

Environmental charter

KaHo Sint-Lieven
Campus Dirk Martens

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Chief security



Environmental charter: since 2003



Screening of the school

Problems detected by the commission

➔ Requirements to solve before participation:

1. Waste register
- 2 . Elimination of gasoil tanks in the underground
3. Asbestos inventory

- Requirements to solve before participation

1 List of waste

-> date – description – origin – quantity – destination - cost

datum	EAC-code	Omschrijving	Oorsprong	Hoeveelheid	Bestemming	incl. BTW Kostprijs
				kg		incl. BTW
14-01-09		PMD		22 x 120 L	Ilva	5,50
14-01-09		papier		3 bakken	Ilva	gratis
20-01-09		restafval	Molok 26601	321,00	Molok	164,98
09-02-09		restafval	Molok 26601	347,00	Molok	170,99
09-02-09		restafval	Molok 26604	515	Molok	209,82
11-02-09		PMD		10 X 120 l	Ilva	2,50
11-02-09		papier		3 bakken	Ilva	gratis
17-02-09		restafval	Molok 26601	299,00	Molok	159,90
25-02-09		restafval	Molok 26601	271,00	Molok	153,43
25-02-09		restafval	Molok 26603	164,00	Molok	128,70
25-02-09		restafval	Molok 26604	443,00	Molok	193,18
09-03-09		restafval	Molok 26601	244,00	Molok	147,19
11-03-09		PMD		25 x 120 L	Ilva	6,25
11-03-09		papier		4 bakken	Ilva	gratis
17-03-09		restafval	Molok 26601	241,00	Molok	146,50

Screening of the school

- Requirements to solve before participation

- 1 List of waste

- 2 Removal of the underground oil tanks

- Requirements to solve before participation

1. List of waste

2. Removal of the undergro

3. Developing an asbestos inventory

- Code of samples
- Place
- Sort of asbestos material
- Percentage

3. Monsterlijst

nummer	plaats + omschrijving	asbestgehalte			materiaal
		Ch	Am	Cr	
GBN1	Technische verdieping, aanzuigkamer verse lucht, gipsplaten	-	-	-	gips
GBN2	Technische verdieping, groep GP3, aanzuig verse lucht, dichting	C	-	-	asbestkoord
GBN3	Technische verdieping, stoomleiding, koelmachine	C	-	-	asbestlint
GBN4	Technische verdieping, groep GE4, dichting leiding	C	-	-	asbestkoord
GBN5	Technische verdieping, leiding GE4, cement/beton toestrikse	-	-	-	beton
GBN6	Verdieping +3, metalen kolommen, sputisolatie	-	-	-	sputisolatie
GBN7	Verdieping +3, zwarte isolatieplaat achter verwarming	-	-	-	schuimplaat
GBN8	Verdieping +3, bruine plaat in metalen omkasting verwarming	-	-	-	houtvezelplaat
GBN9	Verdieping +3, metalen kolommen, sputisolatie	-	-	-	sputisolatie
GBN10	Verdieping +1, metalen kolommen, sputisolatie	-	-	-	sputisolatie
GBN11	Gelijkvloers, isolatie boven ramen	-	-	-	minerale wol
GBN12	Gelijkvloers, vuilnisschacht	B	-	-	asbestcement-HD
GBN13	Gelijkvloers, plafondtegels	B	-	-	asbestcement-HD

10 subjects were proposed

- 1.a coherent environmental policy & integration of environmental concerns into the company
- 2.a rational use of water & reduction of water pollution
- 3.a reduction of air pollution
- 4.avoidance of new & management of historic soil contamination
- 5.a reduction of pollution by light, noise and vibration
- 6.storage with regard of the environment and use of dangerous chemical products
- 7.the promotion of prevention, waste recovery and reduction of waste
- 8.the consideration of environmental aspects in purchase and investment
- 9.a rational use of energy
- 10.a reduction of the impact on the environment

