Session SBI61 (2024)

Session starts: 08-08-2024 00:00:00 [GMT+1]
Session ends: 07-11-2024 23:30:00 [GMT+1]

Multilateral Assessment

A compilation of questions to – and answers by – **Luxembourg**

exported on 10-11-2024 by the UNFCCC secretariat

Question by United States of America at Saturday, 07 September 2024

Category: Progress towards the achievement of its quantified economy-wide emission reduction target

Type: Before 07 September

Title: Methane emissions

Noting the increase in methane emissions from 2019-2020, what additional measures is Luxembourg considering to address this potent gas?

Answer by Luxembourg

Looking at methane emissions over a longer period, they have remained fairly stable since 1990, fluctuating between 640 and 685 kt CO2e. About 60% of these emissions come from enteric fermentation in the agricultural sector (CRF 3.A). The other two main sources of methane emissions in Luxembourg (manure management - CRF 3.B) and waste (CRF 5) fluctuate between 12% and 17% between 1990 and 2022. In the waste sector, methane emissions decrease by 32% since 1990. This is due to ongoing efforts to reduce the use of septic tanks in remote areas and instead connect them to centralised biological treatment plants. However, CH4 emissions from manure management have increased since 1990, while those related to enteric fermentation have remained fairly stable. PS: There's an increase in methane emissions between 2019 and 2020, as noted in the question, but the whole period 1990-2022 is actually characterised by increases and decreases, with a slightly decreasing trend line. Therefore, Luxembourg is considering, among others, the following additional measures to reduce methane emissions (number = PaM number in the NECP): - 701 Aid to reduce livestock pressure - 702 Aid to promote the use of food additives to reduce methane emissions from digestion - 711 Legal framework for limiting the number of animals per farm - 611 Waste water management - 613 Waste water treatment - 614 Sewage sludge recovery strategy (NECP available at https://commission.europa.eu/publications/luxembourg-final-updated-necp-2021-2030-submitted-2024_en – courtesy translation, original in French)

Question by United States of America at Saturday, 07 September 2024

Category: Progress towards the achievement of its quantified economy-wide emission reduction target

Type: Before 07 September

Title: Steel decarbonization

Steel decarbonization is considered by many to be particularly challenging. What were the lessons from Luxembourg’s transition from blast furnaces to electric arc furnaces, resulting in a substantial replacement of solid fuels (primarily imported coke, but also imported anthracite) with electricity and natural gas, and can these lessons be applied to other hard to abate sectors?

Answer by Luxembourg

In fact, in the 1990s, the Luxembourg steel industry underwent a major transformation with the transition from traditional blast furnaces to electric arc furnaces (EAF). This change was mainly driven by the need to modernise production methods, improve energy efficiency and reduce environmental impact.

The last of Luxembourg's blast furnaces, operated by the steel company ARBED (now Arcelor-Mittal), was shut down in 1997. This marked the end of an era and the beginning of a new one focused on the recycling of scrap metal using EAF technology. EAFs are more environmentally friendly because they produce steel from recycled scrap and can be powered by renewable energy sources, significantly reducing CO2 emissions compared to blast furnaces.

The transition has not been without its challenges. EAFs require a stable and substantial supply of scrap metal and electricity (as much as possible from renewable sources), making energy prices a critical factor in profitability. In addition, the transition required significant investment in infrastructure and technical expertise to handle the new technology.

More recently (2022), the Ministry of Economy and ArcelorMittal signed a Memorandum of Understanding as part of the development of projects to enable the ArcelorMittal group's Luxembourg sites to move towards carbon-neutral steel production. This agreement confirms the Luxembourg government's willingness to do its utmost to support these investments through the use of available funding mechanisms. *See https://gouvernement.lu/en/actualites/toutes_actualites/communiques/2022/09-septembre/27-arcelormittal-decarbonation.html*

Whether these lessons can be applied to other difficult to reduce sectors is difficult to answer, as there are very few large emitters in Luxembourg. The largest is now a cement industry that is exploring the use of alternative fuels, such as biomass and waste derived fuels (fluff, old tyres, ...), as combustion materials in its clinker production process to reduce its environmental impact.

