Assessment of climate change policies in the context of the European Semester

Country Report: Belgium

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The report provides an overview of current emission trends and progress towards targets as well as policy developments that took place over the period May 2012 to January 2013.

The content of the report represents the state of knowledge in February 2013, specific updates were made adding the latest official greenhouse gas emission data by the European Environment Agency (EEA).

Please feel free to provide any comments or suggestions to the authors through the contacts listed above.

Short summary

- ***Background:*** *Ambitious climate action at national level has been obstructed by the 2010-11 political crisis, a shift of climate policy competencies from the federal to the regional level, and by a lack of agreement between the regions regarding the post-2012 plan.*
- ***GHG target:*** *Although Belgium's non-ETS emissions are currently (2011) below its 2013 ESD allocation, it is expected that the 2020 target will be missed with existing measures.*
- ***Policy development:*** *Several regional policies have been implemented. In Flanders, the main policy developments were focussed on environmentally friendly energy production, efficient energy use, and the promotion of green jobs; in Wallonia and Brussels, focus was set on the reduction of energy consumption and development of renewable energy.*

1 Background on climate and energy policies

In Belgium, energy and climate change policy is foremost a regional competence which leads to an unclear division of competences within the regions and between the federal and the regional authorities (e.g., lack of coherence between the different relevant administrative bodies responsible for the implementation of renewable energy policies). Accordingly, the regions of Flanders and Wallonia and the Brussels-Capital Region pursue different adaptation and mitigation policies.

The National Climate Commission was created in order to coordinate the policies implemented at a regional level. This commission established Belgium's national climate plan for 2009−2012 (Service Fédéral 2011), which included an internal burden-sharing agreement. The combined measures taken by regional governments amounted to a reduction of 5.8% compared to 1990 levels, while the remainder of the 7.5% Kyoto target was to be met by the federal government through the Kyoto flexibility mechanisms. However, due to a lack of agreement between the regions, the internal burden-sharing of non-ETS targets for 2013−2020 as well as the share of renewable energies per region is not decided yet and a follow-up plan is still missing.

Urgently required action on climate mitigation has partly been delayed by the political crisis that paralysed Belgium for almost two years until an agreement was reached between the regions. The sixth state reform of October 2011 transferred a number of climate-relevant responsibilities from the federal to the regional level, such as powers on incentives for energy efficiency. As a consequence, the government agreed on an almost complete halt of tax reductions for energy efficiency refurbishment of residential buildings and energy-efficient cars as of tax year 2012. A 2012 study estimates that this could lead to a decline of emission reductions by 1800 kt CO_2 per year until 2020 if the regions do not take equivalent action (VITO/ECONOTEC 2012).

In Flanders, the government aims to reduce greenhouse gas emissions by 5.2% between 2008 and 2012 compared to 1990, as laid out in the Flemish climate policy plan for 2006–2012 (Vlaamse Overheid 2006). A first draft of the Flemish climate programme

2013−2020 was published on 1 February 2013 setting the frame for adaptation and mitigation actions (Vlaamse Regering 2013). Accordingly, special task forces will be set up in order to elaborate sub-plans, monitor actions as well as discuss content and possible alignment of policies. However, a final version was not yet approved. In general, Flanders' policy framework has been criticised by various stakeholders (e.g., Bond Beter Leefmilieu 2012, natuurpunt, Greenpeace, WWF) as lacking ambition and insufficient to reach the non-ETS obligation by 2020.

In Wallonia, the Climate-Air plan for 2007−2012 contains more than 100 measures to reduce GHG emissions by 7.5% compared to 1990 levels. However, the Climate-Air plan does not explicitly break down the target of 7.5% into sector targets in Wallonia. These measures apply to all sectors including industry, transport, energy, buildings, agriculture, and involve a broad range of actors, such as public authorities, transport and the tertiary sector. According to the Walloon Climate and Air Agency (Agence Wallonne de l'Air et du Climat), the follow-up Walloon Air-Climate Plan is currently awaiting ministerial approval before being integrated into the national climate plan.

In the Brussels-Capital Region, the Brussels Climate Air Plan only covers the period 2002−2010. According to the Territorial Development Agency, the follow-up plan for the region, called the Regional Sustainable Development Plan, is currently being finalised and should be submitted to the Government in February/March 2013 for approval. Following a public consultation to be carried out until June 2013, the final version of the plan is expected to be published by the end of 2013. Therefore, the current climate change policy of Brussels is based on other action plans, such as the "Government Agreement 2009−2014", outlining the main measures to be undertaken by the Government of the Brussels-Capital Region by 2014. According to this agreement, the Brussels-Capital Region plans a 30% reduction of GHG emissions by 2025 (baseline 1990) through the implementation of several measures promoting inter alia energy efficiency and renewable energies. However, the plan does not provide further details on the targets to be reached in each sector (Brussels-Capital Region 2009). Furthermore, the region has signed the Covenant of Mayors, an initiative of DG TREN committing several cities of the European Union to go beyond the European emissions reduction targets. In accordance with the Covenant, the Brussels-Capital Region has established an action plan published in March 2010 and outlining the measures to be implemented to achieve emission reductions of 30% by 2025 (Brussels-Capital Region 2010).

The energy policy priorities of the Belgian government comprise the reorganisation of the gas and electricity market towards more competition and transparency, the phasing-out of nuclear energy between 2015 and 2025 (Belgisch Staatsblad 2003), climate change mitigation, and the diversification of energy sources. The nuclear phase-out poses a challenge due to the slow implementation of renewable energies and the significant share of nuclear in total electricity generation (around 50%). In the field of energy, the federal government holds the competencies for nuclear energy, off-shore wind energy, main infrastructure, and tariffs or fiscal incentives. The regional governments are responsible for other renewable energy sources and the infrastructure for local energy distribution (lines with tensions up to 70 kV) (CAKMAK 2012). In Flanders, environmentally friendly energy production, efficient energy use, the fight against energy poverty, and the promotion of green jobs are the main policy goals (Vlaams Parlement 2011). Wallonia and Brussels prioritise the reduction of energy consumption and development of

renewable energy as well as a competitive, accessible, and transparent energy market (Nollet 2013).

