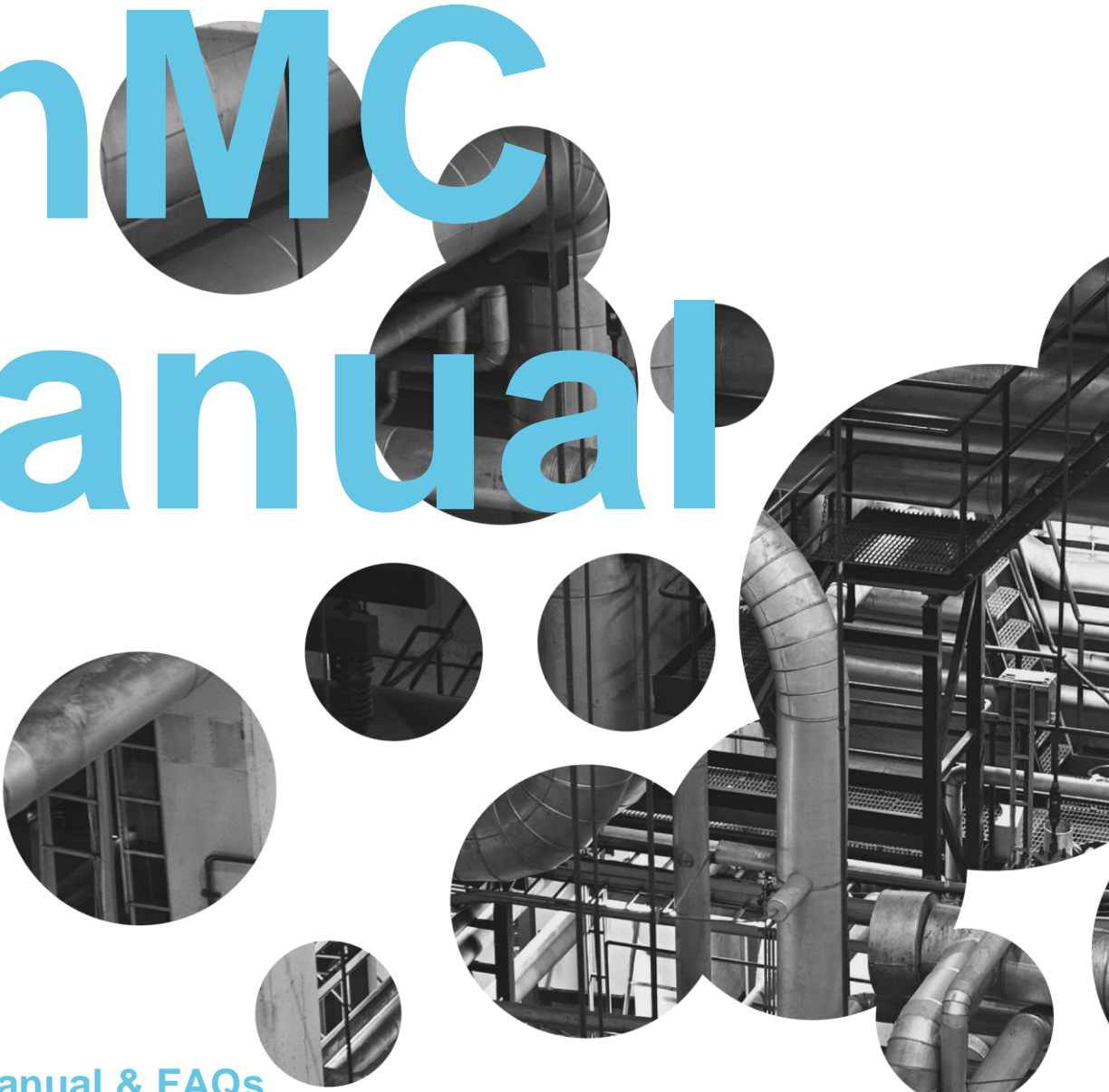


EnMC Manual



D5.8 EnMC Manual & FAQs

Deliverable: D5.8 List of frequently asked questions (FAQs), with a summary of most important non-energy benefits as experienced by the user.

Author: adelphi research gemeinnützige GmbH

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Deliverable Number: Deliverable 5.8

Deliverable Title: List of frequently asked questions (FAQs), with a summary of most important non-energy benefits as experienced by the user.

Name, title and organisation of the project's coordinator:

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Description of the Deliverable:

This deliverable contains a manual for using the Energy Management Centre. Initially in D5.8 it was planned to develop a list of FAQs, with a summary of most important non-energy benefits as experienced by the user.

During the project time it was agreed within the project consortium that it is more practicable and helpful for the project when we produce a manual for working with the EnMC instead.

A list of FAQs that has been collected over the project time is added to the manual.

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1. Introduction

1.1. Challenges of energy management

Energy Managers face many challenges when organizing implementation of efficiency measures after an energy audit took place:

- Auditors report their findings as PDF/paper on many pages. Before being able to plan responsibilities, formulate instructions and set deadlines for implementing measures, energy managers have to extract the needed information manually. Wouldn't it safe time if findings could be applied directly?
- Audit reports are written from a technical point of view. To get budget for implementation, energy managers often have to convince top-management to agree to investments. Wouldn't it help to generate suitable summaries automatically?
- It is hard to keep track of the implementation process, make adjustments and verify saving effects. Wouldn't it be easier with a reminder, a dynamic time plan and a monitoring solution?

1.2. Reducing the effort for energy managers

The Energy Management Centre (EnMC) is a web-app (Open Source, free of charge) that seeks to reduce the described effort for Energy Managers. Auditors use the EnMC as a digital reporting solution. Energy Managers directly apply it for organizing the realisation process. The EnMC offers i. a.:

- Interactive Gantt chart for time planning, allocation of responsibilities, description of tasks
- Dashboard with action plans (prepared by the auditor) and a reminder for deadlines
- Generation of business case descriptions and management reports
- Monitoring solution
- Social Network for energy managers and energy auditors

1.3. Rollout within Steam-Up and availability for others

The EnMC was developed for the project Steam-Up (Funding: Horizon 2020). It is compatible to EN 16247 and was applied for more than 75 audits across Europe.

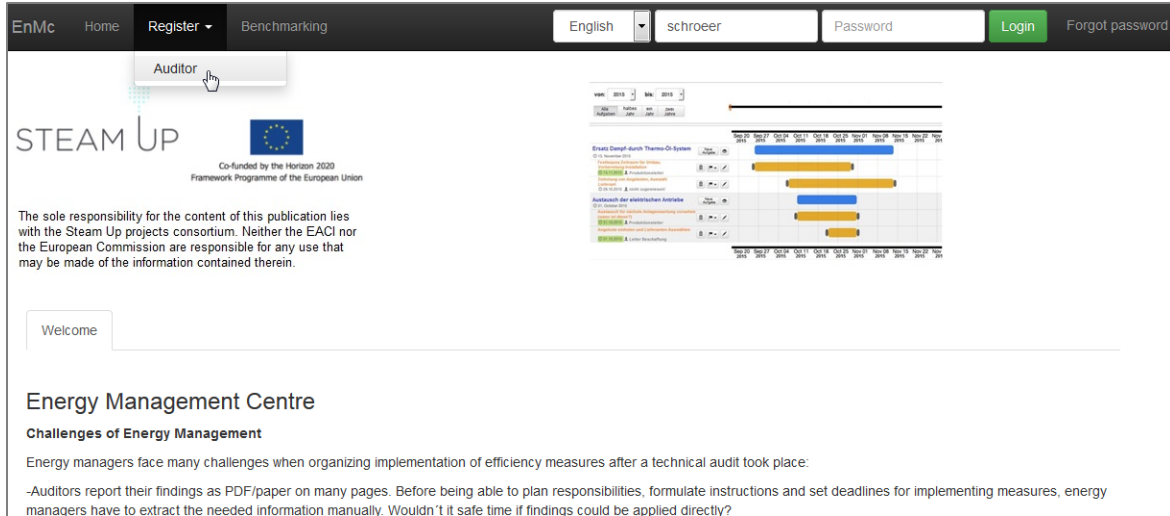
Apart from that all energy auditors and energy managers worldwide can use it for free.

