Scott Wentland (paper coordinator) (2024). Climate Change Mitigation and Adaptation Expenditures: A Position Paper for the London Group on Environmental Accounting 30th Meeting. 2024 London Group Meeting.
https://seea.un.org/sites/seea.un.org/files/session_7_ccm_cca.pdf
 - ii. IMF papers: Data Gaps Initiative 3, Recommendation 7
<https://www.imf.org/en/Topics/climate-change>
 - b. Disaster expenditures
 - i. UNDRR/UNESCAP work – see DRSF - Disaster-related Statistics Framework (<https://stat-confluence.escap.un.org/download/attachments/16155350/DRSF%20M>)

[anual_20220411.pdf?version=1&modificationDate=1649660412114&api=v2](#)), and

<https://stat-confluence.escap.un.org/display/TWG/DRSF%3A+Disaster-related+Statistics+Framework>

c. Resource use (note: not extraction)

- i. Marine economy by US BEA (<https://www.bea.gov/data/special-topics/marine-economy>) and

Ocean Satellite Accounts (OSA) by NSO Portugal (https://www.ine.pt/xportal/xmain?xpid=INE&xpgid=ine_destaques&DESTAQUESdest_boui=459804030&DESTAQUESmodo=2)

- ii. Tourism accounts (<https://www.unwto.org/tourism-statistics/statistical-framework-for-measuring-the-sustainability-of-tourism>);
outdoor recreation by US BEA (<https://www.bea.gov/data/special-topics/outdoor-recreation>)

- iii. Eurostat:

Bioeconomy

(https://knowledge4policy.ec.europa.eu/bioeconomy/topic/economy_en)

Circular economy (https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Circular_economy_-_material_flows)

d. PEDS

- i. Ireland's NSO publishes fossil fuel subsidies

(<https://www.cso.ie/en/releasesandpublications/ep/p-ffes/fossilfuelsubsidies2023/>)

- ii. Eurostat's Guidance:

(<https://ec.europa.eu/eurostat/documents/1798247/6191541/Guidance+material+for+PEDS+compilation.pdf/f0f177d5-5bcd-0902-54e1-e39b7ce4d132?t=1671143474732>).

- iii. Various Eurostat 2025 Harmful subsidies discussion group folder for discussion documents and info:

<https://circabc.europa.eu/ui/group/922b4700-1c83-4099-b550-763badab3ec0/library/06c2a67f-eed6-4cb9-839a-77139294cd57>

57. In developing the Guidance note it will be necessary to identify the relevant experts and stakeholders for the purposes of both drafting the content of the note and also ensuring appropriately wide consultation. These experts and stakeholders have not been identified at this stage.