

ENERGY-AUDITS IN FLANDERS REGION

« Les nouvelles impositions en terme d'économie
d'énergie dans les bâtiments existants »






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Atic
for HVAC professionals 

Summary Flemish Policy Framework

					
<i>Compulsory energy-audits & plans</i>	EED energy-audit for large enterprises				
	> »ingedeeld inrichting* » & > 0,1 PJ: energy plan via environmental legislation				
<i>Voluntary Instruments</i>	Convenant EBO Mini-EBO	/		Mini-EBO	/
<i>EPB/EPC</i>	EPB-eisen (minimaal)	Energieprestatie eisen nieuwbouw/ingrijpende renovatie (EPB)			
	/	EPC (kleine)	EPC (kleine)	EPC (kleine)	Verplicht EPC/EPB-certificaat
	/	EPC bij verkoop/verhuur voor grote gebouwen			

Policy Framework – energy audits & energy planning

	Normative		Voluntary
Consumption	KMO	Grote onderneming	
<p>LARGE</p> <p>>0,1 PJ (ca. 1000 families*)</p>	<p>Besluit Energieplanning ingedeelde inrichtingen (IRR>15%)</p>		<p>EBO (IRR>12,5/14%)</p>
<p>MID:</p> <p>±0,05 PJ – 0,1 PJ (ca. 500-1000 families)</p>	<p>EED-audit ingedeelde inrichtingen GO</p>		<p>mini-EBO's with sector organisations</p>
<p>SMALL:</p> <p>0,01 PJ – 0,05 PJ (ca. 100-500 families)</p>			



*0,1 PJ komt overeen met een jaarlijks elektriciteitsverbruik van 11,1 GWh of een jaarlijks aardgasverbruik van 36 GWh.

Policy Framework – energy audits & energy planning

	Normative		Voluntary
Verbruik Energie	KMO	GO	
GROOT >0,1 PJ (ca. verbruik 1000 gezinnen)	Besluit Energieplanning voor ingedeelde inrichtingen (IRR>15%)		EBO (IRR>12,5/14%)
MIDDEN: ±0,05 PJ – 0,1 PJ (ca. verbruik 500-1000 gezinnen)	Energy-audit with eventual obligatory execution of measures (e.g.. IRR>25%)		mini-EBO's with sector associations (higher ambition than normative)
KLEIN: 0,01 PJ – 0,05 PJ (ca. verbruik 100-500 gezinnen)	Choice: 1. Global energy balance 2. sectoral <i>no-regret</i> measures		EED-audit ingedeelde inrichtingen GO





EED-Audit

Transposition in Flanders Region



EED-Audit

Art. 8 European Energy efficiency Directive

Member States shall ensure that enterprises that are not SMEs are subject to an energy audit carried out in an independent and cost-effective manner by qualified and/or accredited experts or implemented and supervised by independent authorities under national legislation by 5 December 2015 and at least every four years from the date of the previous energy audit

EED-audit in Flanders

- Transposition via environmental legislation VLAREM II
- All “ingedeelde inrichtingen” (*i.e. all units of companies that are subject to environmental reporting or permit*), where:
 - more than 250 persons are employed **OR**
 - annual turnover exceeds 50 million euro **AND** annual balance sheet total exceeds 43 million euro
- The obligation always applies to **each business unit (vestiging)**
- Exempted:
 - Business units that have EN16001 or ISO 50001;
 - Business units subject to the obligation to have a certified energy plan in accordance with the provisions of VLAREM II, art. 4.9.1 “Besluit Energieplanning”
 - Business units that have joined one of the energy policy agreements (EBOs)
 - Business units that have a valid EPC Public Buildings

EED-Audit in Flanders

Algemene Info | Audit PDF | Energiebalans | **Maatregelen** | Foutmeldingen | Historiek

Type/Beschrijving probleem	Status	Investeringskost [Euro]	Energiebesparing [MJ/jaar]	IRR [%]
gebouwschil				
Zijn de vloeren voldoende geïsoleerd?	NEEN			
<div style="border: 1px solid red; padding: 2px;"> <input type="text"/> </div>				
Extra maatregel				
Zijn de ramen voldoende isolerend?	JA		---	---
---	NEEN			
---	Niet relevant			
Zijn de daken (of zoldervloeren) voldoende geïsoleerd?	Niet relevant			
---			---	---

Zijn de buitenmuren voldoende geïsoleerd?	Niet relevant			
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verwarming				
Is de verwarming voldoende energie-efficiënt?	Niet relevant			
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Vector	Eenheid	[MJ _{primaar} /Eenheid]	[gram CO ₂ /MJ _{primaar}]	Jaarlijks verbruik	Bron	
ELEKTRICITEIT	kWh (finaal)	9	44,4444	3500	gemeten	<input type="checkbox"/>
STOOKOLIE (mazout)	Liter	35,9372	74,1	2000	factuur	<input type="checkbox"/>

+Proces
+Transport

gi



Besluit Energieplanning

Obligatory energy audit and energy plan
for “*ingedeelde inrichtingen*” with
annual consumption > 0.1 PJ

Ingedeelde inrichtingen?

