

# TAX DEDUCTION SCHEME IN BELGIUM

## Study

On behalf of:



of the Federal Republic of Germany

## Tax Deduction Scheme in Belgium

3 September 2018

Nesen Surmeli-Anac, Ann-Kathrin Kühner, Thobias Sach, Sarah Gül (Navigant)

BMU AZ: IK II 5 – 42206-2/1.5

Project number: 200771

Contact us at [BEACON.HelpDesk@navigant.com](mailto:BEACON.HelpDesk@navigant.com)

Visit us at <https://www.euki.de/beatcon>

The project Bridging European and Local Climate Action is financed by the European Climate Initiative (EUKI). EUKI is a project financing instrument by the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU). It is the overarching goal of the EUKI to foster climate cooperation within the European Union in order to mitigate greenhouse gas emissions. It does so through strengthening cross-border dialogue and cooperation as well as exchange of knowledge and experience.

The information and views set out in this study are those of the author(s) and do not necessarily reflect the official opinion of the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety.

On behalf of:



Federal Ministry  
for the Environment, Nature Conservation  
and Nuclear Safety

of the Federal Republic of Germany



European  
Climate Initiative  
EUKI

**NAVIGANT**



## Abbreviations

BAU	Business-as-usual
EED	Energy Efficiency Directive
ESD	Effort Sharing Decision
ETS	Emissions Trading System
EU	European Union
EUR	Euro
GHG	Greenhouse gas
HFC	Hydro-fluorocarbon
ICEDD	Institute for Consulting and Studies in Sustainable Development (,Institut de Conseil et d'Études en Développement Durable')
KfW	Kreditanstalt für Wiederaufbau
kWh	Kilowatt hour
MtCO <sub>2</sub> e	Million tonnes of carbon dioxide equivalent
ODS	Ozone-depleting substances
PJ	Petajoule
R&D	Research and Development
SME	Small and medium-sized enterprises
toe	Tonne of oil equivalent

## TABLE OF CONTENTS

<b>Abbreviations</b> .....	<b>2</b>
<b>1 Summary</b> .....	<b>5</b>
<b>2 National context</b> .....	<b>6</b>
2.1 National climate policy.....	6
2.2 Sector context.....	7
<b>3 General description of the policy instrument</b> .....	<b>8</b>
3.1 History .....	8
3.2 Legal basis.....	8
3.3 Functioning.....	8
3.4 Interlinkages with other policy instruments.....	9
<b>4 Impacts of the policy instrument</b> .....	<b>10</b>
4.1 Effectiveness .....	10
4.2 Cost efficiency.....	12
4.3 Co-benefits and side-effects .....	13
4.4 Success factors and challenges .....	13
<b>5 Transferability</b> .....	<b>15</b>
5.1 General comparability of the context.....	15
5.2 Properties of the instrument .....	15
5.3 Potential impacts .....	16
5.4 Conclusion.....	16
<b>6 References</b> .....	<b>17</b>

## LIST OF FIGURES

Figure 1: Overview of the contribution of the main sectors to Belgium's GHG emissions in 2016 (Federal Government of Belgium, 2016).....	7
Figure 2: Overview of emission reductions achieved in ktCO <sub>2</sub> e from 2004 to 2035 (ICEDD, 2017).....	11

## LIST OF TABLES

Table 1: Summary results of economic impacts related to implementation of tax deduction in 2020 and 2035 (ICEDD, 2017).....	12
---	----

## 1 Summary

The Belgian tax deduction scheme for energy saving investments was introduced in 1992 and is currently the only policy instrument at national level aimed at promoting energy efficiency in the industry. Given the attractiveness of financial incentive schemes and the need to further reduce emissions in the German industry sector outside the European Union Emissions Trading System (EU ETS), this study presents the context, elements and impact of the scheme and assesses its transferability to the German policy landscape.

Belgium is characterised by a unique policy context of having distributed political decision-making on the level of the federal authority and the three regions Wallonia, Flanders and Brussels-Capital. Due to this complex structure Belgium currently has no national climate and energy policy strategy in place. However, discussions on a long-term vision (Energy Pact) are almost finalised and the three regions of Belgium have adopted climate and energy policies and related measures. The industry sector in Belgium represents the largest source of greenhouse gas (GHG) emissions with nearly 30 per cent in 2016, including emissions from industrial processes.

A tax deduction reduces the amount of income of an individual or company that is subject to tax. Belgian companies investing in eligible energy efficiency measures are thus allowed to reduce the amount of income subject to tax by 13.5% of the investment costs of the energy saving measure (in contrast to 3.5% for standard investments). The tax deduction scheme targets primarily energy efficiency measures, but also other forms of emission reductions in sectors inside and outside the EU ETS. For the case of environmentally friendly research and development (R&D) investments, companies have the possibility to opt for a spread investment deduction of 20.5% (for the tax year 2018) of the depreciation of the investment.

