ENERGY MANAGEMENT PLATFORM FOR INDUSTRIES

Deliverable 30

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Index

1. The EcoSMEnergy Project

The EcoSMEnergy project helps SMEs in selected manufacturing sectors to improve their energy efficiency. It addresses barriers such as limited awareness, financial access and complex support by providing practical tools (energy audits, training, monitoring platforms), simplified information and facilitating financial solutions through cooperation with institutions. The main objective is to improve the energy efficiency and sustainability of SMEs in key sectors, including chemicals (C20), pharmaceuticals (C21), rubber and plastic products (C22), metal products (C25), electronics (C26), electrical equipment (C27), machinery (C28) and automotive (C29).

To achieve the set goals, various platforms are planned to be used. One of the platforms is the Energy Management Platform, which is designed to systematically improve the energy performance of companies. The Energy Management Platform will allow companies to track their energy consumption, define goals, record the planned energy efficiency measures, and track their energy performance.

The Energy Management Platform is part of an already existing solution for municipalities developed under the C4S project and an adaptation for industry is developed in this project. In this project the “Business” module is used.

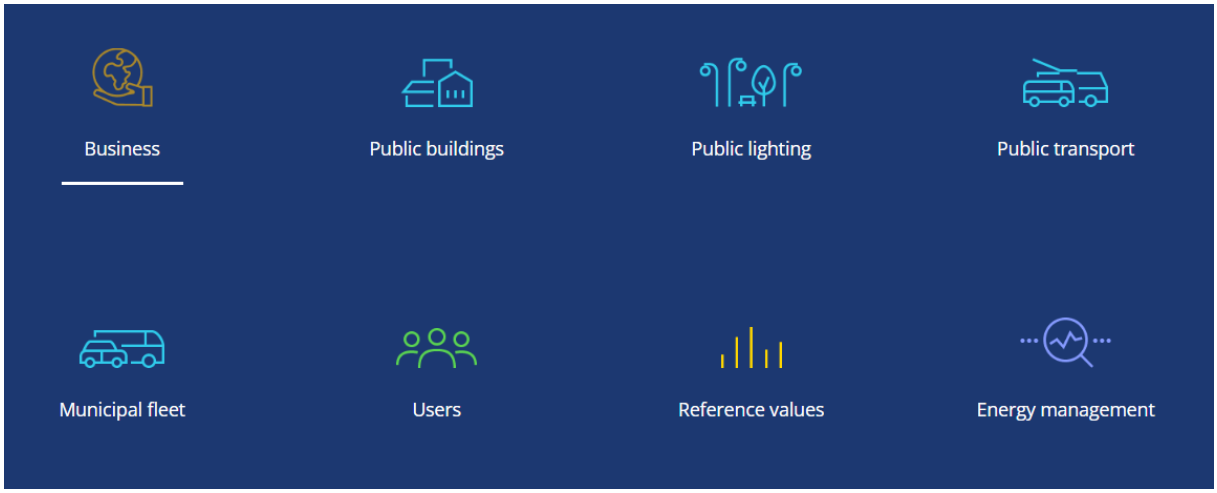


Figure 1: Modules of EMP

2. Purpose of the document

The purpose of this document is to describe the Energy Management Platform’s (EMP) module for industries. During EcoSMEnergy, the EMP has been improved with a module specifically designed for industrial applications and integrates it in the existing Management Review module. This new module will support a continuous monitoring of energy consumption across selected industries, analyze key performance indicators, and provide benchmarks to drive ongoing, systematic reductions in energy use in accordance with ISO 50001.

3. Energy Management Platform for industries

In the following chapter the main functions of the EMP for industries are described and screenshots from the EMP are added. All the references to the EMP are made specifically to EMP for industries. The EMP is accessible via https://platforma.energoplanosana.lv/ . To register as a user of the platform, a company needs to contact their national EcoSMEnergy contact point, who will create the company profile and provide them with the individual platform access credentials.

The example below is based on a metal processing company, and its main product is the production of metal roofs.

The EMP is composed of three main sections: **Basic Information, Data Entry, and Results**. The Basic Information section defines the key information about the company and the way energy data is collected. The Data Entry section is intended for monthly data input, while the Results section displays all previously entered data and outcomes in various formats.