The energy intensity of industry is especially high in Belgium. Studies suggest that the low price for energy has encouraged a substitution from labour to energy. Effective taxes on energy are among the lowest in the EU-15 and seven out of 14 fuels are taxed at minimum EU levels (Kozluk 2011). Nevertheless, the concept of green growth is gaining recognition in Belgium: in 2009, the Federal Planning Bureau published a study on the environmental industry (Federal Planning Bureau 2009) which concluded that across all regions, environmental technologies are promoted through competence centres providing support to industries (Business Belgium 2013). Regarding green jobs, the share of employment in water collection, sewage, waste collection, and remediation activities in Belgium in 2011 was above 0.5%. The share of employment in the RE sector as a percentage of total employment in 2010 was also above 0.5% (Green Jobs 2012). Wallonia is home to several “green clusters”. Flanders’ energy concept for 2011−2012 explicitly supports green jobs (Vlaams Parlement 2011).

2 GHG projections

Background information

In 2011, Belgium emitted 120.2 Mt CO_2eq (UNFCCC 2011); 16% less than in 1990. Energy use accounts for around 40% of emissions, but the amount attributable to energy declined slightly between 1990 and 2011 despite an increase in energy use in the commercial sector since 1990 - the latter was outweighed by decreasing emissions in the residential sector and a switch from fuel oil to natural gas. Emission reductions also occurred in energy supply, as natural gas and renewable energy increasingly replace coal and efficiency measures are implemented. In contrast, emissions from transport increased by 30% between 1990 and 2011 due to increased road transport. Emissions from industrial processes decreased owing to reduced production of iron and steel and improved processes in the chemical industry. The reduction of agricultural emissions reflects the decreased number of livestock and fertiliser use (UNFCCC inventory 2011, EEA 2012c, UNFCCC 2012).

Progress on GHG target

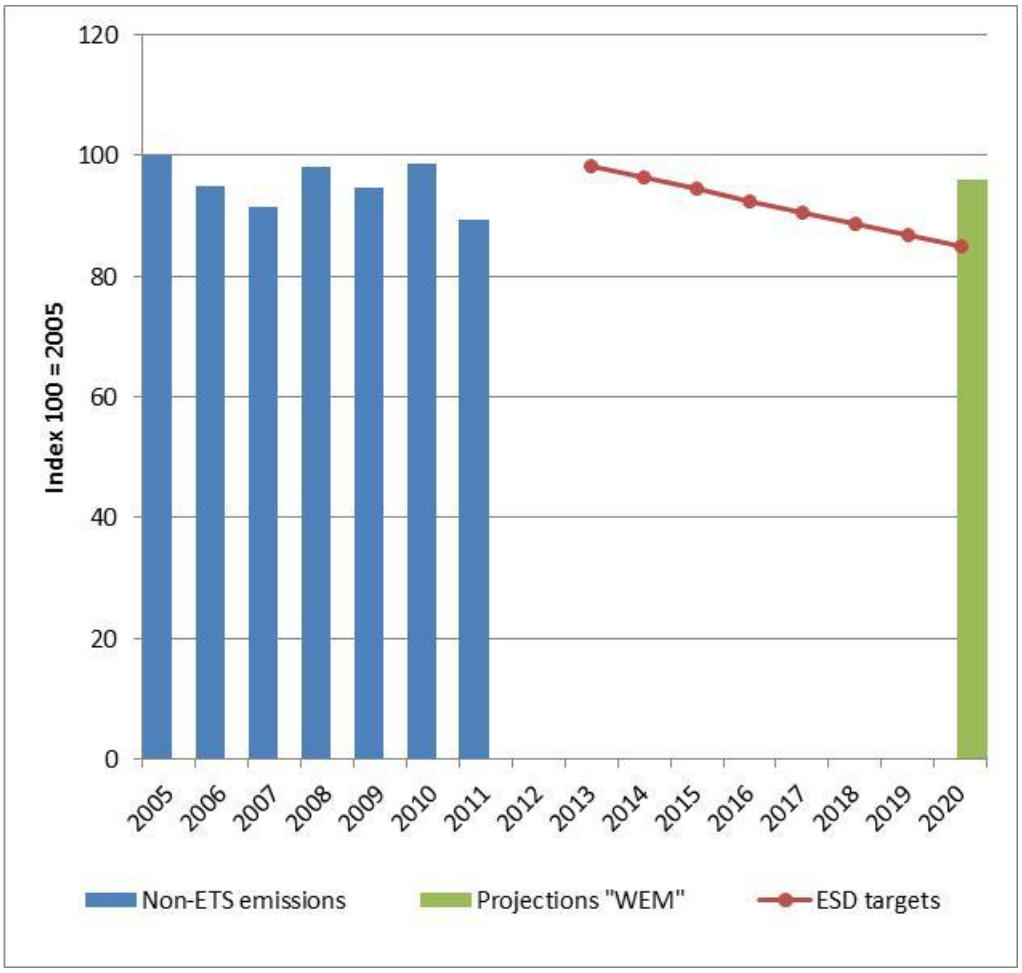
There are two sets of targets to evaluate: 1) the Kyoto Protocol targets for the period 2008-12 (which has just ended) and 2) the 2020 targets for emissions not covered by the EU ETS.

Under the Kyoto-Protocol the emission reduction target for Belgium for the period 2008-2012 has been set to minus 7.5 % based on 1990 for CO_2, CH_4 and N_2O and on 1995 for F-gases. An evaluation of the latest complete set of greenhouse gas data (for the year 2011) shows that Belgium’s emissions have decreased on average by 17.5% between the Kyoto base year and 2011 (EEA 2013a). Therefore, Belgium is expected to meet its Kyoto target through domestic emissions reductions directly.

By 2020, Belgium is required to decrease its emissions not covered by the EU ETS by 15% compared to 2005, according to the Effort Sharing Decision (ESD) ([1]). According to the 2011 inventory data, emissions in 2011 were 9% below its Annual Emissions Allocation (COM 2013) for the year 2013. However, national projections show that Belgium is expected to reduce its non-ETS emissions by 2020 by only 4% compared to 2005 in scenarios with both existing and additional measures. Belgium is thus not on track to meet its 2020 target (EEA 2013b). This can be ascribed primarily to increasing emissions in both energy supply and industrial processes.

Figure 1 shows Belgium's non-ETS emissions until 2011, targets under the ESD for the period 2013-2020 and the projections with existing measures for 2020.

Figure 1: Non-ETS emission trends and projections compared to the ESD targets



Source: EEA. Projections are based on 15/04/2013 draft GHG inventory submissions under the UNFCCC and MS projections submitted

[1] Decision No 406/2009/EC of the European Parliament and of the Council of 23 April 2009 on the effort of Member States to reduce their greenhouse gas emissions to meet the Community's greenhouse gas emission reduction commitments up to 2020.