Based on the little literature and data available and the difficulty to estimate energy consumption reductions due to little information on the use of the corresponding investments, it can be concluded that the effectiveness and cost efficiency of the instrument is limited. The success of this instrument depends on several factors, including having a functioning monitoring and energy auditing system in place.

When assessing the transferability to the German policy landscape, it can generally be concluded from expert experiences that German companies would welcome a flexible tax mechanism that enables further energy savings or emission reduction investments. Acceptance could hence be increased. From the regulatory perspective, however, the implementation cost of the Belgian tax deduction scheme is substantially higher compared to the costs of existing policy measures in Germany that are applicable to the non-ETS industry sector. They increase in case companies choose this instrument over others due to simplified access than, e.g., applying for funds. Free-riding may further amplify this effect, i.e. if companies would also invest without the tax deduction option. The above described additional costs and potential effects therefore need to be weighed against the impact on emission reduction they can yield before transferring the instrument to Germany.

If transferred to the German context, the instrument would be complementary to the existing policy landscape. In this case, it is recommended to define a clear list of technologies/investments or eligibility criteria to ensure only highly effective technologies would be targeted, resulting in a higher emission reduction impact and potentially less risk of free-riding, thereby improving the cost efficiency of the instrument.

## 2 National context

### 2.1 National climate policy

Political decision-making in Belgium is shared between the federal authority and the three Belgian regions Wallonia, Flanders and the Brussels-Capital Region. This complex structure is one of the reasons why Belgium currently has no national climate and energy policy strategy in place. However, discussions on a long-term vision (Energy Pact) are almost finalised and the three regions of Belgium have adopted climate and energy policies and related measures.

In addition to regional climate policy targets, Belgium adopted the EU climate and energy targets. Based on the European Union Effort Sharing Decision (EU ESD) Belgium is obliged to reduce GHG emissions from the sectors outside the EU Emissions Trading System (ETS) by 15% based on their 2005 levels by 2020 (European Union, 2009). Regarding energy efficiency, Belgium set an indicative target for 2020: 18% reduction of primary energy compared to the projected gross inland energy consumption (excluding non-energy use) according to Primes 2007 baseline modelling (Federal government of Belgium, 2017).

The Interministerial Conference for Economy and Energy was set up to distribute competences in the field of climate change and energy policies between the three regions and the federal level. The internal working group CONCERE/ENOVER (Consultation between the Federal State and the Regions on energy matters) was set up to coordinate climate change policies between the federal and regional level (IEA, 2016).

On a regional level, **Flanders** aims to reduce its non-ETS emissions by 15.7% until 2020 as published in the region's Climate Policy Plan 2013-2020. Flanders' Climate Policy Plan sets out the policy framework for mitigation and adaptation actions in the region and is relevant for the transport, buildings, agriculture, non-ETS industry, energy, and waste management sectors. The implementation of the Climate Policy Plan is partly financed by the Flemish Climate Fund, which receives funding through the EU ETS (Ecologic Institute, 2014).

**Wallonia** has a climate decree in place, which established an Air-Climate-Energy Plan outlining targets for reducing overall greenhouse gas (GHG) emissions by 30% until 2020 and 80% to 95% until 2050. The Plan also includes specific actions for the government along an overall emissions pathway. The decree establishes a framework to reach the objective of the plan through the determination of five-year emission budgets. It also provides for annual parliamentary control of the budget. Furthermore, Wallonia has an aim to reduce its non-ETS emissions by 14.7% until 2020 (Ecologic Institute, 2014).

**Brussels-Capital** has a Regional Sustainable Development Plan in place until 2020. The plan sets priorities in quality of life, living conditions of Brussel's inhabitants, enabling the economic revival of the city through the development of new industries and meeting stronger environmental standards in the implementation of new industries. In addition, the Brussels Code for Air, Climate and Energy (COBRACE) was adopted in 2013 and introduced a reduction of GHG emissions by 30% until 2025 compared to 1990. The non-ETS emission reduction target is 8.8% by 2020 (Ecologic Institute, 2014).

## 2.2 Sector context

Belgium’s GHG emissions reached a total of 116.578 million tonnes CO<sub>2</sub>e (MtCO<sub>2</sub>e) in 2016, which resembles a decrease of 19.2% compared to 1990 levels. The industry sector (including industrial processes) made up the largest share (29.3%) of GHG emissions in Belgium in 2016, followed by the transport (21.9%) and energy sectors (18%), see Figure 1.