I. Basic Information

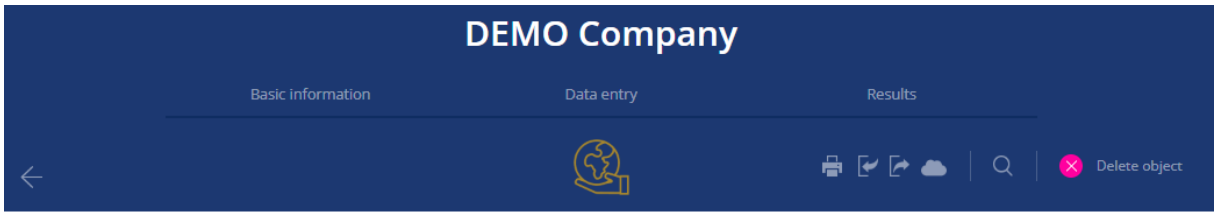


Figure 2: Main sections of EMP

Basic Information is for defining company parameters and what kind of data will be logged in the EMP. The company starts with adding information about resources (electricity, fuel/heat and water) and selects if data will be uploaded automatically via API.

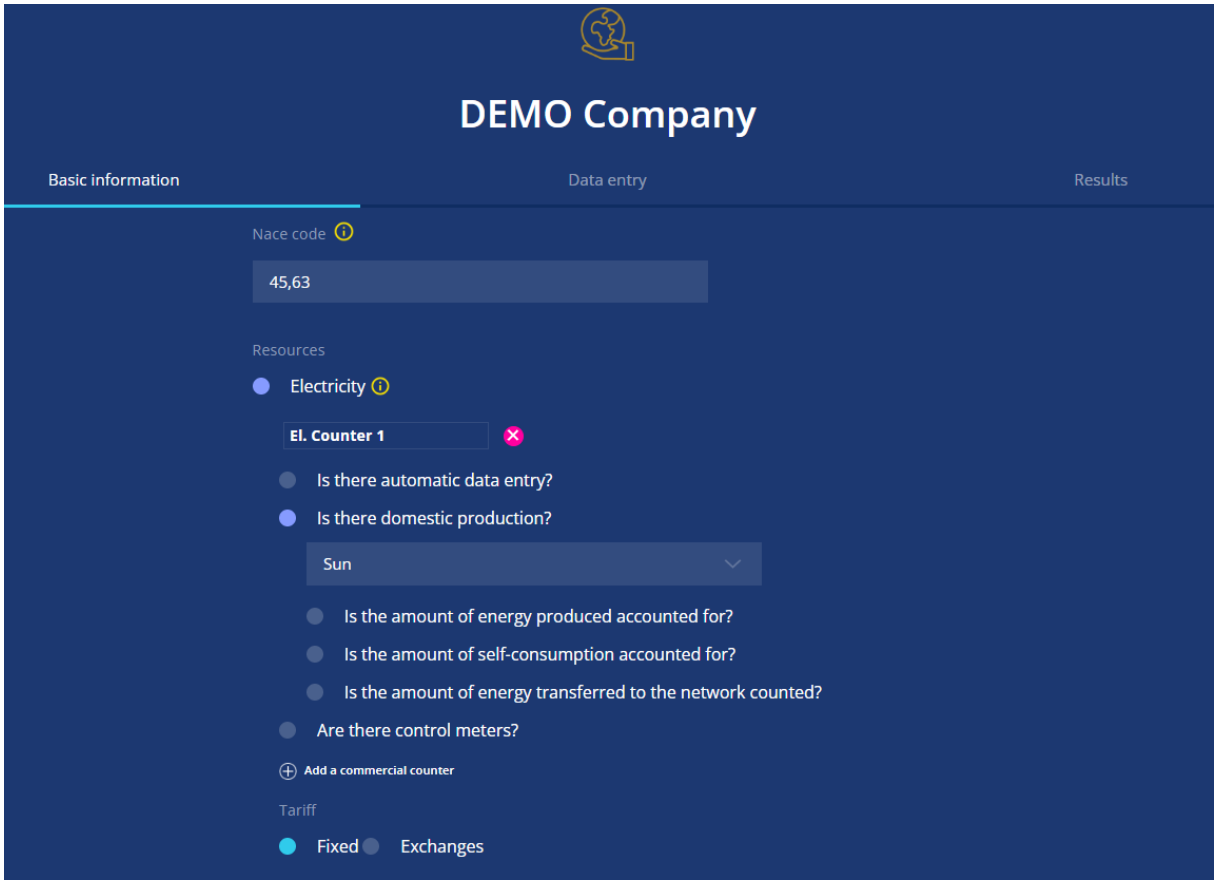


Figure 3: Example of defining electricity parameters

It is possible to add an unlimited number of counters to each resource by clicking on "add a commercial counter". For all types of resources the same information as in Figure 3 is required.

