

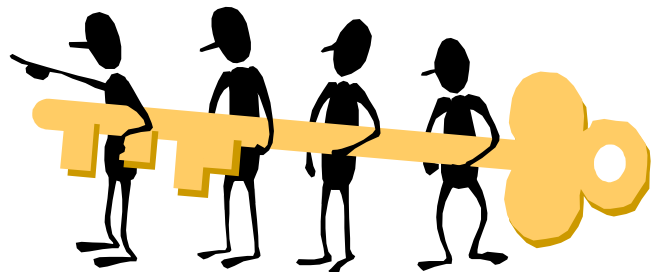
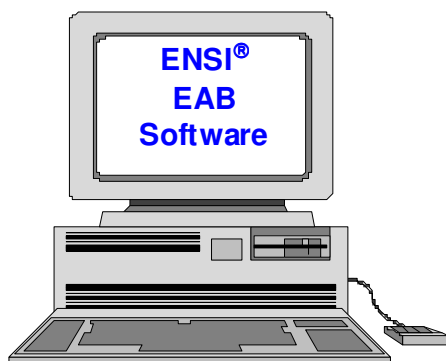
User Guide

for

ENSI[®] EAB Software

Version 8.1

February 2009



www.ensi.no

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Table of contents

1 Introduction	3
2 Installation	3
3 Start up	3
4 Licence	3
5 Main menu	4
6 New project	5
7 Existing project	8
8 Building envelope	9
9 Building summary	10
10 Occupancy and heating schedule	10
11 Heating	11
12 Ventilation (heating)	12
13 Domestic Hot Water	14
14 Fans, Pumps and Lighting	15
15 Various exploitable and unexploitable	16
16 Cooling and Outdoors	16
17 Results	17
17.1 Energy and power demand budget	17
17.2 Measure	19
17.3 ET - curve	20
17.4 Annual Energy use.....	22
17.5 Heat losses	22
18 Print and save project	23
18.1 Capture screen	23
18.2 Print reports	23
18.3 Save project.....	23

1 Introduction

The ENSI® EAB Software is tailored for quick energy calculations of the energy performance of existing and new buildings.

The following chapters describe the installation of the software and explain the different windows, functions and possibilities, as well as how to use the software.

2 Installation

In order for the software to function correctly, the installation must be carried out from the original compact discs with the ENSI® EAB Software. In order to install the software you need to double click the file “EAB 8.1.exe”.

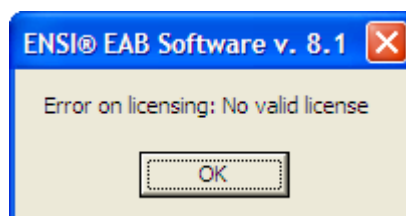
3 Start up

To start the program:

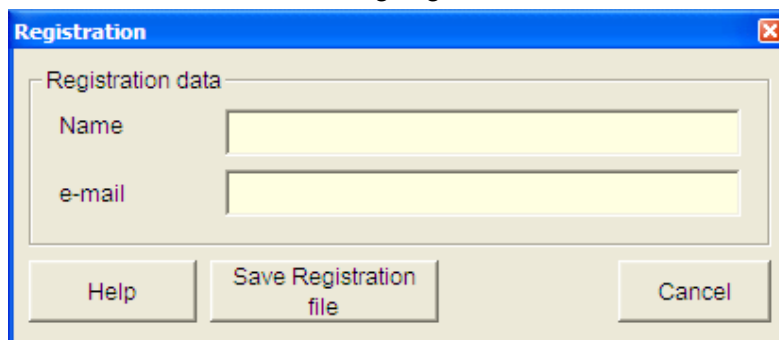
- Click the START button
- Select PROGRAMS: “ENSI EAB Software 8.1”
- Click the icon “ENSI EAB 8.1”. (for **Vista users**, right click on icon and click “Run as administrator”)

4 Licence

The ENSI® EAB Software is a software requiring licence. It is necessary to have a special license file in order to run a registered version of the program. The first time you start the program, the following window will open:

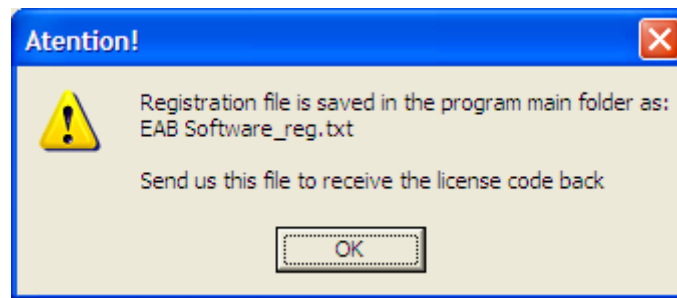


Click “OK” button and continue with the following registration window:



Enter your name and e-mail address correctly and then click the button “Save Registration File”.

In the confirmation window you will see in which folder the registration file is saved:



NB! The registration file is stored in the same folder where the program is installed.

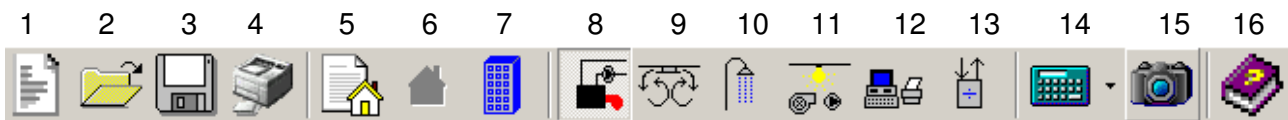
The software will generate a unique registration file that is needed to obtain the licence file. Send the "EAB Software_reg.txt"-file to ENSI by e-mail and you will receive a license file back.

Save the licence file received from ENSI to the "ENSI EAB Software 8.1"-folder, where you have all the corresponding files.

Next time you start the program it will be a registered version of the ENSI EAB Software.