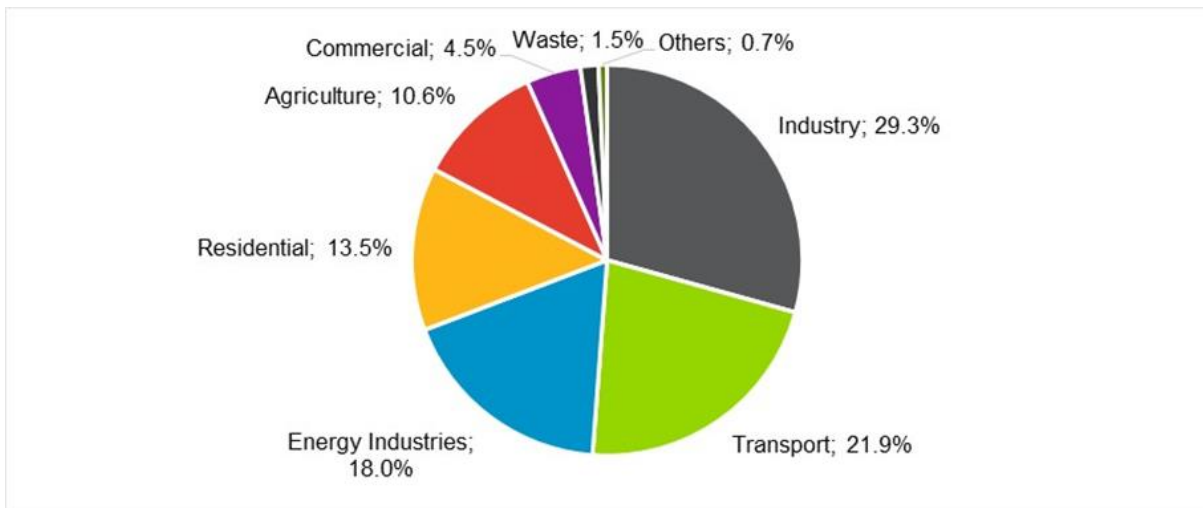


Figure 1: Overview of the contribution of the main sectors to Belgium's GHG emissions in 2016 (Federal Government of Belgium, 2016)

Regarding the industry segment, an analysis by McKinsey (2009) identified a theoretical energy savings potential of 4 MtCO<sub>2</sub>e in Belgium from the industry until 2030 compared to 2005. This would reduce primary energy consumption in the industry segment to a level of 20% lower in 2030 than consumption in 2005. The main potential lies in the following measures: improving heat recovery; installing more energy efficient equipment; and enhancing maintenance to keep equipment in optimal conditions (McKinsey & Company, 2009).



## 3 General description of the policy instrument

### 3.1 History

The tax deduction scheme is a long-standing policy measure in Belgium. It was implemented in 1992 to provide incentives for energy saving investments to the industry sector. At the national level, this instrument is the only measure aimed at promoting energy efficiency in the industry.

At the regional level industrial energy efficiency investments are implemented through voluntary agreements with the Flemish and Walloon regional governments.

### 3.2 Legal basis

The tax deduction scheme has its legal grounds in the Income Tax Code of 1992 ('Code des Impôts sur les Revenus' 1992) and is defined in Article 69 of the Tax Code. Eligible for tax deductions under this measure are investments in fixed assets that target a more rational use of energy, the improvement of industrial processes regarding energy, the recovery of energy in industry or fixed assets that promote research and product development of new and advanced technologies that do not have an impact on the environment or that aim to minimise negative effects on the environment.

In addition, the investments must be covered by one of the 25 categories described in Annex II of the Royal Decree implementing the Income Tax Code 1992 (Odyssee MURE, 2016a). The 25 categories cover technical measures such as more efficient insulation of buildings; refurbishment of existing space heating systems; recovery of residual heat; improvement of the energy efficiency of equipment; and the insulation of pipes, valves, etc.; but also the generation of energy, e.g. by wind turbines and hydro power plants.

### 3.3 Functioning

A tax deduction reduces the amount of income of an individual or company that is subject to tax. The Belgian scheme grants tax deduction to companies who invest in energy savings. The applicable tax deduction level varied over time. In 2004, the tax deduction was at 13.5% for energy saving investments in contrast to 3.5% for standard investments. In 2009, the deduction level increased to 15.5% for energy saving investments, while the tax deduction for standard investments was eliminated. Since 2013, the deduction level for energy saving investments has undergone a progressive decrease, reaching a rate of 14.5% in 2013 but then declining to 13.5% in subsequent years (Odyssee MURE, 2016a).

Belgian companies investing in eligible energy efficiency measures are thus allowed to reduce the amount of income subject to tax by 13.5% of the investment costs of the energy saving measure.

For example, if a company invests EUR 100,000 in a new energy efficient heating system, the overall income of the company subject to tax is reduced by an amount equalling 13.5% of this investment, i.e. EUR 13,500. Hence, the company pays less taxes, while the state has less tax revenue.