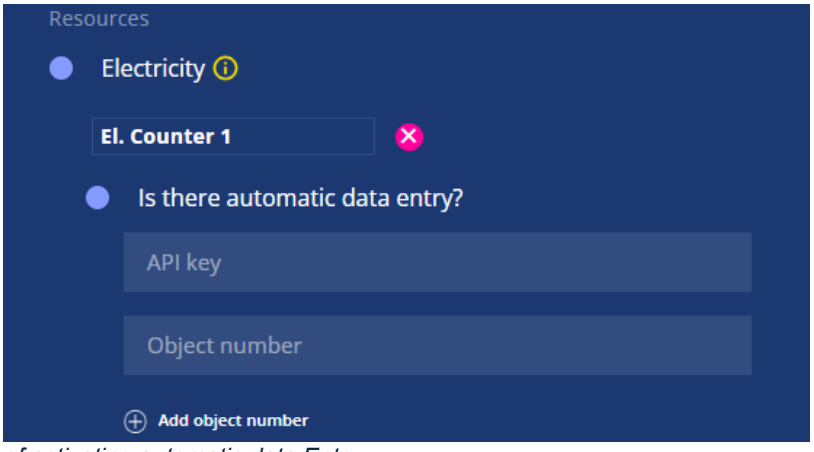


Figure 4: Example of activating automatic data Entry

Automatic data entry is done via API (Application Programming Interface). This function has been developed based on the data service user guide of the Latvian electricity grid operator "Sadales tīkls". To enable automatic data reading of another client, the data service user guide of the specific service provider will be necessary.

Afterwards, the company defines the main production unit (in this case metal roof in

m^2) and other parameters what could affect its energy consumption.

