

Belgian Energy Efficiency Action Plan

According to

the Directives 2006/32/EC and 2012/27/EU article 24.2 Annex XIV part 2

April 2017

Table of Contents

1.1.	The institutional framework of Belgium	5
1.1.1.	The Regional-Federal Consultation Cell	5
1.1.2.	The drawing-up and structure of this fourth Belgian Energy Efficiency Action Plan	6
1.1.3.	Competent bodies for control and supervision	6
1.1.4.	National energy indicators, according to the article 24.1 Annex XIV part 1	8
2.	Overview of national energy efficiency targets and savings	11
2.1.	National 2020 energy efficiency targets	11
2.2.	ESD 2006/32/EU energy savings	11
3.	Federal Policy measures implementing EED	13
3.1.	Horizontal measures	13
3.1.1.	Metering and billing (EED Articles 9-11)	13
3.1.2.	Consumer information programmes and training (EED Articles 12 and 17)	13
3.1.3.	Energy Services (EED Article 18)	13
3.2.	Energy efficiency measures in buildings	14
3.2.1.	Tax measures	14
3.2.2.	Eco-checks	15
3.2.3.	Directives Ecodesign and Labelling	16
3.2.4.	Survey insulation materials	16
3.2.5.	Database EPD building material	17
3.3.	Energy efficiency measures in public bodies	17
3.3.1.	Central government buildings (EED Article 5)	17
3.3.2.	Purchasing by public bodies (EED Article 6)	20
3.3.3.	Financing of energy efficiency measures in public bodies	21
3.4.	Energy efficiency measures in industry	22
3.5.	Energy efficiency measures in transport	22
3.6.	Energy transformation, transmission, distribution, and demand response	26

ANNEXES

Annex I Fourth energy efficiency action plan of the Brussels-Capital Region; prepared by the Brussels Institute for Environmental Management (IBGE-BIM)

Annex II Fourth Walloon energy efficiency action plan; as approved on March 30th, 2017, integrating the Long Term Renovation Strategy for the Walloon Building Park, as approved by the WG on April 20th, 2017

Annex III Fourth Flemish energy efficiency action plan, which the Flemish Government took note of March 31st, 2017

ABBREVIATIONS

BELESCO	Belgian Energy Service Company Association
EMAS	Eco-Management Audit Scheme
EPC	Energy Performance Contracting
ESCO	Energy Service Company
FEDESCO	Federal Energy Service Company
FPS	Federal Public Service
NEEAP	National Energy Efficiency Actionplan
NMBS	Société Nationale des Chemins de fer Belges
RD&D	Research Development and Deployment
SME	Small Medium Enterprise
VAT	Value Added Tax

Introduction

1.1. The institutional framework of Belgium

Belgium is a federal state where the decisional power is shared between a federal authority and three Regions (Wallonia, Flanders and the Brussels-Capital Region). Regions benefit of large responsibilities in domains such as rational use of energy, promotion of renewable energy sources, country planning, agriculture and waste management, while the federal State is i.a. competent for security of energy supply and nuclear energy, offshore seawaters (and thus offshore windfarms) and policies of products (labelling, fuels composition, appliances and heating equipment performances,...). A 6th reform of the State entered into force in July 2014. Within this new reform, large parts of fiscal matters are transferred from the federal authority to the Regions, which are notably now responsible for taxes on cars and transport and tax exemptions for RUE investments.

The general context for the preparation of energy policies and measures is determined by the plans established by the federal and regional authorities, setting out their respective policy objectives and strategies.

However, coordination bodies have been set up to coordinate and create synergies between the policies implemented by the various authorities, among which, the CONCERE/ENOVER consultation cell is directly concerned by the matters covered here.

1.1.1. *The Regional-Federal Consultation Cell*

The federal structure and the distribution of competences in the field of energy have made it necessary to organise a consultation between the Regions and the Federal State. As regards European and international matters such consultation makes it possible for Belgium to adopt a position view, commonly agreed on by the Regions and the Federal State.

In practice, this consultation takes place within the « Interministerial Conference for Economy and Energy », which set up the working group CONCERE/ENOVER (Consultation between the Federal State and the Regions on energy matters) in 1991 through a cooperation agreement. This working group holds regular meetings and has set up various groups of experts that:

- prepare Belgium's positions, notably on European issues ;
- agree on the reports to be submitted to international bodies and designate the Belgian representatives ;
- strive to harmonise certain provisions ;
- provide joint financing for some research or study projects ;
- keep each other informed about projects and supporting measures implemented within their respective competences.

1.1.2. *The drawing-up and structure of this fourth Belgian Energy Efficiency Action Plan*

In order to give a clear detailed view of the existing and planned Belgian energy-efficiency policies and to improve the comparability of the 3 Regional Action Plans, a common layout was chosen on the basis of the template of the European Commission. This improves also the transparency for the other member states.

This fourth Belgian Energy Efficiency Action Plan provides:

- an overview of the general context of the Belgian institutional structure, the distribution of competences and the national context of energy efficiency;
- the regional policy measures, according to regional competences, which are enclosed in the 3 Regional Energy Efficiency Action plans which can be found in Annex;
- the energy-efficiency measures taken by the federal level, which can be seen as supporting measures for the regional policies.

The impact of most federal measures could not be calculated or evaluated separately from the regional measures due to existing overlap. Furthermore the federal government does not have an indicative ESD target to be met by 2016, according to the Directive 2006/32/EC. However, the federal government needs to meet several requirements in the context of the Directive 2012/27/EC. Therefore the federal government takes own actions and measures to implement the Directive.

1.1.3. *Competent bodies for control and supervision*

The three regions and the federal government appointed their own bodies to control the reporting and monitoring of the overall energy savings framework and supervision to ensure the exemplary role of the public sector.