5 Main menu

The icons in the main menu allow you to access various screens in the program. The following figure shows the menu and the corresponding window for each icon.



- | | |
|--------------------------|--|
| 1. New project | 9. Ventilation (heating) |
| 2. Open existing project | 10. Domestic hot water |
| 3. Save changes | 11. Fans & pumps and Lighting |
| 4. Print | 12. Various |
| 5. General data | 13. Cooling and Outdoors |
| 6. Building envelope | 14. Energy and power budget / Measures/ ET-curve |
| 7. Building summary | 15. Capture screen |
| 8. Heating | 16. Help |

6 New project

When starting the program it is possible to select between a “New project” or to “Open project”. This can be done either from the start window or from the main menu.



When selecting “**New project**”, the following window will appear:

Project name	New project	
Country	Norway	
Climatic data	Oslo	← 1
Building type	Office	← 2
Standard condition	1987	
Holiday table	Office	← 3


OK

The calculations can either be based on the **standard** climatic data, standard values and holiday tables that are included in the software, or by creating **user defined** standard values and holiday tables.

- Name the project (by default the project will be stored in the “Work” folder where the program is installed, under subfolder with the specified name of the project)


The next step is to select the standard values from the drop-down list:

- “Climatic data”
- “Building type”
- “Standard condition”
- “Holiday table”

Pressing the button  no 1 will lead you to the following screen with climatic data:

Climatic data		Oslo				
Oslo	Solar Radiation W/m ²					
	Tavo °C	Horizonta	North	East	South	West
January	-4,3	0,0	4,0	8,0	37,0	8,0
February	-4,0	0,0	11,0	25,0	79,0	25,0
March	-0,2	0,0	22,0	61,0	128,0	61,0
April	4,5	0,0	36,0	91,0	133,0	91,0
Mav	10,8	0,0	55,0	124,0	140,0	124,0
June	15,2	0,0	70,0	128,0	126,0	128,0
July	16,4	0,0	59,0	117,0	123,0	117,0
August	15,2	0,0	42,0	102,0	135,0	102,0
September	10,8	0,0	27,0	64,0	113,0	64,0
October	6,3	0,0	15,0	31,0	75,0	31,0
November	0,7	0,0	5,0	8,0	28,0	8,0
December	-2,0	0,0	3,0	4,0	24,0	4,0

Heating season					
DOT	-20,0	Start month	9	Stop month	5
		Start day	15	Stop day	15


Pressing the button  no 2 will lead you to the screen “Standard conditions”:

Building data		Heating		Domestic hot water			
Country	Norway	U - wall	W/m²K	0,30	DHW consumption	l/m²a	150,0
Building type	Office	U - window	W/m²K	2,40	Temp. difference	°C	50,0
Condition	1 987	U - roof	W/m²K	0,20	Distribution efficiency	%	98,0
heating h/day weekdays	12,0	U - floor	W/m²K	0,30	Automatic control	%	98,0
heating h/day Saturdays	0,0	Total solar gain		0,55	TBM/EM	%	98,0
heating h/day Sundays	0,0	Infiltration	1/h	0,25	Generation efficiency	%	100,0
persons h/day weekdays	10,0	Indoor temperature	°C	21,0	Lighting		
persons h/day Saturdays	0,0	Setback temperature	°C	18,0	Operation period	h/week	40,0
persons h/day Sundays	0,0	Emission efficiency	%	93,0	Average power	W/m²	16,0
Walls	m²	Distribution efficiency	%	97,0	Fans and pumps		
Walls area north	m²	Automatic control	%	98,0	Fans, power	W/m²	6,50
Walls area east	m²	TBM/EM	%	98,0	Pumps ventilation	W/m²	0,00
Walls area south	m²	Generation efficiency	%	100,0	Pumps heating	W/m²	0,20
Walls area west	m²	Window factor	%	27,1	Pumps cooling	W/m²	1,00
Windows	m²	Ventilation		TBM / EM	%	98,0	
Window area north	m²	Operation period	h/week	55,0	Various exploitable		
Window area east	m²	Ventilation rate	m³/m²h	8,00	Operation period	h/week	35,00
Window area south	m²	Supply temperature	°C	21,0	Average power	W/m²	11,0
Window area west	m²	Heat recovery	%	60,0	Various unexploitable		
Roof	m²	Emission efficiency	%	93,0	Operation period	h/week	35,0
Floor	m²	Distribution efficiency	%	98,0	Average power	W/m²	3,00
Conditioned area	m²	Automatic control	%	98,0	Persons		
Conditioned volume	m³	Humidification	<input type="checkbox"/> -	50,0	Persons	W/m²	4,00
Thermal capacity	Wh/m²K	TBM/EM	%	98,0	Cooling		
Compactness ratio		Generation efficiency	%	100,0	Cooling	kWh/m²a	0

Office
Reference condition 1987

Save Edit Cancel OK

By clicking the “**Edit**” button you can change standard conditions.

Pressing the  button no 3 will lead you to the following holiday table:

Office

Holidays per month

January	2	July	1
February	0	August	1
March	0	September	2
April	2	October	0
May	2	November	1
June	0	December	3