1. A coherent environmental policy & integration of environmental concerns into the company



1. A coherent environmental policy & integration of environmental concerns into the company

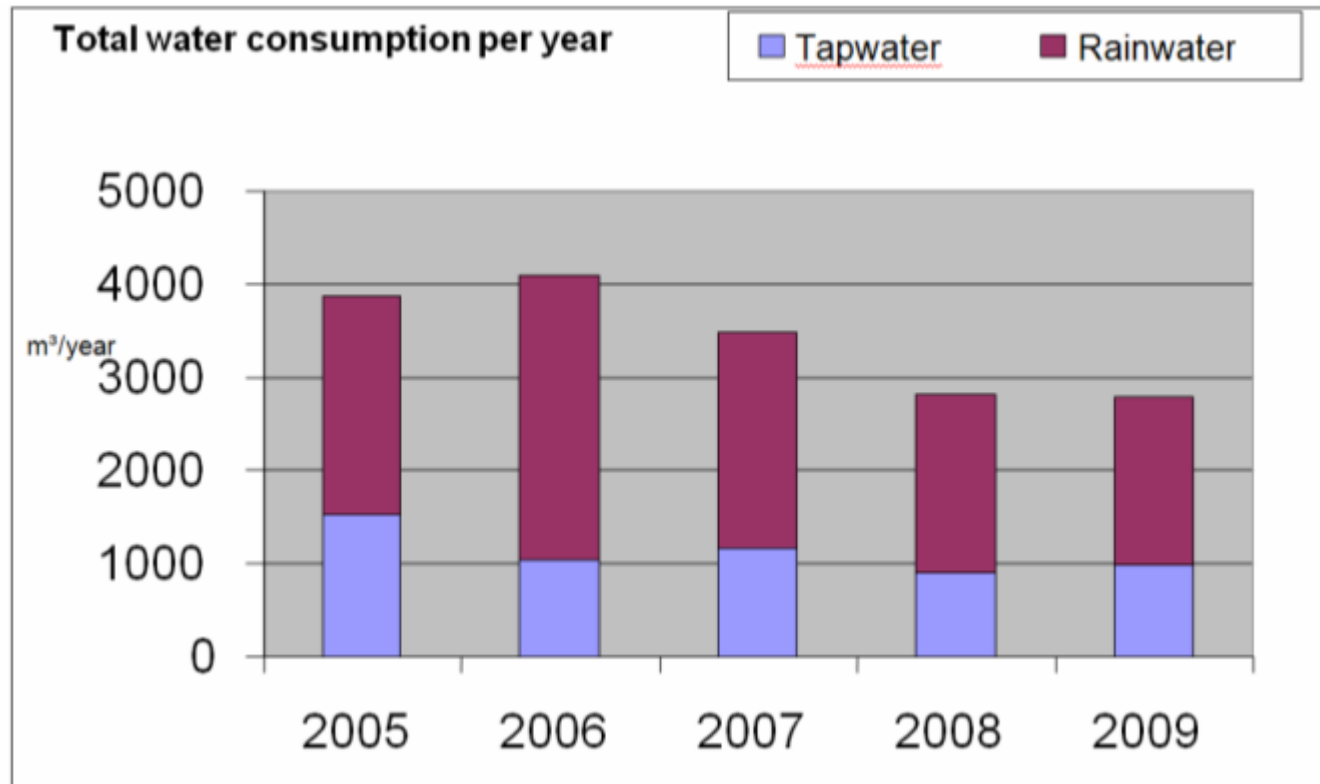


Mother Nature meets father Techno


Making young people sensitive to nature

Children play games related to nature and technology

2. A rational use of water & reduction of water pollution



6. Storage with regard of the environment and use of dangerous chemical products

VEILIGHEIDSKAART		Laatste wijziging : 25-02-2004
CAS-nummer: 67-56-1	CH4O	
methanol		
Naamgeving :		Vlampunt, °C 11 Smeltpunt, °C -98 Kookpunt, °C 64,5 Rel. molmassa 32,0 Rel. dichtheid 1
 licht ontvlambaar	 giftig	WGK-code 1 P-product P1
R - zinnen R 11 Licht ontvlambaar R 23/24/25 Giftig bij inademing, opname door de mond en aanraking met de huid R 39/23/24/25 Giftig; gevaar voor ernstige onherstelbare effecten bij inademing, aanraking met de huid en opname door de mond		
S - zinnen S 7 In goed gesloten verpakking bewaren S 16 Verwijderd houden van ontstekingsbronnen - Niet roken S 36/37 Draag geschikte handschoenen en beschermende kleding S 45 Ingeval van ongeval of indien men zich onwel voelt onmiddellijk een arts raadplegen (indien mogelijk hem dit etiket tonen)		
EERSTE HULP : Na Inhalatie: frisse lucht, zo nodig kunstmatige ademhaling, arts waarschuwen. Na huidcontact: overvloedig spoelen met water, verontreinigde kledij verwijderen. Na oogcontact: overvloedig spoelen met water, oogarts waarschuwen. Mond spoelen met water, arts raadplegen		
AFVALVERWIJDERING : Meer dan 50% solvent: SOLVENT NOOIT VERWIJDEREN VIA HET BEDRIJFSAFVALWATER Verwijderen via het bedrijfsafvalwater mag indien de concentratie < 2 mol/l		

7. The promotion of prevention, waste recovery and reduction of waste


																						
	Afvaldienst (M. Nellis)	Tuin (D. Cassier)	Interne kuisploeg (L. Nerinckx)	Externe kuisploeg GOM (G. De Waegeneer)	Technische dienst (M. Carion)	Keuken en eetzaal (F. Schuddink)	Labo mechanische bewerking (G. De Munck)	Labo materiaalontwikkeling (M. Verspecht)	Labo regeltechnieken (J. De Nijs)	Labo automatisering (E. De Rauw)	Labo bouwkunde (J. De Pauw)	Labo scheikunde (V. Adriaenssens)	Labo klimatisatie (D. Verherbrugge)	Verpleegkunde (H. Boucqué)	Secretariaten	Leslokalen	Docentenlokalen	Mediatheek	Burelen en ICT (R. Heerman)	Gangen	Toiletten	