The tax deduction scheme targets primarily energy efficiency measures, but also other forms of emission reductions in sectors inside and outside the EU ETS. For the case of environmentally friendly research and development (R&D) investments, companies have the possibility to opt for a spread investment deduction of 20.5% (for the tax year 2018) of the depreciation of the investment.

### 3.4 Interlinkages with other policy instruments

The tax deduction scheme in industry is interlinked with a number of instruments on national and regional level, mainly the voluntary agreements with industry in both the Flemish and Walloon regions (Odyssee MURE, 2016a).

In Flanders, voluntary agreements apply to both companies that fall in a sector under the ETS and sectors outside the ETS, whose primary energy consumption is above 0.1 PJ. By 2016, 338 companies committed to the voluntary agreement, which constitute over 90% of the industrial energy consumption (Odyssee MURE, 2016a).

Like the Flemish agreements, industrial companies in the Walloon region made commitments regarding energy performance. The agreements were in place from 2003 to 2013 and covered more than 90% of the Walloon industrial energy consumption. Companies that establish a voluntary agreement commit themselves to, e.g., carry out energy audits, set up an energy plan, identify profitable measures (those with an internal rate of return of 14%) and produce annual reports of measures taken and recalculate the potential of profitable measures.

Large European companies are required to carry out energy audits as laid out by the Energy Efficiency Directive (EED) and corresponding national legislation. In addition, the EED encourages Member States to offer incentives for small and medium-sized enterprises (SMEs) to undergo energy audits. In Belgium, these requirements are implemented on regional level, too. Companies may use the tax deduction scheme for investments in measures that have been identified in energy audits. So, there is a potentially positive interlinkage of energy audits and the tax deduction scheme.

On EU level, the federal tax deduction scheme will be complemented from 2021 onwards with the EU ETS Innovation Fund, which aims to support innovative low-carbon technologies with up to 60% of investment costs (European Commission, 2017).

## 4 Impacts of the policy instrument

### 4.1 Effectiveness

The impact of the tax deduction on GHG emissions is difficult to evaluate due to lack of monitoring data about the investments made for energy efficiency in the industry sector and the actual application/use of the invested measure (e.g. whether or not/up to which degree new equipment is used or a new process implemented). However, there are assessment studies estimating the effectiveness of energy efficiency policy instruments in Belgium. This section is based mainly on the findings of an evaluation of emission reductions<sup>1</sup> of several policies and measures for abating GHG emissions in Belgium (ICEDD, 2017).

In its 2017 report 'Development of impact assessment methods for policies and measures carried out within the framework of the federal climate policy - Evaluation of emission reductions', ICEDD presents an evaluation of emission reductions of several policies and measures for abating GHG emissions in Belgium. It is based on models calculating the emission reductions for each instrument and includes the tax deduction for energy savings scheme. The report shows that federal policies and measures for reducing climate change have been estimated to have a cumulative impact on the period 2013–2020 of around 108 MtCO<sub>2e</sub>. Approximately 86 Mt can be assigned to the federal level as they cover domains falling under federal competences. Regarding the split between measures on sectors inside and outside the EU ETS, the report states that 61% of the total reduction comes from the sectors under the Effort Sharing Decision (ESD) and the rest from the ones covered by the EU ETS. For the period 2021 to 2030 cumulative emission reduction is estimated to be 232 MtCO<sub>2e</sub>, of which 200 Mt can be assigned to policies on the federal level. The model results correspond to an annual emission reduction estimate of 11 Mt CO<sub>2e</sub> for the period 2013–2020, and 20 MtCO<sub>2e</sub> for the period 2021–2030.

Based on the model calculations, the report identified five key policies for emission reductions, one of which is the tax deduction for energy savings. The model calculations for the GHG emission reductions between 2004 and 2035 due to the tax deduction scheme are based on the total amount of investments benefitting from the tax deduction as well as the energy price development. The results show that emission reductions achieved by the tax deduction scheme are estimated at 0.016 MtCO<sub>2e</sub> in 2004, and 0.71 Mt CO<sub>2e</sub> in 2018, indicating a significant increase. Emission reductions are projected to then decrease again from 2018 onwards until 2035 to around 0.53 MtCO<sub>2e</sub>, as shown in Figure 2 (ICEDD, 2017). Overall, the possible level of emission reductions seems rather moderate compared to other measures, see section 4.2.

---

<sup>1</sup> The study reports that the emission reductions have been estimated as the difference between the current situation (whenever the policy and measure has been already implemented) and a baseline (business-as-usual), i.e. the scenario without the instrument. Several assumptions are taken to calculate the effect of each instrument. In order to reduce the impact of uncertainties related to these assumptions, different scenarios (max, min and likely) were calculated. A conservative approach has been taken in general regarding the assumptions behind the definition of the different scenarios.

