This project is co-funded by the European Union
and the Republic of Türkiye

TEBD TURKEY-EU BUSINESS DIALOGUE

ENERGY EFFICIENCY

2022

20 CFCU years
REPUBLIC OF TÜRKIYE MINISTRY OF TREASURY AND FINANCE
CENTRAL FINANCE & CONTRACTS UNIT

EUROCHAMBRES

CIVIL SOCIETY SECTOR

THE UNION OF CHAMBERS AND COMMODITY EXCHANGES OF TURKEY TOBB

The Turkey – EU Business Dialogue (TEBD) Project

The **Turkey-EU Business Dialogue** (TEBD) is a project co-funded by the European Union under its IPA II programme with Turkey. TEBD is managed by EUROCHAMBRES, through a grant contract with CFCU, in close cooperation with TOBB, as the end beneficiary institution of the project. The TEBD activities are implemented through the European and Turkish Chambers of Commerce and Industry, and Commodity Exchanges.

The overall objective of the project is to strengthen mutual knowledge and understanding between Turkish Chambers and Commodity Exchanges, and their counterparts in the EU, thus promoting the integration of EU and Turkish business communities and ensuring a stronger awareness of the opportunities and challenges of a potential future Turkey's accession to the EU in both Turkey and the EU.

The TEBD project wants to promote a constructive private sector dialogue between the EU and Turkey that will lead to positive and lasting results for both sides.

This document can be downloaded for free from the following websites:
www.eurochambres.eu, www.tobb.org.tr, www.tebd.eu

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1 Executive Summary

The Turkey-EU Business Dialogue (TEBD) is a project co-funded by the European Union under its IPA II programme with Turkey. TEBD is managed by EUROCHAMBRES, through a grant contract with CFCU, in close cooperation with TOBB, as the end beneficiary institution of the project. The TEBD activities are implemented through the European and Turkish Chambers of Commerce and Industry.

One of the components of the TEBD Project is called Capacity Building. This component aims to build capacities of Chamber executives by a variety of tools and activities that include a dedicated Chamber Academy, Study Visits, and proven support tools for SMEs such as Acquis, Energy Efficiency, and Solvency Audits.

Following the EU Acquis Audit and the EU Solvency Audit activities, a third "service" was developed through the project, the Energy Efficiency activity. The objective of this activity is to develop capacity and knowledge within Turkish Chambers, which will allow them to advise SMEs/members on how they can reduce their energy consumption, and thus become more competitive and raise the awareness on Energy Efficiency.

The Energy Efficiency activity commenced in March 2021 and concluded in December 2021. This action consisted of three elements:

1) Design of an Energy Efficiency Checklist and an Energy Efficiency Questionnaire for businesses.
2) Delivering of a training session on Energy Efficiency generally, policy, measures businesses can take, case studies, how to use the checklist and questionnaire.
3) Compiling information gathered from the training and questionnaires answered by the SMEs participating into this report.

Due to the format of the activity, we were allowed to accept more participants than expected (25), therefore the training was organized for 30 Turkish chamber executives selected by TOBB and EUROCHAMBRES. Executives were selected from across the country (regional spread) and following the competences profile criteria that were explained in the Call for Participants. The training was delivered by the network experts of EUROCHAMBRES and TOBB.

The Online training sessions were organised in 2 different sessions:

- **Training 1:** as a 2-day seminar (5h/day)

DATE	4 & 5th May 2021
Morning Season	09:30 – 12:00 CET (10:30 – 13:00 TRT)
Lunch Break	12:00 – 14:00 CET (13:00 – 15:00 TRT)
Afternoon Season	14:00 – 16:30 CET (15:00 – 17:30 TRT)

- **Training 2**: as a 2-day seminar (5h/day)

DATE	25 & 26th May 2021
Morning Season	09:30 – 12:00 CET (10:30 – 13:00 TRT)
Lunch Break	12:00 – 14:00 CET (13:00 – 15:00 TRT)
Afternoon Season	14:00 – 16:30 CET (15:00 – 17:30 TRT)

Following these trainings, each Turkish Chamber was committed to carry out 10 energy efficiency visits (online) among different Turkish companies using the Toolkit. The total target was therefore around 250 Turkish Companies visited.
Data gathered through the questionnaire shows that energy efficiency management as standard practice appears to be in a preliminary stage of development: only 23% of respondent businesses (which were predominantly of medium or smaller size) have undertaken an energy audit in the past four years, 86% of respondents do not have any form of building certification, only 6% have ISO 50001 , and 73% of businesses do not have a designated energy manager. However, interest by businesses in energy efficiency is high.
85% of businesses expect energy costs to increase significantly in the future, and 84% of respondents take energy efficiency into consideration when purchasing new equipment. 78% of respondents intend to implement energy efficiency measures in the next four years and 79% of respondents indicated that they were planning to use additional renewable energy sources. 49% of those businesses, which do not have ISO 50001, have considered implementing it.

These results indicate that business interest in energy efficiency is currently high, but that energy efficiency knowledge generally, and from a planning and management perspective, is low. This suggests that further knowledge building outreach would be well received in the current business climate. Such an outreach would ideally be run in collaboration with the Chambers of Commerce, which this event has shown have an impressively strong outreach capacity and are capable of securing collaboration from many businesses.

Data gathered shows that there are two key barriers to implementation of further energy efficiency measures: technical expertise and financing. Respondents who were not planning to implement energy efficiency measures gave the following reasons: that other investments take priority (43%), that no financial resources were available (38%), and/or a lack of technical expertise (33%).

Such a knowledge building outreach should therefore focus on building in-house expertise in businesses by promoting standardised energy planning and management practices (e.g. having designated energy managers, training of these energy managers, training on how to plan and use energy audits, best practice sharing, obtaining ISO 50001 etc.). This management should result in businesses which incorporate energy management and monitoring into their operations at a high level (e.g. at an ISO 50001 level) or if the standard is not met for ISO 50001, then the businesses should plan for periodic deep assessments through energy auditing.

It is also clear that while all the Chambers have strong capacity to engage businesses, there are vastly different levels of expertise on energy efficiency within the Chambers. Some Chambers, notably Bursa CCI, have considerable technical expertise, while most have low levels of technical expertise. Capacity building and collaboration within the Chambers would also be an attractive measure to boost business take up of energy efficiency measures.

It is clear that financing is a barrier to further energy efficiency implementation by businesses. Three key gaps have been outlined:

1) Businesses with less than 500 Toe annual consumption are ineligible for most financial support measures. 43% of respondents consume below 500 toe per annum.
2) Most businesses are unaware of what support measures are available. Financial support measures have been tapped by only 13% of respondent businesses. 64% have not checked whether such measures are available.
3) Financial measures should be designed taking into consideration that most businesses have higher priorities for financing, or lack financing options for implementing energy efficiency measures: other investments take priority (43%), no financial resources were available (38%).

Therefore, in addition to an outreach programme aimed at building internal expertise in energy efficiency, financial support measures should be created or expanded to allow as many businesses as possible to participate. A strong focus should be included in the outreach programme to ensure that information about the availability of these measures reaches businesses.

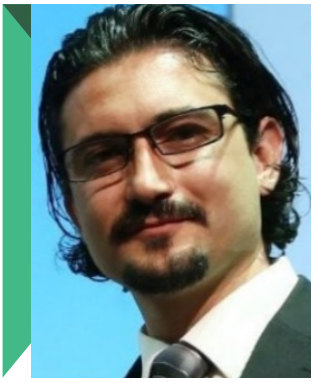
[2]Toe: Tonnes of Oil equivalent; approx. 5.8 GWh

2 Participants of the Energy Efficiency Activity

Turkey Map of Participating Chambers

- Adana Chamber of Industry
- Afyonkarahisar Chamber of Commerce and Industry
- Ankara Chamber of Commerce
- Ankara Chamber of Industry
- Antalya Chamber of Commerce and Industry
- Aydin Chamber of Commerce
- Bolu Chamber of Commerce and Industry
- Bursa Chamber of Commerce and Industry
- Çerkezköy Chamber of Commerce and Industry
- Corlu Chamber of Commerce and Industry
- Diyarbakir Chamber of Commerce and Industry
- Eskisehir Chamber of Industry
- Eskisehir Commodity Exchange
- Gaziantep Chamber of Industry
- Inegol Chamber of Commerce and Industry
- Iskenderun Chamber of Commerce and Industry
- Istanbul Chamber of Industry
- Izmir Chamber of Commerce
- Izmir Commodity Exchange
- Kayseri Chamber of Commerce
- Kayseri Chamber of Industry
- Kocaeli Chamber of Industry
- Konya Chamber of Commerce
- Konya Chamber of Industry
- Manisa Chamber of Commerce and Industry
- Tarsus Commodity Exchange
- Trabzon Chamber of Commerce and Industry
- Turkish Chamber of Shipping
- Usak Chamber of Commerce and Industry

Energy Efficiency Experts



Geoffrey Saliba

Malta Business Bureau I
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Mr. Saliba studied BA Tourism at the University of Malta. He has been working as Campaigns Coordinator at BirdLife in Malta from 2008 to 2011. Later on, he started at Malta Business Bureau in 2011 up to the present, in two different positions. First as Sustainable Development Manager for 2 years, and currently as Business Energy Cluster Manager. Which the main work areas are: Energy Efficiency, Water Efficiency and alternative water sources. Key legislation Energy Efficiency Directive, Water Framework Directive.

Sonja Starnberger

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After first professional steps as a researcher/teacher at the Chair of Industry, Energy and Environment of the University of Vienna, and at Umweltkontor Renewable Energy AG – a German wind energy startup, Sonja has been working for the Austrian Federal Economic Chamber since 2004, starting in the Trade and the Environment and Energy Policy Departments. From 2006 to 2009, Sonja was delegated to EUROCHAMBRES as advisor for EU environment, energy and transport policy, and manager for a capacity building project on energy efficiency for Staff Members of European CCIs. In 2009, Sonja joined the Energy Institute for Business as a project manager, and has been its director since 2017. She also is a member of the trainer team of the EUREM European EnergyManager Course in Austria.

