

## Session SBI46 (2016)

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Session ends: 30-04-2017 23:59:59 [GMT+1]



Exported from Session final result section  
Multilateral assessment  
Questions and answers Luxembourg

Question by Japan at Tuesday, 28 February 2017

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

Type: Before 28 February

Title: Voluntary agreement(FEDIL)

Would you please tell us the details on contents and outcomes of "Voluntary agreement (FEDIL)"?

Answer by Luxembourg, Sunday, 30 April 2017

This agreement addresses energy consumption of the industrial sector, including enterprises participating to the European Union Emissions Trading System (EU ETS). The majority of the country's large industrial energy consumers participate in this voluntary agreement (i.e. about 60 enterprises).

The first version of the agreement came in force in 1996, and has been several times extended and amended until 2010. For the 2011-2016 period, the aim of the voluntary agreement was to improve energy efficiency by a general objective of 7 %. The average for 2009 and 2010 was used as a reference. The development of energy efficiency is measured using a general efficiency characteristic value, which corresponds to the arithmetic mean of the company-specific efficiency characteristics. If the general objective is not met and the company-specific improvement is below the 7 % target, the relevant participating enterprises must pay a proportion of the tax on the purchasing of electricity and gas, from which they are otherwise exempt. In addition to improving their energy efficiency, the participating industrial companies undertake to introduce an energy management system, by identifying the potential for improvement and drawing up an action plan for implementing at least some of this potential. Enterprises that fail to meet their obligations – including annual reporting requirements – may be excluded from the agreement. It has been renewed from 1<sup>st</sup> March 2017 up to 31<sup>st</sup> December 2020. In this latest agreement, training in energy efficiency management requirements have been included, as well as exchange of good practices between participating companies. The general objective of 7 % over the period is maintained. The average for 2014 and 2015 is used as a reference.

The participating enterprises are required to finance the energy efficiency improvements themselves. In return, they are exempted from a proportion of the tax on electricity and gas.

### **Impact evaluation of the 2011-2016 agreement**

Improvement in energy efficiency: 0.7% p.a.

The 7 % target within the 6-year period was adjusted for autonomous progress (0.5 % p.a.). In the calculation, it was assumed that the initial effect of the measure occurred in 2013, since the development of energy consumption up to 2012 was reflected in the energy balance for Luxembourg. The expected (or ex-ante) energy savings amounted to 38 GWh/year, or 152 GWh cumulated from 2013 to 2016. The ex-post evaluation is not yet available – source: [http://www.measures-odyssee-mure.eu/public/mure\\_pdf/industry/LUX10.PDF](http://www.measures-odyssee-mure.eu/public/mure_pdf/industry/LUX10.PDF)

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Question by Japan at Tuesday, 28 February 2017

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

Type: Before 28 February

Title: Promoting eco-technologies in the fields of invention and innovation

Based on the policy and measure of "Promoting eco-technologies in the fields of invention and innovation", would you please tell us what is important to effectively promote the use of environmental technology?

Answer by Luxembourg, Sunday, 30 April 2017

Luxembourg is a tiny economy relying mostly, nowadays, on the financial sector and related activities. For quite a while the Government is aware that this high dependency on one sector could lead to dramatic consequences. Therefore, in 2002, the Luxembourg Government launched the Cluster Initiative, which actively encourages networking between the private and the public sectors. The focus is placed on key technologies that have been identified as being important for the future sustainable development of the Luxembourg economy, such as:

automotive components, **eco-innovation technologies**, healthcare and biotechnologies, information & communication technologies, manufacturing technologies, space technologies, and wood – see <http://www.clusters.lu/Portrait/About-us>.

More precisely, with regard to the EcoInnovation cluster, refer to <http://www.ecoinnovationcluster.lu/>.

As it can be seen from this presentation –

<http://www.ecoinnovationcluster.lu/content/download/21934/201707/version/1/file/activities+cluster+eco+2015.pdf> – the Government and its innovation agency LuxInnovation, believe that supporting new technologies, and notably in the environment field, passes through an integrated support scheme and a sound partnership between the public and the private sectors. The second slide of the above mentioned presentation summarises the key actions of the cluster strategy.