The Federal Public Service of Economy, S.M.E.'s, Self-employed and Energy, DG Energy, more specifically the Directorate General of Energy, is charged with overall control and responsibility for overseeing the framework set up in connection with the implementation of the Directive 2006/32/EC and the Directive 2012/27/EG within the federal government. The DG Energy is also responsible for the coordination of the transposition of the Directive 2012/27/EG and the reporting on the implemented energy efficiency measures. In this context, the DG Energy maintains contacts with the other competent Federal Public Services.



The Brussels Institute for Environmental Management (IBGE-BIM) has expertise in environment and energy of the Brussels-Capital Region. The IBGE-BIM is a public interest organization Class A instituted by the Royal Decree of 8 March 1989. One of the initial missions of the Brussels Institute for Environmental Management, specified in the Royal Decree, is to study the application and implementation of the rules of the European Union on the environment. A skill of the Brussels Institute in the field of energy includes (Decree of January 20, 2004 - 21/04/94 MB) the rational use of energy.



The Department for Energy and Sustainable Building from the Operational Directorate General (DGO4) for Spatial Planning, Housing, Heritage and Energy of the Walloon Public Service is the department of the Walloon administration in charge of implementing the competencies allocated to Wallonia what regards energy matters according to the Special Law for Institutional Reform dated August 8th 1980 (art 6, VII).



The Flemish Energy Agency, abbreviated VEA, was founded by the Flemish Government Decree of 16 April 2004. It is an internal autonomous agency without legal identity within the Flemish Ministry of Environment, Nature and Energy. The VEA has been operational since 1 April 2006. The Flemish Energy Agency's mission is to implement a sustainable energy policy by means of implementing policy instruments in a cost-effective and qualitative manner.

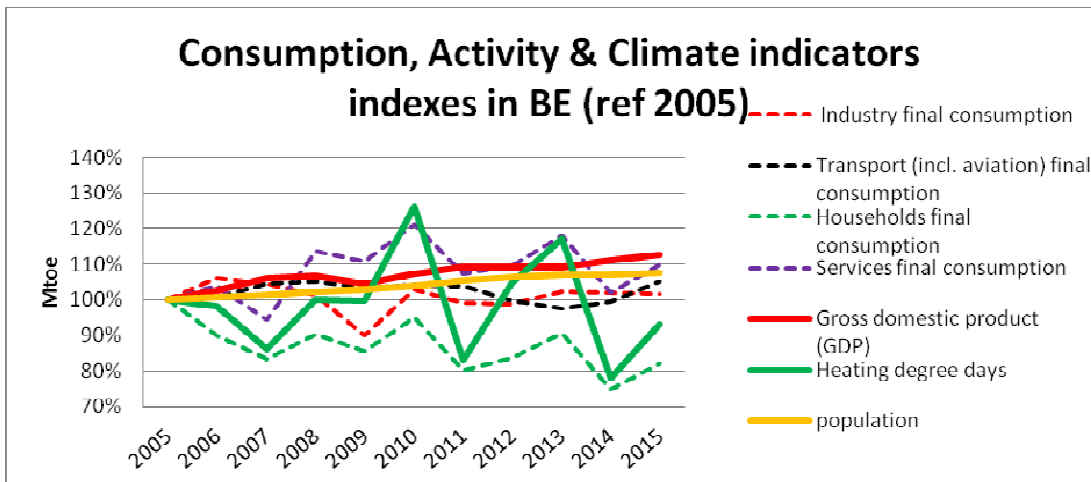
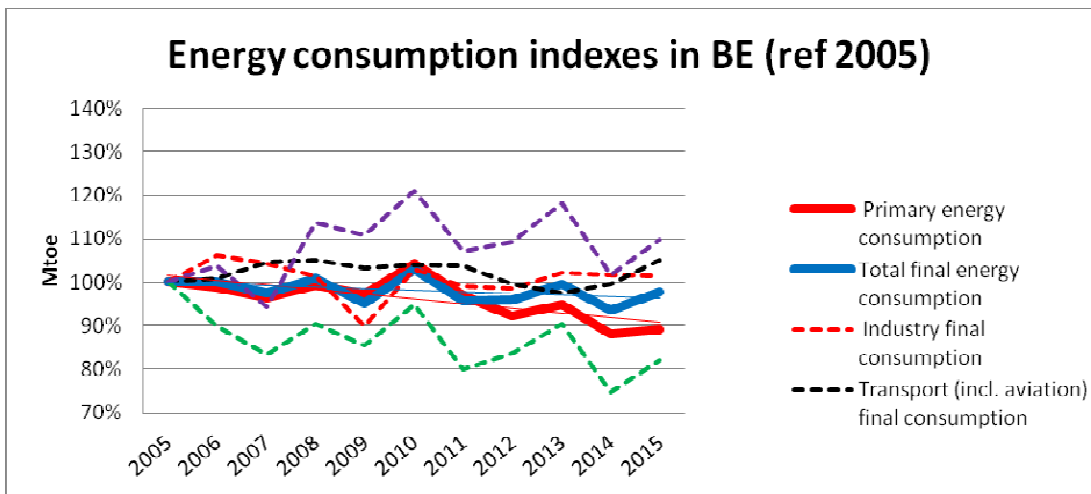
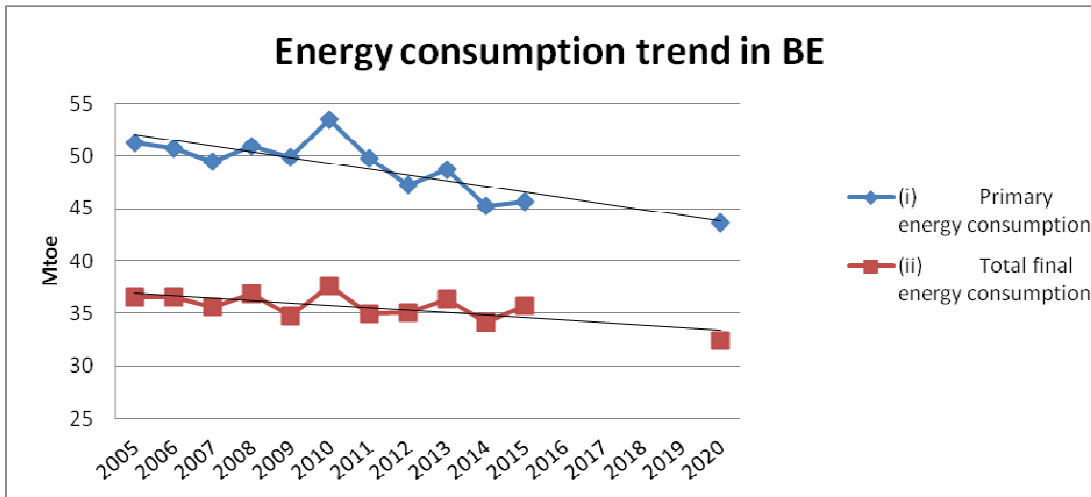
1.1.4. National energy indicators, according to the article 24.1 Annex XIV part 1