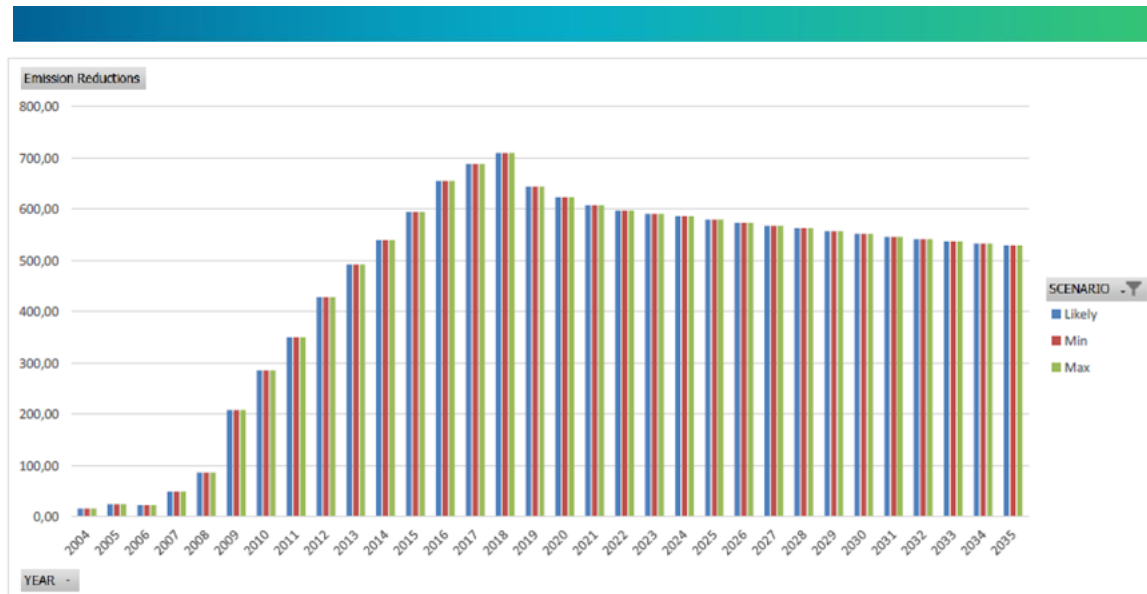


Figure 2: Overview of emission reductions achieved in ktCO<sub>2</sub>e from 2004 to 2035 (ICEDD, 2017)

It is important to note that the results of this study are based on several assumptions and furthermore there are several limitations to the study. The following are noted as the most important assumptions behind the model:

- The authors assume that the impact of the tax deduction scheme on energy savings is allocated equally to both ETS and non-ETS policy frameworks (ICEDD, 2017, pp.11).
- Annual amount of energy savings is assumed constant for the period projected as long as annual investments (since 2012) and tax discounts (since 2015) are kept steady.
- The expected lifetime of the investments is assumed to be 10 years.
- Energy savings due to these investments are assumed to be adopted for all the main energy carriers in the industrial sector (electricity, natural gas, gas/heavy oil) in a weighted way, thus retaining the energy shares estimated for the industry sector in the BAU scenario.

The study's limitations are mainly due to the lack of specific data. The study states, "The current methodology estimates energy savings from the total amount invested and energy prices. This methodology should be updated on a calculation of energy savings based on the amount invested by sector. Information on the use of the investment would enable a calculation of a business-as-usual scenario and an instrument implementation scenarios of energy consumption, which in principle, should be considered a more robust methodology for assessing the overall effect and a more precise procedure for distinguishing the emission reduction allocated within the ETS and ESD<sup>2</sup> policy framework." (ICEDD, 2017, p. 124).

<sup>2</sup> In this report we refer to the industries covered by the ESD policy framework as non-ETS or industries outside ETS.

The ICEDD study builds on a previous work regarding estimating emission reductions from federal policies and measures, in particular the study ‘Evaluation of the impact of policy instruments and measures implemented in the context of the Federal climate policy’. In this study conducted in 2015 by Econotec, the estimated GHG emission reductions from the tax deduction scheme were higher than in the ICEED study as the latter included updates of the methodology and was based on more conservative assumptions for the different scenarios (Econotec, 2015).

In summary, based on the little substantial data and literature available, the Belgian tax deduction scheme only shows limited effectiveness.

## 4.2 Cost efficiency

Information from the Belgian Federal Public Service show that the annual amount of investments benefitting from the tax deduction scheme ranged from EUR 40 to 180 million in past years (ICEDD, 2017). The type of investments and the specific sector segments remain unclear, as no detailed information is available.

The implementation costs of the tax deduction scheme on the state side are largely determined by reduced tax revenues. The amount of administrative costs of the measure is negligible in relation to implementation costs.

ICEDD provides a framework for socio-economic evaluation of implemented policies and measures, including the tax deduction scheme. Due to the limitations of the study and scarcity of data, significant simplifications were necessary with respect to assumptions. Consequently, the evaluations give an order of magnitude of economic impacts and should be regarded as an initial rough evaluation.