- Alle meldings- of vergunningsplichtige vestigingen van ondernemingen
- Nuttige rubrieken?
 - 43.1: Stookinstallaties: m.u.v. stationaire motoren en gasturbines, totaal nominaal thermisch ingangsvermogen **vanaf 300 kW**
 - 3. Lozen van (ander dan huishoudelijk) afvalwater en koelwater (al vanaf eerste m³)
 - 16.3.3 Inrichtingen voor het fysisch behandelen van gassen:
 - Koelinstallaties, warmtepompen en airconditioninginstallaties, met een gezamenlijke hoeveelheid >2000 ton CO₂-eq
 - Koelinstallaties, luchtcompressoren, warmtepompen, airconditioninginstallaties, en andere installaties voor het fysisch behandelen van gassen, met een **geïnstalleerde totale drijfkracht vanaf 5 kW**
 - 15.1: Parkeerplaatsen: Al dan niet overdekte ruimte waarin de volgende voertuigen gestald worden:
 - Vanaf 3 motorvoertuigen of aanhangwagens, die **geen personenwagens, bromfietsen, motorfietsen** zijn
 - 12. Elektriciteit (incl. UPS datacenters)
 - Inrichtingen die wisselspanning opwekken, met een geïnstalleerd totaal elektrisch schijnbaar vermogen **vanaf 150 kVA**
 - Transformatoren (gebruik van) met een individueel nominaal vermogen vanaf 100 kVA
 - 32. Ontspanningsinrichtingen en schietstanden
 - Bv. 32.8: alle zwembaden en natuurlijke zwembaden, al dan niet overdekt, **niet voor privé-gebruik**
 - 45.8: bakkerijen: geïnstalleerde totale drijfkracht vanaf 5 kW

Besluit energieplanning (4.9 Vlarem II) - now

- Environmental legislation, partly transposition of European IPPC (Integrated Pollution Prevention and Control) Directive (96/61/EC)
- Existing plants with annual primary energy use ≥ 0.5 PJ must have a certified energy plan since 1 July 2005 (update every 4 years)
- Existing plants with consumption between 0.1 and 0.5 PJ must send an energy plan with their next application for renewal of their environmental licence.

Besluit energieplanning (4.9 Vlarem II) - upcoming

- Environmental legislation, partly transposition of European IPPC (Integrated Pollution Prevention and Control) Directive (96/61/EC)
- Existing plants with annual primary energy use ~~≥ 0.5 PJ~~ must have a certified energy plan since 1 July 2005 (update every 4 years)
 - **11/12/2020: first principal approval by Flemish government for **threshold reduction to 0.1 PJ** → mid 2021 publication in Belgian Official Gazette**
- ~~• Existing plants with consumption between 0.1 and 0.5 PJ must send an energy plan with their next application for renewal of their environmental licence.~~

NEW

Besluit Energieplanning

- The measures in the energy plan with an **IRR >15%** must be **implemented no later than 3 years** after the environmental permit is granted OR after the installation is >0,1 PJ
- Submitter? **Operator** of the classified installation
- Plan to be drawn up **only by external energy** experts, accepted by the Flemish Energy Agency
- More information on <https://www.energiesparen.be/energieplanning>





Energiebeleidsovereenkomsten

Flemish Sector covenants for the anchoring of and for permanent energy efficiency in the Flemish energy-intensive industry



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Energiebeleidsovereenkomsten (1)

- Successor to the Flemish audit and benchmarking covenants
- From annual primary energy consumption **>0.1PJ and industrial activity (NACE 05 to 33)**
 - No distinction between consumption of conventionally generated energy and renewable own production - it's all about saving energy!
 - each business unit of a legal person with industrial activity
- Carry out energy audit and draw up energy plan + phased **implementation** within the duration of the EBO
 - ETS: IRR >14%
 - Non-ETS: IRR > 12.5%
- **Best efforts** obligation, no obligation to achieve a result
- Annual monitoring and reporting to verification agency

Energiebeleidsovereenkomsten (2)

- Elaborate **energy management measures** within three years after energy plan (or ISO 50001)
 - *"Say what you will do about energy, do what you say and report on it within the company"*
- Investigate the economic potential for qualitative combined **heat and power generation** in the plant
 - Final implementation can be considered as a flexible measure according to annex 7 EBO
- Possibility of using **flexible measures** (CO2 savings in exchange for energy savings)
 - E.g. renewable energy, chain efficiency (less raw materials, optimization of transport)
 - Get approval from verification agency in advance

Financial advantages/compensations

- Reduction of **excise duty** on natural gas: 0.54 €/MWh instead of 0.99 €/MWh
 - *Federal carbon tax to increase 'benefit'???*
- Right to **degressive tariff of federal contribution** (~electricity consumption)
 - Art. 21 bis of the Electricity Law of 1999
- Right to **degressive tariff of offshore surcharge** (~ electricity consumption location)
 - Art. 7§1 of the Electricity Law of 1999
- Right to compensation for **indirect emissions** - very limited list of sectors
 - <https://www.vlaio.be/nl/subsidies-financiering/compensatie-indirecte-emissiekosten/voorwaarden>
- Right to exemption from **real estate tax** on newly acquired equipment and tools (*OV materieel & outillage*)
 - almost all FL business units are already exempted
- Right to FL **subsidies** e.g. ecologiesteun, but also important in assessment of strategic transformation support
- **No specific additional Flemish measures** aimed at further energy efficiency or CO2

Quid Primary Energy consumption?