www.energy-management-centre.eu

2. Create an account

2.1. Auditors

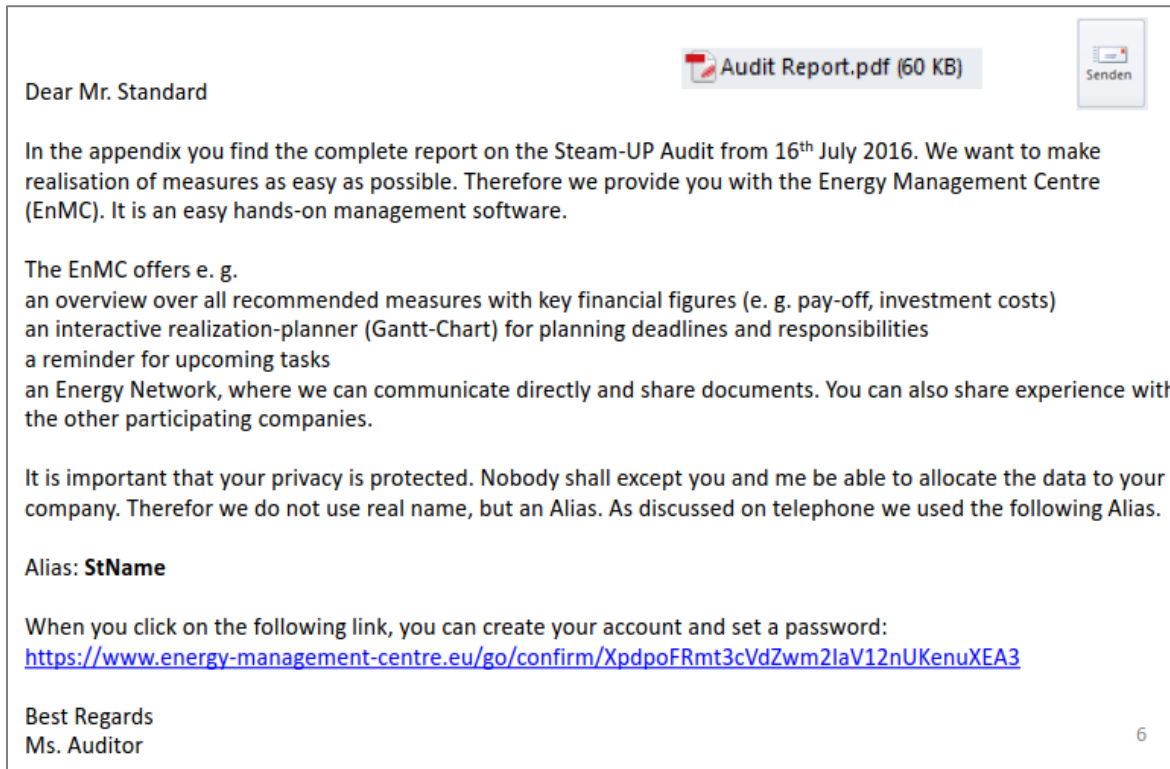
Auditors register under www.energy-management-centre.eu.



The screenshot shows the EnMC website interface. At the top, there is a navigation bar with 'EnMc', 'Home', 'Register', and 'Benchmarking'. A dropdown menu is open under 'Register', with 'Auditor' selected. To the right, there are fields for 'English', 'schroeer', and 'Password', along with 'Login' and 'Forgot password' buttons. The main content area features the 'STEAM UP' logo, a European Union flag, and text stating it is co-funded by the Horizon 2020 Framework Programme. Below this, there is a disclaimer about the content's responsibility. A 'Welcome' box is visible. The main heading is 'Energy Management Centre' with the sub-heading 'Challenges of Energy Management'. The text explains that energy managers face challenges in implementing efficiency measures after a technical audit and that auditors report findings as PDFs, making it difficult to extract information manually. A Gantt chart is also visible in the background.

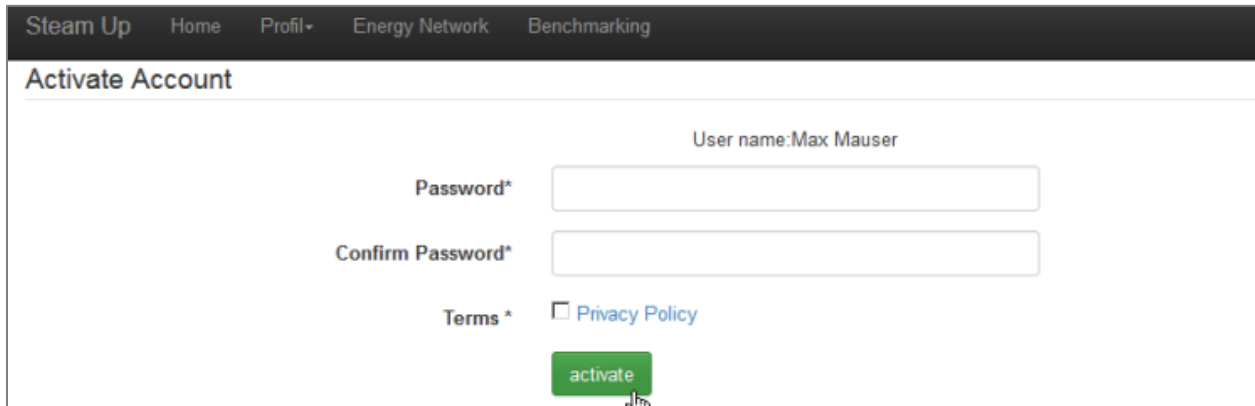
2.2. Energy managers / Clients

Energy managers from the audited businesses who are responsible for the audit receive an invitation from the auditor via email. Within the EnMC these responsible persons are called “Clients”.



The screenshot shows an email invitation. The recipient is 'Dear Mr. Standard'. There is a button to download an 'Audit Report.pdf (60 KB)' and a 'Senden' button. The text of the email reads: 'In the appendix you find the complete report on the Steam-UP Audit from 16th July 2016. We want to make realisation of measures as easy as possible. Therefore we provide you with the Energy Management Centre (EnMC). It is an easy hands-on management software. The EnMC offers e. g. an overview over all recommended measures with key financial figures (e. g. pay-off, investment costs) an interactive realization-planner (Gantt-Chart) for planning deadlines and responsibilities a reminder for upcoming tasks an Energy Network, where we can communicate directly and share documents. You can also share experience with the other participating companies. It is important that your privacy is protected. Nobody shall except you and me be able to allocate the data to your company. Therefor we do not use real name, but an Alias. As discussed on telephone we used the following Alias. Alias: StName When you click on the following link, you can create your account and set a password: <https://www.energy-management-centre.eu/go/confirm/XpdpofRmt3cVdZwm2laV12nUKenuXEA3> Best Regards Ms. Auditor' The page number '6' is visible in the bottom right corner.

After following the link, clients can set a password and log in.



Steam Up Home Profil- Energy Network Benchmarking

Activate Account

User name: Max Mauser

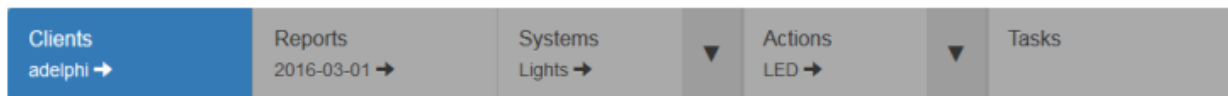
Password*

Confirm Password*

Terms* [Privacy Policy](#)