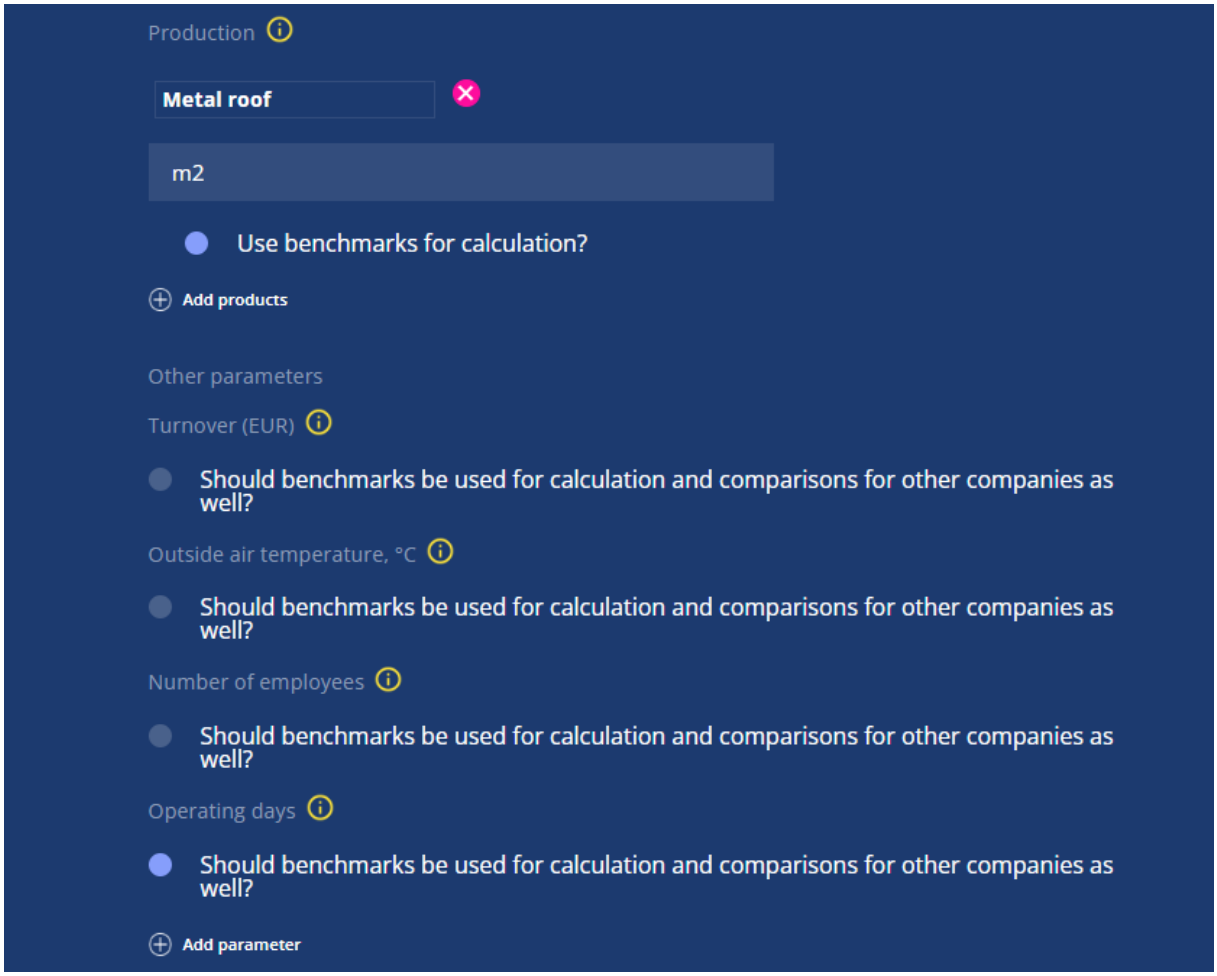


Figure 5: Example of other parameters

And last but not least, the company defines how deviations will be calculated.

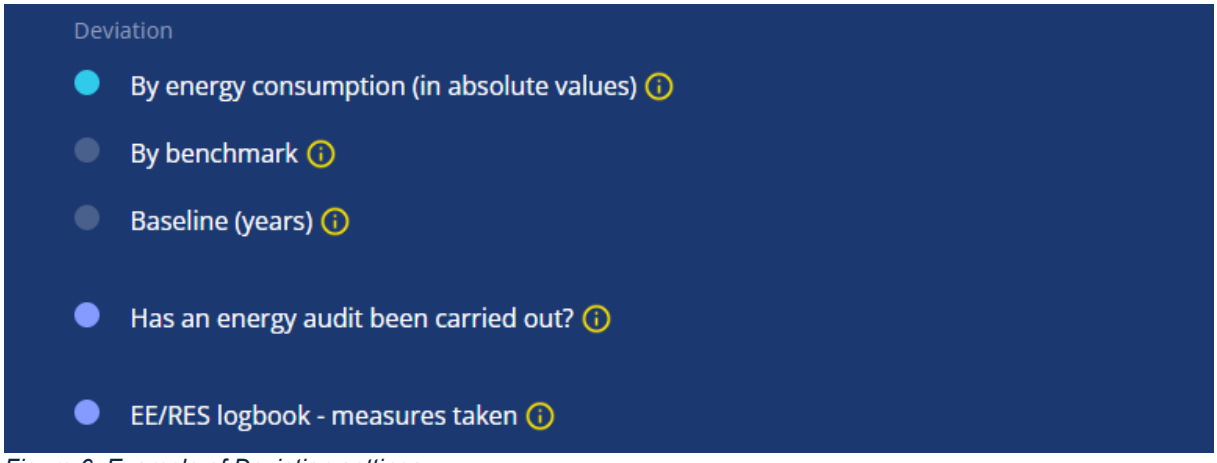


Figure 6: Example of Deviation settings

By moving the cursor on the circled “i", the company finds additional information about what is required for every point.

II. Data entry

Data Entry is for entering resource consumption or other parameters on a monthly basis. It is not required to enter data if they are automatically updated via API.

