

# CHECKLIST

Please, provide your own saveatwork logo and delete this text!

# **Energy Audit and Analysis Tool**

Project SAVE@WORK Deliverable 5.1

Please, provide your own company logo and delete this text!





Co-funded by the Intelligent Energy Europe Programme of the European Union

#### **General Information**

#### Dear Energy-Team,

you are being asked to complete this checklist as part of your building's participation in the save@work projet. This checklist will help you getting an overview of the current energy behaviour in your building. It is designed to be your guideline for the on-site visit in your building. You will need the completed checklist at your initial workshop in order to know abot energy saving potentials and to elaborate suitable energy saving measures in your office building.

The Checklist contains the following sections:

a) Getting started: how to work with the checklist (read this in advance)

b) **Basic data** about the circumstances of your on-site-visit and your office building (start your on-site visit with these registers)

c) Energy behaviour relevant in all office rooms:

- Heating and ventilation
- Lighting
- Air-conditioning (if appropriate for your office)

d) Energy behaviour at workstations and common rooms

- Computer
- Copier, printer and projectors
- e) Other energy Behaviours in
- Kitchenette
- Bathroom

You may use this checklist in electronic format or in printed form. This is totally up to you.

If you take the printed form you also can draw the ground plan of the inspected building. Use the back of your sheets to do so. The plan can support you to consider the room arrangement and the equipment of the building. Furthermore, saliences you notice during the inspection can be documented like that, e.g. facilities that do not work, personal extra printers of employees etc. Please consider, that the checklist is designed to be completed in the heating period!

If there occur any questions regarding this checklist, please, get in touch with your national contact point. Your contact point is: *Please, provide your own contacts and delete this text! Mr./Ms./Mrs. First Name Surname Project Partner E-Mail: Phone:* 

We wish you all the best in identifying and collecting as many energy saving potentials as possible in your office building!



# 1 Getting started Before you start you on-site visit, please, read this introduction in order to make the on-site visit efficiently and effectively. The whole process of the on-site-visit is based on three phases: **Phase 1: Preparation** Phase 2: On-site visit Phase 3: Follow-up In the following you will find more details about theses phases. **Phase 1: Preparation** a) Set a date for your "Energy Efficiency Workshop" in your office. The agenda of this approx. half-day- workshop shall include: - the on-site-visit with your energy team and your energy or building manager - the elaboration of your action plan in cooperation with interested colleagues incldufing a training on energy efficiency in offices. People you have to discuss and agree on the date of the workshop are: - your members of the energy team - your energy or building manager responsible for your building - your national contact point (for the training) In addition you will need a meeting room for the elaboration of the action plan and the training. b) Invite colleagues of your office to the elaboration of the action plan and the training on energy efficiency in offices. There is no need that all of them join, but it would be fine to get a couple of interested people. c) Check the number of employees in your office - see register "2.1 General Data" Ask your office administration for the requested data on employees and working stations in your office. Please, also note if these figures have changed in the last 3 years. d) Get the data of your building - see register "2.2 Building Data" Get in contact with your energy or building manager and clarify the availability of the requested data. There is no need to take register "2.2 Basic Data" - normally your energy or building manager will have his own statistical reportings. And in case she/he has no own statistical reportings the register of this checklist may be taken. e) Inform your energy team Provide this checklist to your energy team in advance of the on-site visit and print the complete checklitst or provide it on a tablet etc. You will need one set of the checklist for the whole energy team.

#### Phase 2: On-Site-Visit

a) Meet your energy team and energy or building manager in the entrance area of your office (inside or outside).

**b)** Check the different types of rooms in your office corresponding to this checklist. Fill in the requested data and information in accordance with your team

**c)** Take photos or make sketches in order to get a better "picture" of the current situation. There is no need to check each room and each floor of your building. The idea of the on-site visit is to :

- get a general knowledge avout energy behaviour in your office building

- check out potentials energy efficient behaviour in your office building

- identify beneficial measured for energy efficient behaviour in your office

Thus, depending on the personal experiences of you and your energy team, you may decide how detailed your on-site-visit is implemented.

d) Highlight open question you will discuss in the workshop to elaborate the action plan.

#### Phase 3: Follow-up

**a) Meet with interested employees** to elaborate the action plan. The idea is to present your findings of your on-site visit focusing on the best practices and on potentials to increase tehe energy performance of your team.