3. Auditor inputs and management

3.1. Structure of the EnMC menu and definition of terms

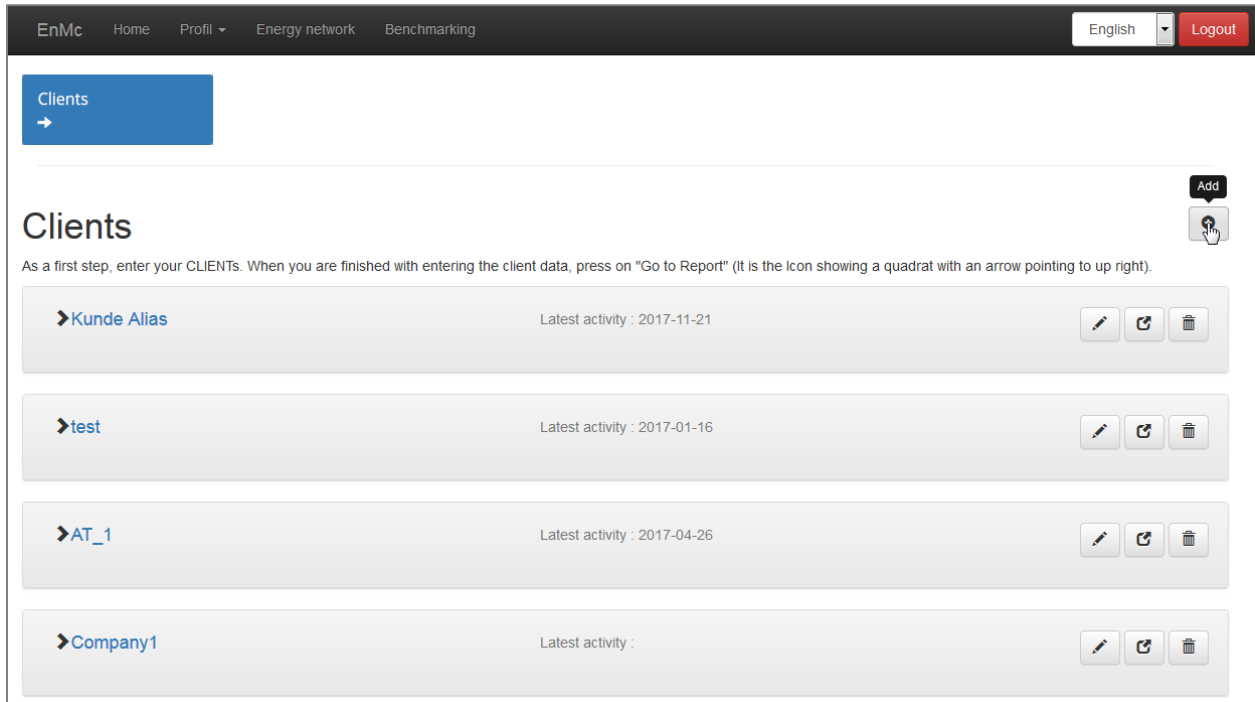


- **Clients:** A list of all clients can be found here. This is the start page of every auditor after they log in. After you selected a client you will be forwarded to the audit reports belonging to this client.
- **Reports:** A list of all audit reports that have been carried out from the auditor can be found here. Reports are ordered according to their date. After selecting a report you would like to manage you will be forwarded to the specific systems of a report.
- **Systems:** A “system” within the EnMC is the definition of the boundaries for the system that was audited. For action plan preparation, next step is to define the boundaries for each system that shall be optimised. A system could be e. g. a steam system, a food drying process or even a whole company. Please define only complete systems without predecessors or successors as the EnMC cannot connect the different systems to each other. In case you have a steam generator, steam distribution and steam using appliances, define a system that surrounds all. A system has inputs (e. g. energy sources) and outputs (e. g. tons of dried fruit, kWh net energy, tons of "product mix"...). After having defined a system you can determine the specific actions for each system.
- **Actions:** Here you can add the actions you recommend to improve the selected system. Your client can see all proposed actions and their expected results. Mark actions that shall be realised by selecting "Implement", otherwise they won't be included into calculation. After describing the actions you can define specific tasks for each action.
- **Tasks:** Different tasks need to be carried out to realize an action. For every proposed action the auditor can help by shortly describing what has to be done. A task could be e. g. to select a product supplier, define a timeslot for installation etc. The companies/clients can then delegate

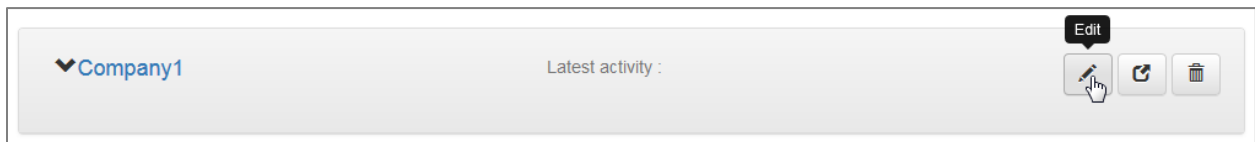
these tasks to company staff members and define deadlines. Clients can also add further tasks by themselves.

3.2. Manage clients

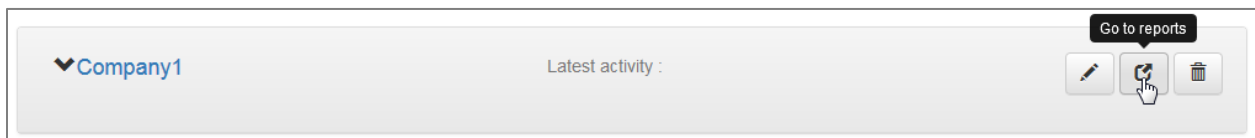
After logging in as auditor all clients are listed. You can select the one to manage. By clicking on the plus sign on the right you can enter new clients. Auditors can enter as many clients as they want.



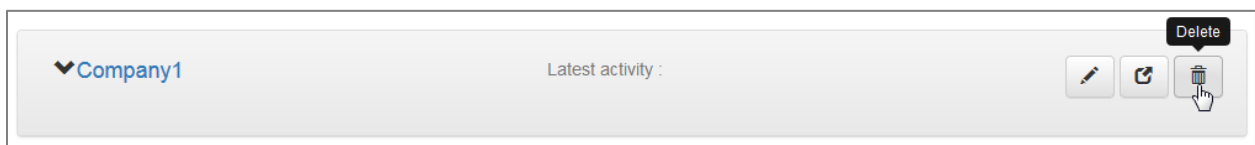
You can edit the entries you made for clients by selecting the “pen”.



You can proceed to the reports of a client by selecting the “box with arrow”.



You can delete a client out of the EnMC by selecting the “trash bin”.





This menu navigation is used throughout the EnMC. You will find this kind of management tools as well for the management of REPORTS, SYSTEMS, ACTIONS and TASKS.

3.3. Manage reports

In this part of the EnMC auditors can describe the audit prepared for a company by adding a report (select “plus” sign). Auditors can also upload the report they prepared for this audit here. More reports can be added if there are further full audits or specific audits for systems.

After entering a report auditors can proceed and define the “systems” of an audit by selecting “go to systems”.

The screenshot displays the 'Reports' management interface. At the top, there is a navigation bar with 'Clients', 'Reports', and 'Systems'. The 'Reports' section is active, showing a report for '2016-03-01' by 'Kunde Alias!'. Below the report title, there is a 'Report profile' section with an 'Executive summary' containing 'Start date : 2016-03-01' and 'End date : 2016-03-01'. A 'Media' section below lists a file named '15 Energiespartipp_Gas- vs. Induktionsherd_juli.pptx' with a 'Comment' field. A 'Go to systems.' button is visible above the media list.

3.4. Manage systems

In this part of the EnMC you can manage the systems of an audit. A “system” within the EnMC is the definition of the boundaries for the system that was audited. For action plan preparation, next step is to define the boundaries for each system that shall be optimised. A system could be e. g. a steam system, a food drying process or even a whole company. Please define only complete systems without predecessors or successors as the EnMC cannot connect the different systems to each other. In case you have a steam generator, steam distribution and steam using appliances, define a system that surrounds all. A system has inputs (e. g. energy sources) and outputs (e. g. tons of dried fruit, kWh net energy, tons of "product mix" ...). After having defined a system you can determine the specific actions for each system.

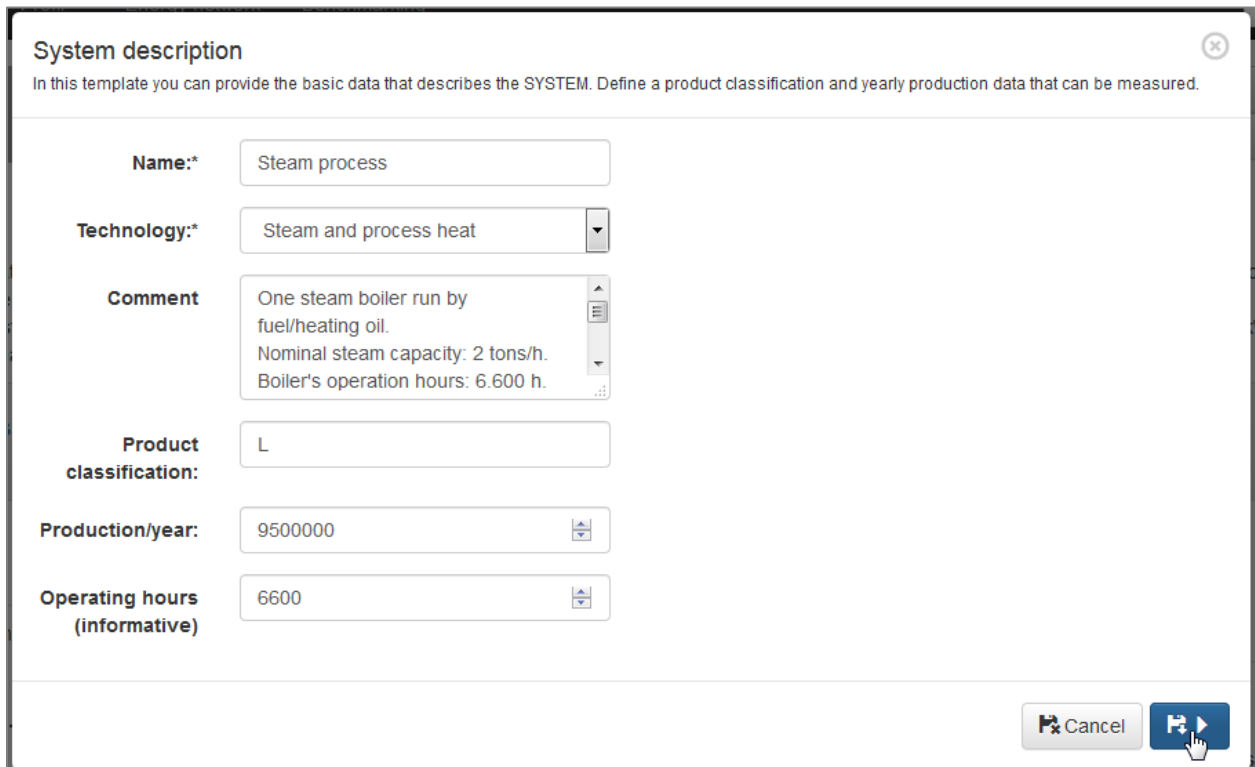
After selecting the plus sign auditors can enter the system for their audit.