Table 1: GHG emission developments, ESD-targets and projections (in Mt CO_2eq)

					ESD target*		2020 Projections**	
	1990	2005	2010	2011	2013	2020	WEM	WAM
Total	143.1	143.3	131.8	120.2				
Non-ETS emissions		82.7	81.6	73.9	81.2	66.7	75.5	75.0
(% from 2005)				-11%	-2%	-15%	-4%	-4%
Energy supply	30.0	29.4	26.4	22.0				
(% share of total)	21%	21%	20%	18%				
Energy use (w/o transport)	60.5	59.8	54.0	48.1				
(% share of total)	42%	42%	41%	40%				
Transport	20.8	26.4	27.1	27.0				
(% share of total)	15%	18%	21%	23%				
Industrial processes	15.8	15.3	12.2	11.3				
(% share of total)	11%	11%	9%	9%				
Agriculture	11.3	9.4	9.4	9.4				
(% share of total)	8%	7%	7%	8%				

Source: UNFCCC inventories 2011; EEA (2013b) COM (2013), Calculations provided by the EEA and own calculations.
** The ESD target for 2013 and for 2020 refer to different scopes of the ETS: The 2013 target is compared with 2011 data and is therefore consistent with the scope of the ETS from 2008-2012; the 2020 target is compared to 2020 projections and is therefore consistent with the scope of the ETS from 2013-2020. Non-ETS emissions in the year 2005 for the scope of the ETS from 2013-2020 amounted to 78.4t CO_2eq.*
*** 2013 projections with existing measures (WEM) or with additional measures (WAM).*
Legend for colour coding: green = target is being (over)achieved); orange = not on track to meet the target
Total greenhouse gas emissions (GHG) and shares of GHG do not include emissions and removals from LULUCF (carbon sinks) and emissions from international aviation and international maritime transport.

National projections of GHG emissions up to 2020, summarised by the EEA need to be prepared by the Member States in accordance with the EU Monitoring Mechanism ([2]) every two years, and the latest submission was in 2013. Projections need to be prepared reflecting a scenario that estimates emissions reductions in line with policies and measures that have already been implemented (with existing measures, WEM), and an additional scenario that reflects developments with measures and policies that are in the planning phase (with additional measures, WAM) may also be submitted.

In the following two tables, these measures - outlined by Belgium as basis for the projections as of April 2011 ([3]) - have been summarised with a focus on national measures and those EU instruments expected to reduce emissions the most ([4]). An update on the status of the policies and measures is included in order to assess the validity of the scenarios.

[2] Decision No 280/2004/EC of the European Parliament and of the Council of 11 February 2004 concerning a mechanism for monitoring Community greenhouse gas emissions and for implementing the Kyoto Protocol.

[3] The respective policies and measures were not available at the time of the preparation of this country report. Thus, policies and measures as outlined in April 2011 are given here.

[4] The implementation of the EU-ETS has not been included. Other EU Directives have only been considered if they have been outlined in the projections as one of the main instruments to reduce GHG emissions.

Table 2: Existing and additional measures as stated in the 2011 GHG projections

Existing Measures (only important national measures; w/o EU legislation)			Status of policy in January 2013
Energy	Fed	Green certificates (covering both RES and CHP in Wallonia and Brussels, only RES in Flanders but with a separate CHP certificates market)	In force
	Fed	Promotion of offshore windmills (Action plan for renewables and CHP)	A green certificate system for offshore wind is in place. However, problems with grid enforcement exist.
	Fed	End of tax exemption of fossil fuels for power plants	Implemented
Energy Efficiency	Fed	Energy performance of buildings	Energy efficiency is now a regional competence. Federal measures were abolished.
	Fla	Benchmarking Covenant for large energy intensive industries from all sectors	Under implementation
	Wal	Energy/CO_2 efficiency long-term agreements	Ongoing. The sector-specific agreements between the Region and the industrial sectors in order to reduce their CO_2 emissions (accords de branche) were renewed for 2013.
	Fed	National tax deductions for rational use of energy investments (e.g., tax deductions for enterprises investing in energy saving equipment)	Only applies to investments undertaken until 31 December 2011.
	Fla	Regional premiums for do-it-yourself roof insulation and rational use of energy investments by social rental agencies	In place (Energy renovation programme 2020)
Transport	Fed	Fiscal measures to improvement energy efficiency of road vehicles.	Tax deduction for electric cars and green car premiums were phased out by 31 December 2011.
	Bru	Regional mobility plan programme	Under implementation (covers the period from 2015−2018)
	Fed	Tax deductions for travelling to work by bicycle or using car-pooling	In place
	Fed	Subsidies to support internal intermodal transport (support of rail traffic)	Subsidies for public transport use by commuters phased out in 2012
	Fed	Tax reduction for low fuel consuming car fleet in enterprises	Enterprises as well as households can declare tax reduction for low consuming cars depending on the amount of CO_2 emissions.
	Fed	Increasing share of biofuels (from 4% to 10% between 2009 and 2020)	Quota implemented

Source: Reporting of MS in accordance with Decision No 280/2004/EC about their GHG emission projections up to 2020, April 2011.

Additional Measures: Still to be implemented (only important national measures; w/o EU legislation)			Status of policy in January 2013
Energy	Fed	Belgian Law on the progressive phase-out of nuclear energy	Complete phase-out by 2025
	Wal	Strengthening of the green certificates system to support electricity production from renewable energy sources and high-efficiency CHP	Implemented. From April 2012 onwards, the number of green certificates allocated for PV installations decreases gradually according to the age of installation.
	Wal	Incentives aiming at the development of heat production from RES	Implemented. The energy bonus (Primes energies) includes the allocation of subsidies for the production of heat from RES.
Energy Efficiency	Fla	Increases in energy performance requirements for new dwellings (residential and tertiary sector)	Energy performance requirements (EPB - eisen) are defined for new buildings covering insulation as well as energy performance requirements.
	Fla	Additional measures affecting existing buildings in the residential sector (not specified)	Energy Renovation Programme 2020 in force
	Wal	Regular improvement of energy efficiency in all sectors, including a strengthening of regulations concerning the energy performance of (new and existing) buildings	Implemented. A new regulation for the energy performance of buildings in Wallonia is in force since June 2012.
	Bru	Strengthening the requirements for minor renovations not subject to permit	Still to be implemented. The requirements for the energy performance of buildings (Règlementations PEB) were not modified since 2011.
Transport	Fla	Stricter legislation on CO_2 emissions of new cars	Green car registration tax is from March 2012 onwards based on the CO_2 emissions, Euronorm, fuel type and age
	Fla	Introduction of biofuels in inland shipping	Only federal quota
	Fla	Use of higher proportions of biofuels in rail	Only federal quota
	Fla	Road-pricing for freight transport (kilometerheffing) from 2012 and for passenger transport from 2017 (wegenvignet)	Regions are discussing implementation of a toll by 2016.
	Wal	Development of incentives for eco-friendly vehicles	The eco-bonus and eco-malus system was tightened in 2012.
	Wal	Measures to encourage modal shifts both for persons and goods transports	Several initiatives are being implemented/planned, e.g., a Cycle Plan for 2020
	Bru	Measures to achieve the objective to reduce the road transports by 20% between 2001 and 2018.	Ongoing (the Regional Mobility Programme covers the period until 2015-2018)