Figure 7: Example of Data entry page

To illustrate the functioning of that section, electricity consumption is used as example for data entry in the platform. To enter data, the user selects the resource and adds energy consumption and tariff of the previous month.

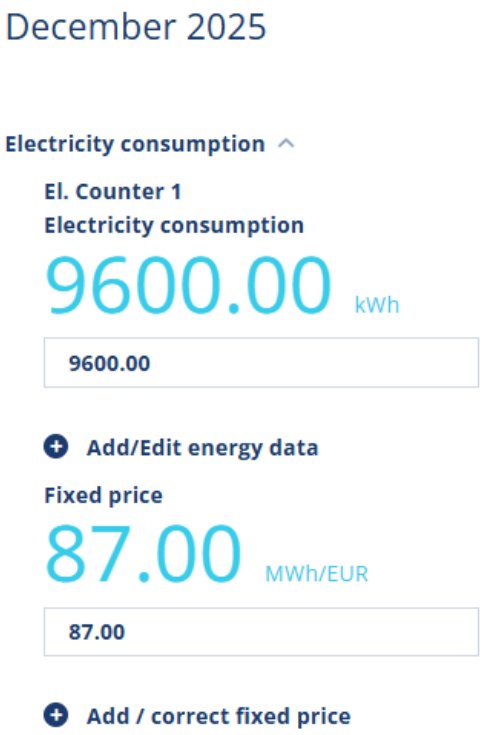


Figure 8: Example of Entering electricity data of previous month.

To enter or edit energy data for the previous month(s) “Add/Edit energy data” must be selected. Data in the EMP can be entered starting from 2021.