Javier Cervera

Valencia Chamber of Commerce, Industry, Services and Shipping jcervera@aeespain.org

Javier Cervera, from Valencia, has been working at utility company, Naturgy, for over 14 years, and now works as Energy Transition Director in the Spanish Passenger maritime leader company, Baleària. Member of the national hydrogen board Agenda. He is a member of the board of directors at the Technological Institute of Energy of the Region of Valencia and professor for the Master's Degrees in Renewable Energies and Energy Efficiency taught by the institute. He is vice-president of the Spanish chapter of the Association of Energy Engineers and has formed part of the governing council since 2014. He is a Telecommunications Engineer from the Polytechnic University of Valencia and has earned a national prize for his dissertation on Management and Economics. He completed an MBA at the EDEM Business School in 2004, a Master's Degree in Renewable Energies at ITE in 2008 and a Master's Degree in Marketing Leadership and Commercial Management at the ESIC Business School in 2016, with a prize for the best master's thesis.

Organisers of the Energy Efficiency Activity

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Mrs Ustarroz is the Capacity Building Expert of the TEBD project. She has a degree in business administration & management. Before joining the TEBD team, she worked in the International Department at the Bilateral Spanish Chamber in Belgium and Luxemburg, and also for Spanish Chamber of Commerce Delegation in Brussels for 2 years as a Country Manager of an European Project.

3 Trainings Provided

One of the components of the TEBD Project is called Capacity Building. This component aims to build capacities of Chamber executives by a variety of tools and activities that include a dedicated Chamber Academy, Study Visits, and proven support tools for SMEs such as Acquis and Solvency Audits, as well as the Energy Efficiency Activity.
The objective of this activity was to develop capacity and knowledge within Turkish Chambers, which will allow them to advise SMEs/members on how they can reduce their energy consumption, and thus become more competitive as well as more climate friendly, and raise the awareness on Energy Efficiency.
Due to the format of the activity, we were allowed to accept more participants than expected, therefore the training was organized for 30 Turkish chamber executives selected by TOBB and EUROCHAMBRES. Executives were selected from across the country (regional spread) and following the competences profile criteria that were explained in the Call for Participants. The training was delivered by the network experts of EUROCHAMBRES and TOBB. The Energy Efficiency activity took place between May and August 2021, and consisted of:

1. Module 1 (May 2021)
Online Trainings on how to use the Energy Efficiency Toolkit (Questionnaire, Checklist, etc.), understanding the different sections, data collection, identification of opportunities and referral points for further exploration.

2. Module 2 (June – July 2021)
Outreach by Turkish Chamber experts to SMEs, assist the SMEs with the Energy Efficiency Toolkit learned during the trainings. The EU experts provided support and consultation to the Turkish Chamber experts during the entire process.
* Following to the Module 2, “Energy Efficiency Help Desks” will be developed in the approximately 30 Turkish Chambers.

3. Module 3 (July – August 2021)
Preparation of the final report by the EU experts, summarizing the Energy Efficiency situation among Turkish SMEs, and making policy and technical recommendations for further actions based on the inputs by the Turkish Chamber participating.

The Online training sessions were organised in 2 different sessions:

- **Training 1:** as a 2-day seminar (5h/day)

DATE	4 & 5th May 2021
Morning Season	09:30 – 12:00 CET (10:30 – 13:00 TRT)
Lunch Break	12:00 – 14:00 CET (13:00 – 15:00 TRT)
Afternoon Season	14:00 – 16:30 CET (15:00 – 17:30 TRT)

- **Training 2**: as a 2-day seminar (5h/day)

DATE	25 & 26th May 2021
Morning Season	09:30 – 12:00 CET (10:30 – 13:00 TRT)
Lunch Break	12:00 – 14:00 CET (13:00 – 15:00 TRT)
Afternoon Season	14:00 – 16:30 CET (15:00 – 17:30 TRT)

Following this training, on the Module 2, each Turkish Chamber committed to carrying out 10 energy efficiency visits (online or onsite) among different Turkish companies using the Toolkit. The total target was therefore 300 Turkish Companies visited. The TEBD Team, with the support of experts, was available for each Turkish Chamber to complete the visits.

Following the completion of these visits using the Toolkit, a general Energy Efficiency Report will be drafted by each Chamber participant, providing a comprehensive overview of the potential for further energy efficiency actions within Turkish companies.

TUESDAY 4th May 2021 – Module 1

Start Time	*Programme*
9:30 CET *10:30 TRT*	Welcome Words • Ms. Oya Ersöz, TEBD Project Director • Mr. Hasan Çağlayan Dündar, Advisor to the President and Head Of Trade, Industry & Technology Department
9:55 CET *10:55 TRT*	Welcome and presentation of the EU Expert team • Mr. Geoffrey Saliba • Ms. Sonja Starnberger • Mr. Javier Cervera
10:00 CET *11:00 TRT*	Familiarisation Exercise
10:30 CET *11:30 TRT*	Introducing Energy Efficiency (PT 1)
12:00 CET *13:00 TRT*	Break*
14:00 CET *15:00 TRT*	Introducing Energy Efficiency (PT 2)
15:30 CET **16:30 TRT**	Toolkit Questionnaire (PT 1)

*Lunch Break 12:00 – 14:00 CET (13:00-15:00 TRT)

WEDNESDAY 5th May 2021 – Module 1

Start Time	*Programme*
9:30 CET *10:30 TRT*	Recap of Previous day Questions
10:00 CET *11:00 TRT*	Toolkit Questionnaire (PT 2)
12:00 CET *13:00 TRT*	Break*
14:00 CET *15:00 TRT*	Toolkit Questionnaire (PT 3)
16:00 CET **17:00 TRT**	Recap Exercise

TUESDAY 25th May 2021 – Module 1

Start Time	*Programme*
9:30 CET *10:30 TRT*	Welcome Words • Ms. Oya Ersöz, TEBD Project Director
9:45 CET *10:45 TRT*	Update on existing and upcoming legislation, TR Ministry of Energy • Anıl ŞİMŞEK, Coordinator • Bahadır Sercan GÜMÜŞ, Energy Expert • Akife YILMAZ, Engineer • Fatma Dilek ÖZNUR, Engineer
10:30 CET *11:30 TRT*	Update on available grants, TR Ministry of Energy • Emrah Berat BİRSEN, Engineer
11:15 CET *12:15 TRT*	Checklist explanation 1
12:00 CET *13:00 TRT*	Break*
14:00 CET *15:00 TRT*	Checklist explanation 2
14:45 CET *15:45 TRT*	Q & A

*Lunch Break 12:00 – 14:00 CET (13:00-15:00 TRT)

WEDNESDAY 26th May 2021 – Module 1

Start Time	*Programme*
9:30 CET *10:30 TRT*	Welcome
09:45 CET *10:45 TRT*	TR Chamber Interventions • Kocaeli Chamber of Industry • Istanbul Chamber of Industry • Bursa Chamber of Commerce and Industry
10:45 CET *11:45 TRT*	Exercise – Checklist practice session
11:45 CET *12:45 TRT*	Review the exercise
12:00 CET *13:00 TRT*	Break
14:00 CET *15:00 TRT*	Exercise – fill in the questionnaire
14:30 CET *15:30 TRT*	Review the exercise
14:45 CET *15:45 TRT*	Practical aspects of the activity + Closing • List of companies (template) • Chamber + • Certificates for companies • TEBD Energy Ambassadors (info request + consent form) • Calendar

4 Research Methodology

A)Toolkit developed

Checklist

The EU experts developed a checklist as a tool for the Chambers to use in their outreach and preliminary evaluation of business' energy situation. This checklist was based on a similar exercise carried out by EU Chambers as part of the STEEEP project. The intention behind this checklist was that Chambers would have access to a standard tool allowing them to identify a business' current situation, needs and development regarding energy efficiency. The checklist was presented as an excel sheet with questions divided thematically, allowing for Chamber representatives to quickly obtain information about a business' energy situation verbally or during meetings.

Importantly, the checklist should allow Chambers to make basic recommendations for energy efficiency, focused particularly on preliminary measures that can be taken by a company, which will already result in low-hanging energy efficiency gains. Recommendations given through the checklist should also place the business in a strong position to maximise the information presented to energy auditors or equivalent external consultants, thus allowing for deep analysis of the business' energy consumption, and identification of energy efficiency measures based on the best possible information that the business can provide the energy auditors.

The checklist therefore serves three functions:

1) Provides the Chamber with information on energy practices within their businesses.
2) Provides the business with a structured approach to energy efficiency, allowing the business to reap quick rewards from low-hanging fruit.
3) Provides the business with a structured approach that would enable it to maximise the utility of energy audits, by providing auditors with a basic energy management infrastructure and information which could more accurately inform the auditors evaluation of energy efficiency and measures which the business could take.

The checklist is therefore a useful tool for businesses to use to structure their initial efforts at energy management and energy efficiency, also serving as a pre-audit measure allowing energy auditors to focus on more complicated energy evaluations.

The checklist is copied below:

A- ENERGY MANAGEMENT						
Action CODE	Action to be done	Staff leader	Schedule Start	Time spent	Cost	Financial incentives?
A.1.1	Knowledge - Assess the internal consumption or consult a specialist for the realisation of an energy check					
A.1.2	Knowledge - Raise awareness among the staff about the internal energy costs					
A.1.3	Energy manager - Appoint a responsible for energy who will be in charge of the energy management and the monitoring of costs. He/she will construct a database for this purpose.					
A.1.4	Energy manager - Plan the training of an employee appointed for Monitoring the Energy consumption					
A.1.5	Energy manager - Ensure that a person is in charge of verifying the energy bills					
A.1.6	Energy Contracts - Follow the evolution of the consumption thresholds in force and of the adopted tariffs					
A.1.7	Energy Contracts - Put into competition suppliers in order to obtain better contractual conditions					
A.1.8	Energy Contracts - Ensure that the contract adequately encourages the two parties to work on the reduction of energy consumption					
A.1.9	Energy Contracts - In case of hourly tariffs use your equipment during off-peak hours (up to 40% cheaper).					
A.1.10	Energy Contracts - Check your tariffs annually as your consumption patterns may change due to individual changes in your organisation (3x8 shifts, …)					
A.1.11	Energy Contracts - Ask for advice to your energy supplier to adjust your tariff (take into account the power factor, if too weak or too high, it could penalise your invoices)					
A.1.12	Consumption profile - Verify the production processes					
A.1.13	Consumption profile - Verify that the control equipment works properly (valves, thermostats, …)					
A.1.14	Consumption profile - Verify that the consequences and energy implications of any modification in the production process have correctly been analysed and integrated in the process itself.					
A.1.15	Consumption profile - if necessary, plan a cascade start of the equipment so that to avoid power demand					
A.1.16	Indicators - Outline a procedure to define indicators of energy performance (ex: kWh/tonnes…)					
A.1.17	Indicators - Follow these indicators on the basis of an IT dataset.					