The elaboration of the action plan may be structured the following way (proposal)

- Introduction: Inform about save@work, Climate Change/Energy Efficiency, Scope of the workshop, agenda, after the workshop

- Team Building: find out your common energy efficiency slogan and your energy efficiency goals (done by group works of 3 – 4 persons)

- Information: presnet the status quo of the current energy behaviour (report of energy team and discussion)

- Brainstorming/Speeddate: Identify your ideas to increase energy efficiency in our offices

- Assessment: Check energy efficiency proposals commonly in terms of feasibility, priority and identification of support

- Activation of employees: define a strategy for an interesting and successful campaign in your office

**b)** Join the training on energy efficiency in offices presented by your ational contact point. You will learn about:

- Energy efficiency in practice: tips and tricks, examples as well as knowledge-exchange (link to identified support)

- Managing energy efficiency: plan-do-check-act
- Supporting materials of save@ work
- Online-tools of save@work

**c)** Get you action plan approved by the head of your department and send the final action plan to your colleagues. IMPORTANT: Also invite them to join the competition!



#### 2.1 General Data

Please provide the following general data of your on-site-visit.

	Participants			
Name of person filling out checklist:				
Department:				
Date:	Time:			
Participants of on-site visit (name/d	epartment):			
All departments of the building are re	presented in the on-site visit:	🗌 yes	🗌 no	
If no, which departments of the bu	ilding are not represented:			

Weather and indoor conditions									
Please provide the f	Please provide the following informtion concerning the current weather. You may find current weather data e.g. on								
wetter.com									
Temperatur:		°C (outdoor air)		°C (indoor air)					
Source indoor air:	measured	personal estimate, because it is:							
		🗌 chilly	🗌 suitable	🔲 warm inside					
Weather today:	🗌 sunny	cloudy	🗌 rainy	🗌 other:					
Wind:		km/h							
Humidity:		% (outdoor air)		% (indoor air)					
Source indoor	measured	personal es	stimate, because	it is:					
humidity:		🗌 dry	🗌 suitable	🗌 humid inside					
Additional i	nformation on we	eather and indoor	conditions:						

**Further remarks** 

rutici remarks
Please provide information about physical wellbeing and / or environmanetal factors or discomfort in your office.



	2	.2 Building Data						
	ata from your your building		-					
she/he shall ha	nd it over to you in advance	e of the on-site visit. In this	s case, please add	only missing data.				
		Building						
Year of construc	tion: N	lumber of floors:	Floor area:	m²				
Basement exising:	yes no	Attic floor existin	ng: 🗌 yes	no no				
Type of building: 🗌 detached building 🗌 block development								
Number of emplo	oyees:	Number of full-tim	e equivalents:					
Number of w	orking places (also those	, which are currently no	ot staffed):					
		Heating						
Type of heating:		<u> </u>						
Central heat	ing self-cont	ained central heating	single roor	n heating				
Hot Water:	🗌 central h	eating	individual	boilers (electricity)				
Energy source:		(e.g.	oil, natural gas,	district heating)				
Annual energy	consumption (heating):	Conversion	Annual ener	gy costs (heating):				
2013	m³, kg, l, kWh	1 l oil = 10 kWh	2013	€				
2014	m³, kg, l, kWh	1 m³ gas = 10 kWh	2014	€				
2015	m³, kg, l, kWh	1 MWh = 1.000 kWh	2015	€				
		Σ energy consumption x						
Ø		nversion / number of years	Ø	€/year				
Benchmark	kWh/m²	ø / floor area						
Benchmark:	<b>low</b> (< 50 kWh/m²)	<b>medium</b> (50 - 100 kWh/m	n²) hig	<b>h</b> (> 100 kWh/m²)				
		Electricity						
Annual energy c	onsumption (electricity):		Annual energ	y costs (electricity):				
2013	kWh		2013	€				
2014	kWh		2014	€				
2015	kWh		2015	€				
		$\Sigma$ energy consumption /		- /				
Ø	kWh/year	number of years	Ø	€/year				
Benchmark	kWh/emp.	ø / employee						
Benchmark:	low (< 750 kWh/emp.) n	<b>nedium</b> (750 - 2.000 kWh/e	emp.) high	(> 2.000 kWh/emp.)				
		Other Appliances						
Ventilation availab		no remarks:						
Air-conditioning av	vailable: 🗌 yes	no remarks:						
Solar thermal plan	t available: 🗌 yes	no remarks:						
Photovoltaic plant	available: 🗌 yes	no remarks:						
CHP available:	yes	no remarks:						
Additional informa	tion:							