Table 1: Indicators required according to annex XIV of the EE Directive 2012/27/EU, year 2015

Table A - Eurostat data

Number	Indicator	Value	Unit(s)
A1	(i) primary energy consumption	46	Mtoe
A2	(ii) total final energy consumption	35 780	ktoe
A3	(iii) final energy consumption - industry	11 891	ktoe
A4	(iii) final energy consumption - transport	10 444	ktoe
A5	final energy consumption in pipeline transport	46	ktoe
A6	(iii) final energy consumption - households	8 136	ktoe
A7	(iii) final energy consumption - services	4 558	ktoe
A8	final energy consumption - agriculture	722	ktoe
A9	final energy consumption – other sectors	13 445	ktoe
A10	(iv) gross value added - industry	80 132	chained M€ (ref2005)
A11	(iv) gross value added - services	232 243	chained M€ (ref2005)
A12	(v) disposable income for households	229 300	M€
A13	(vi) gross domestic product (GDP)	406 818	chained M€ (ref2014)
A14	(vii) electricity generation from thermal power generation	5 210	ktoe
A15	(viii) electricity generation from CHP	1 280	ktoe
A16	(ix) heat generation from thermal power generation	904	ktoe
A17	Waste heat produced in industrial installations		ktoe
A18	(x) heat generation from CHP	901	ktoe
A19	Waste heat recovered from industrial installations		ktoe
A20	(xi) fuel input for thermal power generation	13 322	ktoe
A21	(xii) passenger kilometres	not available	Millions of pkm
A22	domestic maritime passenger kilometres	Not mandatory in Annex XIV	Millions of pkm
A23	total national aviation passenger kilometres	Not mandatory in Annex XIV	Millions of pkm
A24	total international aviation passenger kilometres	Not mandatory in Annex XIV	Millions of pkm
A25	(xiii) tonnes kilometres	not available	Millions of tkm
A26	domestic maritime tonnes kilometres	Not mandatory in Annex XIV	Millions of tkm
A27	total national aviation tonnes kilometres	Not mandatory in Annex XIV	Millions of tkm
A28	total international aviation tonnes kilometres	Not mandatory in Annex XIV	Millions of tkm
A29	(xv) population	11 237 274	Persons
A30	Total number of households		Households
A31	Energy transmission and distribution losses (all fuels)		ktoe
A32	Heat generation from district heating plants		ktoe
A33	Fuel input in district heating plants		ktoe

Graphs 1 to 3 : indicators trends



Analysis of sectorial variations since previous year (2015 vs 2014)

Industry : Industry consumption remained stable in regards to 2014 but the gross added value grew in the same time (+4%), showing an improvement in EE.

Transport : Transport consumption is slightly growing in regards to 2014. This can be explained by the low prices of oil products.

Households & Services : 2015 was colder than 2014 (HDD : 1704 vs 1424)

Table 2: Estimates of key national energy production and consumption figures in 2020

Estimate of BE energy consumption in 2020	Unit GJ	Unit Mtep
Gross inland consumption (GJ)	2 307 871 639	55.12
Total primary energy consumption	no data	
Electricity transformation input (thermal power generation)	no data	
Electricity generation output (thermal power generation)	no data	
CHP transformation input	no data	
CHP transformation output - thermal	no data	
CHP transformation output - electrical	no data	
Energy distribution losses (all fuels)	no data	
Total final energy consumption	1 445 120 633	34.52
Final energy consumption - industry	513 592 096	12.27
Final energy consumption - transport	386 616 581	9.23
Final energy consumption - households	342 797 408	8.19
Final energy consumption - services	170 662 787	4.08
Final energy consumption - other	31 451 761	0.75

Source : Monitoring Mechanism Regulation –2017 report for BE

2. OVERVIEW OF NATIONAL ENERGY EFFICIENCY TARGETS AND SAVINGS

2.1. National 2020 energy efficiency targets

For the transposition and implementation of the Energy Efficiency Directive 2012/27/EU article 3¹, Belgium communicated in June 2013 an indicative energy efficiency target for 2020 to the European Commission: 18% reduction of primary energy compared to the projected gross inland energy consumption (excluding non energy uses) according to Primes 2007 baseline modelling.

The Belgian indicative energy efficiency target is the sum of the individual estimates of the primary energy savings induced by the existing and planned policy measures taken on the federal and regional level. The energy reduction in 2020 relative to the Primes 2007 baseline (53.3 Mtoe) was calculated in compliance with the methodology of the National Reform Program 2011 and 2012. This produces an energy saving equal to 9.6 Mtoe and results in 43.7 Mtoe energetic gross inland consumption in 2020². As requested by the EED, this primary target is converted into a final consumption target of 32.5 Mtoe in 2020.

2.2. ESD 2006/32/EU energy savings

In addition to the indicative target for 2020 which was determined in the context of article 3 of Directive 2012/27/EU, Member States still have to demonstrate the progress of the indicative 9% reduction in final energy consumption by the end of 2016 in the context of Directive 2006/32/EC.