restafval	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
PMD	x	x				x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
papier & karton	x		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
glas						x	x					x	x		x	x						
GFT		x				x	x	x		x						x	x	x	x			
gevaarlijke afvalstoffen (andere dan labo-chemicaliën)		x	x		x					x						x	x	x	x			
labo-chemicaliën												x										
groenafval en snoeihout		x											x									
houtafvalstoffen						x				x	x		x									
metaalafvalstoffen					x		x	x					x						x			
bouw- en sloopafval		x			x						x											
medisch afval														x								
inktcassettes	x								x	x					x			x	x	x		
afgedankte elektrische en elektronische apparatuur en andere werktuigen	x	x				x	x		x	x			x		x			x	x			
afval van plantaardige en dierlijke oliën en vetten						x																
afgewerkte olie		x					x			x			x									
afgedankte apparatuur en recipiënten die ozonafbrekende stoffen of gefluoreerde broeikasgassen bevatten																						
batterijen					x				x	x		x	x	x	x		x	x	x			
piepschuim	x										x									x		
TL-lampen en spaarlampen					x																	

Table of waste:

Producers of waste
&
Types of waste

7. The promotion of prevention, waste recovery and reduction of waste example: copy center

Type – origine – internal collection – internal collection point

afvalsoort	herkomst	interne ophaling	intern verzamelpunt
restafval	plastiekfolie, eigen gebruik + PMD + patronen Nashuatec	GOM	ondergrondse container
papier & karton	kladpapier, verpakking, ...	GOM brengt het naar verzamelokaal naast de trap, J. van Bleyenbergh brengt het naar de kelder	kelder
inktcassettes	lege inktpatronen en -toners	personeel afdrukdienst	afdrukdienst
afgedankte elektrische en elektronische apparatuur en andere werktuigen	kapotte printers en kopieermachines	blijven op de afdrukdienst	afdrukdienst
piepschuim	verpakking	personeel afdrukdienst	afdrukdienst

Type – external collection – external collection point – waste handling

afvalsoort	externe ophaling	extern verzamelpunt	verwerking
restafval	Molok	Molok	verbrandingsoven
papier & karton	Ilva	Doopa-depot Erembodegem	recyclage: erkende recyclagebedrijven
inktcassettes	Océ	Océ	recyclage: Océ
afgedankte elektrische en elektronische apparatuur en andere werktuigen	Océ en Nashuatec	Océ en Nashuatec	recyclage: Océ en Nashuatec
piepschuim	personeel afdrukdienst	containerpark of wordt hergebruikt in tekenzaal	recyclage: Verpola