# All Rooms of the Office

### **Heating/Ventilation**

Department:

Floor Number:

What do I observe?		
1.1 How is the situation right now?		1.3 Evaluation <sup>1</sup>
Please cross where applicable (1: strongly agree - 4: disagree) and count the number of crosses top down:	1 2 3 4	
Radiators do not make a noise The radiators are not covered by curtains or furniture The temperature in the office is pleasant (19 - 22°C) Radiators are warm all-over (not only at front or back) Valves are turned on and windows are closed Sum of crosses per category: 1.2 Your comment (regarding your observations):		none low medium high very high 1 Saving potential according to your observations: many crosses 1,2: low potential most crosses 2,3: medium potential many crosses 3,4: high potential
2 How is the behaviour usually? 2.1 How often do employees follow the listed measure	ıres?	2.3 Evaluation <sup>1</sup>
Please cross where applicable and count the number of crosses top down:	always often rarely never	
The heating is turned back when it gets too warm in the room Before airing the radiators are turned back Windows and doors are totally closed The heating is turned back before end of work The heating is turned back before weekend The heating is turned back before holiday		<ul> <li>none</li> <li>low</li> <li>medium</li> <li>high</li> <li>very high</li> </ul>
Sum of crosses per category: 2.2 The following questions cannot be answered now and will workshop:	be enquired in the	1 Saving potential according to your observations: many crosses always/often: low potential most crosses often/rarely: medium potential many crosses rarely/never: high potential
Which source do you refer to in your estimation: <ul> <li>report:</li> <li>personal estimation</li> </ul>	employees told of other:	us
3 Comparison to other floors / areas How is the situation compared to other floors or are the same different (please fill in another form to describe th		s)
	,,,,	



#### 

# All Rooms of the Office

Lighting Department:

Floor Number:

What do I observe?					
1.1 How is the situation right now?					1.3 Evaluation <sup>1</sup>
Please cross where applicable (1: strongly agree - 4: disagree) and count the number of crosses top down:	1	2	3	4	
Artificial lighting is turned off, as soon as daylight is sufficient All lights are turned off, when nobody uses the room Floor lamps are located according to incidence of daylight Ceiling lights are switched on accordig to incidence of daylight Switch-off time of automatic light control is under 5 min Sum of crosses per category: 1.2 Your comment (regarding your observations):					none low medium high very high 1 Saving potential according to your observations: many crosses 1,2: low potential most crosses 2,3: medium potential many crosses 3,4: high potential
2 How is the behaviour usually? 2.1 How often do employees follow the listed measu	uroc <sup>2</sup>				2.3 Evaluation <sup>1</sup>
	llesi				2.3 Evaluation
Please cross where applicable and count the number of crosses top down: Lighting is turned off when not needed Lighting is turned off before end of work, weekend or holiday Artificial light is turned off, as soon as daylight is sufficient	🗌 🔲 always	often	□ □	never	none low medium
Lamps are cleaned regularly					high
Sum of crosses per category	<u> </u>		• ••		1 Saving potential according to your
2.2 The following questions cannot be answered now and will b workshop:	e enq	uirea	11.48		observations: many crosses always/often: low potential most crosses often/rarely: medium potential many crosses rarely/never: high potential
Which source do you refer to in your estimation:					
report		empl	oyees	told u	IS
personal estimation		other	:		
Comparison to other floors / areas					
How is the situation compared to other floors or areas of the building?         the same       different (please fill in another form to describe the situation of these floors / areas)					
				,	





Γ

# All Rooms of the Office

#### **Air-conditioning** (only if appropropiate for your office rooms)

Department:

Floor Number:

What do I observe?					
1.1 How is the situation right now?					1.3 Evaluation <sup>1</sup>
Please cross where applicable (1: strongly agree - 4: disagree)					
and count the number of crosses top down. Consider that the	1	2	3	4	
checklist is completed during heating period!					
Air-conditioning is currently switched off					none
					low
					medium
					high
					very high
Sum of crosses per category				¥	
1.2 Your comment (regarding your observations):				A CONTRACT	1 Saving potential according to your
		-	and the second s	and the former of	observations:
		that an entropy of	Stern	many crosses 1,2: low potential	
					most crosses 2,3: medium potential
					many crosses 3,4: high potential

