**Classifying economic activities on climate change mitigation in ISIC**

**Description of issue**

Climate change is a major challenge which directly impacts the environment, economy and social wellbeing of every person on Earth and of future generations. The emissions from human induced greenhouse gases through fossil fuel use and land use change, is the proximate cause of climate change

The Paris Agreement, a landmark pact to combat climate change, signed by 184 countries in April 2016, launched an ambitious global effort to reduce greenhouse gas emissions and adapt to a changing climate. Policy responses to climate change can be broadly categories into three areas, namely 1) mitigation; 2) adaption and 3) response to catastrophic loss or risk[[1]](#footnote-1).

* **Mitigation** consists of reducing emission of greenhouse gases by changes to the economy or protecting and restoring sinks that store carbon emission.
* **Adaption** is the process of adjusting to a changing climate. It seeks to moderate or avoid harm to humans and help natural system adjust.
* **Recovery and emergency** involve addressing loss and damage from climate change impacts due to extreme events, such as hurricanes, or gradual changes, such as rising sea levels.

Government implements policy action to combat climate change through various change policy instruments, such as through direct government services or regulatory instruments or market incentives that alter household and industry behaviour for climate actions. This results in a change of industrial structure and the emergence of new economic activities related to climate change mitigation, adaptation and recovery and emergency.

Currently, economic activities related to climate change mitigation are not explicitly reflected and integrated in ISIC. The current proposal provides an initial attempt to introduce changes to recognize such activities in ISIC structure and to improve their description for recording purpose. The current issue paper focus on climate change mitigation activities. Activities related to climate change adaption in the form of ecosystem restoration and management will be considered in another issue paper.

Given the central role of carbon in the environment, there are essentially two types of policy approaches to mitigate climate change. The first is to reduce or stabilize carbon emissions in economic processes. The second is to strengthen the capacity of the environment to be able to capture and store carbon by protecting carbon intensive ecosystems or implementing efforts to increase carbon storage through forest plantation, among other measures.

**Issue summary**

The objective of this issue paper to propose changes in ISIC structure and improve description for the recording of activities on climate change mitigation, by creating new groups or classes. This includes activities aimed at the reduction and control of emissions of greenhouse gases, air pollutants and gases, and protecting and restoring sinks that store carbon emission.

**Proposals**

1. **Carbon sequestration and carbon storage** is a relatively new, but upcoming economic activity that aims to mitigate climate change. Basically, there are two ways by which human activity may actively remove, capture and store CO2. First, CO2 may be captured and stored in the subsoil, for example in empty gas fields (carbon capture and storage, CCS). Secondly, CO2 may be sequestered and stored in biomass. Economic activities may specifically aim at strengthening the capacity of the environment to be able to capture and store carbon by protecting carbon intensive ecosystems or implementing efforts to increase carbon storage, for example carbon farming and forest plantation. Even if these activities are currently very minor, they may grow massively in the next 10-20 years and become a major element in the fight against accumulation of greenhouse gases in the atmosphere.

Although it is not directly straightforward where these activities fit in the current structure, the current issue paper propose to:

* 1. distinguish between the two activities, and
  2. clearly identify these in revised ISIC.

With regard to **carbon capture and storage** in the subsoil the proposal is to create a new class, there are several options where this would fit in ISIC:

1. In Division B “Mining and quarry”, based on the technical nature of this activity it probably is best put under this division. It could be a new group under Division 09, namely Group 092 “carbon capture and storage”. However, it is noted that i) carbon capture and storage as such is not mining (taking natural resources out of the ground) and ii) also not directly a supporting activity for other mining activities.
2. In ISIC O “Public administration and defence; compulsory social security”, an option is to create a new class under Group 841 “Administration of the State and the economic and social policy of the community’ or Group 842 “Provision of services to the community as whole”. However, based on the technical nature of the activity, the question is whether it could be put under the provision of public administration services.
3. In ISIC Q “Human health and social work activities”, an alternative option is to create a new Group in the sense that they are services provided for the collective common good (i.e., climate change mitigation), although it does not really seem to fit under Division 86, 87 or 88.
4. Other proposal on how to reflect such activities in ISIC is welcome.

With regard to activities related to **carbon sequestration and storage in biomass**, a new class could be created, or this activity could be included in one of the existing ISIC classes (with the proper description in the explanatory notes:

1. Inclusion in Class 0161 (Support activities for crop production),
2. Inclusion in Group 021 (Silviculture and other forestry activities),
3. Inclusion Group 813 (Services to buildings and landscape activities) or in the new group 814 ecosystem management *(to be proposed in the other note).*
4. Other proposal on how to reflect such activities in ISIC is welcome.
5. **Energy power generation by non-carbon emitting sources** is a major climate change mitigation activity to reduce greenhouse gas emission. The proposal here is to split energy production by type of energy sources under division 35 ‘Electricity, gas, steam and air conditioning supply’, as follows:

|  |  |  |  |
| --- | --- | --- | --- |
| **Division** | **group** | **class** | **Description** |
| Division 35 | |  | Electricity, gas, steam and air conditioning supply |
|  | 351 |  | Electric power generation |
|  |  | 3511 | Thermal energy production, except nuclear plants; |
|  |  | 3512 | Nuclear energy production; |
|  |  | 3513 | Hydroelectric energy production; |
|  |  | 3514 | Production of electricity from solar source; |
|  |  | 3515 | Production of eolic electricity; |
|  |  | 3516 | Production of electricity from biomass; |
|  |  | 3517 | Production of electricity from other renewable sources (geothermal, waves, ...) |

It was noted that non-renewable sources are not identical to non-carbon emitting sources. Biofuels are renewable but they contribute to greenhouse gas emission. Nuclear is not renewable but does not emit greenhouse gas. Hence an ideal distinction can be achieved with a detailed breakdown by energy source under ISIC 35.