According to the simplified methodology applied in the ICEDD study, savings by the companies applying the tax deduction are expected to be approximately around EUR 300 million from 2018 to 2035. As shown in Table 1, implementation costs reach EUR 115 million from 2014 to 2035 (ICEDD, 2017).

Table 1: Summary results of economic impacts related to implementation of tax deduction in 2020 and 2035 (ICEDD, 2017)

	Impacts on public sector		Tertiary sector as consumers	
	Implementation costs <sup>3</sup> (million EUR)	Savings consumer (million EUR)	Costs (million EUR)	Savings (million EUR)
Estimated impacts related to Implementation of instrument in 2020	115	10	39	313

<sup>3</sup> Indicators for the evaluation are listed as investment costs, administrative costs, subsidies, and tax.

	Impacts on public sector		Tertiary sector as consumers	
Estimated impacts related to Implementation of instrument in 2035	115	25	39	300

For the cost efficiency of the instrument, the cost per unit of CO<sub>2</sub>e saved is considered as the basis of the metric. The results of the ICEDD study on saved emissions and implementation costs returns a government cost of approximately EUR 162 per tCO<sub>2</sub>e in 2020 and EUR 217 per tCO<sub>2</sub>e in 2035. The increasing costs are due to decreasing saving effects while implementation costs stay unchanged.

These implementation costs for the tax deduction scheme seem high in relation to other European energy efficiency measures; to the EU ETS allowance price; as well as to the administrative burden related to the measure. Evaluations of existing support instruments for the German industry under the ESD show that the cost efficiency of measures such as the promotion of cross-sectional technologies, more rational use of energy, the improvement of industrial processes regarding energy or the recovery of energy in industry range from around EUR 3 to 30 per tCO<sub>2</sub>e (Fraunhofer ISI et al., 2018).

### 4.3 Co-benefits and side-effects

The study by ICEDD (2017) presents an evaluation of an assessment of the socio-economic impacts of the tax deduction scheme. It provides a simplified evaluation regarding the effects of the instrument on supply and demand of specific goods and services, as well as information on the likely direction of changes for some general socio-economic indicators defined for producers and consumers. The study concludes that the economic activity of the companies in this sector may increase due to implementation of the instrument, as well as the number of employees and investments in energy efficiency (ICEDD, 2017). Investments made in environmentally sound technologies raise awareness for energy efficiency improvements in industry amongst the public and industry peers. This potentially can lead to a diffusion of technologies and energy efficiency measures to other companies that have not yet implemented energy efficiency improvements and/or made use of the instrument.

Information on other co-benefits such as reduced air pollution or overall costs were not available. However, it can be assumed that the deduction scheme has (slightly) positive effects on air quality as well as an overall positive welfare effect, as consumer savings are projected to exceed implementation costs.

### 4.4 Success factors and challenges

The main advantage of the Belgian tax deduction for energy efficiency investment scheme is its flexibility. The flexibility of the scheme allows companies to select appropriate investments based on the individual company's needs and increases the cost effectiveness of implementing energy efficiency improvement measures. Overall, companies from the German industry sector have emphasised in the past that monetary savings through tax deductions are generally welcomed.

The following challenges were identified in the Belgian policy landscape and should be considered in the further development of the scheme as well as for a potential transfer to the German context:

- **Monitoring of energy savings** needs to be improved and ensured to help inform the decision-making process from a cost effectiveness perspective. Currently, the continuation of voluntary agreements with the industry is necessary to ensure emissions are properly monitored, enforced and regularly reviewed (IEA, 2016).
- Availability of **energy auditors** in Flanders and Wallonia has been insufficient. They should be made more affordable and be monitored better according to Energy Efficiency Watch (2016).
- From the perspective of policy makers, **engagement with the industry** was generally found to be poor (Energy Efficiency Watch, 2016).

## 5 Transferability

### 5.1 General comparability of the context

In the Belgian federal system, policies and measures to improve energy efficiency and reduce GHG emissions are established at different levels of government, according to the division of power between the federal state and the regions. Energy efficiency is a competence of the three regions (Flanders<sup>4</sup>, Wallonia and Brussels-Capital), with supporting measures from the federal government. The federal government is responsible for specific aspects such as the fiscal policy, the pricing policy and product policies (Econotec, 2012). Thus, the political and administrative set up of Belgium in establishing and implementing climate and energy policies differs from the German framework.

In terms of industrial activity, Germany and Belgium have comparable segments regarding the most important energy consuming industry sectors: the primary metal industry and the chemical industry. Energy consumption in major industry segments in Germany have been stable at around 60 Mtoe per year over the last ten years. The share of the highly energy-intensive industry segments (non-ferrous metals, non-metallic minerals, chemicals, pulp and paper) in total energy consumption of manufacturing industries amounted to about 60% in 2013 (Fraunhofer ISI, 2015).