7. The promotion of prevention, waste recovery and reduction of waste

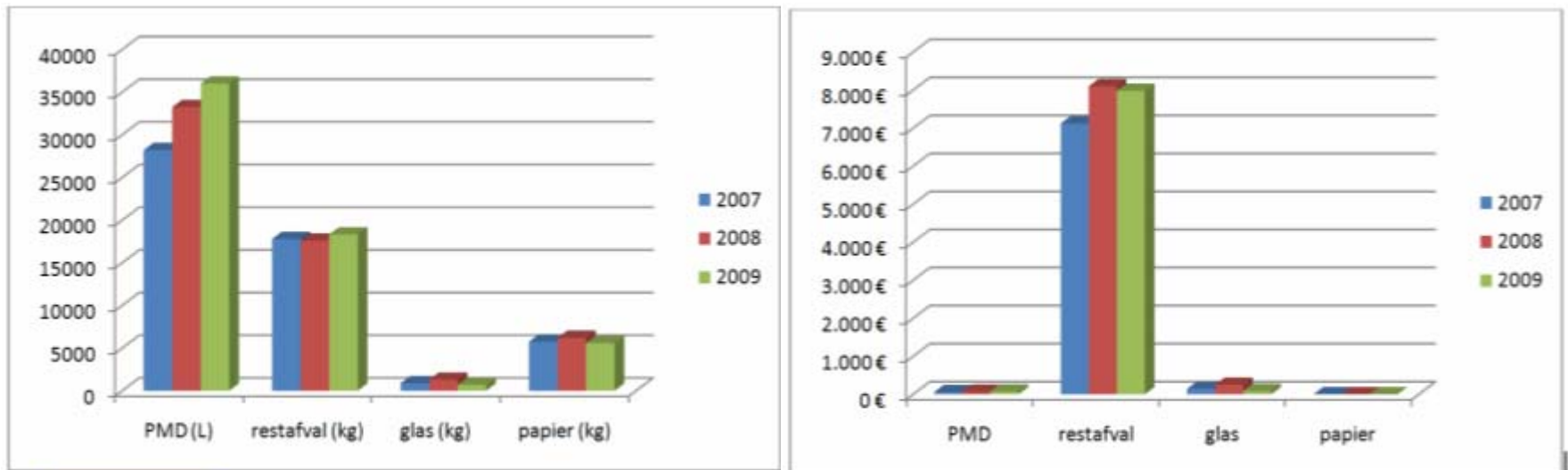
Internal collection point:

- ✓ system under the ground
- ✓ avoid nasty smell in the summer time
- ✓ avoid freezing in winter time
- ✓ less volume above the ground
- ✓ it's possible to close the lids firmly



7. The promotion of prevention, waste recovery and reduction of waste

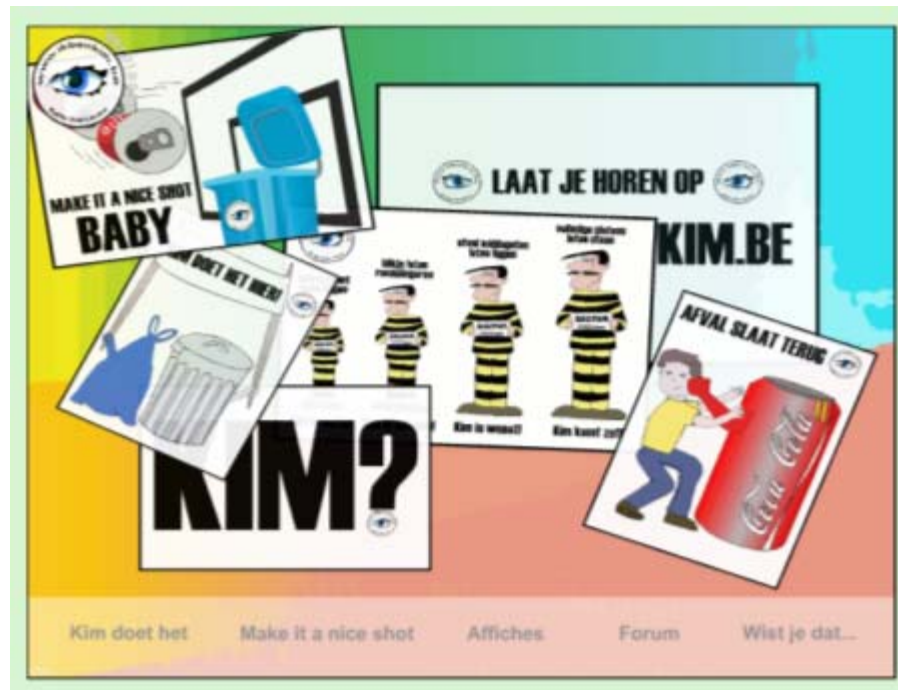
Registration of the production, quantity and cost