A window “System description” opens where auditors can enter the following information:

- name of the system,
- technology used within this system,
- comments about the system,
- product classification of the system’s output if possible,
- production per year if possible,
- operating hours if possible.

After you entered the information, click on the save button (blue box with floppy disc).



System description

In this template you can provide the basic data that describes the SYSTEM. Define a product classification and yearly production data that can be measured.

Name:* Steam process

Technology:* Steam and process heat

Comment
One steam boiler run by fuel/heating oil.
Nominal steam capacity: 2 tons/h.
Boiler's operation hours: 6.600 h.

Product classification: L

Production/year: 9500000

Operating hours (informative) 6600

Cancel Save

You will be forwarded to the next input window “Energy input and output data”. In this template you enter the data of the measurement protocols. The consumption of energy sources will be extrapolated from the value for the production you enter in this template to the total production per year (already

entered in the first template "System Description"). If no data on production can be provided, leave the data field blank. Then the energy consumption will be extrapolated from the timespan you select in this template to 8760 hours (a full year). Regarding Energy Sources: you can add as many as you like. If you cannot find the energy source you need on the list choose "Other". You can also add as many measurement protocols from other points in time as you wish. For auditors: The one you select as "Initial Situation" will be used for calculation. For clients: The one you select as "Monitoring" will be used for Verification. Click the right save button again and you will reach the last step for system definition.

Energy input and output data ✕

In this template you enter the data of the measurement protocols. The consumption of energy sources will be extrapolated from the value for the production you enter in this template to the total production per year (already entered in the first template "System Description"). If no data on production can be provided, leave the data field blank. Then the energy consumption will be extrapolated from the timespan you select in this template to 8760 hours (a full year). Regarding Energy Sources: you can add as many as you like. If the energy source you need is not in the list, choose "Other". You can also add as many measurement points as you wish. For auditors: The one you select as "Initial Situation" will be used for calculation. For clients: The one you select as "Monitoring" will be used for Verification.

[Link: GT EnPI Tool - if you want to apply regression analysis](#)

Add

2017-12-31
2017-01-01

🗑️

From*: 📅

To*: 📅

Initial situation:

Monitoring:

Product classification:

Production: ⬆️⬇️⬆️

Extrapolation of this measurement: According to time

Extrapolation of the initial situation: According to time

Add

Energy source	Amount	Unit	Cost	Currency	Functions
Electricity (conventio ▼	<input type="text" value="18"/> ⬆️⬇️⬆️	MW ▼	<input type="text" value="3200"/> ⬆️⬇️⬆️	EUR	🗑️
Light fuel oil ▼	<input type="text" value="2784"/> ⬆️⬇️⬆️	MW ▼	<input type="text" value="107936"/> ⬆️⬇️⬆️	EUR	🗑️

⏪
Cancel
⏩
⏮
⏭

The last step to define a system of an audit is to enter other costs regarding the system that are relevant for the calculation. Non-energy-costs for example like maintenance costs can have positive or negative effects on the proposed energy efficiency action. When you enter information here, this will be taken into account for the calculation of predicted change of costs of an action.

Maintenance Costs & Furthermore (Non-Energy Costs) ✕

The ACTIONS you propose as an energy auditor may also affect other costs of the system (e. g. maintenance costs). To consider this aspect, enter the relevant "Non-Energy Costs" of the system here. You can add as many as you like. You can also add as many "measurement points" as you wish. The one you select as "Initial Situation" will be used for calculation. [Link: Web-Tool for identification and evaluation of non energy costs and benefits](#)

+ Add

2017
+ Add

Year: 2017

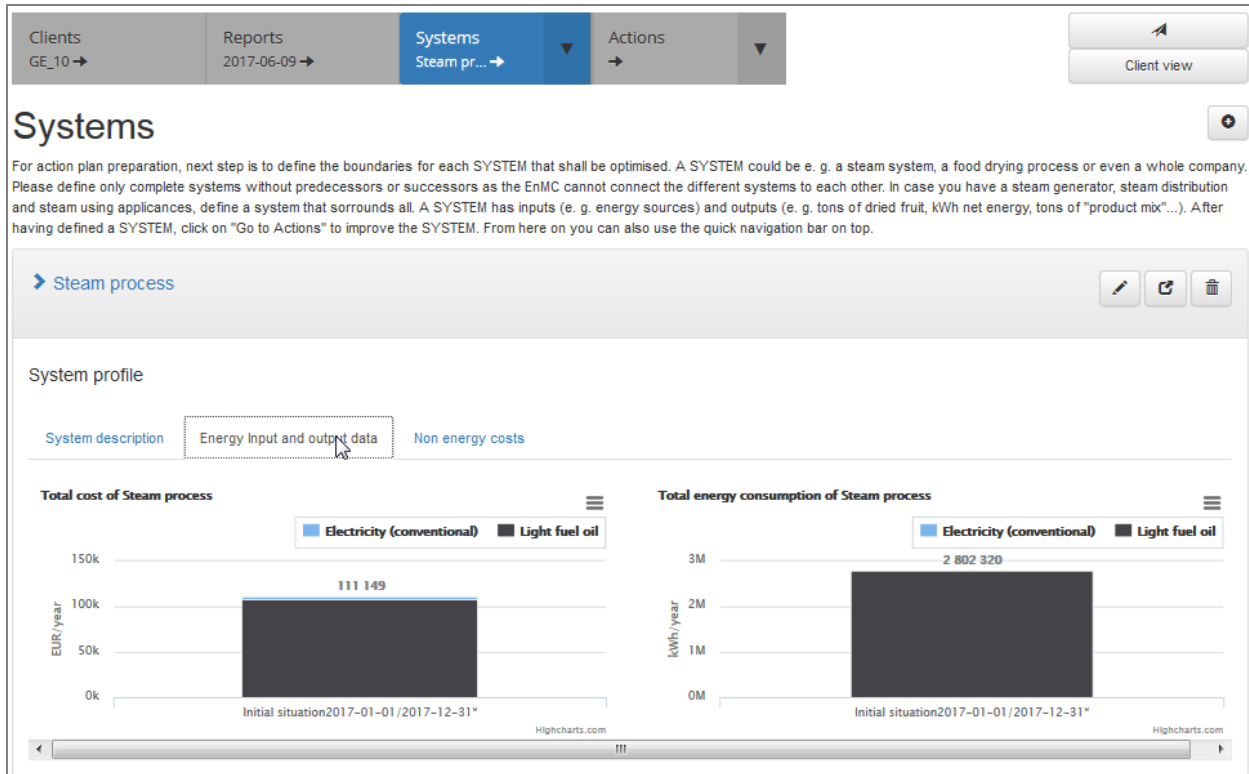
Initial situation:

+ Add

Name (e. g. "maintenance")	Specification (e. g. Exchange of specific parts)	Cost	Currency	Functions
		0	EUR/year	✕

←
Cancel
→

After you saved the last system entries, you can view a graphical evaluation of the system parameters you entered:



Also the existing non-energy costs will be displayed graphically when you click on the right tab.

In the next part of the EnMC you can define energy efficiency actions by selecting the "box with arrow" which will display "Go to actions".

3.5. Manage actions

In this part of the EnMC you can manage, add and define proposed measures – or as they are called in the EnMC “actions”. Here you can add the actions you recommend to improve the selected system. Your client in his EnMC module "Dashboard" will see all proposed actions. Mark actions that shall be realized by selecting "Implement", otherwise they won't be included into calculation.

Action

Here you can add the ACTIONS you recommend to improve the selected SYSTEM. Your client in his EnMC module "Realisation Management" will see all proposed ACTIONS. Mark ACTIONS that shall be realised by selecting "Implement", otherwise they won't be included into calculation.