### 5.2 Properties of the instrument

The Belgian tax deduction for energy saving investment scheme is not specifically tied to the Belgian context and is in principle transferable to Germany. The properties of the instrument can be tailored according to the needs of the German industry sector including a more specific selection of eligible investments. Also, the concept of tax deduction is already applied in Germany, e.g. in the buildings sector. Increased tax deduction is applicable for the modernisation and renovation of monuments and buildings in so-called redevelopment areas. Regarding the ease of legal implementation, the instrument would have to be implemented in conformity with Germany's tax legislation.

A tax deduction policy could support existing energy efficiency and emission reduction measures targeted at non-ETS industry in Germany:

- In 2016, the German government also implemented an energy efficiency fund to support highly efficient cross-sectional technologies. It supports both individual measures, such as pumps for industrial applications, compressed air generators and the optimisation of technical systems based on a company specific energy saving concept that includes cross-sectional technologies (Bundesamt für Wirtschaft und Ausfuhrkontrolle, 2018b).
- Since 2016, the programme STEP UP ("STromEffizienzPotentiale nutzen") provides incentives through financial support for companies to invest in energy efficient technologies to achieve energy savings. The level of support is determined in a competitive auction (Bundesministerium für Wirtschaft und Energie, 2018).

---

<sup>4</sup> Industry is concentrated mainly in the more heavily populated region of Flanders in the North.



- In 2015, the Kreditanstalt für Wiederaufbau (KfW) implemented an energy efficiency programme that supports energy efficiency measures with an energy saving potential of 10% in production plants in Germany and abroad through beneficial loans for a minimum of two years (KfW, 2018).

Key considerations that need to be addressed when transferring the instrument to Germany are the following, based on the challenges laid out in section 4.4:

- A clear set of criteria and definitions is needed to specify, which investments are eligible for support. Here, the German high-efficiency criteria could be used.
- A detailed monitoring system for evaluating actual energy savings needs to be implemented without creating an additional administrative burden for the industry and government. Such a system is essential to evaluate the success of the instrument and maintain its credibility, which in turn influences its wider acceptance and uptake in the industry.

## 5.3 Potential impacts

The Belgian tax deduction for energy savings scheme reduces energy consumption and GHG emissions in the industry sector. However, as described in section 4, the precise energy savings and emission reduction impact is difficult to quantify. Based on available studies that employ simplified assumptions, the impact of the instrument with regard to GHG emission reductions appears to be moderate. It is however not possible to quantify ex-ante how implementing such a measure would trigger further energy savings and emission reduction investments in the German non-ETS industries.

## 5.4 Conclusion

With the tax deduction for energy savings scheme, Belgium implemented a flexible policy measure with medium implementation costs constituting one of the key federal policies aimed at reducing GHG emissions. Generally, expert experience shows that German companies would welcome a flexible tax mechanism that enables further energy savings or emission reduction investments. Acceptance by the industry for climate action in their sector could hence increase and incentivise German industry to invest in more climate-friendly technologies.

From the regulatory perspective, the implementation cost of the Belgian tax deduction scheme is substantially higher compared to the costs of existing policy measures in Germany that are applicable to the non-ETS industry sector. Economic costs may even increase given the case that companies may choose this instrument over others due to simplified access than, e.g., applying for funds. This may be amplified by the risk of free-riding, i.e. if companies would also invest without the tax deduction option. The above described additional costs and potential effects therefore need to be weighed against the impact on emission reduction they can yield before transferring the instrument to Germany.

If transferred to the German context the instrument is hence seen as complementary to the existing policy landscape, i.e. companies would be free to select the type of support that is appropriate for their respective energy savings and/or emission reduction investment. Regarding the selection of eligible investments, it may be more cost-efficient to define a clear list of technologies/investments or eligibility criteria than allowing a broad range of investments as in the case of Belgium. In this way, more effective technologies would be targeted directly resulting in higher emission reduction impact and potentially less risk of free-riding.