Finally, last November, the Government presented the outcomes of a vast study on a third industrial revolution for Luxembourg. The third revolution is twofold for Luxembourg: it could be the third one for Luxembourg itself after past transitions to the iron & steel industry and then to the development of financial activities; it could also be, globally, a third revolution towards a decarbonized economy. A presentation –

<http://www.troisiemerevolutionindustrielle.lu/comprendre/3-minutes-pour-comprendre/> – summarizes this initiative that is of utmost importance for Luxembourg, especially taking into account its economic development leading to a high population growth and, therefore, pressure on the environment and an increasing use of energy.

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Question by Japan at Tuesday, 28 February 2017

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

Type: Before 28 February

Title: Factor of increase of past GHG emissions and performance standards for passenger car

The BR2 mentions that, in the period 1999-2004, GHG emissions in the transport subsector increased due to an increase in energy consumption. Could you provide background information and reason for this increase? Also, as Japan places high importance on measures for road transport in the transport subsector, can you provide information on the current performance standards for cars, and what level of standards you expect in the future?

Answer by Luxembourg, Sunday, 30 April 2017

Road transportation GHG emissions increase over the period 1999-2004 was due to an increase of road fuel sales (mainly diesel, to a lesser extent also motor gasoline) – road transportation GHG emissions estimates are derived from road transportation fuel sales only. It should however be noticed that Luxembourg is in a rather peculiar situation due to lower road fuel prices compared to those in its neighbouring countries. Indeed, most of the road fuel is sold to non-residents: numerous cross-border commuters, vehicles (mainly heavy duty vehicles) that crosses Luxembourg – the country is located on one of the most important North-South axis within the European Union – and “fuel tourism”: people driving especially to Luxembourg for benefiting of lower fuel prices, as well as lower prices on other commodities such as non-alcoholic & alcoholic beverages, tobacco, etc. (Luxembourg applies a rather low taxation rate compared to its neighbouring countries, e.g. VAT is set at 17%). Consequently, though most of the road transportation related emissions does not take place in Luxembourg, they are accounted for in Luxembourg’s GHG inventories due to the fuel sale principle of the UNFCCC/IPCC Guidelines: more details in section 1.1.6 of the BR2.

Since 2005, GHG emissions from road transportation have continuously decreased, mainly due to (1) the economic crisis in the European Union and (2) professional diesel price in Belgium that is very close to Luxembourg’s prices (VAT on road fuel sales can be refunded for transportation companies located in Belgium).

Finally, the increase in emissions (from 1999 to 2004) is an absolute increase due to increased fuel sales, and not a relative increase of fuel consumption due to lower performance standards of road vehicles. Performance standards of road vehicles in Luxembourg are those as defined for the European Union in the European legislation. For more details on the CO<sub>2</sub> monitoring of cars, vans and heavy duty vehicles (current performance standards and future targets), please refer to the following website: [https://ec.europa.eu/clima/policies/transport/vehicles\\_en](https://ec.europa.eu/clima/policies/transport/vehicles_en) . As Member State of the European Union, Luxembourg has transposed and implemented the European legislation into its national legislation.

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Question by Japan at Tuesday, 28 February 2017

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

Type: Before 28 February

Title: Factor of decrease of GHG emissions from the iron and steel industry

GHG emissions from Luxembourg show the decreasing trend from 1994 to 1998. According to BR2, the factor of this decrease is attributed to the conversion from blast furnace to electric furnace owing to reorganization of the steel industry. Can you provide the background information of this conversion and the information of coordination process with the stakeholders?

Answer by Luxembourg, Sunday, 30 April 2017

It was a purely industrial decision in which the Luxembourg Government of that time was not directly involved.

Iron & steel industry developed in Luxembourg due to the existence of iron ore underground. However, with the depletion of iron ore in Luxembourg around the 1970s and the development of more competitive steel industries located next to rivers or seas, Luxembourg's installations had to specialize in more complex steel products with a higher value added content. At the beginning of the 1990s, taking into account these new products developments, electric arc furnaces became a viable and economical solution. Indeed, iron & steel installations – all belonging to the same group (Arcelor, now Arcelor – Mittal) are using mostly metal scrap in these electrical furnaces. This explains the dramatic decrease in manufacturing industries GHG related emissions between 1993 and 1998.