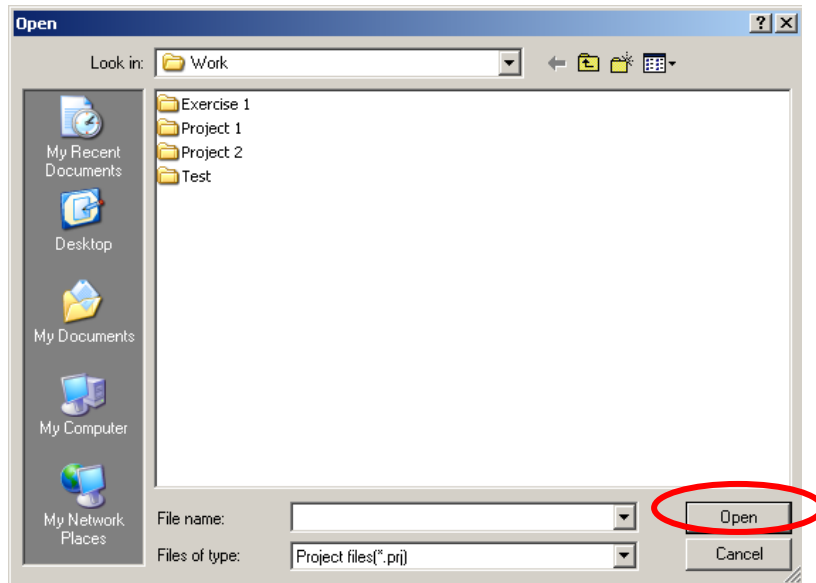
Office

Save Edit Cancel OK

By clicking the “**Edit**” button you can change the holiday data.

7 Existing project

To revise the input data, make a printout or make changes to a previously saved project, select **“Open project”** from the start window or from the main menu:



- Choose the desired project from the list.
- If no project is chosen, a new project will start.

After selecting an existing project, use the icons to go through the building geometry as well as the different energy budget items to do the calculations, and to print out the results.

8 Building envelope

By clicking the button in the “General data” screen after setting the project, the following table will appear:

North	Northeast	East	Southeast	South	Southwest	West	Northwest	Roof	Floor
Walls		Windows							
A	U	A	U	g	n				
[m ²]	[W/m ² K]	[m ²]	[W/m ² K]	-	-				
554,00	0,46	310,40	2,90	0,60	1				
Total facade area									
864,40		[m ²]							
Walls		Windows							
A (net)	U (equiv)	A (net)	U (equiv)	g (equiv)					
[m ²]	[W/m ² K]	[m ²]	[W/m ² K]	-					
554,00	0,46	310,40	2,90	0,60					
Measures									
554,00	0,46	310,40	1,30	0,60	1				
A (net)	U (equiv)	A (net)	U (equiv)	g (equiv)					
554,00	0,46	310,40	1,30	0,60					

Before starting the energy calculations, the building envelope should be described in this screen. First enter actual areas and condition of walls, windows, roof and floor and then enter Measures related to the building envelope.

NB! In order to proceed to the “Building Summary” screen at least one orientation plus roof and floor must have data entered.

9 Building summary

The conditioned area, conditioned volume and heat capacity must be entered, while the external wall, window, roof and floor areas are transferred from the previous detailed input screen.

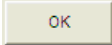
Conditioned area	m ²	<input type="text" value="2 380"/>	Walls	m ²	<input type="text" value="1 422"/>
Conditioned volume	m ³	<input type="text" value="7 830"/>	Windows	m ²	<input type="text" value="786"/>
Heat capacity	Wh/m ² K	<input type="text" value="85"/>	Roof	m ²	<input type="text" value="360"/>
			Floor	m ²	<input type="text" value="360"/>

10 Occupancy and heating schedule

In these fields it is possible to enter metabolic heat from persons and related occupancy schedule plus the heating schedule.

Metabolic heat	W/m ²	<input type="text" value="4,0"/>		
Occupancy schedule h/day		Heating schedule h/day		
Weekday h/day	<input type="text" value="10"/>	Weekday h/day	<input type="text" value="12"/>	
Saturday h/day	<input type="text" value="0"/>	Saturday h/day	<input type="text" value="0"/>	
Sunday h/day	<input type="text" value="0"/>	Sunday h/day	<input type="text" value="0"/>	

11 Heating

After the finishing the previous inputs, the  button in the “Building summary” will lead you to the “Heating” screen.

Parameter	Standard	Actual	Baseline	Sensitivity	kWh/m²a	Measure	Savings
1. Heating		56,0 kWh/m²a					
U - wall	0,30 W/m²K	0,45 >	0,45	+ 0,1 W/m²K = 5,37		0,30 >	-7,53
U - window	2,40 W/m²K	3,00 >	3,00	+ 0,1 W/m²K = 2,96		1,30 >	-45,67
U - roof	0,20 W/m²K	0,20 >	0,20	+ 0,1 W/m²K = 1,35		0,20 >	
U - floor	0,30 W/m²K	0,30 >	0,30	+ 0,1 W/m²K = 1,35		0,30 >	
Compactness ratio	0,33 -	0,33	0,33			0,33	
Window factor	27,1 %	27,1	27,1			27,1	
Total solar gain	0,55 -	0,55 >	0,55			0,55 >	
Infiltration	0,25 1/h	0,40	0,40	+ 0,1 1/h = 10,13		0,25	-14,04
Indoor temperature	21,0 °C	21,0	21,0	+ 1 °C = 8,18		21,0	
Setback temperature	18,0 °C	18,0	18,0	+ 1 °C = 5,65		18,0	
Contribution from							
Ventilation (heating)	kWh/m²a	0,00	0,00			0,00	
Lighting	kWh/m²a	18,16	18,16			16,04	
Various equipment	kWh/m²a	10,92	10,92			9,65	
Energy need	kWh/m²a	81,8	81,8			23,7	
Emission efficiency	93,0 %	93,0	93,0			93,0	
Distribution efficiency	97,0 %	97,0	97,0			97,0	
Automatic control	98,0 %	98,0	98,0			98,0	
TBM/EM	98,0 %	95,0	95,0			98,0	-2,81
Sum	kWh/m²a	97,4	97,4			27,4	
Generation efficiency	100,0 %	100,0	100,0			100,0	
Energy use	kWh/m²a	97,4	97,4			27,4	

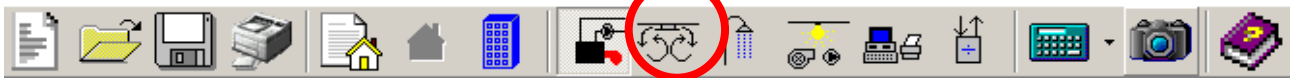
The existing condition of the building to be calculated should be entered into the “**Actual**” column. When starting the software, the default values in “**Actual**”, “**Baseline**” and “**Measure**” are identical with the “**Standard**” values. If the existing condition of the building is different from the standard value, the “**Actual**” values should be changed, either directly or with the help of the spin boxes. After having adjusted the “**Actual**” for all parameters, the calculated energy consumption for heating will appear in the row “**Energy use**”.