A.1.18	Indicators - Monitor the evolution/development of the selected ratios for each consumption item					
A.1.19	Benchmarking - Ask your technical center or Professional Union to obtain a benchmark					
A.1.20	EE criteria - Consider the energy specifications of the equipment (high-efficiency motors, "EnergyStar" label, energy labels,…)					
A.1.21	EE Criteria - Raise awareness among employee responsible of purchases of energy saving opportunities/energy conservation					
A.1.22	EE Criteria - Think in terms of global cost (purchase, consumption, end of life)					
A.2.1	Meters/Sub-meters - Identify item and equipment: if their consumption is higher than 150 MWh, install then a sub-meter.					
A.2.2	Meters/Sub-meters - Read the meters regularly and compare them with the level of production by recording them on a database.					
A.2.3	Staff Training - Organise trainings for staff who participates directly to the energy objectives					
A.2.4	Staff Training - Make regular reminders on the topic (posters, internal notes, games/competition, procedures,…)					
A.2.5	Staff Training - Evaluate the spin-offs on the energy performance					
A.2.6	Staff Training - Intervene during staff meetings to explain good practices (turn off lights, close doors, …)					
A.2.7	Staff Training - Show internally the results on a board dedicated to the topic, and discuss about it during staff meetings					
A.2.8	Maintenance contracts - Go for maintenance contract for all the equipment consuming energy (or have plans for internal maintenance)					
A.3.1	BMS/ BAS - Put in place a Building Management System (BMS) /Building Automation System (BAS) on compressed air, space heating, electric meters, lighting, steam, etc.					
A.3.2	BMS/ BAS - Consult an energy expert for a feasibility study					
A.3.3	Audit - Make an energy audit every 5 years to check at least the inventory of consumption and production					

B - HEATING/ BOILERS						
Action CODE	Action to be done	Staff leader	Schedule Start	Time spent	Cost	Financial incentives?
B.1.1	Test - Put in place a monitoring/testing procedure of the boilers with a maintenance schedule and report including - monitoring and testing operations - any highlights (smell, noise...) - control elements (consumption, length of use...)					
B.1.2	Settings - Turn off useless boilers during the mid-seasons					
B.1.3	Settings - Lock the thermostats (or limit the access)					
B.1.4	Settings - Ensure that thermostat and the timer are linked to the boiler and to the pumps					
B.1.5	Settings - Use the smallest boiler in summer					
B.1.6	Settings - Appoint a staff member for turning off and switching on the boilers					
B.2.1	Maintenance record - Ask a professional (manufacturer, supplier, etc.) to make you a list of the most important points to be analysed and draft a maintenance report once per year: - Checking the correct ventilation - Checking possible water leakages					
B.2.2	Operating costs and performance - Establish an estimation of actual operating costs					
B.2.3	Operating costs and performance - Compare these results with the potential savings by installing high energy performance equipment					
B.2.4	Annual review - Call an expert once per year to: - maintains the burners - optimise the combustion and the performance of the boilers					
B.3.3	Regulating system - Adjust thermostats of different boilers gradually (for ex. From 60°C to 85°C)					
B.3.4	Regulating system - Install a cascade control					
B.3.5	Control devices - Draft an estimate (financial cost and returns) to equip your boilers with a control equipment if they work regularly					
B.3.6	Separate heating and hot water in order to cut the heating during summer					
B.3.7	Control - Evaluate your needs for an automatic system which allows to save energy during startup time, changes in needs and in monitoring					
B.3.8	Insulation - Contact a professional for insulating your equipment					
B.3.9	Contact an professional to study the potential of your boiler					

C – STEAM						
Action CODE	Action to be done	Staff leader	Schedule Start	Time spent	Cost	Financial incentives?
C.1.1	Annual consumption – Remind to the staff the cost of steam production and steam waste					
C.1.2	Leakages – Verify regularly your network					
C.1.3	Leakages – Repair any leakage as soon as there is an alert					
C.1.4	Steam traps – Maintain and monitor the steam traps					
C.1.5	Steam traps – Choose automatic steam traps					
C.2.1	Boiler room, ventilation – Verify regularly the good condition of the ventilation					
C.2.2	Boiler room, ventilation – Ask for the advice of an expert					
C.2.3	Maintenance – Set up a procedure to follow the heaters functioning and verify any eventual leakage, gas smell, unusual noises …					
C.2.4	Maintenance – Keep updated a maintenance report					
C.2.5	Maintenance – Verify there is no erosion in the pipes or tubes					
C.2.6	Water Quality – Set up a procedure to check the correct functioning of the water treatment					
C.2.7	Insulation of pipes distribution – Verify regularly the good condition of the heat insulator					
C.2.8	Insulation of pipes distribution – Plan the reconstruction of parts of the circuit which are badly heat-insulated					
C.2.9	Dysfunctions – Check your steam system					
C.2.10	Dysfunctions – Identify the leakages and repair them as soon as possible					
C.2.11	Dysfunctions – Compare the maximum return of the heater with those of the manufacturer					
C.2.12	Dysfunctions – Plan to change the burner of the boiler					
C.3.1	Management system – Install a steam meter to follow the ratio of production (ratio < 820kwh PCI/T of steam)					
C.3.2	Management system – Invest in a cascade regulator if your thermal need varies often					
C.3.3	Dimension – Verify the consonance between the steam installation and steam needs					
C.3.4	Condensation – Install a revaporisation tank to your devices					
C.3.5	Condensation – Recover the condensates					
C.3.6	Heat recovery – Analyse the process by adding a pre-heating phase for the make-up water, for the combustion air and for the liquid fuels					

D – HEATING, VENTILATION and AIR CONDITIONING

Action CODE	Action to be done	Staff leader	Schedule Start	Time spent	Cost	Financial incentives?
D1.1	Staff awareness – Remind the staff the heating costs					
D1.2	Staff awareness – Appoint a person responsible of the conditioning and heating systems (freeze protection included)					
D1.3	Staff awareness – Recall the best practices: lower the heating, turn off the air conditioning					
D1.4	Temperature – Adapt the heating zone by zone					
D1.5	Temperature – Consult an expert to study possibilities of heat recovery					
D1.6	Temperature – Verify on/off status according to room occupancy					
D1.7	Heating losses – Bring fresh and new air close to the extraction ventilation openings of the machineries					
D1.8	Heating and Air Conditioning system – Set the same mode for both systems (19°C heating system, 24°C air conditioning)					
D2.1	Thermostats – Choose the location of regulators					
D2.2	Temperature control system – Provide your installation with automatic regulation system					
D3.1	Maintenance – Call a service company for maintenance (or in-house training)					
D3.2	Tariffs – Adapt your heating and conditioning system in order to maximise your consumption during off-peak hours					
D3.3	Difference of temperature between floor and ceilings – Put ceiling fans to homogenise the heating within the workplace					
D3.4	Extractions – Install timers for extractions according to the daily needs					
D3.5	Pollutants – Install local extractions as close as possible to the emission source					
D3.6	Regulation of temperature – Set up a system of heat recovery from bad air before the rejection Set up a system to recirculate the air in the ventilation system					
D3.7	Purchases – Perform a feasibility study for different options (high energetic performance equipment, heat pump, …).					

E - COMPRESSED AIR						
Action CODE	Action to be done	Staff leader	Schedule Start	Time spent	Cost	Financial incentives?
E.1.1	Consumption - Make an energy diagnosis (with measures)					
E.1.2	Lower the needs - Raise awareness and inform the staff on the costs linked to the compressed air system					
E.1.3	Lower the needs - Use Venturi nozzles (less noisy and less energy-consuming)					
E.1.4	Lower the needs - Indicate/ write the pressure required on the nozzles (with regulation of max 2 bars)					
E.1.5	Lower the needs - Check the required pressure according to the zones					
E.1.6	Lower the needs - Replace manual traps with automatic steam traps					
E.1.7	Lower the needs - Determine the required level of air quality (filtration, drying)					
E.1.8	Lower the needs - Identify whether pneumatic tools could be replaced by electric tools					
E.1.9	Lower the needs - Install isolation valves (manual or electric valves) in areas of low frequency of activity					
E.1.10	Lower the needs - Check if all pieces of equipment require the same air quality level					
E.1.11	Lower the needs - Perform air treatment adapted to the demand					
E.1.12	Lower the needs - Check the pressure used by the blow guns (pressure <4b)					
E.1.13	Compressed air leaks - Identify compressed air leaks during periods of inactivity					
E.1.14	Compressed air leaks - Check that the compressors are turned off during periods of inactivity (night, weekend, bank holidays ...)					
E.1.15	Compressed air leaks - Repair as soon as possible detected leaks (if possible internally)					
E.1.16	Compressed air leaks - Use and check the programming of turn off timers					
E.2.1	Outside vent - Adjust the air intake to the outside of buildings to increase efficiency (over the air is cold better performance) OPEN AIR INTAKE					
E.2.2	Regular maintenance - Establish a periodic verification of the seal systems/networks (fittings, joints, valves, vents, filters, air intake ...)					
E.2.3	Regular maintenance - Remove or block the unused parts of the system/network (depending on the time of use)					
E.2.4	Regular maintenance - Clean regularly filters					
E.2.5	Regular maintenance - Regularly clean the heat exchangers					
E.2.6	Regular maintenance - Check the efficiency, performance and regulation of dryers:					
E.2.7	Regular maintenance - Check traps (should not be by-passed), draining traps (unobstructed)					