➤ **Conversion of firing to natural gas instead of heating oil** Implement [edit] [copy] [print] [delete]
Static pay-back time (years) : 9.09 Internal rate of return (%) :12.8 Required investment (EUR) : 400000.0

Action profile

Description of action | Financial indicators | Change of costs and energy | Cash flow

Name of action (short) :Conversion of firing to natural gas instead of heating oil
Type of action :Other
Classification of action :Substitution
Description of action :This improves the efficiency of the steam boiler by about 1% due to the lower exhaust gas temperature. Furthermore are Cost savings as a result of the cheaper natural gas price for heating oil in the amount of 1.5 to 2 Ct./kWh (1.5 Ct / kWh assumed) after long-term consideration associated with it. The contribution of the laying of the gas pipeline is approx. € 400,000.

➤ **Insulation of hot surfaces** Implement [edit] [copy] [print] [delete]
Static pay-back time (years) : 4.17 Internal rate of return (%) :26.2 Required investment (EUR) : 5000.0

➤ **Use of oxygen control** Implement [edit] [copy] [print] [delete]
Static pay-back time (years) : 0.71 Internal rate of return (%) :142.8 Required investment (EUR) : 1000.0

If you want to add an action you need to enter the following information about the action:

- **Description of action** – Characterize the action you are proposing. If no predefined type or classification applies, choose "other".
 - Type of action
 - Classification
 - Name of action
 - Description in max. 500 characters
 - Expected lifetime

Description of action ✕

Characterize the ACTION you are proposing. If no predefined type and classification applies, choose "other".

Type of action:*

Classification of action:*

Name of action (short):*

Description in max. 500 characters:

Expected lifetime:

- **Financial indicators** – Enter the financial indicators of the proposed actions here, so that the client can make an investment decision. You do not have to enter all information only if available. Information marked with an “*” are mandatory for the calculation.
 - Required investment*
 - Static pay-back time (years)*
 - Internal rate of return (%)*
 - Life cycle costs
 - Dynamic pay-back time (years)
 - Net present value
 - Assumed discount rate (%)
 - Residual value
 - Change of risks (you can comment here if the proposed action has also influence on any risks (safety, hazards etc.)

Financial indicators

Enter the financial indicators of the proposed ACTION here, so that the client can make an investment decision.

Product classification: L
Production/year: 9500000.0

Required investment (EUR):* 400000

Static pay-back time (years):* 9.09

Internal rate of return (%):* 12.8

Life cycle costs: 0

Dynamic pay-back time (years): 0

Net present value (EUR): 715585

Assumed discount rate (%): 12.8

Residual value : 0

Change of risks:

Cancel

- **Change of costs and energy** – Enter the data how energy consumption and energy costs would change if the action is implemented. In case the action implies a change of fuels, just enter the negative value (savings) for the "Initial Consumption" of the system. Then add a new fuel and enter the expected consumption as a positive value (increase).

Change of costs and energy

Enter the data how energy consumption and energy costs would change if the ACTION is implemented. In case the ACTION implies a change of fuels, just enter the negativ value (savings) for the "Initial Consumption" of the system. Then add a new fuel and enter the expected consumption as a positive value (increase).

Product classification: L
Production/year: 9500000.0

Energy source Savings(-) or increase(+)* Initial consumption Unit Savings(-) or increase(+)* Initial costs Currency Functions

Energy source	Savings(-) or increase(+)*	Initial consumption	Unit	Savings(-) or increase(+)*	Initial costs	Currency	Functions
Electricity (conventic)	0	18.00 MWh	M ³	0	3200.37	EUR/year	Remove
Light fuel oil	-28	2784.32 MWh	M ³	-44000	107948.33	EUR/year	Remove

Add

Cancel

- **Change of further costs (e.g. maintenance)** – Enter how the further costs for the system would change if the action is implemented. Enter positive values for a cost increase and negative values for a cost reduction.

Change of further costs (e.g. maintenance) ✕

Enter how the further costs for the system would change if the ACTION is implemented. Enter positive values for a cost increase and negative values for a cost reduction.

Product classification: L
Production/year: 9500000.0

➕ Add

Name (e. g. "maintenance")	Specification (e. g. Exchange of specific parts)	Savings(-) or increase(+)	Initial costs	Currency	Functions
<input type="text"/>	<input type="text"/>	0 <input type="text"/>	.00	EUR/year	

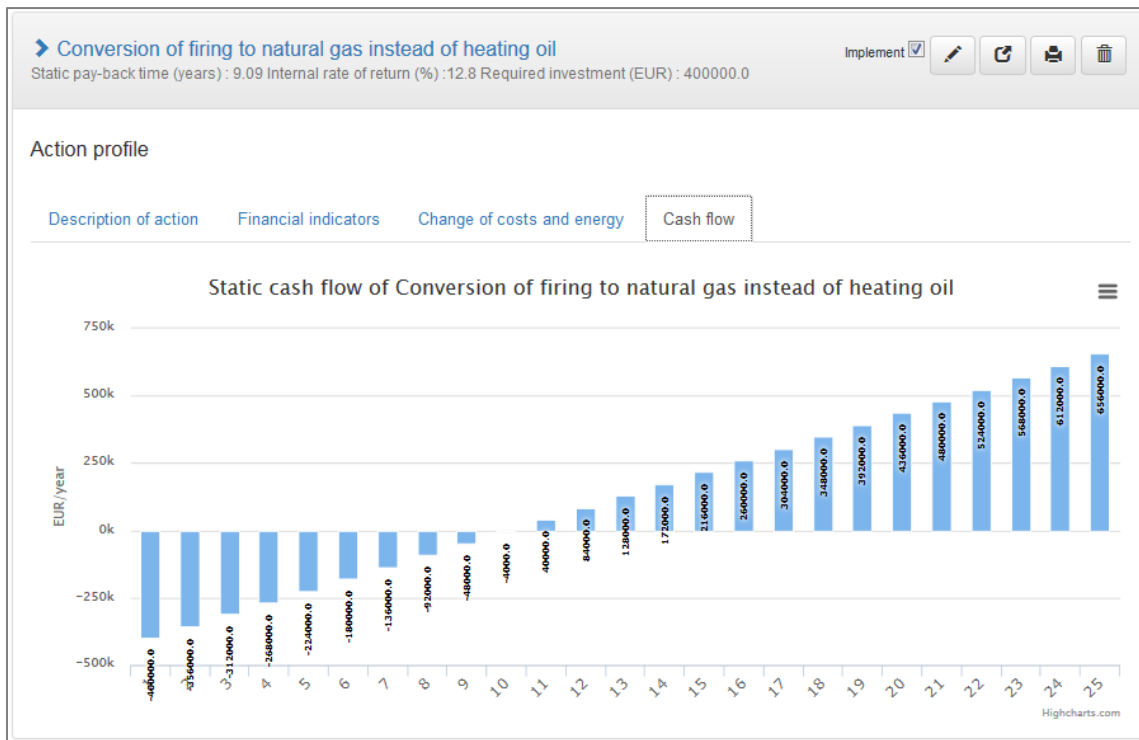
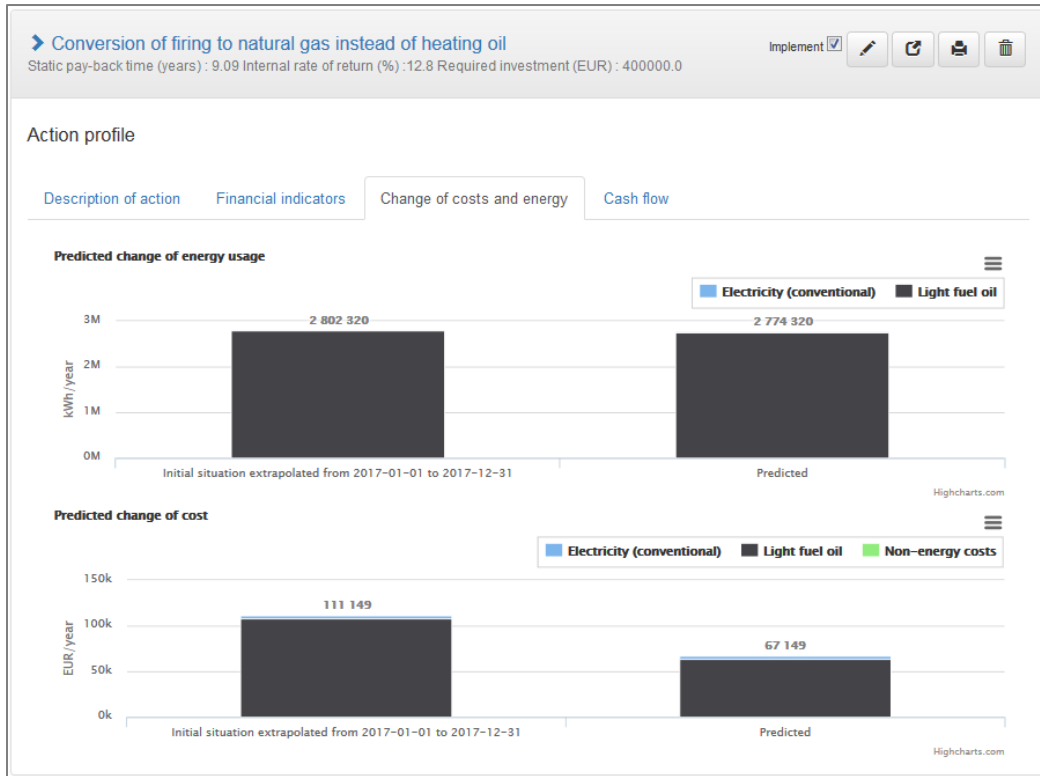
⏪
⏩ Cancel

NEBs – NON-ENERGY BENEFITS

Energy efficiency actions often create different side effects in addition to the expected energy savings. These side effects can have significant value and even far exceed the value of the saved energy. The side effects are called non-energy benefits (NEBs), and the term refers to all side effects that may arise after implementing an energy efficiency action.