In the first National Energy-Efficiency Action Plan, the indicative energy savings targets for 2016 were defined at the regional level according to a common method and on the basis of the regional energy balance sheets. Each Region has committed itself to reach a 9% energy savings target, because energy-efficiency policy is mainly regional competence within Belgium. Therefore no target was set on the federal level and most measures are considered as supportive to the regional policies.

The national energy savings target amount to the sum of the regional targets. This is how Belgium meets its obligations as a Member State.

Each Region aims to reach the calculated energy savings target and to this end, draws up its own regional action plan. Each Region is also responsible for monitoring the implementation of its own measures. Detailed information can be found in the Regional Action Plans in Annex.

The Federal State has also listed its individual measures in the following chapter concerning “Federal policy measures implementing EED” of this Belgian Energy-Efficiency Action Plan. However, these measures were not evaluated

¹ It is worthwhile to mention that the historical set of data used by PRIMES 2007 for the gross inland consumption between 1990 and 2005 is nowadays 1.1 Mtep lower than the official EUROSTAT data. This could have an impact on primary consumption in 2020.

separately from the regional measures as they overlap with the regional measures.(except for ecodesign and ecolabelling).

Table 3: overview final energy saving targets and prognoses of the Brussels Capital Region (BCR), Walloon Region (WR), Flemish Region (FR)

	Final energy saving target		Final energy savings achieved or projected		Primary energy savings achieved or projected
	In absolute terms	Reduction %	In absolute terms	Reduction %)	in absolute terms
2012			BCR: 675GWh WR: 5.261GWh FR:16.499GWh	BCR: 2,8% WR: 5,7% FR:8,8%	BCR: 680GWh WR: 6.245GWh FR:23.660GWh
2016	BCR: 2.199GWh WR : 8.358GWh FR: 16.959GWh:	BCR: 9% WR: 9% FR: 9%	BCR: 2.898GWh WR: 8.152GWh FR:23.443GWh	BCR: 11,9% WR: 8,8% FR:12,4%	BCR: 2.927GWh WR: 9.877GWh FR:32.789GWh
2020 forecast			BCR: 4.838GWh WR: 9.684GWh FR:28.879GWh	BCR: 19,8% WR: 10,4% FR:15,3%	BCR: 4.889GWh WR: 11.193GWh FR:38.974GWh

3. FEDERAL POLICY MEASURES IMPLEMENTING EED

This chapter only consists of a description of the federal policy measures.

Please find detailed information about the regional measures in the Regional Actions plans in Annex.

3.1. Horizontal measures

3.1.1. Metering and billing (EED Articles 9-11)

In the context of the sixth state reform the full competence for transposition and implementation of these articles has been transferred to the regions according to the special law of 6 January 2014. As a consequence the Federal Public Service Economy, S.M.E's, Self-Employed and Energy, Directorate General Energy, is not responsible for the assessments of the impact of the energy-saving measures taken.

3.1.2. Consumer information programmes and training (EED Articles 12 and 17).

A. Energy guzzlers

The energy guzzlers website (Dutch: www.energievreters.be / French: www.energivores.be) is a sophisticated but handsome internet-based CO2 calculator, which is developed by the Federal Public Service of Health, Food Chain Safety and Environment, as a communication tool concerning climate change, Rational Use of Energy and renewable energy. It can be used to estimate energy consumption from home appliances and different products (cars, lighting, windows, roof insulation) to make a better choice

3.1.3. Energy Services (EED Article 18)

The development of the Belgian national and regional Energy Services Companies (ESCO's) and Energy Performance Contracting (EPC) market is driven by the European climate policy and objectives, in particular the 20-20-20 targets. EPC is a key tool to reach the European climate and energy transition objectives.

A stable, moderately sized ESCO market is identified in Belgium. The ESCO and Energy Contracting market represents a key future development of the broader market for energy efficiency and renewable energy, delivering "performance based" business, contractual and operational models to the private and public building sector and the industry.

BELESCO, the Belgian ESCO Association, groups the major stakeholders of the Belgian energy services, Energy Performance Contracting and energy supply contracting sector and related areas like Third Party Financing and measurement and verification:

Suppliers include private and public ESCO's, public and private EPC project facilitators and consultants, public and private banks and third party investors, energy efficiency engineering companies and other stakeholders. Customers include private companies and building owners, real estate companies, public authorities and building owners.

The mission of BELESCO is to stimulate and support the development of professional energy services in Belgium and its regions, as well on the demand side (end customers) and on the supply side (ESCOs and their partners, third party investors and banks) as on matching demand and supply (project facilitators and consultants). It is a non-profit organization that also aims to promote good practices, provide a networking environment and represent the sector at the regional and federal policy level.

The ESCO model has proven to be not only a powerful delivery mechanism for energy efficiency, but also provides the much needed leverage and risk allocation tool to make Third Party Financing really possible.

3.2. Energy efficiency measures in buildings

3.2.1. Tax measures

Due to the Belgian tax reform of 2012 tax credits for work aimed at energy saving had been abolished from tax year 2013, with the exception of roof insulation. This is to avoid the overlap of financial policy measures between federal and regional level. Energy Efficiency is mainly regional responsibility.

In the context of the sixth state reform the full competence of the tax reduction for tax deductions for energy-saving expenses in the area of regulation on income tax is transferred entirely to the regions according to the special law of 6 January 2014. The Federal government will still execute will still be done by the Federal government.

For the ongoing policy measures we can refer to the previous National Energy Efficiency Actionplan (NEEAP). These measures will be referred to briefly here below. However the impact of these measures for the tax year 2014 aren't officially published yet and couldn't be reported in this NEEAP 2017. The numbers for the tax years 2015 and 2016 aren't available yet.

A. Expenses borne for work aimed at energy saving

The transfer of expenses on roof insulation, 145²⁴ of the 1992 Income Tax Code (CIR 92), entitles to a federal tax reduction. This transfer can only be carried out for the next three taxable periods at a most for expenses made up to and including the 2012 year of income for one home. So, a transfer for this can be registered in 2015 (2016 tax year) at the latest. This last tax deduction mechanism is now transferred to the Regions (since 1 January 2015). Regions have not yet taken positions about which mechanism they want to implement: subsidies, tax deductions or both. Until now, no region has cancelled the measure yet.