## How is the behaviour usually?

2.1 How often do employees follow the listed measures?					2.3 Evaluation <sup>1</sup>
<i>Please cross where applicable and count the number of crosses top down:</i>	always	often	rarely	never	
Air-conditioning is only used, when room temperatures are above 25°C When the air-conditioning is turned on, all windows are closed Air-conditioniong is turned off before end of work Air-conditioniong is turned off before weekend Air-conditioniong is turned off before holiday					<ul> <li>none</li> <li>low</li> <li>medium</li> <li>high</li> <li>very high</li> </ul>
Sum of crosses per category:       1 Saving potential according to your observations:         workshop:       1 Saving potential according to your observations:         many crosses always/often: low potential       most crosses often/rarely: medium potential         many crosses rarely/never: high potential       most crosses rarely/never: high potential					
Which source do you refer to in your estimation:  report  personal estimation		empl other	oyees ~:	told	us
3 Comparison to other floors / areas How is the situation compared to other floors or areas of the building?					



# 

# Work stations

**Computer** Department:

Floor Number:

What do I observe?					
1.1 How is the situation right now?					1.3 Evaluation <sup>1</sup>
Please cross where applicable (1: strongly agree - 4: disagree) and count the number of crosses top down.	1	2	3	4	
Unused computers (e.g. person is out of office all day) are completely turned off Screens of unused computers (e.g. person has coffee break) are turned off					none low medium high
					Very high
Sum of crosses per category: 1.2 Your comment (regarding your observations):					1 Saving potential according to your observations: many crosses 1,2: low potential most crosses 2,3: medium potential many crosses 3,4: high potential
How is the behaviour usually?					
2.1 How often do employees follow the listed measurement	ires?	1		1	2.3 Evaluation <sup>1</sup>
<i>Please cross where applicable and count the number of crosses top down:</i>	always	often	rarely	never	
Screensavers are disabled Computers are turned off and disconnected from the mains: before end of work before weekend before holiday During short breaks (e.g. coffee break) the screen is turned off During longer breaks (e.g. lunch) the computer is turned off Sum of crosses per category: 2.2 The following questions cannot be answered now and will b workshop:	De enc				<ul> <li>none</li> <li>low</li> <li>medium</li> <li>high</li> <li>very high</li> <li>Very high</li> </ul> 1 Saving potential according to your observations: many crosses always/often: low potential most crosses often/rarely: medium potential many crosses rarely/never: high potential
Which source do you refer to in your estimation:  report personal estimation		empl other	-	s told ເ	JS
3       Comparison to other floors / areas         How is the situation compared to other floors or areas of the building?         the same       different (please fill in another form to describe the situation of these floors / areas)					



Work stations and commo	on ro	oms			
Printer/copier and projec					
Department: Floor Number:					
What do I observe?					
1.1 How is the situation right now?					1.3 Evaluation <sup>1</sup>
Please cross where applicable (1: strongly agree - 4: disagree) and count the number of crosses top down.	1	2	3	4	
Printers are turned off, if employees are out of office					none
Scanners are turned off, if employees are out of office Projectors are turned off, if not used					low medium high very high
Sum of crosses per category:				5	
<b>1.2 Your comment</b> (regarding your observations):				and a second second	I Saving potential according to your observations: many crosses 1,2: low potential most crosses 2,3: medium potential many crosses 3,4: high potential
How is the behaviour usually?					
2 2.1 How often do employees follow the listed meas	ures?				2.3 Evaluation <sup>1</sup>
Please cross where applicable and count the number of crosses					
top down:	always	often	rarely	never	
Power saving options are activated					none none
Appliances are turned off / disconnected from the mains:					low
before end of work					medium
before weekend					high
before holiday					very high
The printer quality is adapted to respective needs				đ	
Sum of crosses per category:					
2.2 The following questions cannot be answered now and will workshop:	be enq	Juired	in the	and the second se	1 Saving potential according to your observations: many crosses always/often: low potential most crosses often/rarely: medium potential many crosses rarely/never: high potential
Which source do you refer to in your estimation:					-
report		emplo	oyees	told u	S
personal estimation		other			
<b>3</b> Comparison to other floors / areas How is the situation compared to other floors or areas		the bu	ilding	)	
the same different (please fill in another form to describe t					