1. **Manufacture of electric vehicles** is considered as part of the climate change mitigation activity. The proposal here is to split manufacture of motor vehicles in electric vehicles and non-electric vehicles under division 29 ‘Manufacture of motor vehicles, trailers and semi-trailers’. Manufacture of electric cars and thermal cars treated separately will give more visibility to the manufacture of a vehicle less harmful to the environment. Even if electric vehicles are currently still a minority, a massive transition is going to happen in the next 10-20 years towards electric vehicles. In order to measure this transition, a separate class for the manufacturing of electric vehicles would be needed.

|  |  |  |  |
| --- | --- | --- | --- |
| **Division** | **group** | **class** | **Description** |
| Division 29 | |  | Manufacture of motor vehicles, trailers and semi-trailers’ |
|  | 291 |  | Manufacture of motor vehicles |
|  |  | 2911 | Manufacture thermal vehicles |
|  |  | 2912 | Manufacture of electric vehicles |

1. Similar to the energy power generation by non-carbon emitting sources and the manufacturing of electric car, under division 41 “Construction of buildings”it is proposed to create new groups for the **construction of low energy buildings** **(which is called passive buildings) and the refurbishment of old buildings to increase energy efficiency** for the monitoring of climate change mitigation activity. More and more building companies are becoming specialised in these activities. These activities cannot be simply identified by looking at the inputs of materials. In Europe this is a key policy with a big budget to reduce emissions of greenhouse gases by heating buildings and limit dependency of imported fossil fuels.

|  |  |  |  |
| --- | --- | --- | --- |
| **Division** | **group** | **class** | **Description** |
| Division 41 | |  | Construction of buildings |
|  | 411 |  | Construction of buildings, exclude passive buildings |
|  | 412 |  | Construction of passive buildings |
|  | 413 |  | Energy efficient refurbishment of existing building |

1. Under Section F, it is also proposed to create additional classes under 43.2 for the **installation of solar panels** and under 43.3 for **insulation activities**. There is much demand to distinguish these activities which are becoming more important for climate change mitigation.

|  |  |  |  |
| --- | --- | --- | --- |
| **Division** | **group** | **class** | **Description** |
| Division 43 | |  | Specialized construction activities |
|  | 431 |  | Demolition and site preparation |
|  | 432 |  | Electrical, plumbing and other construction installation activities |
|  |  | 4321 | Electrical installation |
|  |  | 4322 | Plumbing, heat and air-conditioning installation |
|  |  | 4333 | Installation of solar panels |
|  |  | 4329 | Other construction installation |
|  | 433 |  | Building completion and finishing |
|  |  | 4331 | Insulation activities |
|  |  | 4339 | Other building completion and finishing activities |
|  | 439 |  | Other specialized construction activities |

**Annex 1: Issues in classifying climate mitigation activities in existing ISIC structure**

|  |  |  |  |
| --- | --- | --- | --- |
| **Climate change mitigation activities** | **Relevant group/class in ISIC Rev.4** | **Description** | **Issues** |
| Carbon farming | Class 0161 (Support activities for crop production) | Covers maintenance of land to keep it in good ecological condition for agriculture use | The scope of this class only limited to land for agricultural use |
| Group 813 (Services to buildings and landscape activities) | Covers maintenance of land in order to keep it in good ecological condition, | No distinction of on activities that lead to carbon sequestration and carbon storage in land. |
| Afforestation and reforestation | Group 021 (Silviculture and other forestry activities) | Covers growing of standing timber: planting, replanting, transplanting, thinning and conservation of forests and timber tracts, | No distinction on afforestation and reforestation activities for carbon retention in this group |
| Manufacturing of electric vehicles | Division 29 (Manufacturing of motor vehicles) | Covers the manufacture of motor vehicles. | No distinction on manufacture of electric car in this group |
| Electric power generation by non-carbon emitting sources | Group 351 (Electric power generation, transmission and distribution) | Covers the generation of bulk electric power, transmission from generating facilities to distribution centers and distribution to end users | No distinction on energy power generation by energy source |
| Construction of energy efficiency building | Division 41 (Construction of buildings) | Includes general construction of buildings of all kinds | No distinction on construction of energy efficiency buildings (passive buildings) and the activities of refurbishment of old buildings to increase energy efficient) |
| Installation of solar panels | Group 432 (Electrical, plumbing and other construction installation activities) | Includes installation activities that support the functioning of a building as such, including installation of electrical systems, plumbing (water, gas and sewage systems), heat and air-conditioning systems, elevators etc. Including maintenance and repair. | No distinction on installation of solar panels |
| Insulation activities | Group 433 (Building completion and finishing) | Cover building completion work | No distinction on insulation activities |

1. United Nations (2020) Natural Capital Accounting for Integrated Climate Change Policies https://seea.un.org/sites/seea.un.org/files/seea\_-\_climate\_change\_-\_web\_ready.pdf [↑](#footnote-ref-1)