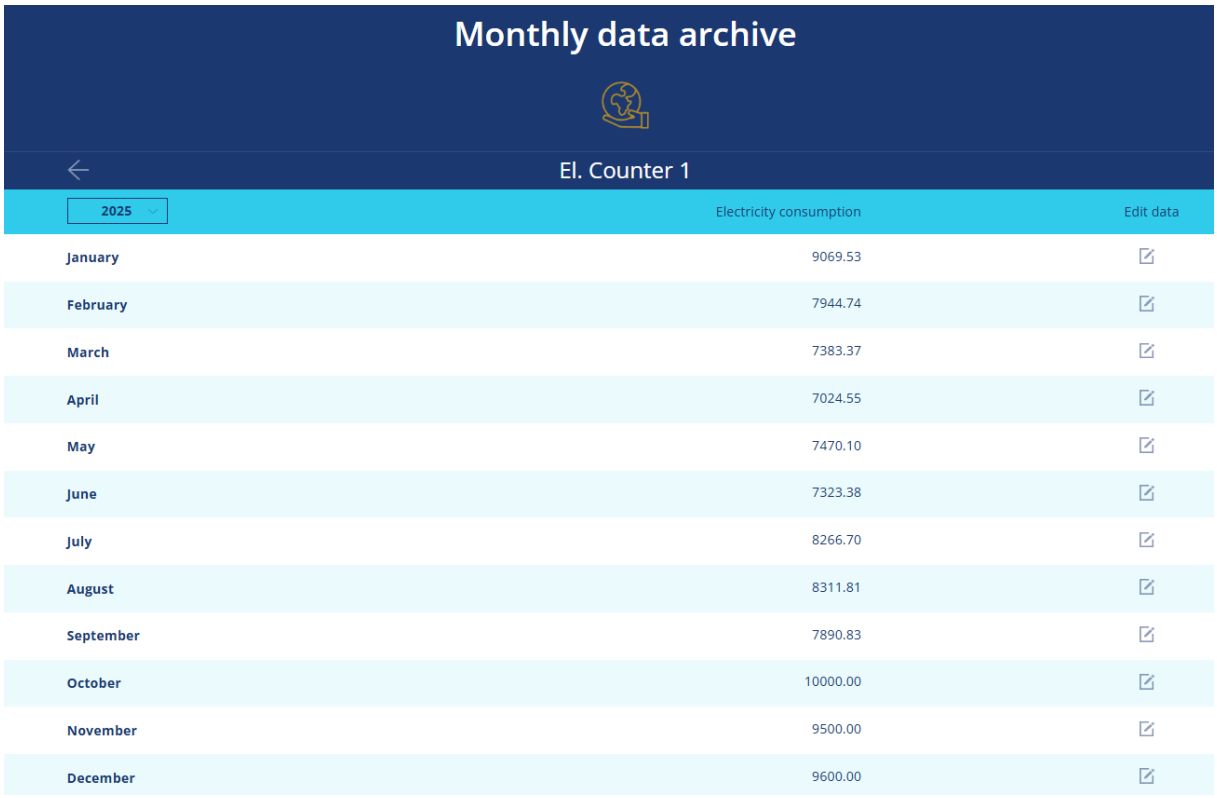
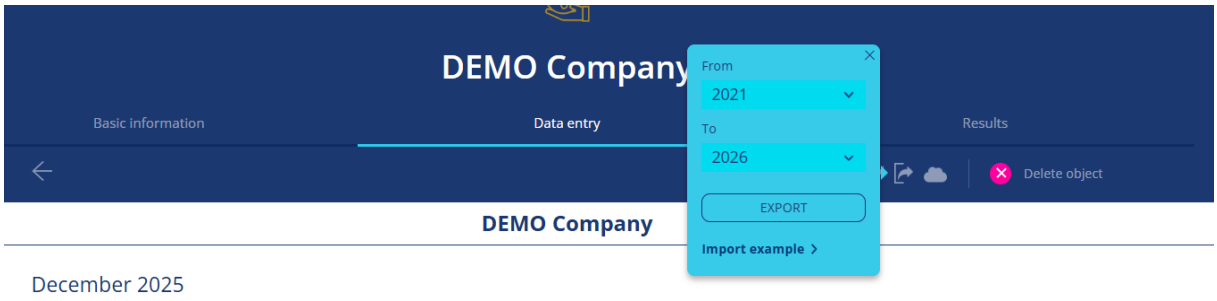
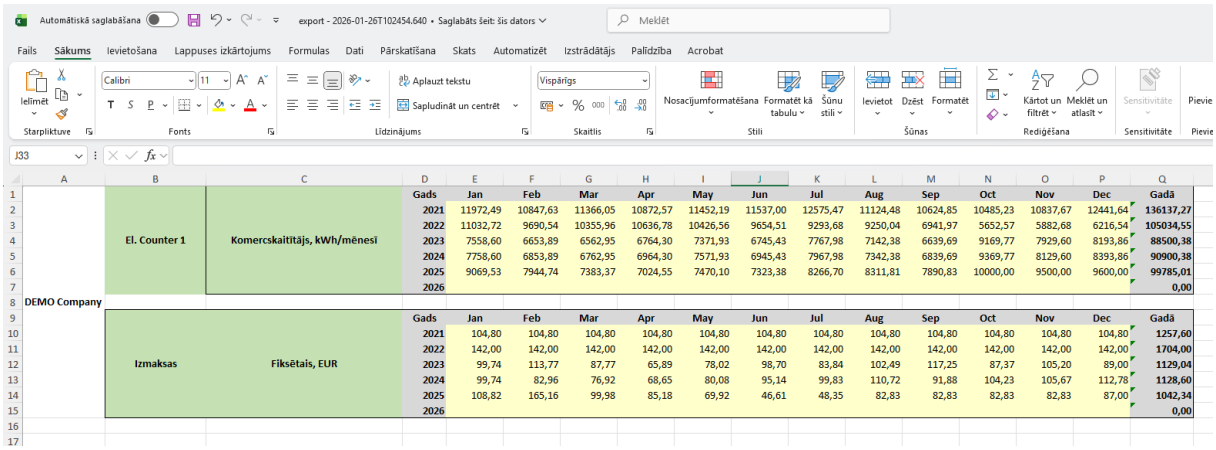


Figure 9: Example of adding/editing electricity data

For a more convenient data entry, historical data can be entered via Excel. To do so, the user first downloads the “import excel” file, then fills in the data and lastly uploads the completed excel file.