Therefore the 2015 expenses on roof insulation still entitle to a regional tax deduction.

B. Houses with low-energy consumption

The tax credits for passive, low-energy and zero-energy certified dwelling houses could be granted until 31 december 2011. This measure is abolished as from tax year 2013. However the tax credit for houses with low-energy consumption has been granted for ten subsequent tax periods. This means that this federal measure can still be accounted for.

C. “Green” loans

This temporary measure is only applicable to loans awarded between 1 January 2009 and 31 December 2011. Interest paid on “green” loans also entitles to a tax credit, which can amount to 30% of the interest actually paid (and after deduction of the State intervention as an interest rate subsidy).

D. Energy conservation in buildings (horizontal, residential and tertiary) by reduced VAT for renovating old buildings

As of 01.01.2000 , a reduced VAT rate of 6% is applicable to immovable works relating to private dwellings older than 5 years. As of 12.02.2016, according to the Royal Decree of 26 January 2016 Article 1, the reduced VAT rate is only applicable to private dwellings older than 10 years. This measure applies to all kinds of immovable works other than cleaning, such as restoring works, transformation works, important maintenance works and small repair or maintenance works like painting. It may be cumulated with the tax reduction and the subsidies for energy saving investments. Although its primary concern is to foster job creation in services with a high labour intensity, this measure also has an indirect on energy efficient building renovation, by reducing the cost of the related investments.

3.2.2. Eco-checks

Promoting green products and services is encouraged through extra-legal benefits that the employer can provide to workers with ecochecks. These cheques are intended to finance the acquisition of ecological goods and services and are exempt from tax and social contribution. Products which can be bought by ecocheques can be found in the document “The collective labour agreement n° 98 of 20 February 2009 concerning eco-checks” Section II which has been republished on 27 January 2017 (<http://www.cnt-nar.be/DOSSIERS/Ecocheques/2016-01-27-note-explicative.pdf>).

More informative documents on ecocheques can be found on the following website: <http://www.cnt-nar.be/Dossier-FR-ecocheques.htm>.

3.2.3. Directives Ecodesign and Labelling

The implementation of the Ecodesign and Labelling Directives are a federal competence. The measures taken and energy reductions realised are due to the efforts of the Federal Government.

A. Residential and tertiary sector – Ecodesign Directive and Strengthening of product standards (boiler, isolation, construction materials)

The responsible authority for preparing and implementing an integrated policy to promote sustainable products and consumption is the FPS Health, Food Chain Safety and Environment Division Products Policy. Among the tasks of this division is the maximisation of the implementation of the Ecodesign directive. This means that for products placed on the market and for which there is still no standard at European level, ambitious standards will be established in close collaboration with relevant sectors and the scientific world. These products must meet high standards of environmental management, social assistance and health care, while remaining affordable for all. (eg. Strengthening of product standards for heating, construction materials and others). The specific objective is therefore to reduce the energy consumption from small appliances using fuel or electricity.

B. Residential and tertiary – Energy Labelling Directive

The implementation of the Energy Labelling Directive lies within the competence of the FPS of Economy, S.M.E.'s, Self-employed and Energy. Information campaigns are organized to guide the consumers towards higher efficiency classes. To ensure that the information on the labels is correct, Belgium actively performs sampling checks to verify the data given by manufacturers.

Total estimated impact of both regulations: An annual reduction of the primary energy consumption of 3.85 Mtoe by the year 2020 (COM (2015) 345 final), estimated using the most recent European impact assessment and proportionally to the number of inhabitants of Belgium.

3.2.4. Survey insulation materials

The survey on the environmental impact of different thermal insulation materials for exterior walls was conducted by the FPS of Health, Food Chain Safety and Environment. The goal was to evaluate the environmental impact of certain insulation materials, to promote the materials with the most positive impact taking into account its complete life cycle.

More information can be found on the following website:
<http://www.health.belgium.be/en/environmental-impact-thermal-insulation-materials>

3.2.5. Database EPD building material

The FPS of Health, Food Chain Safety and Environment made available a database allowing manufacturers to declare a set of environmental impacts over the full life cycle of a construction product. As a result, one will be able to take into account Global Warming Potential along other environmental impacts such as Ozone Depletion, Acidification and resource depletion. A lot of these impacts are related to the use of energy. The building context needs to be considered within the assessment, to make the best choice in building materials. One should avoid to use construction products which are good for one part of the environment but which cause a burden shifting to e.g. end-of-life or other environmental compartments (cfr. Building assessment tool below).

The rules and procedures for this EPD database are based on the Royal Decree on environmental messages of 22 may 2014 and European and international standards. This Royal Decree states that from 1 January 2015 manufacturers who wish to include an environmental message on their product should first have a life cycle analysis carried out and should have it registered in a database that is accessible to the public. The legislation applies to all building products that are placed or made available on the market in Belgium. The implementation has had some delay and the database is available as from 1st semester of 2017

The regional governments, have started to develop a calculation module to calculate the environmental impact of building products on building level. This tool will use generic data in a first phase. Preparatory work between the regions and the FPS of Health, Food Chain Safety and Environment have started last year to link the database in 2018 with the building assessment tool.

More information can be found on the following website:
<http://www.health.belgium.be/en/database-environmental-product-declarations-epd>

3.3. Energy efficiency measures in public bodies

3.3.1. Central government buildings (EED Article 5)

It has to be mentioned that FEDESCO, the Federal public ESCO Service, has been dissolved as a body and that a part of its activities have been incorporated in the activities of the Régie des Bâtiments according to the Royal Decree of 4 March 2016 (Royal Decree modifying the Royal Decree of 1 February 1993 determining the auxiliary and specific tasks in the Federal Public Services, the Public Services for Programming and others services that depend on them, as well as in some public interest organizations, and determining the modalities of engagement in the Régie des Bâtiments of some FEDESCO staff members). Further specifications can be found on this subject under Chapter regarding the Financing of energy efficiency measures in public bodies.