If the indoor temperature during the heating seasons has been too low, the mechanical ventilation system has not been operating fully, or if we would like to improve the standard when renovation the building (increased ventilation rate), we might want to take that into consideration when continuing the energy and profitability calculations. This is to be entered in the “**Baseline**” column.

The relevant measures should be described through new parameter values in the “**Measure**” column. The total calculated energy use after measures will appear in the “Savings” column in the “Energy Budget”.


For each of the budget items (Ventilation, Domestic hot water, Fans and pumps, Lighting and Various), the program operates in the same way as for Heating. For the budget items Cooling and Outdoors, the energy use should be entered directly into the program to obtain complete energy and power budgets.

12 Ventilation (heating)



For ventilation, it is possible to either use the main window and the total amount of ventilation rate or choose to enter data for each ventilation system in the building.

Parameter	Standard	Actual	Baseline	Sensitivity	kWh/m ² a	Measure	Savings
2. Ventilation (heating)		43,1		kWh/m ² a			
Operation period	55,0 h/week	45,0	45,0	+5 h/week = 4,13		45,0	
Ventilation rate	8,00 m ² /hm ²	8,00	8,00	+1 m ² /hm ² = 4,65		8,00	
Supply temperature	21,0 °C	21,0	21,0	+ 1 °C = 4,83		21,0	
Heat recovery	60,0 %	60,0	60,0	+ 1 % = -0,93		60,0	
Energy need	kWh/m ² a	31,6	31,6			30,3	
Emission efficiency	93,0 %	93,0	93,0			93,0	
Distribution efficiency	98,0 %	98,0	98,0			98,0	
Automatic control	98,0 %	98,0	98,0			98,0	
Humidification	No	No	No			No	
TBM/EM	98,0 %	95,0	95,0			98,0	-2,62
Sum	kWh/m ² a	37,2	37,2			34,6	
Generation efficiency	100,0 %	100,0	100,0			100,0	
Energy use	kWh/m ² a	37,2	37,2			34,6	
Contribution to heating	kWh/m ² a	0,0	0,0			0,0	



Ventilation systems

If the "Ventilation Systems" tab is chosen, a new window will open enabling you to enter data for each ventilation system in the building.

System name		System values		
		Actual	Baseline	Measure
Ventilation system 1				
Ventilation system 2				
Operation period	h/week	44	44	44
Ventilation rate	m ² /hm ²	8,00	8,00	8,00
Ventilation rate adj.	m ² /hm ²	7,81	7,81	7,81
Heat recovery	%	60	60	60
Fans, power	W/m ²	9,00	9,00	9,00
Fans, power adjusted	W/m ²	8,78	8,78	8,78
		Average		
		Actual	Baseline	Measure
Operation period	h/week	45,1	45,1	45,1
Ventilation rate	m ² /hm ²	9,98	9,98	9,98
Supply temperature	°C	20,2	20,2	20,2
Heat recovery	%	47	47	47
Fans, power	W/m ²	10,20	10,20	10,20

System name		Ventilation system 1		
		Actual	Baseline	Measure
Operation period	h/week	49	49	49
Ventilation rate	m ³ /hm ²	2,0	2,0	2,0
Supply temperature	°C	21,0	21,0	21,0
Heat recovery	%	0	0	0
Fans, power	W/m ²	1,30	1,30	1,30
		Cancel OK		

Data for the operation period, ventilation rate, heat recovery, supply temperature and the fans power should be entered for each specific ventilation system. The entered data will be adjusted to one average system and transferred to the main ventilation window. Based on this data the program will calculate the energy use for Ventilation (heating).

If the building does not have mechanical ventilation, the input value for the “Operation period” should be 0. The energy demand is then automatically given as 0 kWh/m², and the other parameters cannot be adjusted.

If you would evaluate installation of new mechanical ventilation in case of non-existing ventilation in the building, enter the parameter values directly in the column “Baseline” and the energy demand will be automatically calculated, taking in account increased energy demand in ventilation system.

13 Domestic Hot Water



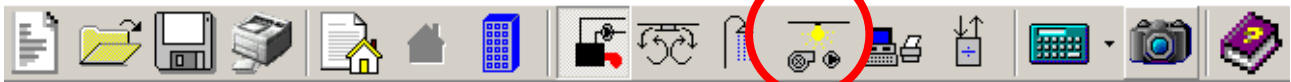
The screen Domestic Hot Water (DHW) is presented below.

Parameter	Standard	Actual	Baseline	Sensitivity	kWh/m²a	Measure	Savings
3. DHW		9,2			kWh/m²a		
DHW consumption	150 l/m²a	150	150	+ 10 l/m² = 0,63		100	-3,07
Temp. difference	50,0 °C	50,0	50,0			50,0	
Hot water per year	m³	435	435			290	
Energy need	kWh/m²a	8,6	8,6			5,8	
Distribution efficiency	98,0 %	98,0	98,0			98,0	
Automatic control	98,0 %	98,0	98,0			98,0	
TBM/EM	98,0 %	95,0	95,0			98,0	-0,28
Sum	kWh/m²a	9,5	9,5			6,1	
Generation efficiency	100,0 %	100,0	100,0			100,0	
Energy use	kWh/m²a	9,5	9,5			6,1	

Maximal simultaneous power for DHW can be entered in the following table:

DHW power demand	
Max. simultaneous power	W/m²

14 Fans, Pumps and Lighting



This screen is covering 2 budget items (“Fans and Pumps” and “Lighting”) as shown below:

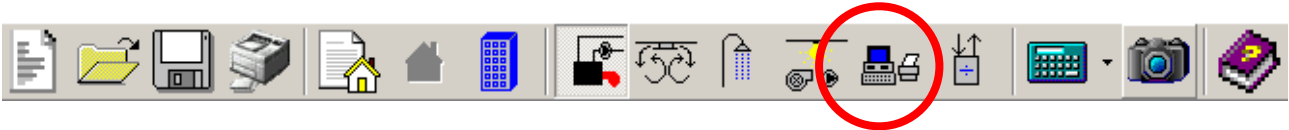
Parameter	Standard	Actual	Baseline	Sensitivity	kWh/m²a	Measure	Savings
4. Fans and pumps		20,5	kWh/m²a				
Operation period	55 h/week	45,0	45,0	+5 h/week = 2,51		45,0	
Fans	6,5 W/m²	10,00	10,00	+1 W/m² = 2,26		6,00	-9,23
Pumps ventilation	0,0 W/m²	0,00	0,00	+1 W/m² = 1,48		0,00	
Pumps heating	0,2 W/m²	0,20	0,20	+1 W/m² = 5,83		0,20	
Pumps cooling	1,0 kWh/m²a	1,00	1,00			1,00	
TBM/EM	98 %	95,0	95,0			98,0	-0,74
Energy use	kWh/m²a	26,0	26,0			16,0	
5. Lighting		32,1	kWh/m²a				
Operation period	40 h/week	40	40	+1 h/week = 0,00		40	
Average power	16,00 W/m²	16,00	16,00	+1 W/m² = 0,00		10,00	-12,03
Energy use	kWh/m²a	32,1	32,1			20,1	

NB! Pumps cooling must be entered in kWh/m²year.

Maximal simultaneous power for lighting is entered in the following table:

Lighting power demand	
Max. simultaneous power	W/m²

15 Various exploitable and unexploitable



The budget item “Various” is divided in two; exploitable and unexploitable.

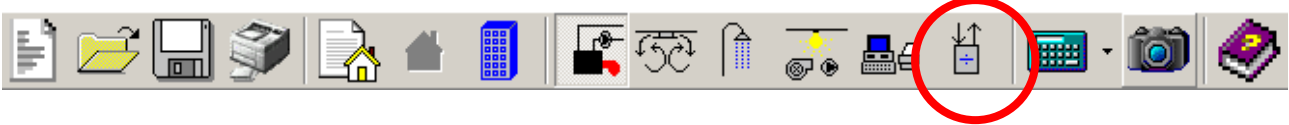
Parameter	Standard	Actual	Baseline	Sensitivity	kWh/m ² a	Measure	Savings
6.1 Various exploitable		19,3	kWh/m ² a				
Operation period	35 h/week	35	35	+5 h/week = 0,00		35	
Average power	11,00 W/m ²	11,00	11,00	+1 W/m ² = 0,00		11,00	
Energy use	kWh/m ² a	19,3	19,3			19,3	
6.2 Various unexploitable		5,3	kWh/m ² a				
Operation period	35 h/week	35	35	+5 h/week = 0,00		30	-0,75
Average power	3,00 W/m ²	3,00	3,00	+1 W/m ² = 0,00		3,00	
Energy use	kWh/m ² a	5,3	5,3			4,5	

Maximal simultaneous power for various is entered in the following table:

Various power demand

Max. simultaneous power W/m²

16 Cooling and Outdoors



Parameter	Standard	Actual	Baseline	Sensitivity	kWh/m ² a	Measure	Savings
7. Cooling		0,0	kWh/m ² a				
Cooling	kWh/m ² a	4,0	4,0			4,0	
Energy use	kWh/m ² a	4,0	4,0			4,0	
8. Outdoor			kWh/a				
Outdoor	kWh/a	0	0			0	
Energy use	kWh/a						

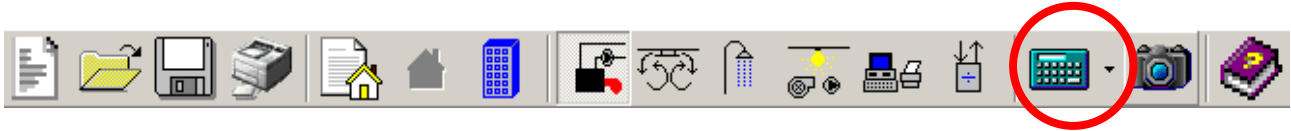
In the budget item “Cooling” and “Outdoor” the energy demand should be entered directly.

For detailed calculations of these budget items, specialised software programs or other calculations should be used.

Cooling will be included in the next version of the ENSI® EAB Software.

17 Results

17.1 Energy and power demand budget



When “Actual” and “Measure” for all budget items are filled in, click the icon “Energy and power budget” to obtain the results.

The “Energy Budget” includes the energy use for the standard building and calculated energy use for “Actual”, “Baseline” and “After Measures”. The “After Measures” values summarize all the savings from the “Measure” columns for each budget item.

Energy budget | Measures | Power budget | ET curve | Annual energy use | Heat losses

Project		Building type	Office
user guide		Standard condition	1987
		Climatic zone	Oslo
		Heating season	15.9 - 15.5

Budget item	Standard kWh/m ²	Actual		Baseline		After Measures	
		kWh/m ²	kWh/a	kWh/m ²	kWh/a	kWh/m ²	kWh/a
1. Heating	56,0	98,3	284 968	98,3	284 968	32,5	94 207
2. Ventilation (heating)	43,1	37,2	107 970	37,2	107 970	34,8	100 977
3. DHW	9,2	9,5	27 442	9,5	27 442	6,1	17 735
4. Fans and pumps	20,5	26,0	75 341	26,0	75 341	16,0	46 415
5. Lighting	32,1	32,1	93 065	32,1	93 065	20,1	58 166
6. Various	24,6	24,6	71 253	24,6	71 253	23,8	69 072
7. Cooling	0,0	4,0	11 600	4,0	11 600	4,0	11 600
Total	185,4	231,6	671 640	231,6	671 640	137,3	398 171
8. Outdoor			0		0		0

By clicking “Power budget”, the corresponding budget for maximum simultaneous power demand for each budget item will appear.