E.2.8	Regular maintenance - Favour vacuum systems rather than compressed air (blow guns ...)					
E.3.1	Sizing/Design - Verify proper sizing the system					
E.3.2	Sizing/Design - Check losses (undersizing: 0,5bar maximum acceptable end to end i.e.: 1 mbar / m)					
E.3.3	Sizing/Design - Check the size of the buffer tank (reservoir volume = volume of compressed air in 1 minute by compressors)					
E.3.4	Sizing/Design - Identify areas needed (flow, pressure, frequency) (use of booster valve or as needed) and remove unused areas					
E.3.5	Sizing/Design - Implement the equipment according to the zones need					
E.3.6	Regulation/Control - Use electronic speed control					
E.3.7	Regulation/Control - Study the implementation of in cascade compressors					
E.3.8	Heat recovery - Consider the installation of air pipes heated by the compressor to heat a close zone					
E.3.9	Purchases - Take into account the effectiveness of traps					
E.3.10	Purchases - Integrate the consumption criterion when buying					
F - REFRIGERATION						
Action CODE	Action to be done	Staff leader	Schedule Start	Time spent	Cost	Financial incentives?
F.1.1	Closed door - Remind staff of the cost of production of cold and waste					
F.1.2	Seasonal temperature - Achieve a balance of refrigeration needs based on periods					
F.1.3	Seasonal temperature - Lower condensing temperature					
F.2.1	Defrosting - Install a system of defrosting cycles					
F.2.2	Defrosting - Centralize control of temperature sensors (T ° C display, setting the low and high thresholds ...)					
F.2.3	Defrosting - Check that the condensers are well supplied with outside air					
F.2.4	Condensers - Clean condenser if the condensing temperature drift					
F.2.5	Maintenance of the cooling plant - Get quote from specialized companies (or internal training) for the maintenance of the cooling plant					
F.2.6	Maintenance of the cooling plant - Monitor performance during each maintenance (to be mentioned if service contract)					
F.2.7	Maintenance programme - Adjust the frequency of inspections based on the manufacturer's recommendations and problems					
F.2.8	Insulation - Check the condition of the insulation and restore degraded areas					
F.2.9	Sealing - Check that the door thickness is sufficient					

F.2.10	Sealing - Check the condition of the sealing gaskets and door locking mechanisms					
F.2.11	Sealing - Install automatic doors					
F.2.12	Sealing - Search and limit the presence of thermal bridges					
F.3.1	Simultaneous need of hot and cold - Install a heat pump operating for simultaneous heating and cooling (HPS) (fridge + combination boiler group)					
F.3.2	Centralised management system - Change the process by adding a phase of pre-cooling					
F.3.3	Centralised management system - Implement load control by cascading compressors					
F.3.4	Centralised management system - Follow daily the parameters: - Evolution of high pressure over the T ° C outside, - Evolution of the low pressure - Rate of load compressors, - Daily electricity consumption. "					
G - LIGHTING						
Action CODE	Action to be done	Staff leader	Schedule Start	Time spent	Cost	Financial incentives?
G.1.1	Awareness - Display saving instructions and achieved results					
G.1.2	Lighting level - Check lighting levels required with respect to activities carried out in each area					
G.1.3	Lighting level - Dim the lights in non-sensitive areas					
G.1.4	Lighting level - Encourage staff to turn off unnecessary lights					
G.1.5	Lighting level - Use extra lighting for specific tasks					
G.1.6	Switches - Avoid the all or nothing functioning in all areas of activities					
G.2.1	Maintenance - Clean light when changing the tubes					
G.2.2	Maintenance - Clean windows and translucent walls					
G.2.3	Fluorescent tubes - Replace standard bulbs with energy efficiency lamps (CFLs or AML or High performance Tubes (T5 or T8)					
G.2.4	Fluorescent tubes - Install long life lamps, lightbulbs (high performance tube)					
G.2.5	Fluorescent tubes - Set a preventive maintenance program after 8000 hours of functioning (10,000 hours with high performance tubes and conventional ballast or 15,000 hours with electronic ballast)					
G3.1	Programming - Install timers but keep manual switch control for staff (Changing the programming if needs change)					
G3.2	Programming - Install dimmer switches					

G3.3	Programming - Install occupancy sensors in common areas and passage					
G3.4	Lighting equipment - Change the equipment that cannot host low energy consumption lamps					
G3.5	Discharge lamps - Install discharge lamps in workshops and high ceiling areas (> 8m) (high pressure sodium light for their efficiency and long life of approximately 18,000 hours metal halide, for better color rendering or lamps induction with a lifetime of 60 000 hours)					
G3.6	Electronic ballast - Choose electronic ballasts during renovations or new buildings					

H - ELECTRICAL AND IT EQUIPMENT

Action CODE	Action to be done	Staff leader	Schedule Start	Time spent	Cost	Financial incentives?
H.1.1	Inventory - Make an inventory of electrical equipment: Useful powers uptime (and standby use) ...					
H.1.2	Temperature - Compare the selected temperature [by the company] and the recommended operating manuals on computing devices					
H.1.3	Temperature - Adjust room temperature - Optionally display a document with the set temperature to follow.					
H.1.4	Office equipment - Turn off equipment at the end of day or weekend. Raise awareness among staff					
H.2.1	Energy Star label - Prefer "Energy Star" labelled equipment					
H.2.2	Electricity use - Draft a record of the supply facilities on the entire site (inventory of equipment, power, ...).					
H.2.3	Electricity use - Install sub-meters					
H.2.4	Electricity use - Perform an energy audit by a specialized consulting firm					
H.2.5	Welders - Change the work procedure of welding stations Ask welders cut power when welding work is completed					
H.2.6	Materials - Check that additional devices are off when they are not useful					
H.2.7	Materials - Indicate on each machine, which associated equipment must be stopped along with the machine.					
H.2.8	Materials - Perform a servo between the machine which stops the process and those annexed (take account of technical security constraints)					
H.3.1	Automatic control system - Determine compatible devices such regulators and those for which a power off automatically is adapted					
H.3.2	High efficiency motors - Study the opportunity of installing engines with electronic speed variation					

H.3.3	High efficiency motors - Specify in the procurement process the energy performance of appliances (selection criterion, ...)					
H.3.4	High efficiency motors - Compare yield curves for each type of engine					

I - BUILDINGS						
Action CODE	Action to be done	Staff leader	Schedule Start	Time spent	Cost	Financial incentives?
I.1.1	Technical evaluation - Check the condition of windows and doors					
I.1.2	Technical evaluation - Check the condition of the roof and gutters					
I.1.3	Technical evaluation - Remove unnecessary pipes and chimneys					
I.1.4	Technical evaluation - Repair if necessary					
I.2.1	Heating - Perform a thermographic analysis					
I.2.2	Heating - Properly insulate areas to be heated from those not heated					
I.2.3	Heating - Install adequate separation (swinging doors, buffer space ...) between areas requiring different temperatures					
I.2.4	Insulation - Insulate the outside walls					
I.2.5	Insulate - Install a metal double skin cladding with insulation incorporated					
I.3.1	Natural daylight - Increase natural lighting in the roof					
I.3.2	Ceilings - Study the opportunity to install false ceilings					
I.3.3	Roof insulation - take advantage of the need to repair the roof to insulate it effectively					
I.3.4	Solar protection - Favor the installation of movable guards placed outside the glass (windshield sun with adjustable blade)					
I.3.5	Solar protection - Install reflective glass south					
I.3.6	Solar protection - Install solar control film					
I.3.7	Windows - Installing double glazing (or triple) windows					

K – RENEWABLE ENERGIES						
Action CODE	Action to be done	Staff leader	Schedule Start	Time spent	Cost	Financial incentives?
K.2.1	Green energy - Contact and revise your contract with energy suppliers including a % of green energy					
K.3.1	Expansion, modification, move - Identify funds, incentives for the installation of renewable energy					
K.3.2	Expansion, modification, move - Study the technical and economic feasibility of the development of renewable energy					

Questionnaire

In addition to the checklist, a questionnaire (Annex 1) was developed to be answered by the SMEs participating in the activity. (Questions are reproduced under Annex 1, and the analysis to the answers is provided under Section 5A of the report)

The questionnaire was designed to provide the Chambers with a depth and breadth of information relating to business' energy practices, opportunities and the barriers they face. The purpose of the questionnaire is to inform policy relating to energy management, efficiency, renewables, and financing based on best available current (2021) information. The questionnaire should also prove useful in informing Chambers' strategy on energy efficiency, including policy recommendations, outreach programmes, and financing needs and barriers.

The questionnaire was developed by the three TEBD appointed EU energy experts, and provided to the TEBD Team for translation into Turkish. Online questionnaires in English and Turkish were set up using the Survey Monkey tool and the access link was circulated by EUROCHAMBRES to the participating Turkish Chambers.
As mentioned previously, each Chamber then shared the questionnaire with the 10 SMEs that participated in the energy efficiency activity.. Data collection was completed by September 3, 2021. There were 236 completed and verified online questionnaires. In addition, there were a few entries in the online database, which were completed to various degrees, but not verified with the specific code communicated to the participating Chambers. These responses were excluded from the analysis, even if they were almost completed, to avoid counting potential test or invalid entries that were not marked as such.

Data analysis was carried out by the three TEBD appointed EU energy experts, who then prepared this report.

5 Questionnaire Analysis

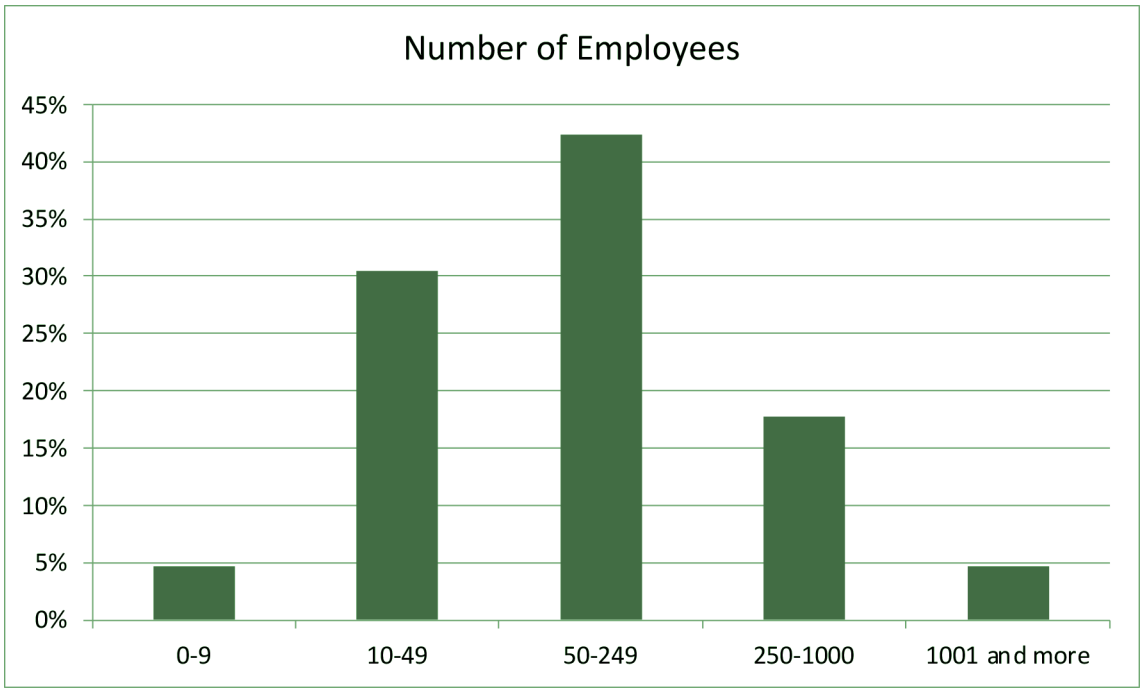
A) Questionnaire Results

The following sections describe and analyse the results of the survey. The questionnaire is included in the Annex 1 to this report for reference. Some questions were either asked or not, depending on the respondent's reply to a previous question. Percentages given in the evaluation are calculated with the number of respondents that answered a certain question as the basis.