Source: Reporting of MS in accordance with Decision No 280/2004/EC about their GHG emission projections up to 2020, April 2011

3 Evaluation of National Reform Programme 2012 (NRP)

In April of each year, Member States are required to prepare their National Reform Programmes (NRPs), which outline the country's progress regarding the targets of the EU 2020 Strategy. The NRPs describe the country's national targets under the Strategy and contain a description of how the country intends to meet these targets. For climate change and energy, three headline targets exist: 1) the reduction of GHG emissions, 2) the increase of renewable energy generation, and 3) an increase in energy efficiency ([5]).

In the following table, the main policies and measures as outlined in the NRP of April 2012 ([6]) have been summarised, and their current status (implemented, amended, abolished, or expired) is given, with specifics on latest developments.

Table 3: Main policies and measures as outlined in the NRP, April 2012

Launch of the 1st Alliance for Employment-Environment in September 2011	
Regional level	Wal
Status as stated in the NRP	Implemented
Status as per Jan 2013	Implemented
Description of policy or measure	Main goals are to stimulate demand for sustainable renovation and construction of private and public buildings; to increase the availability and capacity of the construction sector; to develop skills through an extensive green training programme. The Alliance brings together more than 41 partners.

New Flemish Climate Policy Plan (Vlaamse Klimaatbeleidsplan) (ready by June 2012; to be approved by end of 2012)	
Regional level	Fla
Status as stated in the NRP	To be approved
Status as per Jan 2013	First design published on 1 February 2013. Still no final plan approved.
Description of policy or measure	Will contain mitigation and adaptation policies.

[5] There are specific targets for all MS by 2020 for non-ETS GHG emission reductions (see section 2) as well as for the renewable energy share in the energy mix by 2020 (see section 4, renewable energies). Specific energy efficiency targets will be defined (or revised) by the MS until the end of April 2013 in line with the methodology laid out in Article 3 (3) of the Energy Efficiency Directive (Directive 2012/27/EU).

[6] All NRPs are available at: http://ec.europa.eu/europe2020/documents/related-document-type/index_en.htm

Maximisation and rationalisation of investments for energy savings in public buildings and measures to optimise the mobility plans for civil servants	
Regional level	Fed
Status as stated in the NRP	Implemented
Status as per Jan 2013	No information
Description of policy or measure	Measure has not been specified.

National Action Plan on Renewable Energy 2020	
Regional level	Fla
Status as stated in the NRP	Implemented
Status as per Jan 2013	Continued
Description of policy or measure	Only national

Vlaanderen in Actie Pact 2020	
Regional level	Fla
Status as stated in the NRP	Implemented
Status as per Jan 2013	Ongoing, regularly monitored
Description of policy or measure	ViA is a project aiming to stimulate an innovative, sustainable and social Flanders by 2020. In practice, concrete actions and goals are set in the field of energy, economy, welfare, etc.

Updating the wind energy park	
Regional level	Wal
Status as stated in the NRP	To be implemented
Status as per Jan 2013	To be implemented
Description of policy or measure	Objective of 4.500GWh of wind energy by 2020 to contribute to the target of 8.000 GWh of green energy produced in Wallonia.

Transposition of the new framework directive 2010/30/EU with regard to eco-design and energy labels	
Regional level	Fed
Status as stated in the NRP	Implemented
Status as per Jan 2013	Transposed into Belgian law by the Royal Decree of 13 August 2011
Description of policy or measure	Extends coverage to commercial and industrial sectors.

Second Flemish Action Plan on Energy Efficiency (Energierenovatieprogramma 2020)	
Regional level	Fla
Status as stated in the NRP	Implemented
Status as per Jan 2013	Ongoing
Description of policy or measure	Implementation of the Energy Renovation Programme 2020, which stipulates inter alia that all roofs should be insulated by 2020.

Exemplary role of the public sector through the passive standard for new buildings and the low-energy standard for renovation of public buildings	
Regional level	Bru
Status as stated in the NRP	Implemented
Status as per Jan 2013	Ongoing
Description of policy or measure	The Brussels Government has committed to build all new public projects according to the requirements of passive house standards.

"Employment - Environnement Alliance" – sustainable construction axis implemented in 2011 through 44 identified actions	
Regional level	Bru
Status as stated in the NRP	Implemented
Status as per Jan 2013	Implemented
Description of policy or measure	The alliance involves social partners and actors in the field of public, voluntary, and private bodies. The Alliance-Jobs-Environment includes different areas: - Axis 1: for sustainable construction and renovation - Axis 2: water - Axis 3: resources and waste. Various actions are planned facilitating a synergy of skilled manpower, technical expertise, and business experience

4 Policy development

This section covers significant developments made in key policy areas between May 2012 and January 2013. It does not attempt to describe every instrument in the given thematic area. The time-frame was chosen based upon the release of the National Reform Programmes (in the section above) in April 2012, which contain the status quo for policy on most topics.

Environmental Taxation

The energy intensity ([7]) of the Belgian economy is above average among EU Member States. Nevertheless, the revenues from environmental and energy taxes are among the lowest. In 2010, revenues from environmental taxes in terms of GDP were only 2.1% and the revenues from energy taxes were even lower at 1.3%. The implicit tax on energy

[7] Energy intensity is defined by Eurostat as Gross inland consumption of energy divided by GDP.

consumption for 2009 was €105 per tonne of oil equivalent (toe). This value is significantly lower than the EU 27 average of €138 per tonne (Eurostat 2013).