- EBO focuses on the consumption of energy in **process** installations
 - Unwritten rule: “80/20% processes/utilities”
- No distinction between conventionally generated or renewable energy when determining specific energy consumption
 - Heat (hot air, hot water, steam, thermal oil) supplied/delivered to process: fixed conversion efficiency of 90%.
 - Electricity: fixed conversion efficiency of 40%
 - Other secondary energy carriers (compressed air, etc.) are recalculated with a conversion efficiency that is applicable to the installation concerned.
- Renewable energy can be used as a flexible measure (annex 7 EBO)

EBO: timing

- Start: 1/1/2015 instead of 1/1/2014 (prolongation of former "audit covenant")
- Energy audit **every four years**
 - Practice: First Energy Plan for the first three years after the entry into force of the Energy Policy Agreement and a second Energy Plan for the remaining duration of the Energy Policy Agreement
- Phased implementation within the term of the energy policy agreement – part of the energy plan
- 17/11/2017: VLAREG decision: Extension of EBO until 2022
- March 2021: First proposals for successor EBO (see later)

EBO vs. Besluit Energieplanning

EBO	Vlarem (if >0,1PJ)
Business Unit (vestiging)	Ingedeelde inrichting
IRR > 12,5% (non-ETS)	IRR > 15%
Energy plan 4y valid, but annual reporting/monitoring/verification visits	Energy plan 4y valid part of environmental inspection
Internal or external energy expert	Only accredited external energy expert/consultant
Financial compensation	No financial compensation (regulation)
Energy saving measures (sensibilisering, energy policy declaration)	/
Possibility of flexible measures e.g. renewable energy, transport efficiency	No flexibility , energy saving measures must be implemented

Attention: Energy Study *(as part environmental permit)*

- **Additional** requirement to energy plan/EBO/energy audit
- Add to an application for an environmental permit for an energy-intensive establishment with an annual energy consumption $> 0,1$ PJ if:
 - **NEW** classified establishment or activity with total annual primary energy use $>0,1$ PJ;
 - **CHANGE** of a classified establishment or activity with a future total annual primary energy use >0.1 PJ, if the change will lead to an annual primary energy use increase of at least 10 TJ and if an energy plan has been prepared for the establishment or activity in the past.
 - Note: if an energy-consuming installation is replaced by a more modern and energy-efficient model (with an energy consumption of at least 10 TJ), an energy study must also be drawn up for the replacement installation.
- Demonstrating Best Available Techniques (BAT) are being used and measures taken have $IRR > 15\%$
- More information on <https://www.energiesparen.be/energieplanning>

Mini-EBO? E.g. Agoria Energy Coach

- Three steps to energy savings that really pay off
 - Step 1: Energy scan by experienced coach
 - Step 2: Elaboration of selected measures
 - Step 3: Hassle-free implementation
- Focus on most accessible energy-saving techniques including relighting, compressed air, HVAC, metering monitoring and solar panels
- For Agoria members - Included in the membership fee
 - SMEs established in Flanders (focus on manufacturing)
 - With a maximum annual primary energy consumption of 0.1 PJ
 - maximum 60 companies
- PILOT project supported by the Flemish government
 - Duration March 2018 - December 2019
 - <http://info.agoria.be/energy-coach>



Upcoming in 2021

*Based on policy plans of Flemish
Minister for Energy*



Flemish energy policy plans



- **>0.1PJ : Mandatory energy plan or NEW EBO:**
 - Extension in 2023, evaluation of cost-effectiveness of measures
 - Broaden target groups (not only industry?)
 - Audit to include climate component, use of materials, mobility, residual heat and water?
 - First proposal expected for March 2021
- **0,05-0,1 PJ: Obligatory energy audit**
 - Via web application
 - Possible obligation to implement cost-effective measures (IRR>25%?)
 - Implementation expected before end of 2021
- **0,01 - 0,05 PJ: minimum global energy balance OR Obligatory sectoral no-regret measures**
 - Elaboration not yet determined

NEW

FL Subsidies for Energy Savings?

- Verhoogde investeringsaftrek voor energiebesparende maatregelen (federaal)
 - <https://www.energiesparen.be/verhoogdeinvesteringsaftrek>
- Vlaamse ecologiesteun (Vlaio)
 - <https://www.vlaio.be/nl/subsidies-financiering/ecologiepremie>
- Via Netbeheerder (Fluvius/Elia)
 - Gerichte premies voor isolatie, warmtepomp, relighting,
 - **Premie na energie-audit**
 - <https://www.energiesparen.be/energiepremie-voor-niet-woongebouwen-in-2021>
- Call groene warmte
 - <https://www.energiesparen.be/call-groene-warmte>
- Call zon & wind
 - [Call groene stroom - Energiesparen](#)



Questions?

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