Description of the sample:

• Company size

The majority of the respondents were of small or medium size. Of the 236 respondents that answered this question, 42 % had from 50 to 249 employees, 31 % had 10 to 49 employees, 18 % had 250 to 1000 employees and 5 % each had either fewer than 10 or more than 1000 employees.



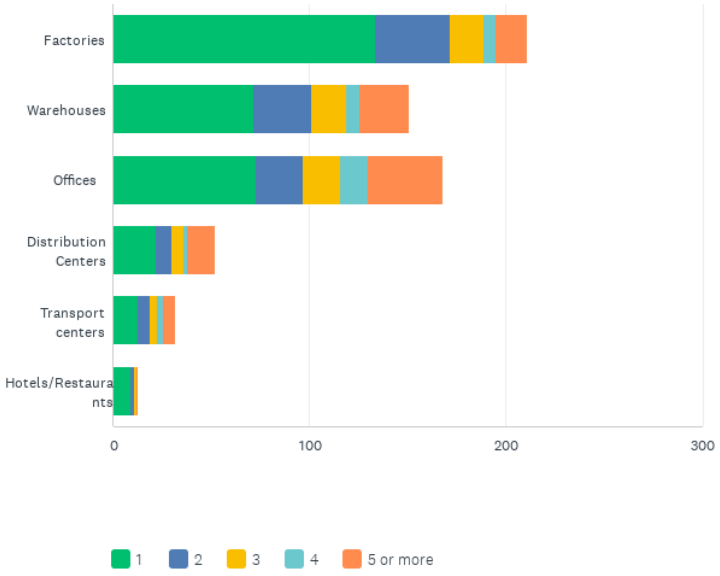
[3]In this report, the term „small and medium enterprises (SME)" is used for businesses that mentioned they had up to 250 employees. This is a somewhat simplified application of the EU definition, which also includes criteria such as annual turnover or balance sheet total.

• Sector of activity

The participants in the energy efficiency activity were mainly businesses in industry and manufacturing. 79 % attributed themselves to this sector of activity. This number rises to 81% when taking into account also those respondents that chose the answer option “Other”, but whose description was clearly a manufacturing one. In addition, the category “Other” includes 9 businesses from the shipbuilding and repair sector, which amounts to 3.8% of the sample, the same number as businesses stating they were in the agricultural sector. The other sectors each accounted for less than 3 % of the sample.

• Type and number of sites

The following diagram reflects this sectoral composition. The main type of sites are factories, warehouses and of course office buildings. While many respondents only operate one facility per type, there are also businesses with multiple premises.

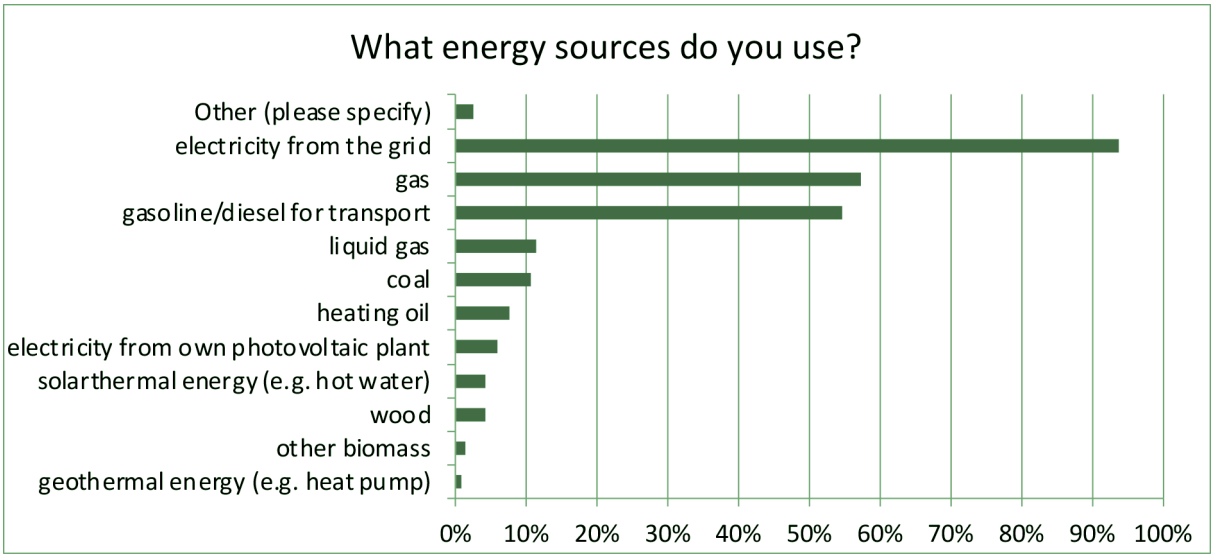


(230 respondents, multiple answers possible)

Basic energy situation

• Energy sources used

The most frequently used energy sources are electricity from the grid, gas, and gasoline or diesel for transport. The table below shows, how many of the 236 respondents used the respective energy carriers – multiple answers were possible. Among the “other sources” mentioned in the open text option were for example steam or lignite.



• Energy consumption profile

97 % of companies do require energy all year round. Of the remaining 3 %, 3 businesses reported energy use only in the winter months, 2 only in summer and one in spring or fall. 70% of the businesses surveyed have a relatively homogeneous energy consumption throughout the year, 23 % said they consumed mainly in winter, and 8 % have consumption highs in summer.

• Total energy consumption

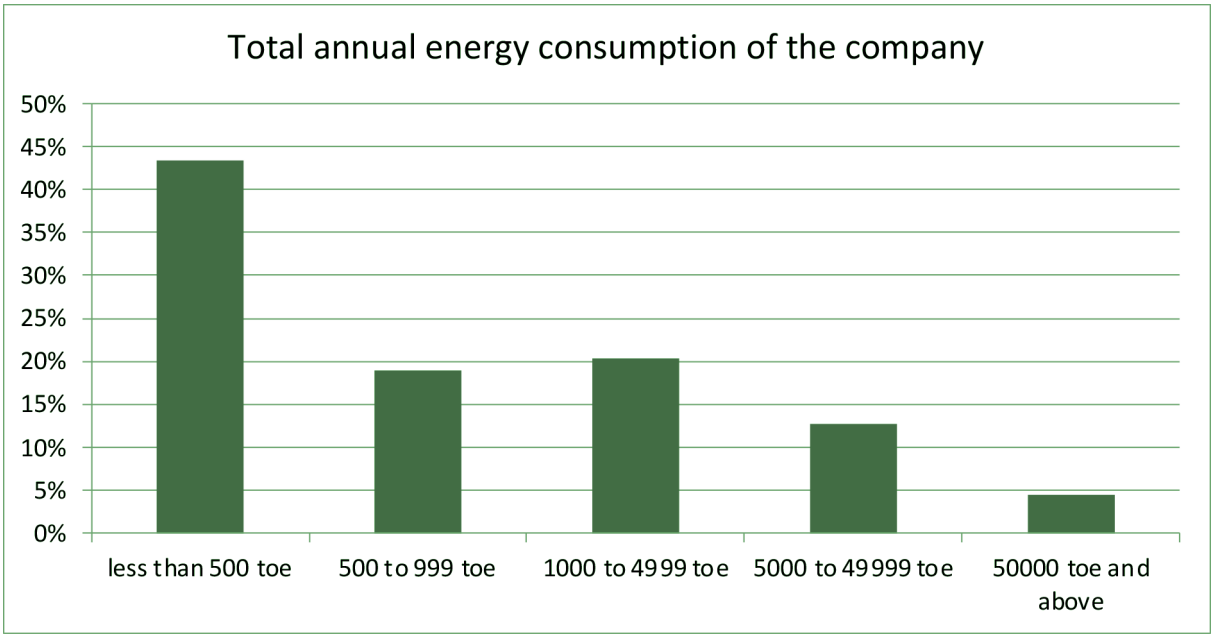
221 of the respondents gave answers related to the total energy consumption per year. 15 participants (i.e. slightly more than 6 %) skipped this question. In 43 % of the businesses in the sample, energy consumption is below 500 tons of oil equivalent (toe) or 5.8 Gigawatt hours per year.

This consumption threshold is relevant, as companies above it may be eligible for the so-called “regional incentives” from the Ministry of Industry and Trade in the form of tax reductions and other benefits, when they undertake investments in energy efficiency measures. Manufacturing industry plants with a minimum of 500 toe of annual energy consumption (lowered in 2019 from 1 000 toe), are eligible to conclude a voluntary agreement to achieve a 10% reduction in energy intensity over 3 years. In exchange, they may receive grants covering up to 30 % of energy bills in an industrial establishment, capped at TRY 1 million. Companies with an energy consumption above 500 toe may also benefit from the EEIP (Energy Efficiency Improvement Project) incentives for their investments in energy efficiency projects designed with a simple payback period of up to five years. These grants support 30% of a maximum project cost of TRY 5 million.

Grant conditions also require that companies appoint a certified energy manager and obtain ISO 50001 certification.

More financial support measures for businesses below 500 toe might add value to energy efficiency gains. And indeed, the legal framework in Türkiye both for requirements, but also for support is developing. For instance,

in July 2022, the Regulation on Energy Resources and Efficiency was adapted , so that not only industry, but also the agriculture, construction, and service sectors can be eligible for project support for the increase of energy efficiency. A focus for the next years is more use of waste heat a wider use of cogeneration in all sectors. Also, negotiations were continuing in 2022 regarding an increase in the amount of support. Periodic reviews, such as that described above, are helpful in ensuring that any barriers to increased energy efficiency are addressed through financial support measures. Regular periodic reviews of financial support measures are encouraged, particularly when legislation is being reviewed or the business environment faces particular challenges.