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Question by China at Tuesday, 28 February 2017

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

Type: Before 28 February

Title: mitigation impacts

In the BR2, Luxembourg has not provided the estimated mitigation impacts for many of its PaMs, but Luxembourg intends to evaluate its PaMs and reports such information to the EU in March 2017. Could Luxembourg provide update information on the estimated mitigation effects?

Answer by Luxembourg, Sunday, 30 April 2017

PaMs reporting for Luxembourg has been totally revised in March-April 2017. The new set of PaMs – with ex-ante mitigation impacts evaluated for some of them – is attached to this answer.

Attachment: LU\_MMR\_PaMs\_2017\_3103-final.pdf



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Question by Thailand at Friday, 24 February 2017

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

Type: Before 28 February

Title: Projection

In Section 4 Projection, in Figure 4.1 what are the expected uncertainties of projected emissions of 8.63 millions tonnes CO<sub>2</sub>e in 2020?

Why will it slightly increase from 8.58 MtCO<sub>2</sub>e from year 2016?

Answer by Luxembourg, Sunday, 30 April 2017

GHG projections for Luxembourg experience a rather high uncertainty level due to two factors:

(1) the size of the country and of its economy where one new industrial project or the closure of a plant could have a dramatic impact on the total emissions (as an example, Luxembourg had one steam/gas turbine power plant that recently ceased its activities: this led to an annual decrease of around 0.8 Mio. tonnes CO<sub>2</sub>e, i.e. about 8% of the total GHG emissions): see also section 1.1.7.2 of the BR2.

(2) the fact that almost 60% of the total GHG emissions (excl. LULUCF) are stemming from road fuel sales which, themselves, are up to 75% the result of sales to non-residents (see answer to the Japanese question “Factor of increase of past GHG emissions and performance standards for passenger car” and section 1.16 of the BR2).

It is therefore difficult to anticipate with enough certainty what might happen in the industrial sector e.g. or how exactly road fuel sales to non-residents might evolve. For the latter, the main driver are the European Union (EU) policies dealing with mobility and transportation issues. And, projections for the non-resident fraction of road fuel sales are made using EU wide traffic models.

PS: new projections have been submitted to the European Commission the same day we are answering this question. Projected emissions have been revised: between 2015 and 2020 revised projections are: 8.61 / 8.40 / 8.38 / 8.36 / 8.35 / 8.38 Mio tonnes CO<sub>2</sub>e. Our presentation during the multilateral assessment session at SBI46 will provide more details.

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[Question by](#) Thailand at Friday, 24 February 2017

[Category:](#) Progress towards the achievement of its quantified economy-wide emission reduction target

[Type:](#) Before 28 February

[Title:](#) Projection

In Section 4 Projection, Figure 4.1: “Nevertheless, over the whole period 2013-2020, Luxembourg might generate a surplus of some 880, 000 t CO<sub>2</sub>e”. Does it mean cumulative emissions of “880, 000 t CO<sub>2</sub>e” during 2013-2020?

[Answer by](#) Luxembourg, Sunday, 30 April 2017

Yes, it does.

PS: new projections have been submitted to the European Commission the same day we are answering this question. Projected emissions have been revised. Our presentation during the SBI46 multilateral assessment session will provide more details.

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[Question by](#) Thailand at Friday, 24 February 2017

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

[Type:](#) Before 28 February

[Title:](#) IPCC guideline

Did Luxembourg apply the 2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands (Wetlands Guidelines)?

Luxembourg did not apply the 2013 Wetland Supplement Guidelines. In fact, Luxembourg does not have any peatland or flooded lands as defined under UNFCCC guidelines. Wetlands found in Luxembourg are mainly rivers and lakes and correspond to a certain extent to the definition of inland wetlands on mineral soils as defined in Chapter 5 of the Wetland supplement. Areas adjacent to rivers which can be flooded are considered as grassland as these areas are most often being used as grazing land for animals. In terms of carbon emissions and removals, the wetland category is insignificant as wetland areas only represent 0,08% of the total land area. Land use changes to and from wetland are almost non-existent (less than 0,4% of total wetland area between 2007 and 2012). For those reasons Luxembourg has also not elected the activity WDR under the Kyoto Protocol. In order to estimate carbon emissions and removals for land use changes to and from wetland, biomass carbon stock factors and soil carbon factors are assumed to be zero in wetlands.

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## Session SBI46 (2016)

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