	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1				Gads	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Gadā
2				2021	11972,49	10847,63	11366,05	10872,57	11452,19	11537,00	12575,47	11124,48	10624,85	10485,23	10837,67	12441,64	136137,27
3				2022	11032,72	9690,54	10355,96	10636,78	10426,56	9654,51	9293,68	9250,04	6941,97	5652,57	5882,68	6216,54	105034,55
4		El. Counter 1	Komercskaitītājs, kWh/mēnesī	2023	7558,60	6653,89	6562,95	6764,30	7371,93	6745,43	7767,98	7142,38	6639,69	9169,77	7929,60	8193,86	88500,38
5				2024	7758,60	6853,89	6762,95	6964,30	7571,93	6945,43	7967,98	7342,38	6839,69	9369,77	8129,60	8393,86	90900,38
6				2025	9069,53	7944,74	7383,37	7024,55	7470,10	7323,38	8266,70	8311,81	7890,83	10000,00	9500,00	9600,00	99785,01
7				2026													0,00
8	DEMO Company																
9				Gads	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Gadā
10				2021	104,80	104,80	104,80	104,80	104,80	104,80	104,80	104,80	104,80	104,80	104,80	104,80	1257,60
11				2022	142,00	142,00	142,00	142,00	142,00	142,00	142,00	142,00	142,00	142,00	142,00	142,00	1704,00
12		Izmaksas	Fiksētais, EUR	2023	99,74	113,77	87,77	65,89	78,02	98,70	83,84	102,49	117,25	87,37	105,20	89,00	1129,04
13				2024	99,74	82,96	76,92	68,65	80,08	95,14	99,83	110,72	91,88	104,23	105,67	112,78	1128,60
14				2025	108,82	165,16	99,98	85,18	69,92	46,61	48,35	82,83	82,83	82,83	82,83	87,00	1042,34
15				2026													0,00
16																	
17																	

Figure 10: Example of adding/editing electricity data

III. Results

The **"Results"** section shows the main parameters of the company, such as total energy consumption, total energy costs, CO2 emissions emitted and benchmarks. It is divided by monthly and annual data.