Examples of NEBs are **reduction of waste, maintenance costs, emissions and production downtime as well as improvement of indoor climate, safety, product quality and many more.** The NEBs are easily underestimated in the process of an energy saving projects and during the evaluation of the project.

After entering all necessary information for an action the EnMC gives you a graphical processing of change of costs, energy usage and the cash flow.



For managing actions you will have one more feature in the managing menu on top of each action: you can click on the “printer” and produce a PDF file which contains all information and predicted changes for an action.

Action

Here you can add the ACTIONS you recommend to improve the selected SYSTEM. Your client in his EnMC module "Realisation Management" will see all proposed ACTIONS. Mark ACTIONS that shall be realised by selecting "Implement", otherwise they won't be included into calculation.

Print

- Conversion of firing to natural gas instead of heating oil**
 Implement Static pay-back time (years) : 9.09 Internal rate of return (%) :12.8 Required investment (EUR) : 400000.0
- Insulation of hot surfaces**
 Implement Static pay-back time (years) : 4.17 Internal rate of return (%) :26.2 Required investment (EUR) : 5000.0
- Use of oxygen control**
 Implement Static pay-back time (years) : 0.71 Internal rate of return (%) :142.8 Required investment (EUR) : 1000.0

Conversion of firing to natural gas instead of heating oil

Print

Financial indicators (k)	Value (k)	Financial indicators (k)	Value (k)
Required investment (EUR)	400000.0	Static pay-back time (years)	9.09
Internal rate of return (%)	12.8	Life cycle cost	0.0
Dynamic pay-back time (years)	0	Net present value (EUR)	715553.0
Assumed discount rate (%)	12.8	Residual value	(action.residual.value)

Static cash flow of

Description of action

This improves the efficiency of the steam boiler by about 1%, due to the lower exhaust gas temperature. Furthermore are Cost savings as a result of the cheaper natural gas price for heating oil in the amount of 1.5 to 2 Ct./KWh (1.5 Ct./KWh assumed) after long-term consideration associated with it. The contribution of the laying of the gas pipeline is approx. € 400,000.

Be aware that effectiveness of this action may be influenced by other actions taken.

Predicted change of energy usage

Predicted change of cost

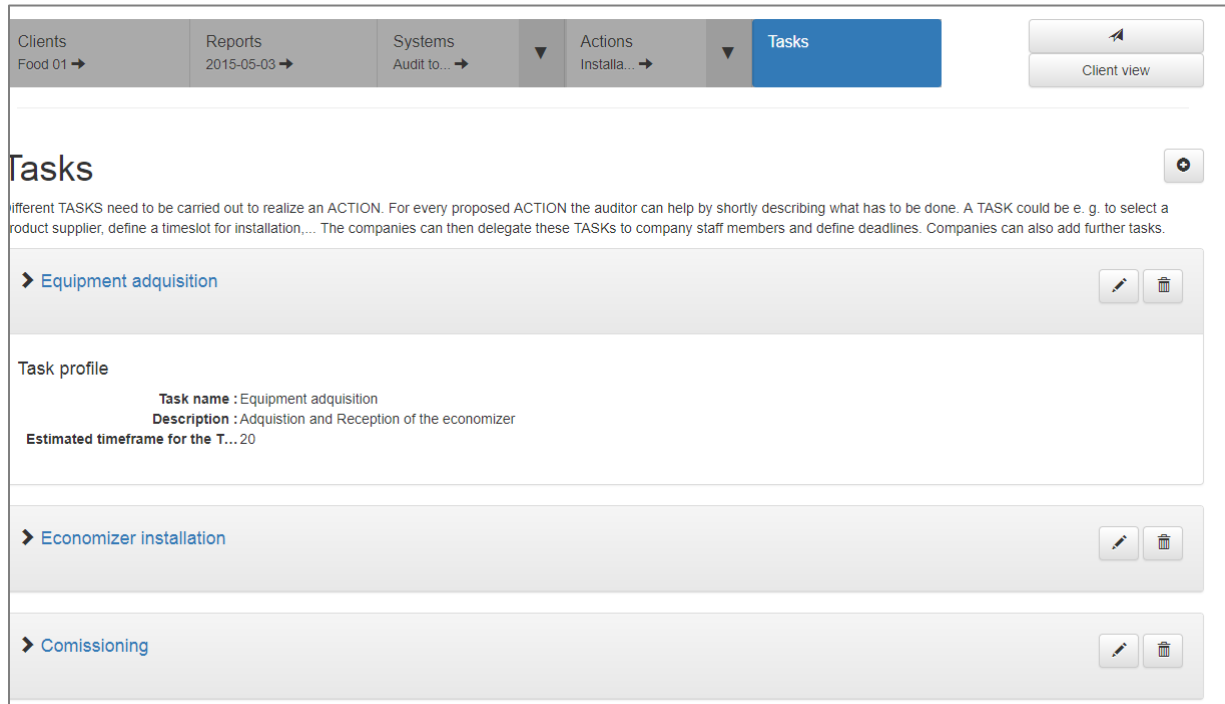
Comments (e. g. change of risks)

Be aware that effectiveness of this action may be influenced by other actions taken.

Cancel **Print**

3.6. Definition of Tasks for the action

In this part of the EnMC the tasks for implementing the action were defined: acquisition, installation and commissioning. Each task is defined with the time needed for its implementation. Your client can customize the “estimated timeframe” of the various tasks by himself and can assign tasks to other colleagues.



3.7. Take a look at the “Client view”

You as a energy auditor have the possibility to see the reported audit within the EnMC out of the view of your client by clicking on “Client view”. Clients get a different presentation which contains only the information necessary for a client.



Clients will find a summary of all proposed actions on their “Dashboard”, they can enter new information on energy consumption after implementing an action within the “Monitoring” tool. They can see a Gantt chart for the realization management for the tasks of proposed actions and assign their “Energy Team”. You will learn more about client functionalities in chapter 4.

After clicking “Auditor view” you will get back to the auditor part of the EnMC.

The screenshot shows the 'Auditor view' interface for an audit report titled 'Findings from audit report "adelphi"'. The date is set to 2017-06-09. The navigation bar includes 'Dashboard', 'Monitoring', 'Tasks', and 'Energy team'. The main content area is titled 'Actions for "All systems"' and features a dropdown menu set to 'All System'. Three action items are listed:

- Conversion of firing to natural gas instead of heating oil in Steam process**
Static pay-back time (years) : 9.09 Internal rate of return (%) :12.8 Required investment (EUR) : 400000.0
- Insulation of hot surfaces in Steam process**
Static pay-back time (years) : 4.17 Internal rate of return (%) :26.2 Required investment (EUR) : 5000.0
- Use of oxygen control in Steam process**
Static pay-back time (years) : 0.71 Internal rate of return (%) :142.8 Required investment (EUR) : 1000.0