## 6 References

- Bundesamt für Wirtschaft und Ausführungskontrolle. (2018b). Von Förderung von Querschnittstechnologien: [http://www.bafa.de/DE/Energie/Energieeffizienz/Querschnittstechnologien/querschnittstechnologien\\_node.html](http://www.bafa.de/DE/Energie/Energieeffizienz/Querschnittstechnologien/querschnittstechnologien_node.html) abgerufen
- Bundesministerium für Wirtschaft und Energie. (2018). Förderung von Stromeinsparungen im Rahmen wettbewerblicher Ausschreibungen: STromEffizienzPotentiale nutzen ("STEP up!"). Von <https://www.bmwi.de/Redaktion/DE/Artikel/Energie/stromeffizienzpotentiale-step-up.html> abgerufen
- Ecologic Institute. (2014). Assessment of climate change policies in the context of the European Semester. Von [https://ec.europa.eu/clima/sites/clima/files/strategies/progress/reporting/docs/be\\_2014\\_en.pdf](https://ec.europa.eu/clima/sites/clima/files/strategies/progress/reporting/docs/be_2014_en.pdf) abgerufen
- Econotec. (2012). Energy Efficiency Policies and Measures in Belgium. Von [http://www.ieadsm.org/wp/files/Belgium\\_Odysse\\_Mure\\_energy-efficiency1.pdf](http://www.ieadsm.org/wp/files/Belgium_Odysse_Mure_energy-efficiency1.pdf) abgerufen
- Econotec. (2015). Evaluation of the impact of policy instruments and measures implemented in the context of the federal climate policy. Von [http://www.climat.be/files/9214/3193/5459/2015\\_final\\_report.pdf](http://www.climat.be/files/9214/3193/5459/2015_final_report.pdf) abgerufen
- Energy Efficiency Watch. (2016). Energy Efficiency Policies in Europe Analysis of National Energy Efficiency Action Plans and Policies in EU Member States 2014. Von [http://www.energy-efficiency-watch.org/fileadmin/eew\\_documents/EEW3/Country\\_Reports\\_EEW3/Germany/Country\\_Report\\_Germany\\_FINAL.pdf](http://www.energy-efficiency-watch.org/fileadmin/eew_documents/EEW3/Country_Reports_EEW3/Germany/Country_Report_Germany_FINAL.pdf) abgerufen
- European Commission. (2017). Finance for innovation: Towards the ETS Innovation Fund. Von [https://ec.europa.eu/clima/events/articles/0115\\_en](https://ec.europa.eu/clima/events/articles/0115_en) abgerufen
- European Union. (2009). Decision No 406/2009/EC - Effort of Member States to reduce their greenhouse gas emissions to meet the Community's greenhouse gas emission reduction commitments up to 2020. Von [https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L\\_.2009.140.01.0136.01.ENG](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2009.140.01.0136.01.ENG) abgerufen
- Federal government of Belgium. (2017). Belgian Energy Efficiency Action Plan. Von [https://ec.europa.eu/energy/sites/ener/files/documents/be\\_neeap\\_2017\\_federal\\_en.pdf](https://ec.europa.eu/energy/sites/ener/files/documents/be_neeap_2017_federal_en.pdf) abgerufen
- Federal government of Belgium. (2018). Belgium's greenhouse gas inventory (1990-2016). National Inventory Report Submitted under the United Nations Framework Convention on Climate Change. Von <https://unfccc.int/documents/65711> abgerufen
- Fraunhofer ISI. (2015). Energy efficiency trends and policies in Germany. Von <http://www.odysseemure.eu/publications/national-reports/energy-efficiency-germany.pdf> abgerufen
- Fraunhofer ISI et al. (2018). Evaluierung und Weiterentwicklung des Energieeffizienzfonds. 3 Zwischenbericht (not published yet).
- ICEDD. (2017). Development of impact assessment methods and technical support for policies and measures carried out within the framework of the federal climate policy. Von [http://www.climat.be/files/3315/0537/7367/Evaluation\\_federal\\_PAMs\\_July\\_2017\\_corr.pdf](http://www.climat.be/files/3315/0537/7367/Evaluation_federal_PAMs_July_2017_corr.pdf) abgerufen
- IEA. (2016). Von Energy Policies of IEA Countries – Belgium.: <https://www.iea.org/countries/membercountries/belgium/> abgerufen
- KfW. (2018). KfW-Energieeffizienzprogramm – Produktionsanlagen/-prozesse. Von <https://www.kfw.de/inlandsfoerderung/Unternehmen/Energie-Umwelt/F%C3%B6rderprodukte/EE-Produktion-292-293/> abgerufen

McKinsey & Company. (2009). Von Pathways to World-Class Energy Efficiency in Belgium:  
[https://www.mckinsey.com/~media/McKinsey/dotcom/client\\_service/Sustainability/cost%20curve%20PDFs/energy\\_efficiency\\_belgium\\_full\\_report.ashx](https://www.mckinsey.com/~media/McKinsey/dotcom/client_service/Sustainability/cost%20curve%20PDFs/energy_efficiency_belgium_full_report.ashx) abgerufen

Odyssee MURE. (2016a). IND-BEL9 Federal Government – Tax deduction for energy saving investments by companies. Von [http://www.measures-odyssee-mure.eu/public/mure\\_pdf/industry/BEL9.PDF](http://www.measures-odyssee-mure.eu/public/mure_pdf/industry/BEL9.PDF) abgerufen



On behalf of:



Federal Ministry  
for the Environment, Nature Conservation  
and Nuclear Safety



European  
Climate Initiative  
EUKI

of the Federal Republic of Germany