An excise tax on fossil fuel electricity production was introduced in 2004 and since 2008 a levy is applied to the production of nuclear power. The nuclear tax was raised in 2011 from €250 million to €550 million (Deloitte 2011). Energy-intensive business with an environmental objectives agreement is exempted from all excise duty on gas oil, kerosene, heavy fuel oil, LPG and electricity use. Households are exempted from the levy on coal and coke for heating purposes (European Commission 2013b).

As part of the sixth state reform, a major tax reform ([8]) was implemented in December 2011, inter alia abolishing tax exemptions for energy efficiency measures (see below). One year later, Belgium abolished the "ecotax" on disposable cameras, batteries, packaging ink, adhesives and solvents as of 2013 ([9]).

In Belgium, green taxation represented 4.7 % of total tax revenues in 2010. A report from Eurostat on taxation trends in the EU published in 2012 indicates that environmental taxation in Belgium yielded € 7.3 billion, including € 4.7 billion on energy and € 2.08 billion on transportation in 2010. According to the same report, France was the only European state that taxed polluters less than Belgium in 2010 (EC 2012). One main reason for this situation was pointed out in a study of the OECD in 2011 and regards the lack of coordination and harmonisation of taxation policies in Belgium (OECD 2011). In fact, "institutional complexity" in Belgium hinders the implementation of a comprehensive environmental fiscal policy (FGTB Wallonne 2011). Until now, environment and related matters such as energy and transport were essentially a regional competence, whereas the federal level was responsible among others for energy pricing policy, federal transport policy as well as the setting of fiscal policies. However, Belgium is currently in the process of a new state reform aiming at transferring competences from the federal to the regional level ([10]). In the wake of the State Reform, the Special Finance Act (Loi Spéciale de Financement) regulating the budget transfer to the Regions is also be modified. So as to accentuate the fiscal autonomy of regions by increasing their tax revenue from 43% up to 73% of their budget (SPF Finances 2012). However, the State Reform does not specify the exact distribution of fiscal competences between the federal and the regional level. As of April 2013, competence in environmental taxation remains therefore split between the two levels of power. Currently, the competence for environmental taxation is distributed as follows:

Federal level:

- Excise duties on energy products and electricity ([11]).

[8] Law of 28 December 2011 containing miscellaneous measures, Articles 41−42

[9] Programme Law of 27 December 2012

[10] A political agreement was found in September-October 2011 and approved by the Council of Ministers in April 2012 for the implementation of a Belgian Stability Programme setting the guidelines and objectives of fiscal policy for the period 2012-2015. It should be read in conjunction with the National Reform Programme and can be retrieved on the website of the EC under: http://ec.europa.eu/europe2020/pdf/nd/sp2012_belgium_fr.pdf

[11] Loi du 22 Décembre 2009 relative au régime général d'accise and Loi-Programme du 27 Décembre 2004

- Tax on the entry into traffic service (Taxe de mise en circulation), road tax (Taxe de circulation) and "Eurovignette", only for cars registered in the Walloon Region or Brussels-Capital Region.

Walloon Region:

- From 1 January 2014, the circulation tax, road tax and "Eurovignette" will be under the competence of the Walloon Region (Wallonie 2012)

Brussels-Capital Region:

- According to the Federal Public Service of finance, the Brussels-Capital Region should also take over the responsibility of the circulation tax, road tax and "Eurovignette" from 1 January 2014. However, no official announcement has been made from the Region yet.

Flanders:

- Tax on the entry into traffic service (Belasting op de inverkeerstelling)
- road tax (Verkeersbelasting)
- "Eurovignette"
- Additional road tax for LPG
- charges for wastewater, groundwater, manure and waste

Energy Efficiency

The energy intensity of the Belgian economy remained almost constant between 2005 and 2010, but Belgium was able to make small progress in reducing energy consumption in the last five years. Taking the average from 2001−2005 as a baseline, energy consumption decreased from 37.321 Mtoe by 2.4% to 36.427 Mtoe in 2010. This is equivalent to the EU average development of minus 1%. To a large extent this can be attributed to reduced demand in the industry sector (Eurostat 2013).

According to a 2009 McKinsey study, road transport, industry, and buildings are less energy efficient than in neighbouring countries. An energy-saving potential of 29% by 2030 compared to the business as usual scenario was identified. Especially the building sector shows high improvement potential. Buildings in Belgium are relatively old (low demolition rate), often not insulated or equipped with double-glazing, and single-family houses are more common. McKinsey estimated the required investment costs at €1.6 billion annually between 2010 and 2020 and €2.2 billion annually between 2020 and 2030 (McKinsey&Company 2009). Relatively low energy prices in Belgium do not incentivise energy efficiency and there is a lack of awareness in households regarding energy efficiency (Kozluk 2011).

In December 2011 a law ([12]) was passed that abolishes a tax reduction of 40% that was formerly granted to energy saving expenditures (heat pump, thermostats, double glazing, energy audits, solar boiler, boiler replacement, floor and wall insulation, PV, passive houses) as of 2012. Only investment in roof insulation still gives rise to this tax relief. Furthermore, tax reductions for low- and zero-energy houses or passive houses were abolished as of tax year 2013. Also, the green loan incentive was reduced to only 30% of the total investment made. The subsidy was formerly granted by the Federal government to loans used for energy saving technologies in residential buildings. These major

[12] Law of 28 December 2011 containing miscellaneous measures, Articles 41 -42

changes reflect the shift of responsibility for energy savings from the federal to the regional level.

The Flemish government pursues an Energy renovation programme 2020 (Energierenovatieprogramma 2020) aiming to ensure that by 2020 all existing homes have insulated roofs and that all single glazing and outdated boilers have been replaced with high efficiency ones. The measures are financially supported by grid operators and federal, municipal, or provincial authorities in the form of subsidies and tax reductions. Flemish grid operators are obliged to stimulate energy saving measures for their customers. Moreover, municipalities also provide particular financial support. The amount of support depends on the energy efficiency performance level of the particular measure, e.g., €1700 for new a heat pump or 6 euro/m² (Rd-value ≥ 3.5 m²K/W) and max €720 for roof insulation (VEA 2012).