Question by Canada at Friday, 06 September 2024

Category: All emissions and removals related to its quantified economy-wide emission reduction target

Type: Before 07 September

Title: Publication of GHG estimates prior to submission to the UNFCCC

GHG emissions data is a key piece in setting and tracking emission reduction targets and identifying mitigation approaches. Could you please describe any institutional arrangements, or work underway to develop such arrangements, that could enable publishing GHG estimates prior to the official submission to the UNFCCC (for example, making GHG data available to the public or some key stakeholders in 2024 ahead of a submission mid-April 2025)?

Answer by Luxembourg

Article 26(2) of the Governance Regulation ((EU) 2018/1999) requires Member States to report annually, by 31 July of year Y, approximated greenhouse gas inventories for year Y-1 (http://data.europa.eu/eli/reg/2018/1999/oj). The minimum requirement is to produce an

approximate inventory for the categories reported in the CRF/CRT Summary Table 2. The approximate inventory is prepared by the same team and administrations as the GHG inventory, so the same institutional arrangements are in place.

This approximate inventory uses a provisional energy balance for year Y-1, reports from ETS installations for the same year and other administrative sources that allow the calculation of provisional emissions for year Y-1 by 31 July year Y. In general, the total emissions are very close to the final emissions, as year Y-1 energy production, energy imports and ETS data are (almost) final before July year Y. However, the sectoral breakdown is a bit more difficult and significant changes can occur between the provisional inventory for year Y and the final inventory.

See also https://www.eionet.europa.eu/etcs/etc-cm/products/etc-cm-report-2024-06

At the Luxembourg level, our Climate Law requires that a provisional balance for the 5 sectors identified in the Climate Law for the year Y-1 - and for which Luxembourg has defined trajectories between 2021 and 2030 to reach the minus 55% target set in stone in its Climate Law - be prepared by 31 July of year Y - the final values for the year Y-1 will be determined once the final inventory is submitted to the EC, i.e. on 15 March of year Y+1. In this way, we make the Y-1 GHG data available to the public or to some key stakeholders in year Y in advance of a submission in year Y+1: the latest example can be found here:
https://environnement.public.lu/fr/klima-an-energie/changement-climatique/inventaire-ges0/bilan-provisoire-2023.html

---

Question by Canada at Friday, 06 September 2024

Category: All emissions and removals related to its quantified economy-wide emission reduction target

Type: Before 07 September

Title: Incorporation of atmospheric measurements in GHG inventory

Improved measurement technologies in recent years have resulted in the advancement of emissions data derived from atmospheric measurements which can be compared to emissions/removals data reported to the UNFCCC. Could you please share information about how atmospheric measurement data are considered in the development of your inventory, including any plans to incorporate such measurements into inventory methodologies?

Answer by Luxembourg

So far, Luxembourg does not use remote sensing for GHG inventory or quality control. In fact, given the small size of the country and the lack of point sources, the cost/benefit ratio of supplementing or verifying the GHG inventory with atmospheric measurement data is unfavourable, and such data is not currently collected/available anyway.

Such measurements are indeed useful for the detection of large leaks, such as in the exploration of oil or gas wells or coal mines, but Luxembourg doesn't have any.

However, atmospheric measurement/remote sensing data will certainly have to be considered if Luxembourg wants to move to CCS/CCUS in the future - for which a framework for action is being considered - in order to be net zero by 2050.

Question by United Kingdom of Great Britain and Northern Ireland at Friday, 06 September 2024

Category: Assumptions, conditions and methodologies related to the attainment of its quantified economy-wide emission reduction target

Type: Before 07 September

Title: Question to Luxembourg on monitoring and evaluation

Thank you, **Luxembourg**, for the opportunity to comment on your 5 th Biennial Report and 8 th National Communication.

Your report highlights how you've improved your monitoring and evaluation of policies and measures and you shared the challenge of distinguishing between the effects of individual PAMs. Can you share whether you have found a way forward on this challenge or successes in reporting?

Answer by Luxembourg

As explained in our NC8/BR5 (paragraphs 68, 77 & 96 in Chapter IV), the impact of the measures has been quantified in the NECP modelling (STATEC), yet a specific impact by individual measure is not always available, as many measures are complementary and have joint effects.

Luxembourg intends to further improve its monitoring and evaluation activities by recruiting the appropriate human resources.