Budget item	Actual		Baseline		After Measures	
	W/m ²	kW	W/m ²	kW	W/m ²	kW
1. Heating	60,0	174	60,0	174	32,4	94
2. Ventilation (heating)	44,6	129	44,6	129	44,6	129
3. DHW	0,0	0	0,0	0	0,0	0
4. Fans and pumps	10,2	30	10,2	30	6,2	18
5. Lighting	0,0	0	0,0	0	0,0	0
6. Various	0,0	0	0,0	0	0,0	0
7. Cooling	0,0	0	0,0	0	0,0	0

Both specific and total power demands are presented in the columns “Actual”, “Baseline” and “After Measures”. The kW’s is the specific value multiplied by the conditioned area of the building, defined in the “Building envelope” window.

It is possible to change the default design outdoor temperature (DOT), by using the scroll bar. Power demand for heating and ventilation will automatically be recalculated. The difference between the standard DOT and the entered DOT should not exceed $\pm 20\%$.

NB! Changes of the DOT will not be saved in the project file.

17.2 Measure

By clicking “Measure”, an overview of the calculated measures and the specific and total savings for each measure is given. Sum savings for all measures are also calculated.

Energy budget
Measures
Power budget
ET curve
Annual energy use
Heat losses

Project

user guide

Building type Office

Standard condition 1987

Climatic zone Oslo

Heating season 15.9 - 15.5

Parameter	kWh/m ²	kWh/a	Real kWh/a
1. Vykurovanie: U - stena	-7,72	-22 376	-22 376
1. Vykurovanie: U - okno	-46,60	-135 131	-135 131
1. Vykurovanie: Infiltracia	-14,39	-41 730	-41 730
1. Vykurovanie: TBM/EM	-3,01	-8 726	-8 726
2. Vetrание (vykur.): TBM/EM	-2,41	-6 993	-6 993
3. TV: Spotreba TV	-3,07	-8 891	-8 891
3. TV: TBM/EM	-0,28	-817	-817
4. Ventilatory a cepadla: Ventilatory	-9,23	-26 772	-26 772
4. Ventilatory a cepadla: TBM/EM	-0,74	-2 155	-2 155
5. Osvetlenie: Priemery prikon	-12,03	-34 899	-9 456

Total savings

-100,23

-290 670

-265 227

Measure

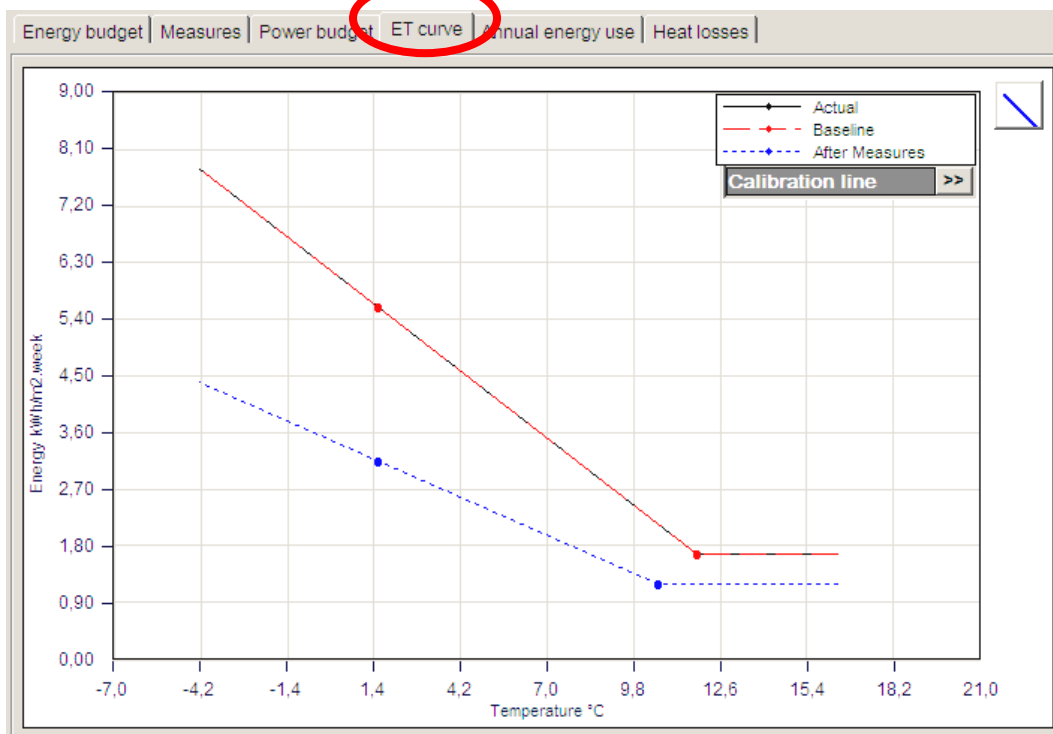
Change text

Measures on lighting and various equipment will also influence the energy use for heating. Net savings (kWh/a) are presented as Actual.