Other relevant thresholds are 1 000 toe (industrial enterprises above it are required to assign energy managers and conduct audits, and certain additional conditions apply with respect to eligibility of projects for subsidies), and 50 000 toe, above which there is a requirement to establish an energy management unit.

[4]IEA (2021) „Turkey 2021 Energy Policy Review“ p 57

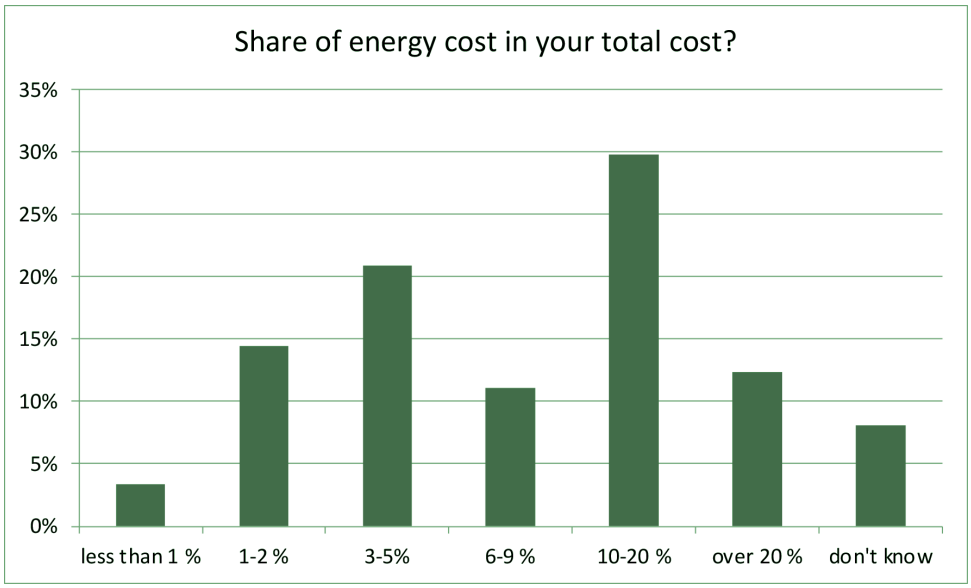
[5]IEA (2021) „Turkey 2021 Energy Policy Review“ p 58

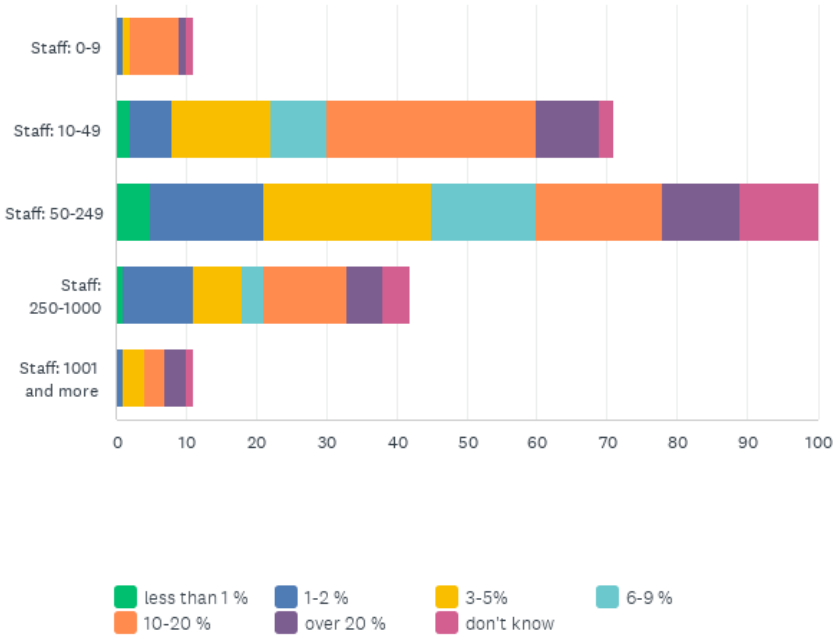
[6]Official Gazette No. 31888, 6 July 2022

• Energy cost

Energy cost is a heavy burden for many of the survey participants. For almost 30 % of the 235 respondents, energy costs amount to 10 - 20 % of their total cost, and for 12 % it is even above 20 %. It is interesting to note that these high energy cost shares are relatively more often reported by smaller businesses (The number of responses for the smallest size group is very low, however, so that this may not be statistically significant).

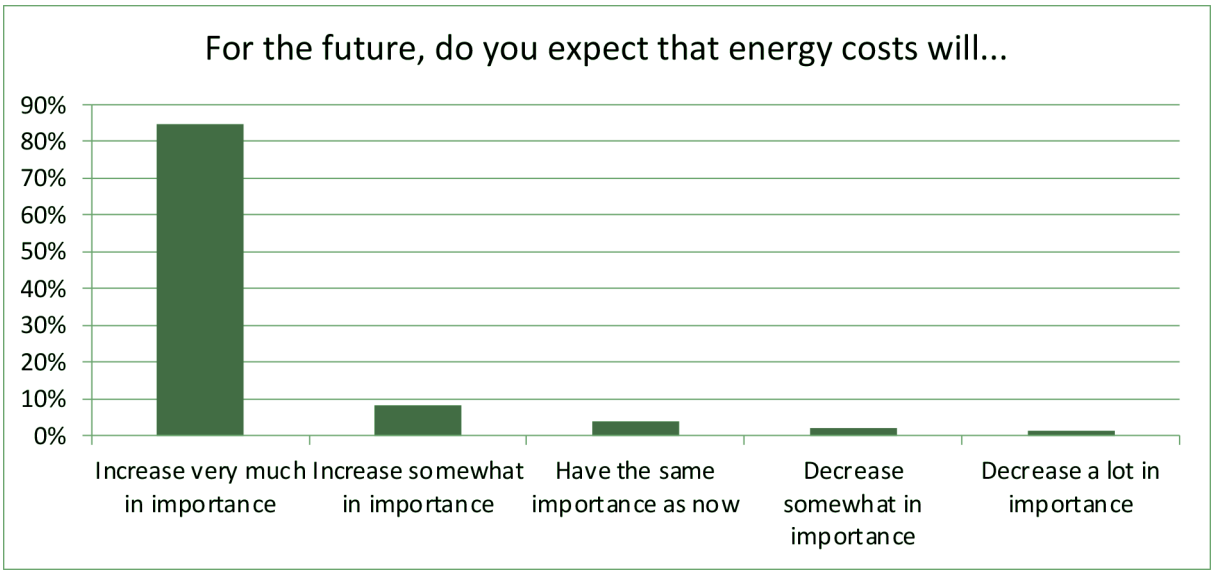
One might assume that smaller businesses have limited staff resources and are thus less likely to know their energy data in detail. However, at least in this sample, the 8 % of respondents that did not know the energy cost share, are distributed quite proportionally over the different size segments.





• Future expectations

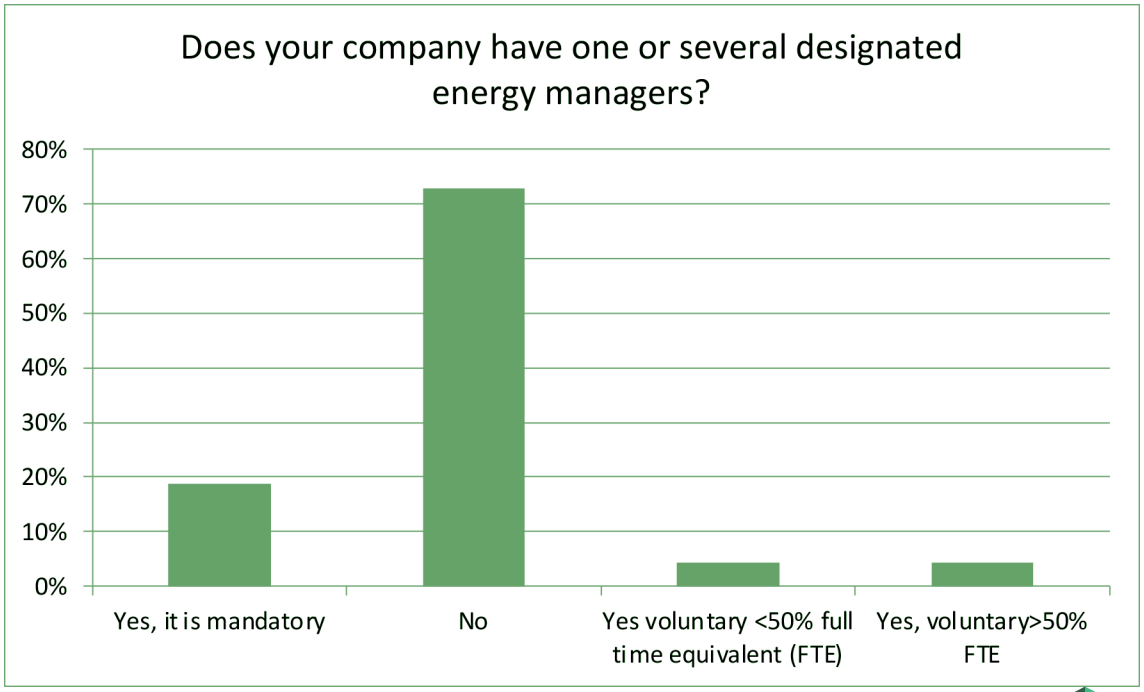
Turkish businesses in the sample are very well aware that energy cost is a topic that will remain on the agenda: The vast majority expect that energy costs will increase very much (85% of 235 respondents) or somewhat (8%) in importance in the future.