Question by Australia at Friday, 06 September 2024

Category: Assumptions, conditions and methodologies related to the attainment of its quantified economy-wide emission reduction target

Type: Before 07 September

Title: Q2

Can Luxembourg give examples on how it is supporting emissions reductions in the transport sector at the municipality and country level? (Reference: pg224-225 and 261-276 of BR5/NC8)

Answer by Luxembourg

The most notable examples of how Luxembourg supports the reduction of emissions in the transport sector at municipal and national level are the following (number = PaM number in the NECP) : - 401 Implementation of the National Mobility Plan 2035 (*PNM2035*) and promotion of public transport and active mobility - 410/411/423/425 Accelerating the development of electric mobility through support schemes for the purchase of zero-emission vehicles and the installation of charging stations

(*Klimabonus Mobilitéit* , social leasing of electric cars and business support schemes), complemented by tax incentives for electric cars - 424 Expanding the charging infrastructure through aid schemes and by facilitating the installation of charging stations, particularly in shared buildings and business premises. - 105 Reducing fuel sales by increasing the progressive CO2 tax

(NECP available at https://commission.europa.eu/publications/luxembourg-final-updated-necp-2021-2030-submitted-2024_en – courtesy translation, original in French)

Question by Australia at Friday, 06 September 2024

Category: Assumptions, conditions and methodologies related to the attainment of its quantified economy-wide emission reduction target

Type: Before 07 September

Title: Q1

Can Luxembourg please outline how it is including public transportation in its response to climate change and how the neighbouring regions are being considered given that much of Luxembourg's workforce are cross- border commuters? (Reference: pg50-51 and 261- 276 of NC8/BR5)

Answer by Luxembourg

Mesure 405 "Promotion of public transport" describes how Luxembourg is including public transport in its response to climate change. Between 2018 and 2027, the state will invest EUR 3.9 billion in the development of rail infrastructure. Capacity will be significantly increased. In addition, in partnership with the authorities of neighbouring countries, there are plans to strengthen direct rail links and create new connections to cities in neighbouring countries. This includes the opening of a 640-space park and ride facility near the SNCF station at Longwy (France). It is available free of charge to cross-border workers who then take the train to Luxembourg. As you may be aware, as of March 2020, public transport in Luxembourg is free of charge. An extension of free access to a 5 km radius around the borders is being studied. The MMUST project (measure 403) should also be mentioned. Funded under the Interreg V A "Greater Region programme", the MMUST project (*Multimodal Model and Cross-Border Mobility Scenarios*) aims to develop a tool to support decision-making and evaluation of transport policies for cross-border mobility in the heart of the Greater Region. PS: The Greater Region is Luxembourg and the surrounding regions of Belgium, France and Germany: https://granderegion.net/en

---

Question by New Zealand at Thursday, 05 September 2024

Category: All emissions and removals related to its quantified economy-wide emission reduction target

Type: Before 07 September

Title: Impact of Climate Policy Observatory in supporting science-based decision-making

New Zealand is interested in hearing about the impact of the Climate Policy Observatory (CPO) which was set up to advise on projects, actions or measures that may have an impact on climate policy; to scientifically evaluate the measures taken or planned in the field of climate policy and to evaluate their effectiveness, as well as to propose new measures; to draw up an annual report for the government on the implementation of climate policy; and to propose research and studies in relevant fields. Specially, how is the CPO supporting science-based decision-making?

Answer by Luxembourg

The members of the Luxembourg Climate Policy Observatory (CPO),were appointed in October 2021 and since then the CPO has published two annual reports (2022 and 2023) and four advisory opinions, including on the draft updated National Energy and Climate Plan of Luxembourg (NECP), the coalition agreement of the new government after the 2023 elections and on fossil fuel subsidies.

CPO publications available at https://opc-luxembourg.lu/en/publications-en/

NECP available at https://commission.europa.eu/publications/luxembourg-final-updated-necp-2021-2030-submitted-2024_en – courtesy translation, original in French

The CPO's annual reports and opinions usually attract media attention in the form of news and radio broadcasts. The CPO may issue advisory opinions on its own initiative, as was the case with the opinion on fossil fuel subsidies and the coalition agreement of the new government, or the government may request an opinion, as was the case when the government asked the CPO to comment on the draft updated National Energy and Climate Plan.

The CPO has regular, biannual meetings with the Minister for the Environment, Climate and Biodiversity.

The CPO's most recent project is a public survey on attitudes and knowledge about climate change and solutions. The results of the survey will be published in spring 2025.