Flanders also introduced an Ecological premium (ecologie premie) that is designed to stimulate companies operating in the Flemish region to invest in environmentally friendly and energy efficient technologies. The maximum premium is €1 million per company over a period of 3 years. The amount of subsidy is calculated as a percentage of extra investments (additional cost of investment) laid out in a limited technology list. Since December 2012 the absolute amount of ecological premium is determined by the performance of the technology (eco number) as well as its "eco class" and the volume of the investment. Furthermore, a bonus is granted if the company conducts an energy, environmental or ecological efficiency scan, provides a valid environment certificate, or shows a certified environment management system on the date of submission. At the end of 2012, a strategic ecologic premium, covering up to 70% of investment costs, was introduced for technologies and companies that do not qualify for support under the regular premium system.

In May 2012, the Walloon Region launched a support instrument called "Ecopack" aiming at stimulating energy efficiency upgrades in housing. The Ecopack was introduced in order to compensate the suspension of income tax reduction at the federal level. The programme grants interest-free loans and energy subsidies, provided the household in question carries out at least two energy efficiency improvements. The actual costs of the improvements shall range between €2,500 and max. €30,000 including VAT. The overall budget available for the Ecopack amounts to €200 million until 2014 (Cluster Cap 2020 2012).

The Brussels-Capital Region provides subsidies called Energy Bonus (Primes Energies) 2013 for residential, industrial, as well as service sector buildings located in the region. These subsidies apply for several categories of refurbishment works in buildings, such as insulation (refurbishment with passive house components, green roofs, etc.), efficient heating (heat pumps, aerothermal boiler, etc.), or energy performance investments (district heating, cogeneration, etc.). The bonus is granted to natural or legal persons. The amount is calculated according to the income level of the applicant and according to the technical characteristics of the equipment used.

As energy performance of buildings is a matter of regional competence in Belgium, the implementation of related EU directives goes at different speeds:

In Wallonia, the regulation on the Energy Performance of buildings came into force on 1 September 2008 ([13]). It applies to all buildings for all construction and renovation works requiring a building permit. On 1 September 2011, the requirements for energy performance in buildings were strengthened with the obligation of resorting to a person in charge of energy performance for all new buildings and for important refurbishment works in existing buildings. From 1 June 2012, values referring to the heat transfer coefficient of building materials were strengthened (Umax). Since then the consideration of construction junction points ("noeud constructif") is mandatory (Energie Wallonie 2012) ([14]).

In the Brussels-Capital Region, the energy performance requirements as stipulated in the EU directive on energy performance in buildings have been transposed into the regional legislation of Brussels. The PEB regulation (Performance Energétique des Bâtiments) aims at reducing energy consumption and therefore CO_2 emissions in buildings of the Brussels-Capital Region. The PEB Regulation is divided into three fields of action:

- Certification regulation (energy certification of existing buildings). It applies to residential buildings as well as to office buildings of more than 500m ² and indicates the energy class of the building on a scale from A (efficient) to G (energy-consuming). The PEB certificate allows potential buyers or tenants to compare the energy performance of houses on the basis of a common calculation method. The certificate also includes PEB recommendations to improve the energy performance of the house or the office. The certification regulation is based on two decrees on the PEB certificate of 17 February 2011 ([15]).
- Heating regulation: Since 1 January 2011, owners of a boiler with a power capacity of more than 20 kW are obliged to meet several energy performance requirements and to periodically check their installation. These provisions result from the decree of 3 June 2010 on the heating requirements in buildings as well as from the order of 7 June 2007 on the PEB ([16]).
- Refurbishment regulation for works submitted to planning permission (new or renovation). The regulation introduces the obligation of meeting several requirements regarding among others the design, the thermal insulation or the energy production of buildings. The refurbishment regulation is based on the order of 7 June 2007 on the PEB as well as on the decree of 21 December 2007 establishing requirements for energy performance and indoor climate ([17]).

In Flanders, the energy performance standards as laid out in the respective EU directives have been transposed into Flemish law. The energy performance obligations already decided in 2006 (energieprestatieregelgeving) were included into the Energy Decree (het

[13] Décret cadre du 19 avril 2007 et arrêtés d'application du 17 avril 2008

[14] Arrêté du Gouvernement wallon du 10 Mai 2012 modifiant, en ce qui concerne la performance énergétique des bâtiments, le Code wallon de l'Aménagement du Territoire, de l'Urbanisme, du Patrimoine et de l'Énergie

[15] Arrêté du Gouvernement de la Région de Bruxelles-Capitale relatif au certificat PEB établi par un certificateur pour les habitations individuelles du 17 février 2011 et Arrêté du Gouvernement de la Région de Bruxelles-Capitale relatif à l'agrément des certificateur PEB du 17 février 2011

[16] L'arrêté du Gouvernement de Bruxelles-Capitale du 3 juin 2010 relatif aux exigences applicables aux systèmes de chauffage pour le bâtiment lors de leur installation et pendant leur période d'exploitation et l'ordonnance du Gouvernement de la Région de Bruxelles-Capitale du 7 juin 2007 relative à la PEB

[17] L'ordonnance du Gouvernement de la Région de Bruxelles-Capitale du 7 juin 2007 relative à la PEB et l'arrêté du Gouvernement de la Région de Bruxelles-Capitale du 21 décembre 2007 déterminant des exigences en matière de performance énergétique et de climat intérieur des bâtiments

Energiedecreet ([18])) on 8 May 2009. The Energy regulation of 19 November 2010 (Energiebesluit ([19])) contains the methodology of energy performance calculation, the energy performance obligations and stipulates exemptions. In general, energy performance obligations differ depending on the nature and use of the building, the construction measures (existing and new buildings), and the date of issuing a building permit. From January 2014 the E60 standard applies for residential, office and school buildings as decided by the Flemish parliament on 28 September 2012 ([20]). From 2021 onwards, all new buildings shall be constructed nearly energy neutral. Moreover, energy performance certificates have to be presented when renting out or selling buildings or apartments. Buildings (>500 m²) in public hand and use have to publicly display energy performance values from 1 January 2013 onwards.

Renewable Energy

The share of renewable energy in gross final energy consumption in Belgium increased from 2.3% to over 5.1% between 2005 and 2010. Thus, further effort is needed to achieve the country's 2020 target of 13%. Belgium is among the five EU member states with the lowest target realisation level. The share of renewable in gross electricity consumption increased from 2.3% in 2005 to 6.8% in 2010 but remains at a low level (Eurostat 2013).