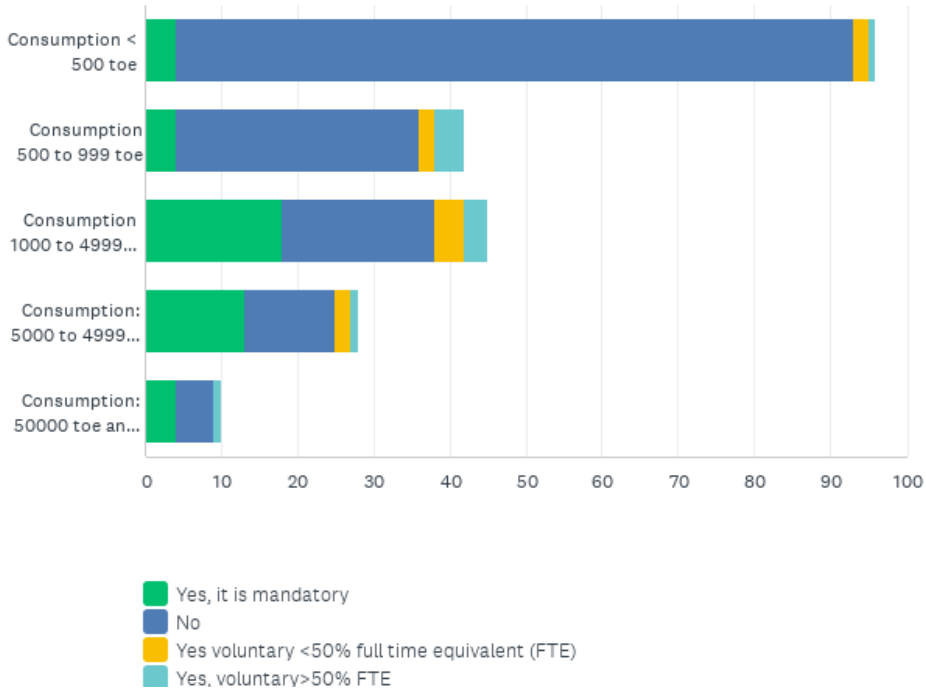
Energy Management

Energy managers

Given the many companies with an energy consumption below 500 toe in the sample, it comes as no surprise that 73 % of them do not (yet) have an energy manager. For almost 19%, however, it is mandatory, and about 8.4 percent do have an energy manager (full or part time) even though they are not legally obliged to. The second diagram shows that the prevalence of energy managers tends to rise with energy consumption.



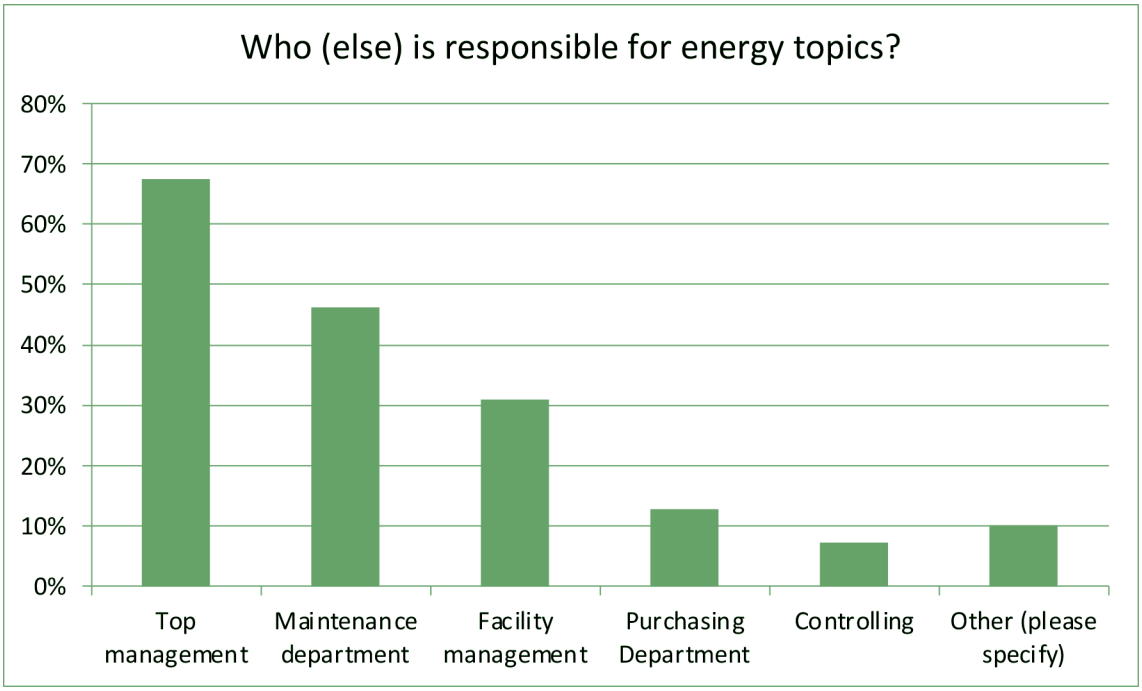
Does your company have one or several designated energy managers?



There are, however, some businesses with high consumption, that answered they did not have an energy manager – The reasons might be that in this survey, also transport fuels were counted in the total energy consumption, whereas for the legal requirements, only the energy consumption for processes and building emissions, and fuel consumed for transport within the facilities, e.g. forklifts, conveyor belts, may be considered. Some also outsource energy management to external energy experts, as the answers to the next question show.

• Responsibility for energy management

Energy management is often the responsibility of top management. This can be positive, as it increases the chance that energy issues are taken into consideration also in other management decisions: 76 % of the 236 respondents mentioned this. (Multiple answers were possible.) On the other hand, top management must often juggle many thematically very different priorities, so that there may not be enough time to dedicate to energy management issues. The maintenance (46 %) and facility management (31 %) departments also play an important role. Among the open text option “Others”, different departments are mentioned, as well as the fact that some companies outsource energy management activities to external engineers or consultants.



Energy Audits

• Prevalence of energy audits and focal areas.

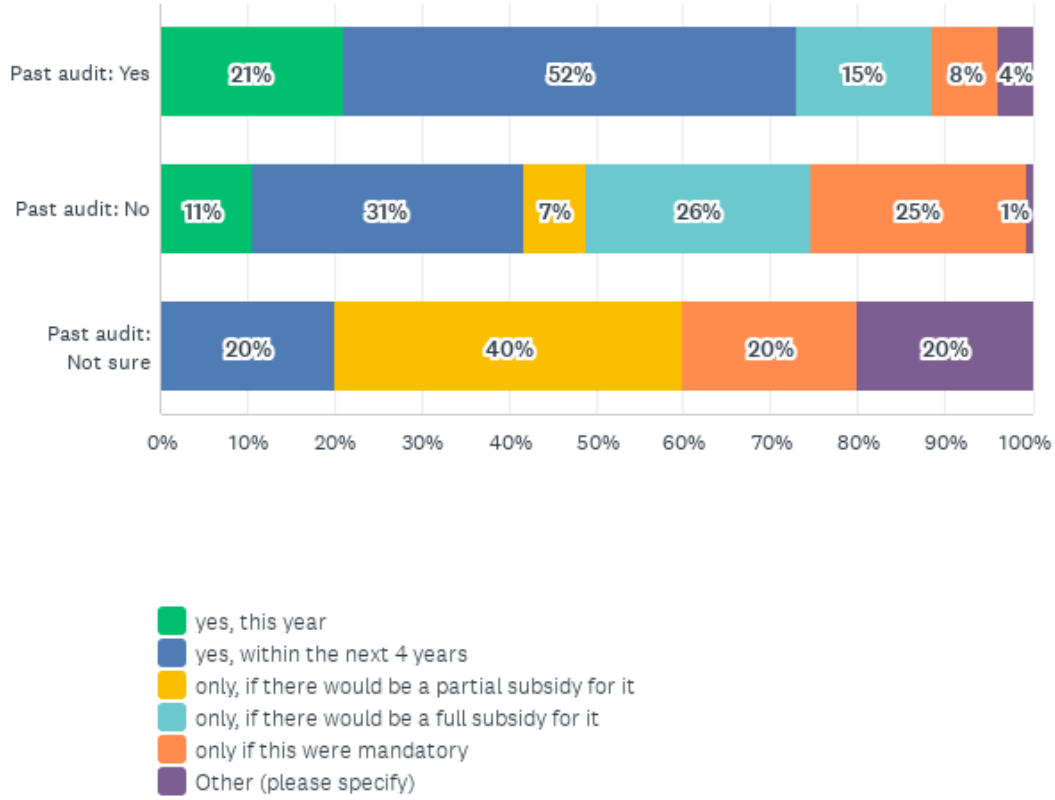
Three quarters of businesses in the sample had not received an energy audit or an energy consultancy visit within in the last 4 years, 1.7 % of respondents were not sure, and 23 % stated that an energy audit had been conducted.

They examined the following areas (multiple answers possible):
78 % Processes
72 % Equipment
63 % Building
17 % Transport/ Vehicles

• Future energy audits

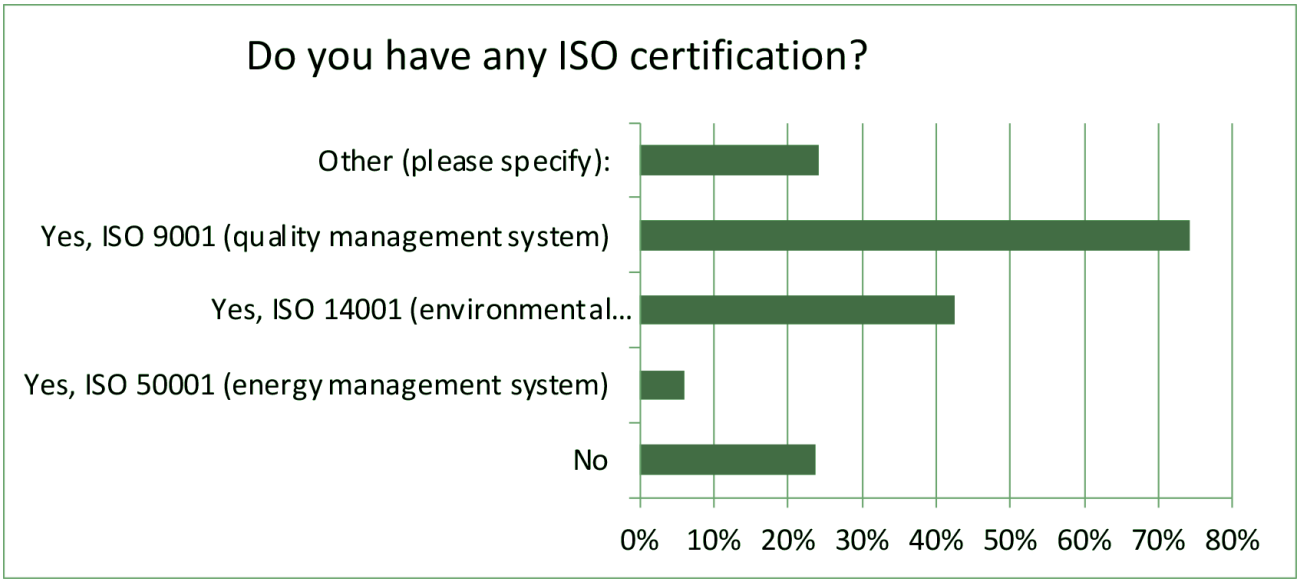
All respondents were also asked, whether they planned to have an energy audit in the future. The majority of those that already had an audit in the last years also planned to have an audit again in the year of the survey (21%) or within the next 4 years (52%).