REALESTMENTERNED NUMBER BURGS

	(
• •	

# **Special rooms**

Kitchenette

Department: Floor Number:

What do I observe?					
1.1 How is the situation right now?					1.3 Evaluation <sup>1</sup>
Please cross where applicable (1: strongly agree - 4: disagree) and count the number of crosses top down.	1	2	3	4	
The fridge is totally closed Temperture in the fridge has 6-8°C or is set on level 1-2 The door of the fridge has consistent sealings The coffee machine is connected to the grid with a plugbar When the kitchen is used, the boiler is set to eco-mode <b>Sum of crosses per category:</b> <b>1.2 Your comment</b> (regarding your observations):					none low medium high very high 1 Saving potential according to your observations: many crosses 1,2: low potential most crosses 2,3: medium potential many crosses 3,4: high potential
How is the behaviour usually?					
2.1 How often do employees follow the listed measure	res?				2.3 Evaluation <sup>1</sup>
<i>Please cross where applicable and count the number of crosses top down:</i>	always	often	rarely	never	
The dishwasher is completely filled before turning it on The energy-saving mode of the dishwasher is used Small meals are heated in the microwave Small amounts of water are heated in the water boiler Hot dishes are not placed in the fridge After having used the coffee machine, the machine is disonnected from the grid <u>Sum of crosses per category:</u> 2.2 The following questions cannot be answered now and will b workshop:	e enc	U U U U U U U U U U U U U U U U U U U	in the		<ul> <li>none</li> <li>low</li> <li>medium</li> <li>high</li> <li>very high</li> <li>1 Saving potential according to your observations:</li> <li>many crosses always/often: low potential</li> <li>most crosses often/rarely: medium potential</li> <li>many crosses rarely/never: high potential</li> </ul>
Which source do you refer to in your estimation: <ul> <li>report</li> <li>personal estimation</li> </ul>		emplo other	oyees :	told u	IS
3 Comparison to other floors / areas How is the situation compared to other floors or areas the same different (please fill in another form to describe the					





### **Special rooms**

Bathroom

Department: Floor Number:

What do I observe?					
1.1 How is the situation right now?		1.3 Evaluation <sup>1</sup>			
Please cross where applicable (1: strongly agree - 4: disagree) and count the number of crosses top down:	1	2	3	4	
Sinks and showers are equipped with water-saving armatures					none none
The hot-water boiler is turned off					low
					medium
					high
					very high
Sum of crosses per category				4	
1.2 Your comment (regarding your observations):	And a state of the			and a second second	1 Saving potential according to your
		and the second	CLOBERT CONTRACTOR	and a second second	observations:
					many crosses 1,2: low potential most crosses 2,3: medium potential
					many crosses 3,4: high potential
					· , · · · · · , · · · · · · · · · · · ·

# How is the behaviour usually?

How is the behaviour usually?						
<b>2.1</b> How often do employees follow the listed measure	ıres?				2.3 Evaluation <sup>1</sup>	
<i>Please cross where applicable and count the number of crosses top down:</i>	always	often	rarely	never		
Employees wash their hands with cold water					none	
The hot water boiler is turned on only for special needs					low medium high very high	
Sum of crosses per category:				5	( Ta)	
2.2 The following questions cannot be answered now and will workshop:	eenq				1 Saving potential according to your observations: many crosses always/often: low potential most crosses often/rarely: medium potential many crosses rarely/never: high potential	
Which source do you refer to in your estimation:						
🗌 report	employees told us					
personal estimation		other	:			
3 Comparison to other floors / areas How is the situation compared to other floors or areas of the building?						
the same different (please fill in another form to describe the situation of these floors / areas)						



#### **Project Parnters**

B. & S.U. BERATUNGS- UND SERVICE-GESELLSCHAFT UMWELT MBH (BSU) AGENZIA PER L'ENERGIA E LO SVILUPPO SOSTENIBILE ASSOCIAZIONE (AESS) EKODOMA (EKODOMA) ENERGIKONTOR SYDOST AB (ESS) GRAZER ENERGIEAGENTUR GMBH (GEA) GREENDEPENDENT INTEZET NONPROFIT KOZHASZNU KORLATOLT FELELOSSEGU TARSASAG (GDI) PRIORITERRE (PRIO) PRIORITERRE (PRIO) ARBEID & MILIEU VZW (A&M)

Source of icons: PanierAvide

https://icons8.com/web-app