A study commissioned by the regional and federal energy ministers in 2012 found that an energy system transformation to 100% renewables by 2050 would be technically feasible but would require an investment of €300 to 400 billion. The authors projected the creation of 20,000 to 60,000 additional jobs by 2050 in a 100% renewable pathway (Devogelaer et al. 2012).

Regulation and promotion of renewable energies is mainly a regional competency. The federal government is only responsible for the regulation of activities in the North Sea, i.e., offshore wind energy. The main mechanisms for the promotion of renewable energies are systems of green and CHP certificates requesting energy suppliers to cover a share of their supply with renewable energy. These systems exist at federal and regional level but are poorly coordinated. However, each region sets its own priorities and certificates are not tradable among regions, which fails to encourage technologies where they are most viable (Kozluk 2011). The geographic location of the grid connection determines from which region the electricity producer shall receive green certificates.

The federal support system ([21]) issues green certificates for installations producing offshore renewable electricity. Following a Royal Decree of 21 December 2012 regarding the financial support of electricity from renewable energy sources, the federal purchase obligation of green certificates was abrogated for renewable energy technologies installed

[18] Het Energiedecreet - Decreet houdende algemene bepalingen betreffende het energiebeleid. Available online: http://codex.vlaanderen.be/Zoeken/Document.aspx?DID=1018092&param=inhoud

[19] Energiebesluit - Besluit van de Vlaamse Regering houdende algemene bepalingen over het energiebeleid. Available online: http://codex.vlaanderen.be/Zoeken/Document.aspx?DID=1019755&param=inhoud

[20] Besluit van de Vlaamse Regering houdende wijziging van het Energiebesluit van 19 november 2010. Available online: www.wtcb.be/homepage/download.cfm?dtype=na_energy&doc=EPB_RF_MB20121116_nl.pdf&lang=nl

[21] 2002 Royal Decree on Renewable Energy Support.

after 1 August 2012. Only offshore renewable energy installations, which are regulated under federal competence, still benefit from green certificates allocated by the federal grid operator Elia (CWaPE 2012). Elia guarantees a minimum price of 107 EUR/MWh for the first 216 MWh and 90 EUR/MWh after that (CAKMAK 2012). Wind power in Belgium is growing quickly. According to a study from December 2012, the wind energy sector employed more than 6,000 people in 2011 reflecting a 74% increase since 2007. The study projects that the sector could provide jobs for up to 10,400 people by 2020 and 16,000 people by 2030 (Edora 2012). The government has designated an area of 200km² in the North Sea where seven wind park projects are planned. In order to store the excess energy generated, Belgium is considering building an island solely for this purpose (REVE 2013).

In Flanders, a so-called green certificates (Groenstroomcertificaten) ([22]) quota system and a certificate trading scheme have been in place since 2009 to support renewable energy technologies. A certificate is equal to 1 MWh of electricity from renewable sources and is issued by the Flemish regulatory authority (VREG). The support system was reviewed in June 2012. A so-called banding factor is foreseen in order to prevent over-subsidisation but is not yet implemented or determined, as well as differentiation between technologies. This creates market insecurities and financial insecurities for project developers. Moreover, certificate prices have been reduced to €22.60 (15 years) for PV, €77.60 (15 years) for onshore wind, and €97 (10 years) for other technologies.

A green certificate system (Système de certificats verts) ([23]) is also the main instrument for the promotion of RES in Wallonia's electricity production since 2001. It is regulated through the decree of the Walloon Government of 30 November 2006 on Support for Renewable Energy and Combined Heat and Power Generation. According to the decree, renewable energy installations are eligible for green certificates for a maximum period of 15 years, while the amount of certificates allocated decreases gradually after 10 years. The number of certificates issued depends on the amount of electricity generated (in kWh); one certificate is issued for every MWh divided by the amount of CO_2 saved. There are several levels of CO_2 savings, which are set by the Walloon Electricity Regulator and depend on the renewable energy generation technology employed (RES LEGAL 2012). The regulation foresees a simplified allocation procedure for installations of less than or equal to 10 kW. Each electricity supplier is obliged to purchase a quota of green certificates per quarter depending on their overall volume of electricity sold. The quota to be reached by electricity suppliers increases yearly. A grid operator that does not meet its quota pays a fine of €100 per missing certificate. The minimum price per certificate for each technology in the Walloon region is set at €65.

The current situation regarding the green certificates for photovoltaic installations in the Walloon region is unstable. As a matter of fact, the Walloon Government has decided to stop the allocation of green certificates for photovoltaic installations of less than or equal to 10 kW from 1 April 2013 onwards (DH.be 2012). This decision is a consequence of the inordinate success of the Walloon policy implemented in 2006 and aiming at encouraging the use of photovoltaic installations in the region. In order to compensate the high costs

[22] Flemish Energy Decree of 2009

[23] Walloon Electricity Decree of 2001

of photovoltaic installations, the Walloon Government namely decided to grant 7 green certificates per MW of photovoltaic electricity produced instead of 1 for the other technologies. Too much green certificates were available on the market, resulting into a devaluation of the price of green certificates. The Government is currently discussing how the support system is to be implemented after 1 April 2013 (Lalibre 2012).

Also in Brussels-Capital, a green certificate system (Système de certificats verts) is in place. It is regulated through the decree of 6 May 2004 of the Brussels-Capital Government regarding the promotion of green electricity and quality CHP. Green certificates are allocated provided the installation meets several requirements, including attesting to CO_2 savings of at least 5% compared with conventional installations. The number of certificates issued depends on the amount of electricity generated (in kWh) and the amount of CO_2 saved. The formula for the calculation of the number of green certificates under 1 MW is the same for all technologies. However, different multiplicative coefficients can be applied according to the technologies. Above a capacity of 1MW, one certificate is issued for each MWh of electricity produced (RES LEGAL 2012).

Energy Networks

Transmission grids with a tension above 70kV are under federal responsibility; local distribution is regulated by regional governments. Priority needs to be granted to the connection of renewable energy installations (CAKMAK 2012). With the growing number of renewable energy installations, grid reinforcement activities are needed, particularly if offshore wind is further developed. The federal grid operator Elia is required to take over one-third of the costs of submarine cables to connect offshore wind installations (CAKMAK 2012).The development of smart grids is part of the Vlaanderen in Actie (ViA) programme. According to ViA, the Flemish Energy Agency is currently developing an action plan (ViA 2012).