Conclusion: the cost of waste is related to the quantity of the rest waste

7. The promotion of prevention, waste recovery and reduction of waste

Sensitize the students: www.ikbenkim.be
(www . I am Kim . Be)



9. The rational use of energy

- 1997: Free-cooling
- 1998: relighting
- 1999: Installation of a solar water heater in the kitchen
- 2003: (start of environmental charter)
 - Use of the new building together with the old one
 - Transition from steam to gas
 - Monthly registration of the main energy counters
- 2004: Energy registration
- 2005: replacement of electrical kitchen appliances by gas
- 2006: Decrease of the workload of the compressors
- 2007: frequency control of motors
- 2008: Heat recuperation - gas condensation heater - Insulation
- 2009: Installation of solar panels 10 kWp
- 2010: Feasibility of wind energy – passive cabin

The rational use of energy

1997:

free-cooling instead of airco:

energy reduction: (steam) from 190,000 € to 80.000 €/year = 110,000 €/year

1998:

relighting

conversion of 886 existing lighting equipment of 2 x 36 W and 2 x 58 W to 1 x 36 W

replacing conventional ballasts with electronic ballasts

installation of motion detectors

energy reduction: 15,000 €/year

1999:

installation of a solar water heater in the kitchen

2003:

- ✓ Use of the new building
- ✓ Transition from steam to gas
- ✓ Monthly registration of the main energy counters



The rational use of energy

2004: Several projects about energy registration

- ✓ **“Steek watt in je zak”**= “put Watts (= ‘something’ in Dutch) in your pocket”
- ✓ **Kronos** by Electrabel
- ✓ **Desigo** by Siemens
- ✓ Monthly registration of the part energy counters

2004: Several projects about energy registration

- ✓ **“Steek watt in je zak”**
= “put Watts (= ‘something’ in Dutch) in your pocket”

Steek WATT in je zak !

Rekenblad voor berekening van het primair energiegebruik

Jaar 2007 Naam bedrijf : KaHo Sint-Lieven Campus Dirk Martens

	Verbruik	Omrekeningsfactor	Primair energiegebruik	
			in GJ	in kWh
Elektriciteitsverbruik (op jaarbasis)	720 168 kWh	0,009 GJp/kWh	6.482 GJ	1.800.420 kWh
Aardgasverbruik (op jaarbasis)	1 210 454 kWh	0,0036 GJp/kWh	4.358 GJ	1.210.551 kWh
Stookolieverbruik (op jaarbasis)	0 liter	0,043 GJp/l	0 GJ	0 kWh
Aankoop stoom (op jaarbasis)	0 GJ	1,11 GJp/GJ	0 GJ	0 kWh

(Stoom geproduceerd in het eigen bedrijf moet niet meegeteld worden)