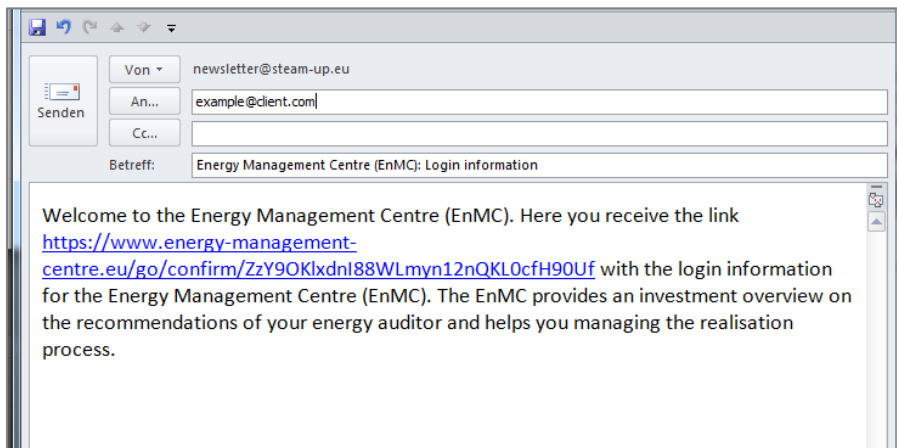
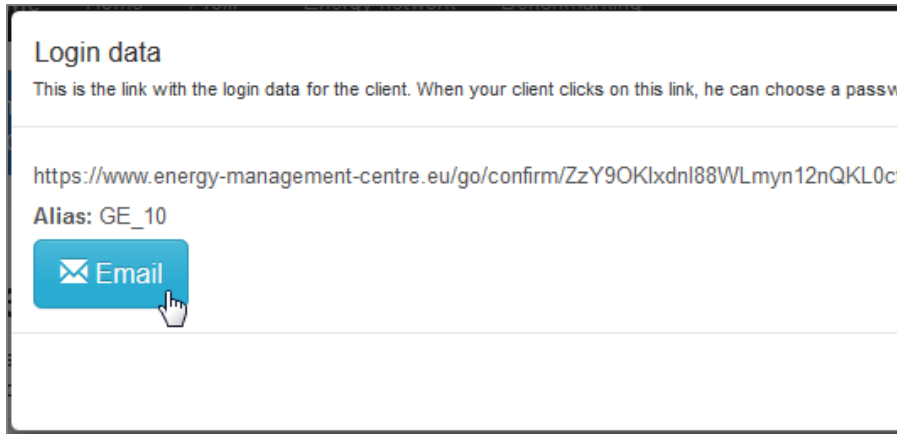
Each item includes a printer icon and an 'Implement' checkbox. The 'Upcoming tasks' section is visible on the right.

3.8. Send login data to clients

After you finalized all entries out of the audit report into the EnMC you want to give your client the possibility to work with the information. You need to click on the “paper plane” on the top right to create a link for your client. When your client clicks on this link he can choose a password and log in.

The screenshot shows the bottom navigation bar of the EnMC interface. It includes a breadcrumb trail: 'Clients' (GE_10 →), 'Reports' (2017-06-09 →), 'Systems' (Steam pr... →), and 'Actions'. On the right side, there is a 'Send login data.' button with a paper plane icon, and a 'Client view' button below it.

You can either copy the link and send it to your client or click on “Email” and a standard mail template will appear including the link.



4. Client view and management

Clients have a different management system screen than the auditor. The client and the auditor can monitor the results of the energy efficiency measures detected by the auditor and manage their implementation.

4.1. Actions for all systems in the Dashboard

The energy efficiency measures and their economic data for the audit selected, as well as details on the upcoming tasks are represented in this screen, starting at the “Dashboard”

The screenshot displays a web interface for an audit report titled "Findings from audit report 'Escan Consultores' Auditor view" dated 2015-05-03. The interface includes a navigation bar with "Dashboard", "Monitoring", "Tasks", and "Energy team". The main content area is divided into two sections: "Actions for 'Audit to global steam system'" and "Upcoming tasks".

Actions for "Audit to global steam system"

- Improvement in controls systems in Audit to global steam system**
Static pay-back time (years) : 2.3 Internal rate of return (%) :46.0 Required investment (EUR) : 17600.0
- Installation Economizer in Audit to global steam system**
Static pay-back time (years) : 7.0 Internal rate of return (%) :14.0 Required investment (EUR) : 22000.0

Each action card includes an "Implement" checkbox and a printer icon. Below the actions, there are tabs for "Description of action", "Financial indicators", "Change of costs and energy", and "Cash flow".

Upcoming tasks

- Comissioning**
 - Action: Installation Economizer
 - Expired 164 Days
 - Not started
 - Responsible:
- Installation**
 - Action: Improvement in controls systems
 - Expired 164 Days
 - Not started
 - Responsible:
- Setting up in operation**
 - Action: Improvement in controls systems
 - Expired 164 Days

At the bottom of the action details, there is a "Name of action (short)", "Type of action", and "Classification of action".

A relevant outcome is the possibility to print the following two pages report by clicking on the “printer” to the action selected.



In the tab “description of action” in the Dashboard the action is described.

Installation Economizer in Audit to global steam system
 Static pay-back time (years) : 7.0 Internal rate of return (%) :14.0 Required investment (EUR) : 22000.0

Not

Description of action | Financial indicators | Change of costs and energy | Cash flow

Name of action (short) : Installation Economizer
Type of action : Energy application (including waste heat recovery)
Classification of action : Retrofit
Description of action : The improvement would be the installation of a heat exchanger (economizer) to preheat the network water before the boiler. This equipment is installed in the chimney of the boiler, increasing the temperature of the water in several degrees before entering the existing tank in the boiler room.

Installation

- Action: Improvement in controls systems
- Expired 164 Days
- Not started
- Responsible:

Setting up in operation

- Action: Improvement in controls systems
- Expired 164 Days
- Not started
- Responsible:

Equipment acquisition

- Action: Improvement in controls systems
- Expired 159 Days
- Not started
- Responsible:

Also the “Financial indicators”, “Changes of costs and energy”, and “Cash Flow” are presented in the tabs for each action.

Installation Economizer in Audit to global steam system
 Static pay-back time (years) : 7.0 Internal rate of return (%) :14.0 Required investment (EUR) : 22000.0

Not

Description of action | Financial indicators | Change of costs and energy | Cash flow

Required investment (EUR) : 22000.0
Static pay-back time (years) : 7.0
Internal rate of return (%) : 14.0
Life cycle costs : 0.0
Expected lifetime : 15
Change of risks :
Dynamic pay-back time (years) : 7
Net present value (EUR) : 22000.0
Assumed discount rate (%) : 3.0
Residual value : 0.0

Installation

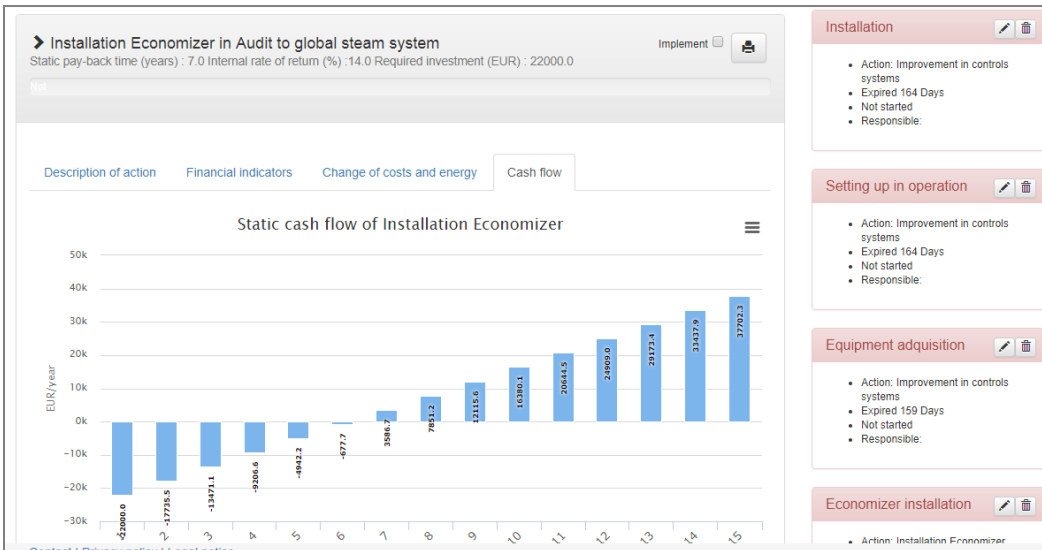
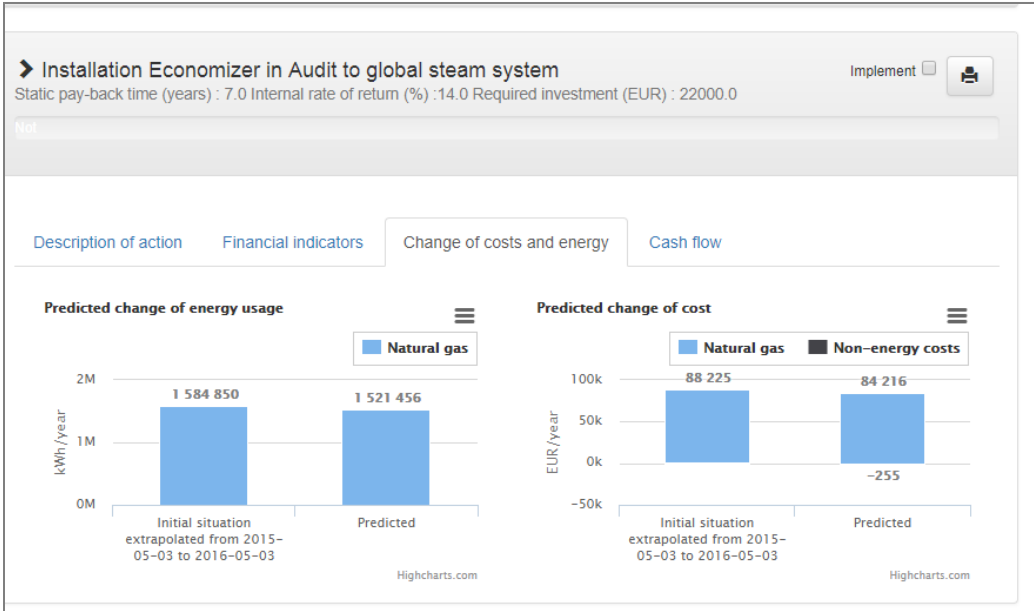
- Action: Improvement in controls systems
- Expired 164 Days
- Not started
- Responsible:

Setting up in operation

- Action: Improvement in controls systems
- Expired 164 Days
- Not started
- Responsible:

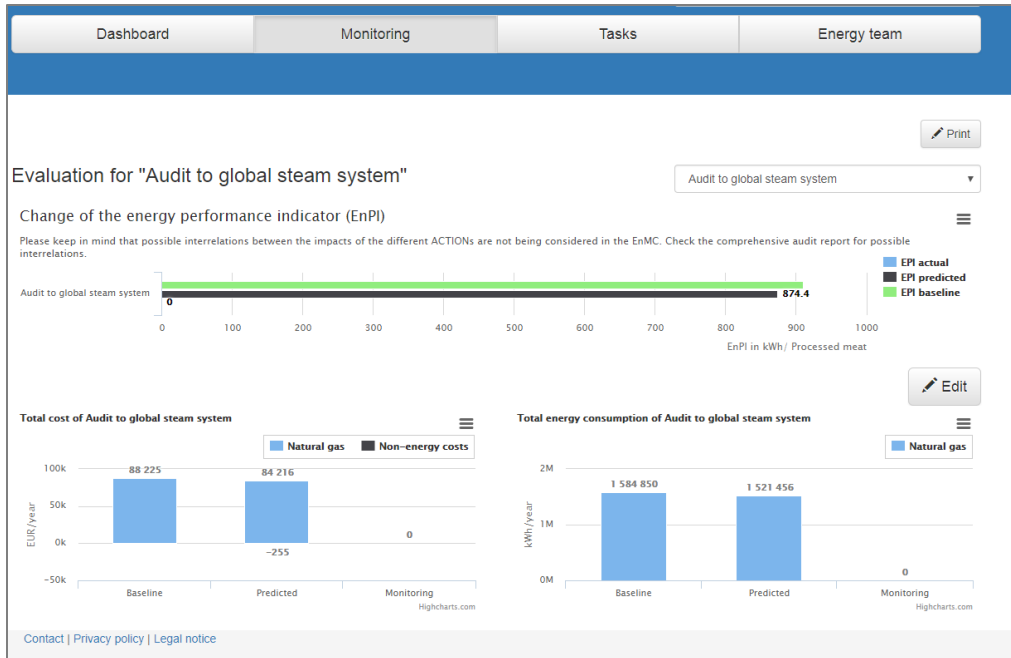
Equipment acquisition

- Action: Improvement in controls systems
- Expired 159 Days
- Not started
- Responsible:



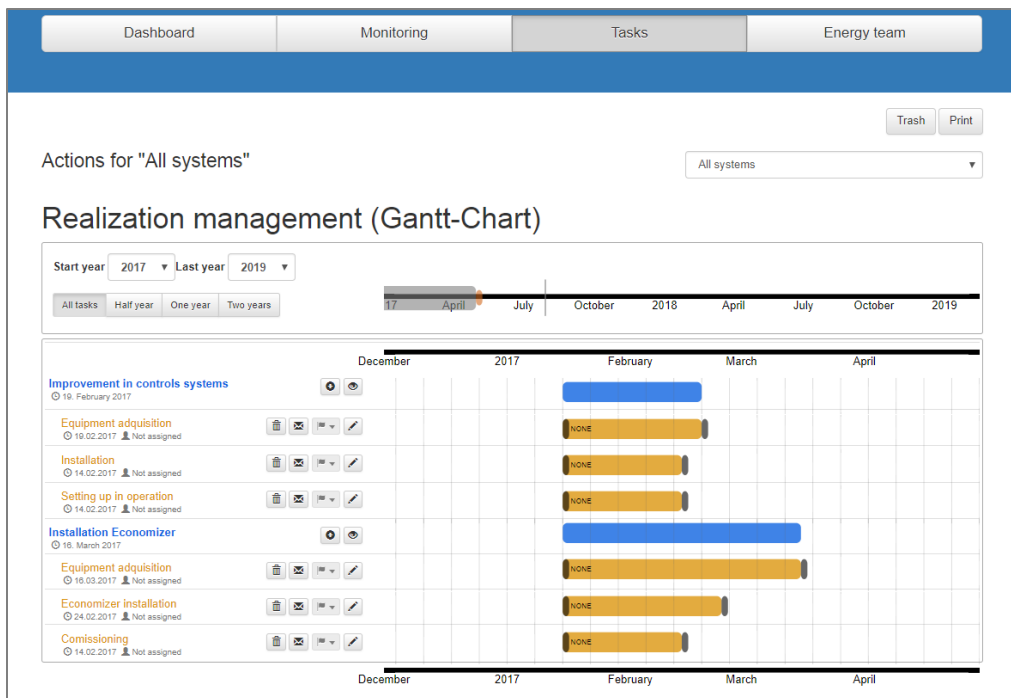
4.2. Monitoring of the audit EnPI (Energy Performance Indicator)

The baseline, actual and predicted EnPIs can be managed by this screen.

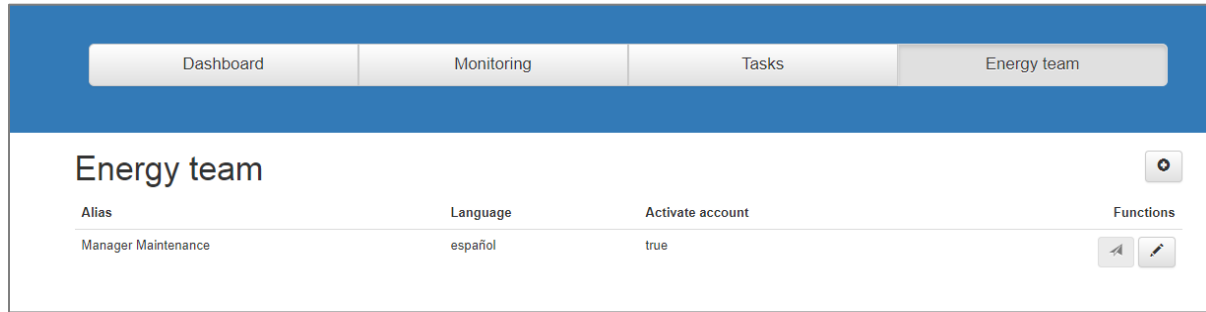


4.3. Management of realization by Gantt chart

By clicking on "Tasks", a Gantt chart with specific tasks for each action can be managed.



And finally, the people responsible for the implementation of the tasks can be assigned and managed.



5. FAQs

Question	Answer
In which languages is the EnMC available?	The EnMC is available in English, Czech, Danish, Dutch, German, Greek, Italian and Spanish.
Where can I find the EnMC?	The EnMC is accessible via: www.energy-management-centre.eu
Can I use the EnMC only for steam related audits?	The EnMC was developed within the SteamUp project (“Steam and management under pressure”) which has been funded by the EC (Horizon 2020 programme). Steam Up aims to assess the substantial and easy to reach energy-saving potential of steam systems in heavy industries, to support the EU objectives for energy efficiency. In order to create a greater added value, the EnMC was created in a way that makes it suitable for any energy audit.
How much do I need to pay to use the EnMC?	The use of the EnMC is free for everyone.
I registered but did not receive a validation link via mail. How can I finalize the registration process?	If you did not receive an email containing the validation link to finalize your registration process, it might be possible that this mail arrived in your spam folder.
I forgot my password, how can I create a new one?	

	When you open the EnMC just click on “Forget password” right next to the login fields on top the page. Enter your email or alias and a link to create a new password will be send to your mail address.
Which decimal separator should I use?	Within the EnMC a comma “,” is used as decimal separator.
How is data privacy kept within the EnMC?	As strongly recommended by Auditors, we follow an approach where personal data of companies is not needed. Please read the statement of online data protection policy for www.energy-management-centre.eu here: https://www.energy-management-centre.eu/companyInfo.xhtml?type=PRIVACY_POLICY
How can I delete my EnMC account?	If you want to delete your EnMC account just write a short Email to schroeer@adelphi.de and your account information will be deleted.