Pursuant to the choice of an alternative approach, the federal government has several tools available: a combination of investments, rationalizations and behavioral changes.

Encouraging alternative measures for energy efficiency in federal buildings includes five axes that meet the responsibilities of the Régie des Bâtiments:

1. Complying with the requirements regarding energy performance, both for the renovation of buildings and the construction of new compliant buildings, belongs to the responsibility of the Régie des Bâtiments.

2. The adjustment of the systems and the production of green and renewable energy, using techniques such as solar panels, solar boilers, cogeneration and heat pumps belongs to the responsibility of the Régie des Bâtiments. On the basis of an annual investment program and of the improvement of energy performance in federal government buildings.

3. Working on the improvement of the energy performance of buildings. It is not always possible to completely renovate a building or to achieve the performances that the regulation prescribes in the case of a radical renovation. This is why all actions should be done in order to improve the building envelope and to reduce the consumption in public buildings. This can be done by standard investments or energy performance contracts.

4. In addition to investments realized by the Régie des Bâtiments, an awareness and a change of behavior among federal civil servants also will have to ensure that energy consumption is reduced. The requirement to obtain an internal environmental management system with an EMAS registration (Eco-Management Audit Scheme) has to stimulate behavioral change and procure a sense of responsibility to the civil servants.

5. The rationalization of occupied office space in accordance with the standard 2013/19140.005, as approved by the Council of Ministers on June 8, will also reduce energy consumption of the federal government. According to the occupancy standard, each civil servant disposes of an area of 13.5 square meters and will, if possible, be encouraged to perform homeworking or working from satellite offices close to place of residence. The Régie des Bâtiments shall also optimize its portfolio management.

204 building complexes which are covered by the scope of the directive have been analyzed. A consumption reduction could be found for 2/3 of them and an increase for 1/3. The general trend is certainly a lower energy consumption in 2015.

In the table below the Régie des Bâtiments drew up the summary of objectives in view of a consumption reduction in accordance with Article 5 of Directive 2012/27/EU. It reports on the initially foreseen consumption and the actual consumption in administrative buildings which are property of the Federal Government and which are administered by the Régie des Bâtiments.

Energetisch kadaster 2016 reporting Kadastre énergétique 2016 reporting												
Régie des Bâtiments												
Synthèse des objectifs de diminution de consommations en application de l'art. 5 de la directive 2012/27/EU Samenvatting van de doelstellingen van de vermindering van de verbruiken in toepassing van art. 5 van de Eur richtlijn 2012/27/EU												
Betrokken externe diensten van RdG Services extérieures de la RdB concernées	Consommation primaire totale 2014 (kWh/ha) Total primaire verbruik 2014 (kWh/jaar)	Consommation primaire totale 2015 (kWh/ha) Total primaire verbruik 2015 (kWh/jaar)	Vershill	Surfaces chauffées PEB (m²) EPC versnarde oppervlakten (m²)	Surfaces chauffées PEB (m²) EPC versnarde oppervlakten (m²)	Vershill	Jaarlijks energieverbruik per m² kWEP/m²/jaar 2014	Jaarlijks energieverbruik per m² kWEP/m²/jaar 2015	Percentage van de oppervlakte waarop de maatregelen van toepassing zijn Pourcentage de superficie sur laquelle les mesures s'appliquent	Gemiddelde procentuele daling van het verbruik per jaar	Obligatie de diminution de consom primaire totale (kWh/ha) Verplichting van vermindering totaal primair verbruik (kWh/jaar)	Obligatie de diminution de consom primaire totale (kWh/ha) Verplichting van vermindering totaal primair verbruik (kWh/jaar)
Brussel/Bruxelles												
Brussel/Bruxelles	35.683.194	35.729.605	-46.412	146.163	146.163	0			3%	6%	64.230	64.230
Vlaanderen												
VI. Regio Noord	19.865.369	16.835.897	3.029.472	90.558	87.910	2.647			3%	4%	23.838	14.532
VI. Regio Oost	12.110.271	11.719.682	390.589	60.163	60.163	0			3%	4%	14.532	14.532
VI. Regio West	61.346.866	54.424.253	6.922.613	25.407	25.407	0			3%	4%	73.616	111.987
			10.342.663	404.792	388.552	16.140						
Wallonie												
Wal. R. Est	5.360.848	4.787.820	573.028	21.413	21.413	0			3%	9%	14.474	14.474
Wal. R. Ouest	13.638.587	10.920.920	2.717.667	54.545	53.072	1.473			3%	9%	38.824	38.824
Wal. R. Sud	30.169.909	28.710.497	1.459.412	69.733	69.733	0			3%	9%	81.469	132.754
			4.749.187	174.737	173.242	1.495						
totaal RdG total RdB	178.174.009	163.128.564	15.045.445	725.692	708.057	17.635	246	230			308.971	308.971

In view of the realization of the reduction goal of 3% for each Region for the part of the Federal Public building stock which is managed by the Régie des Bâtiments, the order of magnitude of the objectives can be assessed based on this table. The different policies, climate and average condition of the buildings in the different regions are taken into account.

The following modifications have been made in the table above, compared to the previous years:

- Update of energy consumption:
 - Table review: compare consumptions in 2015 to consumptions in 2014
 - Land register 2016: consumptions in 2015 (this land register keeps on developing)
- Accurate calculations of some surfaces: buildings for which an energy performance certificate (EPC) has been drawn up or renewed allow to apply the calculated EPC surfaces.