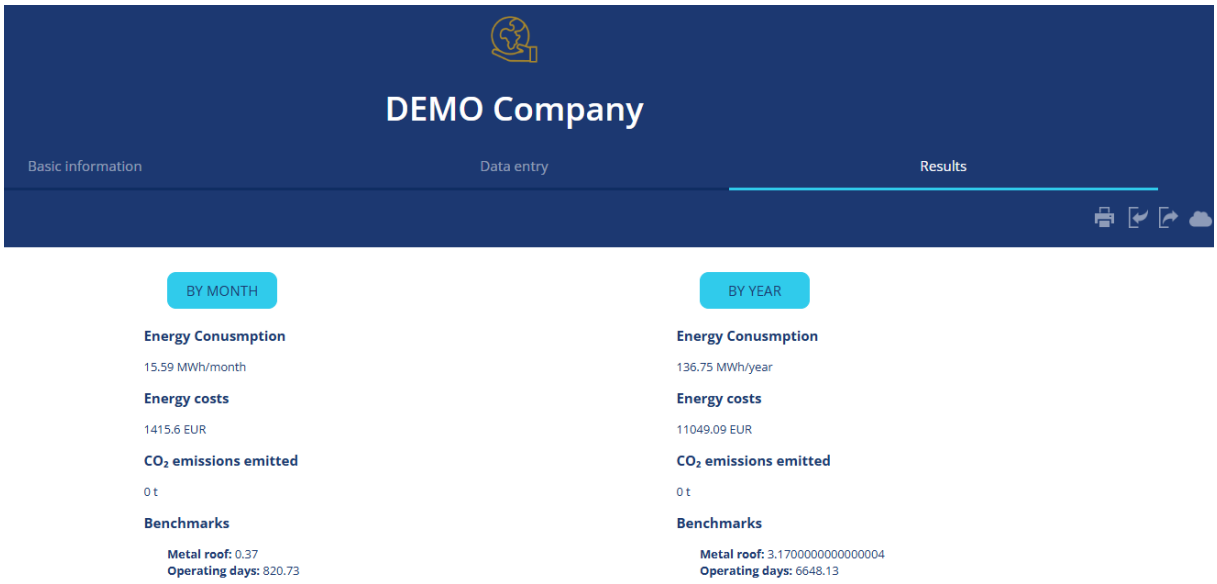


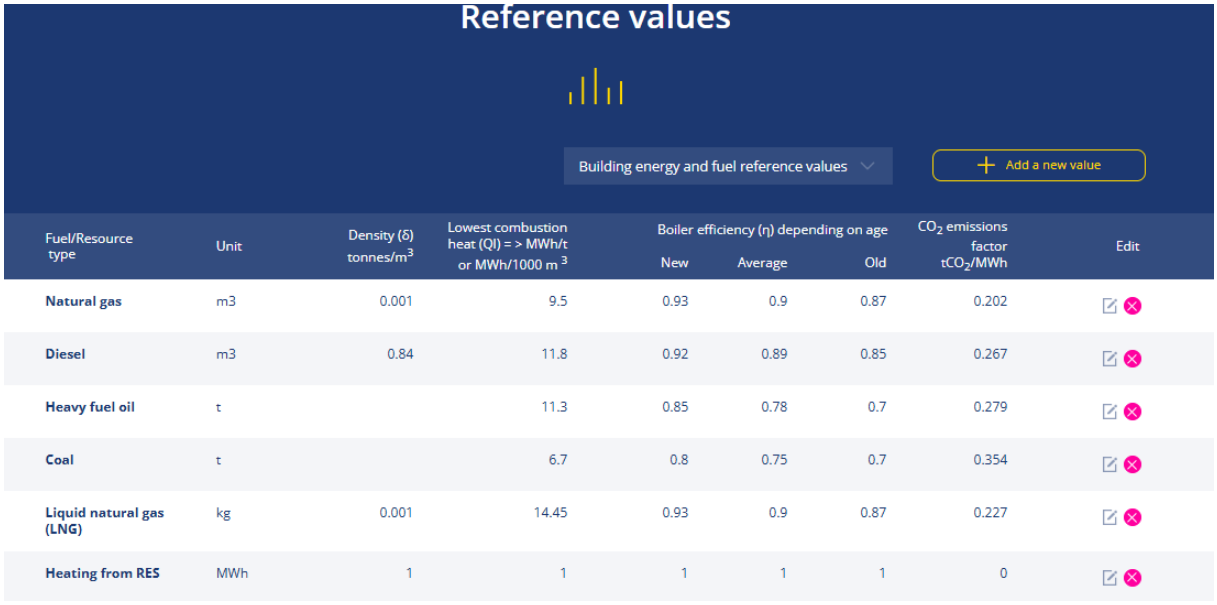
Figure 11: Example of results in EMP

Results are available also in form of graphs. There are currently five graphs which show:

- Heat energy consumption by month,
- Electricity consumption by month,
- Total heat energy and electricity consumption by year,
- Costs of energy,
- Specific energy consumption.

Figure 12: Example if graphs in EMP

Additionally, it is possible to download all data into excel for further use. All the calculations are carried out with pre-defined reference values, and they can be changed by the user. The pre-defined values in the platform are based on Latvian national legislation and will be adapted for each country.



Fuel/Resource type	Unit	Density (δ) tonnes/m^3	Lowest combustion heat (QI) = > MWh/t or MWh/1000 m^3	Boiler efficiency (η) depending on age			CO_2 emissions factor tCO_2/MWh	Edit
				New	Average	Old		
Natural gas	m3	0.001	9.5	0.93	0.9	0.87	0.202	
Diesel	m3	0.84	11.8	0.92	0.89	0.85	0.267	
Heavy fuel oil	t		11.3	0.85	0.78	0.7	0.279	
Coal	t		6.7	0.8	0.75	0.7	0.354	
Liquid natural gas (LNG)	kg	0.001	14.45	0.93	0.9	0.87	0.227	
Heating from RES	MWh	1	1	1	1	1	0	

Figure 13: Example of Reference values

4. Next steps

The EMP will be updated throughout the project implementation based on recommendations from platform users. Ekodoma will:

- Assist with preparingthe training materials related to the EMP
- Translate the EMP into partner languages
- Promote the EMP

Furthermore, Ekodoma will provide any assistance required by the project partners and their cooperation partners for using the EMP.

The next steps for the project partners will be to:

- Check translations
- Attend the training material handover with local experts planned in March 2026 to learn about usage of the EMP, as well as the train the trainer session foreseen under T4.4
- Promote the EMP
- Provide national support to platform users during the project
- Provide API data service guidebooks from the participating countries

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EcoSMEnergy

Project Partners

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Cambra de Comerç de Barcelona

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