Transport

Between 2005 and 2011, GHG emissions from Belgium's transport sector increased with a slight drop from 2010 to 2011. The relevance, however, further increased with a share of total emissions rising from 18% to 23% from 2005 to 2011 (see Table 1). This has taken place against a backdrop of transport taxation (excluding fuels) that is more extensive than many other EU MS, at 0.2% of GDP in 2010 (7th highest in EU) (Eurostat 2012). Newly registered automobiles have increased in emissions efficiency significantly since 2005 and were on average 8% more efficient than the EU average in 2011, making Belgium rank fifth among Member States (EEA 2012e).

The high use of personal cars resulting partly from prioritised tax treatment of company cars and the inflexible public transport system is one factor why emissions in the transport sector have increased until 2010. Especially striking is the dominant use of diesel which has since the 1980s increasingly replaced petrol. This was favoured by relatively low excise duties on diesel compared to petrol (Schmitz 2012). In addition, the geographic situation as a transit country (harbours, freight, road transport) need to be taken into consideration.

The transport sector was formerly mainly under federal competency but most responsibilities were transferred to the regional level in 2011, e.g., taxation on registration and ownership of cars, environmental incentives, and speed limits.

The regions agreed in 2011 to implement a distance-based toll system for vehicles above 3.5 tonnes on motorways and some other roads by 2016 (European Commission 2013a). Originally, this measure was planned to be implemented as of 2013.

Flanders and the Walloon region have taken measures targeting CO_2 emissions of cars with the registration tax (regional competence). The Flemish government reformed the green car registration tax which is based on the CO_2 emissions, Euronorm, fuel type, and age from March 2012 on. Since 2008 and modified in 2011, the Walloon Region has applied a CO_2-based Ecobonus/-malus scheme for registering a car. Accordingly, since January 2012, cars emitting less than 81g of CO_2/km receive a premium of €500 to €3,500. An Ecomalus of up to €2,500 is applied to cars emitting more than 146g of CO_2/km. In the Brussels-Capital Region, however, the registration tax is not accounting for CO_2 emissions but is only based on power and age of the vehicle.

Also, the responsibility for car ownership taxes has been transferred to the regional level. In all three regions the tax is still only based on the cylinder capacity (for passenger cars) or on weight and number of axles (commercial vehicles), but reforms are being discussed to account for CO_2 emissions (Ecoscore 2013).

As a consequence of budgetary restrictions, the federal green car premiums ([24]) were abolished as of January 2012. The programme had granted an invoice reduction equivalent to 3% or 15% of the sales price of cars emitting between 105g and 115g/km CO_2 or emitting less than 105g/km CO_2 respectively. Additionally, a tax deduction for the investment in electric cars (30% of the purchase price) was phased out by 31 December 2012 since from January 2013 environmental incentives fall under regional competencies (ACEA 2012).

At the federal level, measures were taken to address the much criticized - from a climate perspective - tax treatment of company cars. Car related expenses are deductible from corporate income by between 50 and 120%, which since 2010 depends on CO_2 emissions. Furthermore, since 2005 the federal government has applied a CO_2-based solidarity levy for the private use of company cars. Belgium leaves it up to the company as to whether it requests reimbursement for the private use of company cars. Since January 2012, the reimbursement is also calculated on the basis of CO_2 emissions. However, the tax still sets only limited incentives to reduce the private use of company cars (ACEA 2012).

Since 2009, a federal quota for biofuels has been in place which obliges providers of petrol or diesel fuels to ensure that 4% of the annual fuel sale is biofuel. In 2010, a national fuel tax reduction was introduced that applies to petrol containing at least 7% v/v of bioethanol and diesel containing at least 5% v/v of FAME. However, these measures have not been updated (Bond Beter Leefmilieu 2012).

Belgium's public transport system requires improvement since personal transport accounts for a significant share of emissions in the sector. Nevertheless, a federal measure supporting the free use of public transport for commuters (80% paid by employer, 20% paid by federal government) expired in 2012.

[24] Programme Law of 28 December 2011

At regional level, several initiatives have been taken to reform transport. The Brussels Plan Iris 2 for the period 2015−2018, adopted in 2010, aims at reducing car traffic by 20% compared to 2001. Inter alia, infrastructure for cyclists and pedestrians and the metro service is to be improved. In November 2012, the Ministry of Transport announced the Budget for 2013: €216.3 million shall be invested in 2013 in the Brussels Public Transport Company (STIB) in order to improve mobility (Bruxelles Mobilité 2012).

Agriculture

The Flemish Agriculture Investment Fund (Vlaams Landbouwinvesteringsfonds (VLIF)) (Vlaamse Overheid (2012) offers investment subsidies to companies in order to invest in environmentally friendly and energy efficient technologies, such as renewable energy, CHP, etc. According to Milieu Rapport Vlaanderen (MIRA 2013), emission reductions in the Flemish agricultural sector were realised. Particularly, the horticulture sector possesses a high potential to increase energy efficiency.

Adaptation

The federal adaptation strategy has been in place since 2010 (National Climate Commission 2010). The Working Group Adaptation under the Coordination Committee for International Environmental Policy (CCIEP) monitors international developments and decisions that are of national relevance. Under the framework of the National Climate Commission, an adaptation working group was set up in order to develop national policy responses and strategies. Also on the regional level, working groups discuss adaptation strategies. However, no adaptation strategies are in place in Flanders and Wallonia. According to information from Bond Beter Leefmilieu, the strategy for Flanders will be available by the end of January 2013. For Wallonia, the strategy is still to be elaborated.

5 Policy progress on past CSRs

As part of the European Semester, Country Specific Recommendations (CSRs) for each MS are provided by the EU Commission in June of each year for consideration and endorsement by the European Council). The recommendations are designed to address the major challenges facing each country in relation to the targets outlined in the EU 2020 Strategy. In the following table, those CSRs that are relevant for climate change and energy that were adopted in 2012 are listed, and their progress towards their implementation is assessed.

Existing Country Specific Recommendations	Progress
Significantly shift taxes from labour to less growth-distortive taxes, including for example environmental taxes	No significant progress was achieved.
Take further measures to enhance the progress towards reaching GHG emission reduction targets from non-EU ETS sectors, in particular by ensuring a significant contribution from the transport sector	Only minor improvements achieved. Tax relief for company cars is now linked to CO_2 emissions as well as the Flemish car tax. However, support mechanisms for low-emission cars were abolished and the implementation of a motorway toll has been postponed.

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