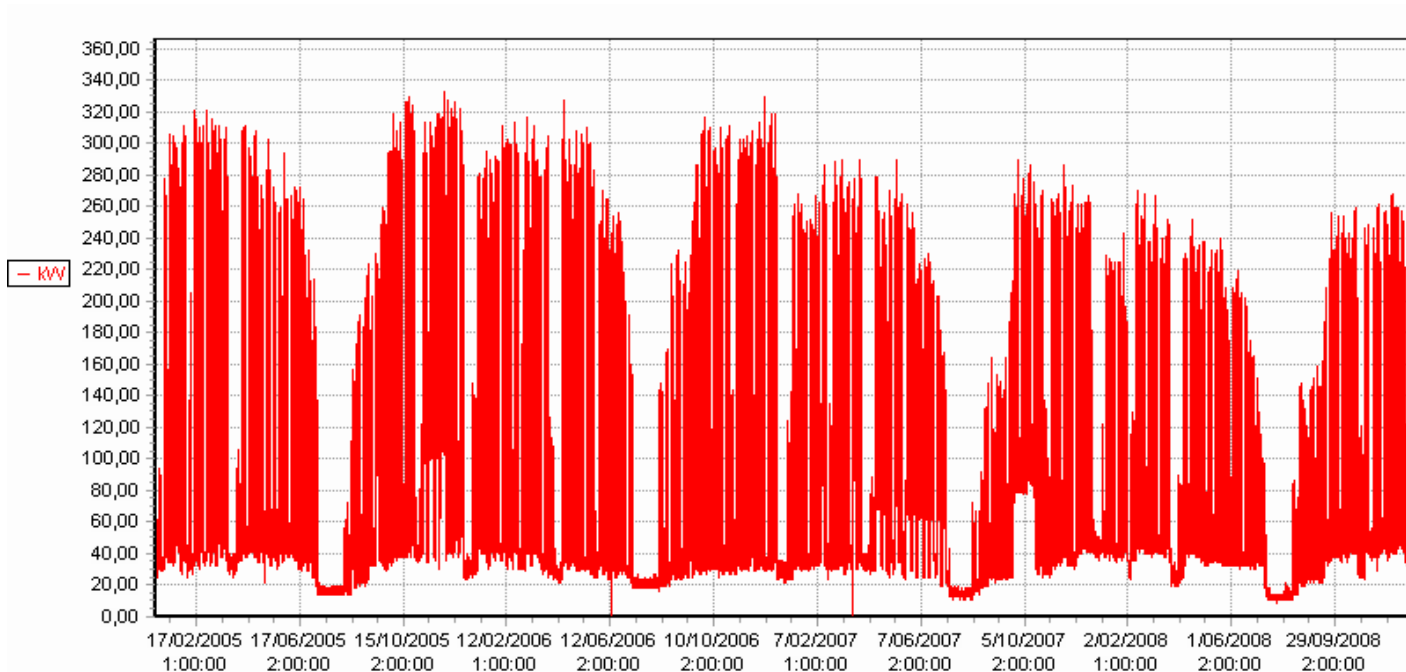
TOTAAL 10.839 GJ

TOTAAL IN PJ 0,010839 PJ 1PJ = 1.000.000 GJ

The rational use of energy

2004: Several projects about energy registration

✓ **Kronos** by Electrabel (GDF Suez, Vendor)



The rational use of energy

2004: Several projects about energy registration

- ✓ “Steek watt in je zak”= “put Watts (= something in Dutch) in your pocket”
- ✓ Kronos by Electrabel
- ✓ **Desigo** by Siemens
 - > Building control system
- ✓ Monthly registration of the part energy counters
 - > Technicians

The rational use of energy

2004: Several projects about energy registration

- ✓ **“Steek watt in je zak”**
= “put Watts (= ‘something’ in Dutch) in your pocket”
- ✓ **Kronos** by Electrabel
- ✓ **Desigo** by Siemens
- ✓ Monthly registration of the part energy counters

The rational use of energy

2005:

- Replacement of electrical kitchen appliances by gas
 - Fryer: energy reduction 1,426 €/year
 - Combisteamer: energy reduction: 948 €/year
 - Cooker: energy reduction: 580 €/year
 - 2 Boilers: energy reduction 1,206 €/year
 - 2 Baking trays: energy reduction: 804 €/year
- Elimination of lighting in the vending machines:
 - energy reduction: 773 €/year
- Relighting parking: replace mercury vapor lamps with high pressure sodium vapor lamps :
 - energy reduction 200 €/year
- Listing of de energy users and control of the peak power

The rational use of energy

2006:

- Optimize the compressors and removal of the water from the pressure vessels:
Energy reduction: 1,642 €/year
- Reduction of the peak power during the working days from 330 Kw to 270 Kw:
Energy reduction: 1,220 €/year
- Reduction of the peak power during the holidays from 40 Kw to 20 Kw:
Energy reduction: 2,386 €/year

The rational use of energy

2007:

- Frequency control of the motors of the air groups
Energy reduction: 20,020 €/year



- Expansion vessels of 500 l to recover rainwater
Energy reduction: 250 €/year

The rational use of energy

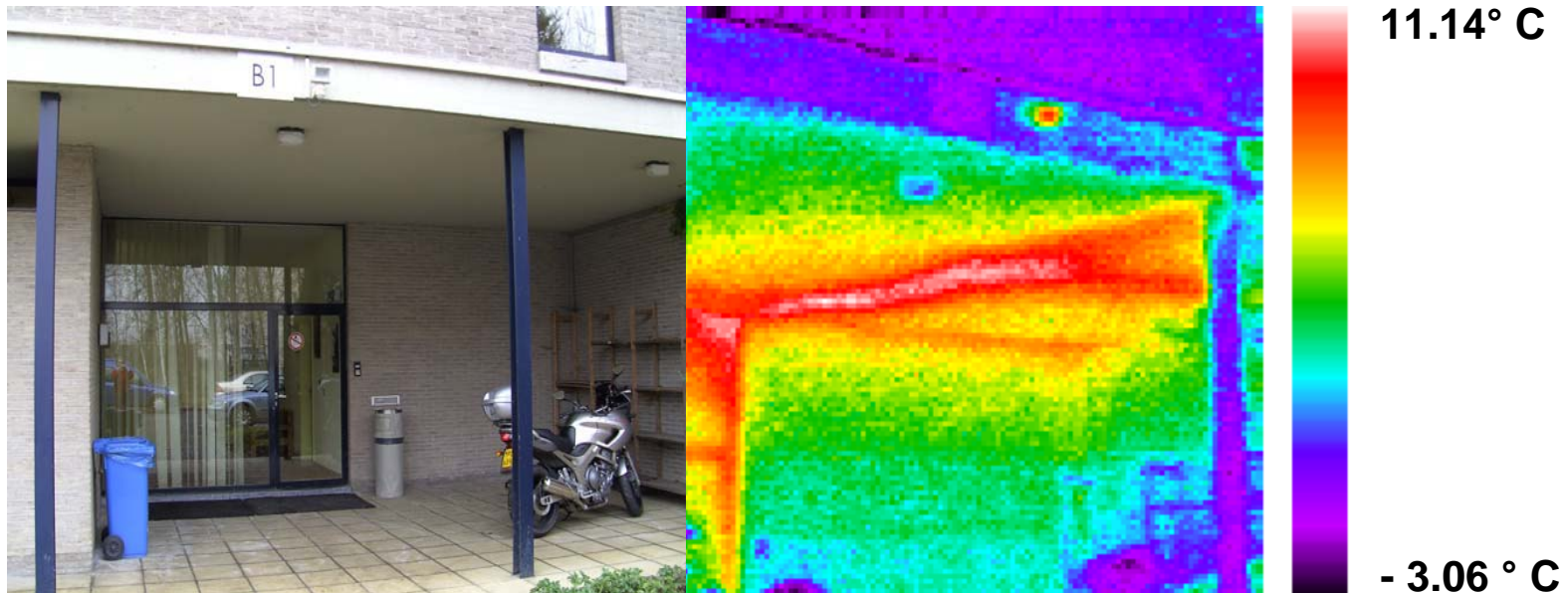
2008:

- Heat recuperation in the air group of the auditoriums
- Gasboiler in the kitchen
- New gas condensation heater in the villa
- Insulation of the villa walls with mineral wool

The rational use of energy

2008:

- Insulation of the villa walls with mineral wool



The rational use of energy

2008:

- Insulation of the villa walls with mineral wool



The rational use of energy

2009:

- Installation of a solar tracker 3000 Wp
- Placement of all types of solar panels (cfr. Peter De Coster)
- Insulation of the roof with 16 cm mineral wool
- Relighting of the operation area of the cafeteria



Environmental charter

KaHo Sint-Lieven
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Head of Security