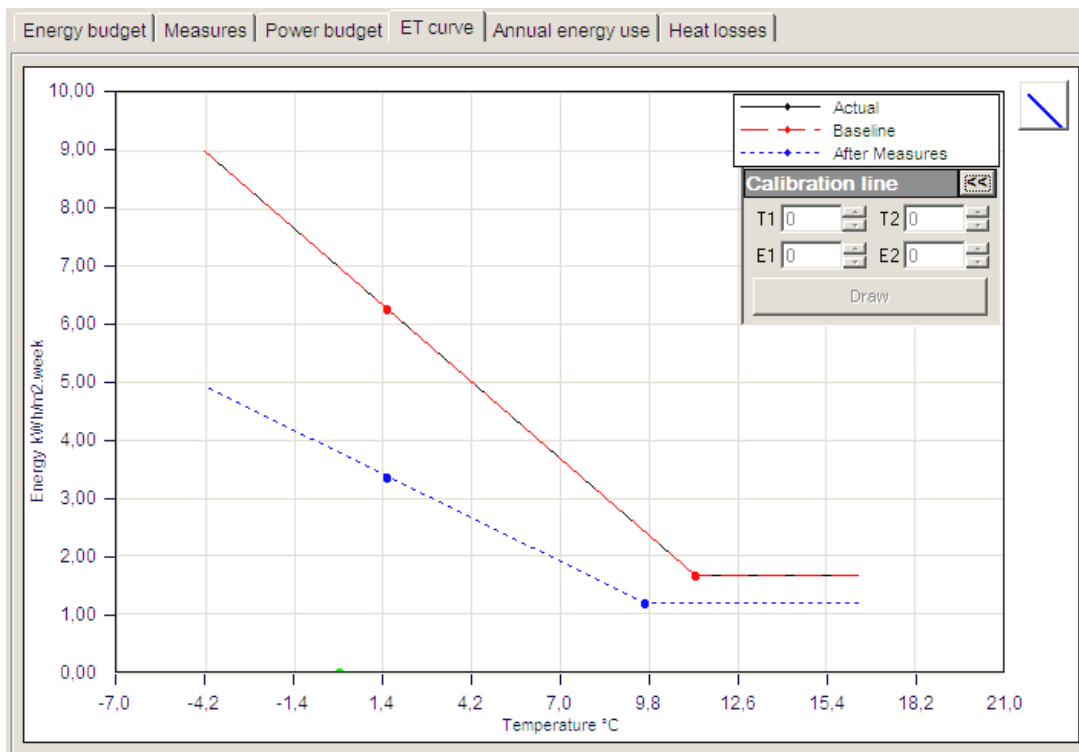
If highlighting one measure in the column “Parameter”, the measure can be renamed or described in the “Measure” box. This description will be included in the printed reports.

17.3 ET - curve

The EAB Software calculates ET-curves to be used for energy monitoring, for 3 situations; Actual, Baseline and After Measures.

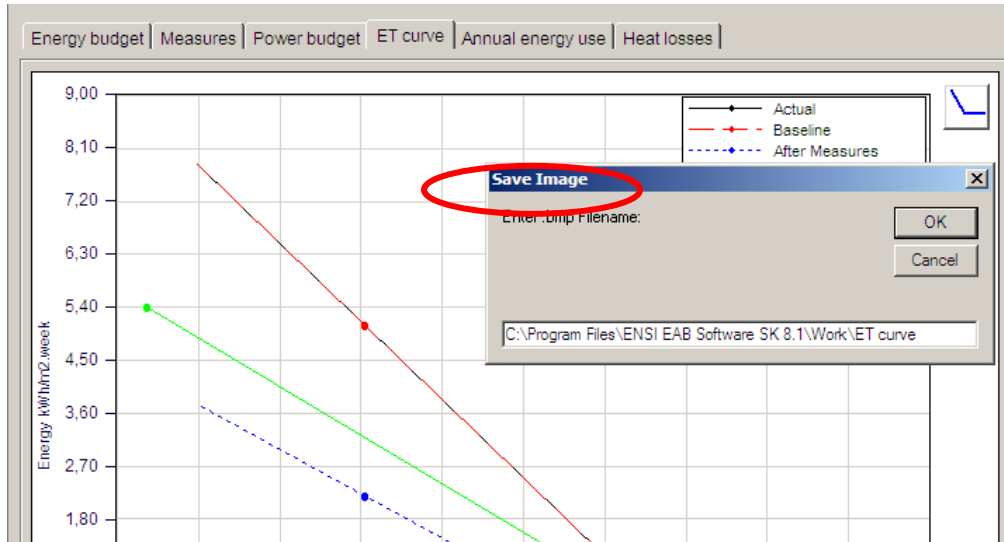


The calculated energy use for heating and ventilation can be compared with an entered "Calibration line" (for instance based on measurements), and various calculation parameters changed to until the calculated line follows the calibration line:



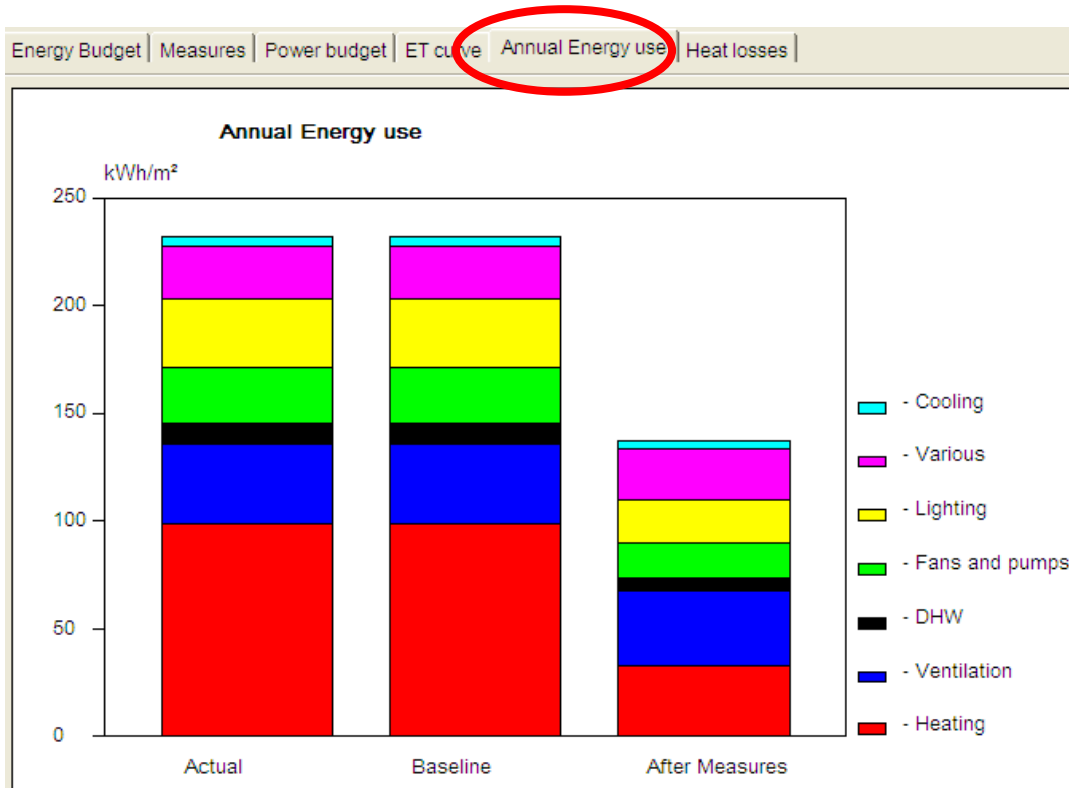
It is possible to read exact values when pointing the crosshair on the ET curve. The floating textboxes shows outdoor temperature and weekly energy consumption for the corresponding point.

By right-clicking in the diagram area you will be able to save the ET curve. Image will be saved as a bmp-file at your desired path (By default in the “Work” folder where the program is installed):



17.4 Annual Energy use

The “Annual Energy use” shows the annual energy use for Actual, Baseline and After Measures, divided into the relevant budget items.



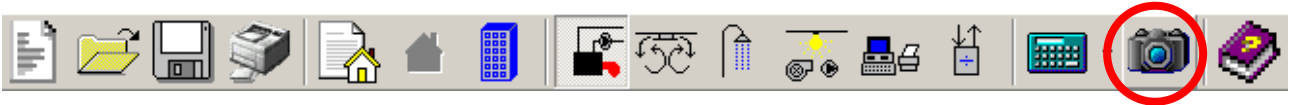
17.5 Heat losses

The screen “Heat losses” presents heat losses through various components. The heat loss coefficient H and specific heat loss coefficient H' is presented, in columns “Actual” and “After Measures”.

Project		Building type		Office	
user guide		Standard condition		1987	
		Climatic zone		Oslo	
		Heating season		15.9 - 15.5	
Heatloss component	Actual		After Measures		
	H W/K	H' W/m²K	H W/K	H' W/m²K	
Walls	640	0,22	427	0,15	
Windows and doors	2 358	0,81	1 022	0,35	
Roof	72	0,02	72	0,02	
Floor	108	0,04	108	0,04	
Infiltration	1 065	0,37	666	0,23	
Ventilation	2 113	0,73	2 113	0,73	
Total	12 131	4,18	10 182	3,51	

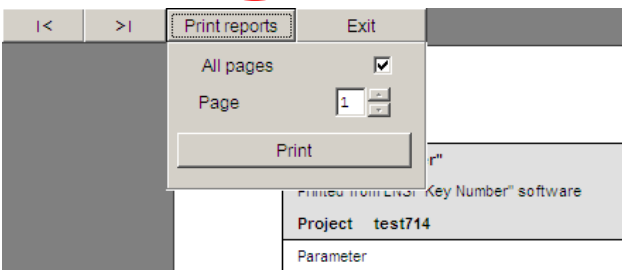
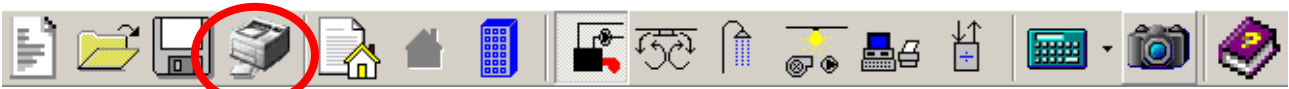
18 Print and save project

18.1 Capture screen



A “Capture screen” icon is to be used to save a selected part of the screen. The picture will be saved by default in the “Work” folder where the program is installed, under subfolder with the name of the current project.

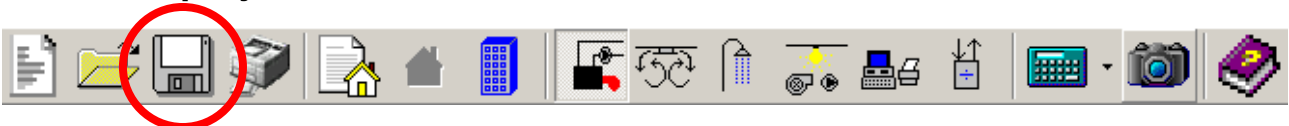
18.2 Print reports



To print out click the “Print Reports” button, then the climatic data, holiday data, building geometry and all calculations will be printed.

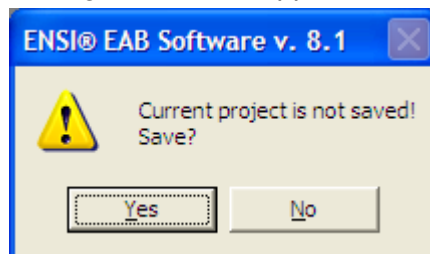
It is also possible to choose printing of one specific page of the report.

18.3 Save project



To save changes to a project click the “Save” button in the main menu. The project will be saved by default in the “Work” folder where the program is installed, under subfolder with the name of current project with extension *.prj.

When closing the program the following window will appear:



By default the program will save all the projects in the “Work” folder where the program is installed, under subfolder with the name of current project. This path can be changed by the user.