The 2016 land register evolves continuously, due to feedback and information of people in the field or real estate transactions by the Régie des Bâtiments. In the following table a snapshot is given of the situation on 23/02/2017, this will continue to evolve and change in 2017:

	Total heated floorsurface (m2)	heated EPB	Total consumption (kWh)	Reduction goal
Brussels Capital Region	300 221		77 633 761	139 741
Flemish Region	381 486		81 828 685	98 194
Walloon Region	285 640		79 486 265	214 613
Belgium	967 347		238 948 711	452 548

At this moment, taking into account the addition of certain buildings and the current energy performance, the average energy use of the real estate portfolio of the Régie des Bâtiments is 247 kWh/m². This average use/m² has increased due to the specific destination of the additional buildings. Besides the target which has been calculated based on the regional indicators, a 3% reduction of the average use should be feasible.

The information here above will soon be published on the website of the Régie des Bâtiments:

NL: <http://www.regiedergebouwen.be/energie-efficiencie-gebouwen>

FR: <http://www.regiedesbatiments.be/efficacite-energetique-batiments>

3.3.2. Purchasing by public bodies (EED Article 6)

A. Sustainable procurement

Since 2005 the policy on sustainable public procurement contracts has been shaped at different levels. The mandates for the two next federal forums are set out in the circular of May 16, 2014 concerning the “Integration of sustainable development, including social clauses and measures in favour of small and medium-sized enterprises, within the framework of public procurement contracts published by federal contracting authorities (Belgian Official Gazette 21 May 2014 (Moniteur belge) pp. 40529 - 40553)”:

"It is necessary that the various federal departments consultate. Therefore, a consultative body of federal purchasers has been established. Within this body good practices are shared, including on the issue of sustainable development.

The Interdepartmental Commission on Sustainable Development has been charged with the implementation of sustainable procurement strategies. "

Furthermore a technical working group on sustainable procurement contracts is active which ensures the coordination between the federal level and the three regions under the mandate of the Interministerial Conference on Sustainable Development. This working group also provides the Belgian coordination with the most important consultation forums in Europe on environmental and ethically responsible public procurement contracts.

The Royal Decree of July 13, 2014 on energy efficiency requirements within the framework of certain public procurement contracts for the acquisition of products, services and buildings (Belgian Official Gazette (Belgian Moniteur, July 18, 2014,) contains the instructions that have to be taken into account by all federal public services when drafting their portfolio.

Concerning the energy consumption of vehicles the Council of Ministers has approved the new circular 307 sexies on March 10, 2017: the purchase of passenger cars intended for the government services and certain public

institutions. In this Circular references are made to the obligations regarding Euro standards, Ecoscores and the purchase of electric, hybrid and CNG vehicles.

The guide for public procurement of supplies and services, with voluntary guidelines and technical requirements to promote and improve energy efficiency, is available for the contracting authorities of the Federal Public Services (<http://www.gidsvoorduurzameaankopen.be>).

B. EMAS

EMAS stands for Eco-Management and Audit Scheme. It is an environmental management system, which includes energy management and energy-saving measures. Proposed by the Secretary for Sustainable Development, the federal government decided on 20th July 2005 that all Federal Public Services have to be EMAS certified by 2007. The EMAS-objective was extended by decision on 20 July 2012 by the Council of Ministers.

The institutions which have an EMAS registration in 2015 are : the Federal Planning Bureau, Régie des Batiments, The FPS Mobility and Transport (head office); the Federal PPS Science Policy; the Federal Pensions Service (all offices); the FPS Economy, SMEs, Self-Employed and Energy; the FPS Employment, Labour and Social Dialogue; The PPS Health, Food Chain Safety and Environment; the FPS Social Integration; The FPS Personnel and Organisation; the FPS Employment, Labour and Social Dialogue, Belnet, the Royal Belgian National Institute of Sciences; the RMI; the FPS Justice; the FPS Home Affairs. The FPS Finance and the FPS Chancellery of the Prime Minister dispose of the label "Ecodynamic enterprise" (2 stars).

Every federal institution disposing of an EMAS registration publishes an environmental statement on its website. This statement includes the environmental objectives, the main actions taken and the environmental performance indicators.

There is a network of federal EMAS coordinators, established to exchange information and knowledge among the different registered EMAS institutions.

3.3.3. *Financing of energy efficiency measures in public bodies*

On the proposal of the minister responsible for the Régie des Bâtiments Jan Jambon and the Finance Minister Johan Van Overtveldt a draft royal decree has been approved by the Council of Ministers on July 17, 2015 by which the Federal Participation and Investment Company was charged to dissolve its subsidiary company, the public energy services company FEDESCO. (http://www.ejustice.just.fgov.be/cgi_loi/change_lg.pl?language=fr&la=F&cn=2016030403&table_name=loi)

This Royal Decree "amending the Royal Decree of February 1, 1993 determining the additional and specific assignments within the federal government services, the programmatic public services and the services that depend on them, as well as in some public utility institutions and establishing the modalities for employing

certain FEDESCO staff by the Régie des Bâtiments", carries out the coalition agreement stating that with the purpose of rationalization of housing and the optimization of energy efficiency (energy performances) of federal government buildings, through an enhanced service energy and sustainable development of the Régie des Bâtiments, a thorough policy will be implemented aimed at reducing CO2 emissions and energy costs. The coalition agreement also stipulates that in order to avoid dual responsibilities, FEDESCO will be dissolved and its staff transferred to the Régie des Bâtiments.

Some of the ongoing contracts of FEDESCO were taken over by the Régie des Bâtiments.

3.4. Energy efficiency measures in industry

A. Deductions for investments in energy saving equipment by enterprises.

This deduction for increased investments applies to fixed assets which tend to promote research and development of new products and advanced technologies which have no harmful effect on the environment and tend to a more rational use of energy. This deduction can be found in the Income Tax Code of 1992, Article 69, § 1(1), 2° b and c and has already been applied for some years. This policy makes incentives available for environmentally sound investments by industry. It provides tax deductions of investment costs of 13.5% for assessment year 2017, such as published in the Belgian Official Gazette of 11 April 2016 (p.23503). Investments are considered eligible if they deal either with energy efficiency, or energy resulting from non-polluting treatment of industrial and urban waste. The policy covers projects dealing with solar, wind, hydro energy, biomass (including biofuels) and geothermal energy technologies as well as RD&D activities that promote environmentally sound technologies. Tax payers are allowed to spread the deductions out over several years. The policy also offers grants totalling 20.5% of the investment.