Through these activities aimed at policy makers and the general public, the CPO supports science-based decision making. *More on the OPC here: https://opc-luxembourg.lu/en/about/*

Question by New Zealand at Thursday, 05 September 2024

Category: Assumptions, conditions and methodologies related to the attainment of its quantified economy-wide emission reduction target

Type: Before 07 September

Title: Use of LUAgriEmissionModel

New Zealand is interested in understanding how Luxembourg utilised the LUAgriEmissionModel for its agriculture projections and the benefits and drawbacks of this model?

Answer by Luxembourg

Luxembourg is a small country and its agricultural sector is even smaller. It is a typical example of a country where domestic policies cannot influence world prices. As a result, in models such as GAINS or similar, Luxembourg's agricultural sector is usually very poorly represented. Apart from the fact that the country is small and therefore often considered together with other regions, these models are usually populated with EUROSTAT/FAO data and thus ignore another peculiarity of the Luxembourg agricultural sector. EUROSTAT/FAO (and also STATEC, the Luxembourg statistical authority) collect data from Luxembourg farmers and on their UAA, regardless of whether they are located in Luxembourg or in neighbouring countries. However, the UAA cultivated by Luxembourg farmers and located in neighbouring countries is much larger (e.g. in 2023 >;10 000 ha or >;10% of the total UAA cultivated by Luxembourg farmers) than the UAA cultivated by Belgian, German and French farmers and located in Luxembourg (< 500 ha). Luxembourg farmers with land in Belgium, France and Germany "export" livestock manure to spread on their fields in these countries and "import" feed to feed their animals. Furthermore, some of the livestock are cross-border commuters and spend the summer in the neighbouring countries. Of course, the same applies to French, Belgian and German farmers who have fields in Luxembourg, but to a lesser extent.

Therefore, in order to better reflect the Luxembourg situation and policies, Luxembourg decided to extend the LUAgriEmissionModel to 2050 and use it for the projections. The LUAgriEmissionModel is a bottom-up model that simulates both greenhouse gas emissions (CRF 3) and air pollutant emissions (NRF 3) from agriculture. Therefore, another advantage of the model is that it is possible to see the impact of an implemented measure on both GHG and air pollutants. The model also offers the possibility to simulate all measures for the WAM at once, or to show the impact of a single measure and ceteris paribus for all others. The activity data used for the WEM scenario are mostly trend estimates or the year 2021 was kept constant. For the WAM scenario, on the other hand, assumptions had to be made about the uptake of new measures. All assumptions and trend estimates have been discussed with experts. However, this is also the weak point of the model and the projections. An underestimation or overestimation of the uptake of a measure has an impact on the results of the projections.

Question by New Zealand at Thursday, 05 September 2024

Category: All emissions and removals related to its quantified economy-wide emission reduction target

Type: Before 07 September

Title: Agricultural insurance

New Zealand was interested to read that Luxembourg is providing insurance for the agricultural sector as an adaptation action. New Zealand would be interested to know how this insurance works, and whether there are any mitigation co-benefits associated with this action?

Answer by Luxembourg

Farmers can insure their crops as well as their livestock, although the latter is rarely used. The main objective of insurance is to reduce agricultural vulnerability by insuring against climate-related crop losses. Insurance against crop losses is promoted in the crop production sector (arable crops, temporary and permanent grassland) as well as in the horticulture and viticulture sectors. There are

many reasons for crop losses, ranging from too much rain to too little, but also frost damage, etc. However, only UAA in Luxembourg can be covered by such insurance. The farmer must apply for a subsidy to take out insurance against loss of income. If the farmer then takes out insurance with an insurance company registered in Luxembourg, the insurance premiums payable will be partly covered by the Luxembourg authorities. The subsidy on the insurance premiums payable is 65%. The subsidy is paid directly to the insurer. The insurer charges the policyholder only the insurance premium that would normally be due, minus the subsidy (premium amount - 65% state subsidy = invoice amount). There are maximum insurance premiums and subsidy limits: see https://agriculture.public.lu/de/beihilfen/sonstige-foerdermassnahmen/beihilfe-fuer-ertragsausfallversicherungen.html – in German – for more details.

Session SBI61 (2024)

Session closed at 07-11-2024

UNFCCC - LAST PAGE OF EXPORT