3.5. Energy efficiency measures in transport

A. Promotion of intermodal transport

Measures implemented by the federal authorities to promote modal shift, focus basically on limiting the growth of road traffic and on promoting other means of transport but can have an indirect effect on energy use in the transport sector as well. A set of measures aimed at encouraging people to use public transport, car-pooling, bicycling or walking for everyday mobility have been introduced.

Every 3 years a survey is conducted to evaluate the interest in and impact of the measure "travel between home and work" (30 June 2005, 2008, 2011 and 2014). The fifth diagnostic will start on 30 June 2017. This is obliged by Belgian law (http://mobilit.belgium.be/sites/default/files/downloads/diagnostique_1%C3%A9gislation_fr.pdf). Reports on these surveys are published on the website of the

a) Mobility plans at local level:

To promote the realisation of mobility plans at local level, a survey "Journey to work" is in progress. The scope for this survey are companies with 100 people or more. The results need to be taken into account within the enterprises and need to be discussed with their employees. The Federal diagnostics and personalised recommendations should encourage the company to adjust if necessary its mobility policy and to realize an Action Plan concerning the used ways of transport of their employees. The impact of these Federal diagnostics and recommendations are difficult to measure, but a positive effect on the awareness for intermodal transport can be experienced (more events for companies on mobility, more measures taken by the companies).

A study is also planned to return the survey results more efficiently back to firms.

b) Positive mobility allocation

The introduction of "positive mobility allocation" through the establishment of a framework allowing workers whose wage package contains a company car (with or without a petrol card) to opt, subject to the agreement of their Employer, for the conversion of this company car (and, where applicable, the petrol card) into a mobility budget or an increase in net salary (reference year: 2017).

c) Improve and promote public transport:

The Federal Government and the NMBS/SNCB (Société Nationale des Chemins de fer Belges) are setting common goals by realising a contract of group management. This contract is currently in progress. The common objective is to improve and promote public transport by:

- continued development of public transport
- setting quantified targets with the authorities and including them into their management conventions to increase the use of public transport.
- investing in infrastructure, strengthening the transport capacity and the quality of service (enhancing timeliness, safety, accessibility and information to travellers)
- creating new parking places for cars and bicycles close to train stations with safety cameras and lighting.
- further developing of an attractive pricing policy, reducing fares for certain categories of travellers
- promoting the combination between railway and soft transport modes, therefore including the promotion of bicycles use as an objective of public transport companies.

- awareness raising campaigns

The Belgian rail company tries to realise a reduction in primary energy traction of their energy consumption, by:

- increasing train occupancy;
- reducing energy losses while at stop;
- using more efficient rolling stock;
- reduction of energy consumption for non-traction activities.

The Federal government also provides a system of free commuting by train for employees:

- Free public transport for commuters: Under social regulations, 80% of the travel costs of workers (by train) will be paid by their employer. This policy ensures that the remaining 20% are paid by the public authorities.
- Free public transport for members of administrations

d) *Promotion of the use of bicycles*

The use of bicycles is an important way to contribute to the reduction of energy use and CO₂ emissions. By promoting bicycle use the intermodality can be improved as well.

As already mentioned above, cycling is promoted through public transport by installation of bike points and secure parking for bikes at railway stations.

The Federal Government will further promote the use of bicycles by creating or improving safe and comfortable infrastructures such as bicycle lanes and parking facilities.

The following fiscal measures will promote the modal shift to cycling:

- Fiscal incentives for company employees and administrations of public services aiming at stimulating bicycle use for home-work commuting:
 - according to the article 38, §1, 14°, WIB 92; a tax free allowance of 22 cent/km for assessment year 2017 exist for commuting by bike (23 cent/km for assessment year 2018)
 - according to the article 64(1), 3°, WIB 92; a 120% depreciation rate is given on the purchase of business bicycles, maintenance and repair of these bicycles and installation of immovable property related to this bicycle use (parking, changing rooms, showers...).
- These Fiscal measures will be expanded to electrically assisted bicycles, “speed pedelecs” (45km/h)

Due to an important overlap of fiscal measures taken by the regional and federal governments, the impact of these federal measures can't be taken into account in the reduction of the use of energy realised by Belgium.

e) *Promotion of multimodal freight transport*

A modal shift in freight transport will reduce the share of road transport and is beneficial for the sustainable mobility.

The following measures were taken to promote freight transport via railway, to reduce the freight transport on the road:

- Standardisation of containers and reduce the number of empty journeys.
- Financial support for combined transport of Intermodal Transport Unit containers.
- Offering subsidies for domestic freight transport by train.
- Construction of new infrastructures and improvement of existing infrastructures

The following measures were taken to promote freight transport via waterways:

- Promotion of short sea shipping
- Financial support to the profession
- Financial support for the purchase of energy efficient barges.

B. *Boost transport efficiency*

a) *Stimulation of Ecodriving:*

This is mainly regional competence, but the FPS Mobility obligates Professional truck drivers to follow a periodic training course which contains at least one module of defensive or economical driving to realise a decrease in fuel consumption.

b) *Promoting bio-fuels*

As of July 2013 fuel must incorporate a minimum percentage of sustainable biofuel in fossil fuels (transport fuel). The energy efficiency can also be increased by creating an enhanced value of other raw materials (waste, co-products, ...) coming from other industrial processes.

The exoneration of biofuels from excise duties has been discontinued as of July 1st 2014, because it was not covered any more by a European authorization ("state aid").

3.6. Energy transformation, transmission, distribution, and demand response

In the context of the sixth state reform the full competence for transposition and implementation of these articles has been transferred to the regions according to the special law of 6 January 2014. As a consequence the FPS Economy, SMEs, Self-Employed and Energy, Directorate General Energy, is not responsible for the assessments of the impact of the energy-saving measures taken. The existing federal regulations, such as notified to the European Commission, continued to apply during the transition period.