Also 42% of those that did not have an audit were planning to conduct one. About a third of this group would undertake an audit if it was subsidized, but a quarter would only do so if mandatory.



• Energy Management Systems and other Management System Certifications

Management System Certifications are very widely present in the sample. Only slightly less than a quarter of respondents said, their business did not have any ISO certification.



While only 6 % have an IS0 50001 energy management system certification, 42 % already have a certified environmental management system, and 74 % have an ISO 9001 quality management system. (Multiple answers were possible) Among “Others”, 11% mentioned

Occupational Health and Safety Management Systems, 5 % Information security. Specific sectoral QM-systems like for food safety are also frequent (9% are certified according to ISO 22000), 5 % mentioned some for other sectors, e.g. automotive or medical devices.

Therefore, there is a familiarity with management systems in the manufacturing sector, which often are a good basis for integrating also energy management aspects. In environmental management systems, this is already often the case, though ISO 50001 is even more stringent as regards the improvement of energy performance.

Of those who have not yet introduced ISO 50001, about half (49 %) had considered doing so (more frequently those businesses that already had ISO 14001 or ISO 9001), and the other half (51 %) had not yet considered this.

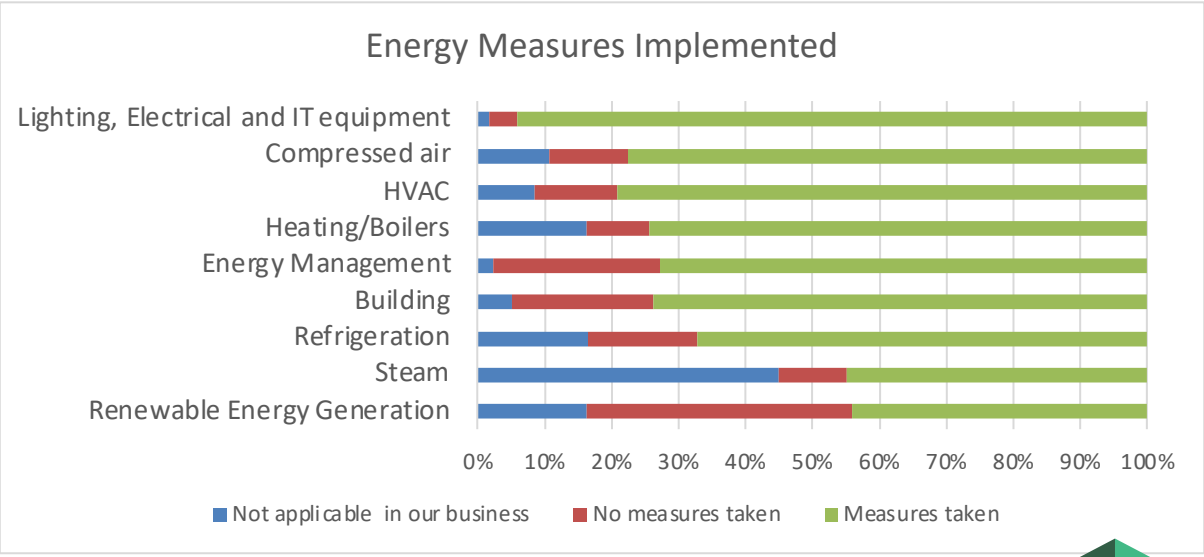
Energy Efficiency Measures

• Energy efficiency measures carried out

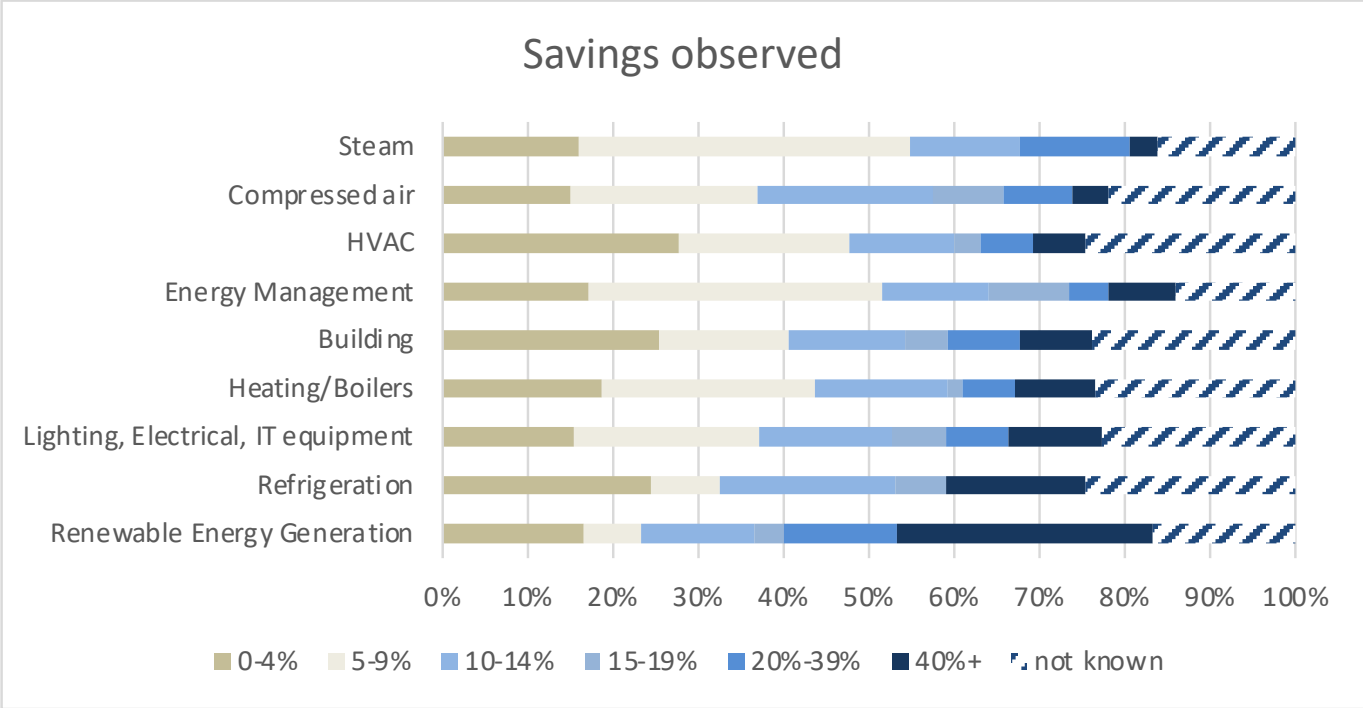
60 % of respondents said they had carried out energy efficiency measures in the last 4 years.

Measures related to lighting, electrical and IT equipment were most popular. 78 % of the 141 respondents who gave details about their energy measures mentioned having implemented measures in this regard. Use of steam is only required in some industries and is very energy intensive. So, many of those that do use steam mention having taken measures in this field. (Multiple responses were possible in this question).

Although it is strictly speaking no energy efficiency measure, installation of renewable energy generation capacity is a very relevant measure to make business energy use more sustainable and was thus included in the list. This is a field, where comparably few businesses in the sample have invested so far.



Participants were also asked to give details on the savings observed related to the implemented measures. On average across the different measures, 21 % of respondents did not know the savings achieved, for the others the range of savings is displayed in the following diagram.



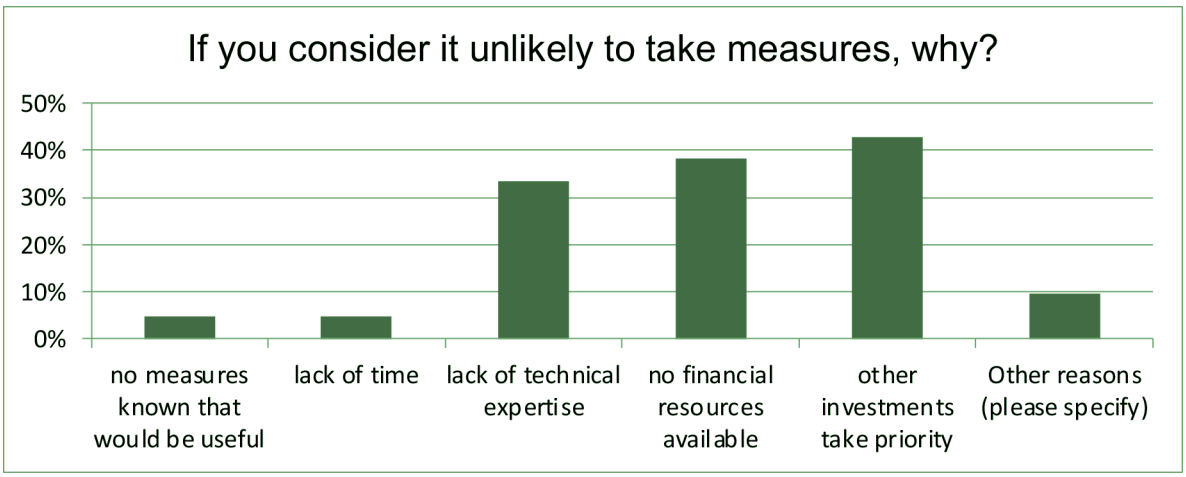
• Future energy measures

While 60 % of respondents have already carried out energy efficiency measures in the past, as stated above, 78 % of 235 respondents said they would do so or were very likely to do so in the next 4 years.

165 of them described in an open text question, in what area they were likely to take measures.
.

• Reasons hindering implementation

Participants who had answered that it was unlikely that they would take measures in the next four years, were asked for the reasons. The reasons most frequently cited were that other investments take priority (43%), that no financial resources were available (38%), and a lack of technical expertise (33%). (42 respondents, multiple answers were possible.)

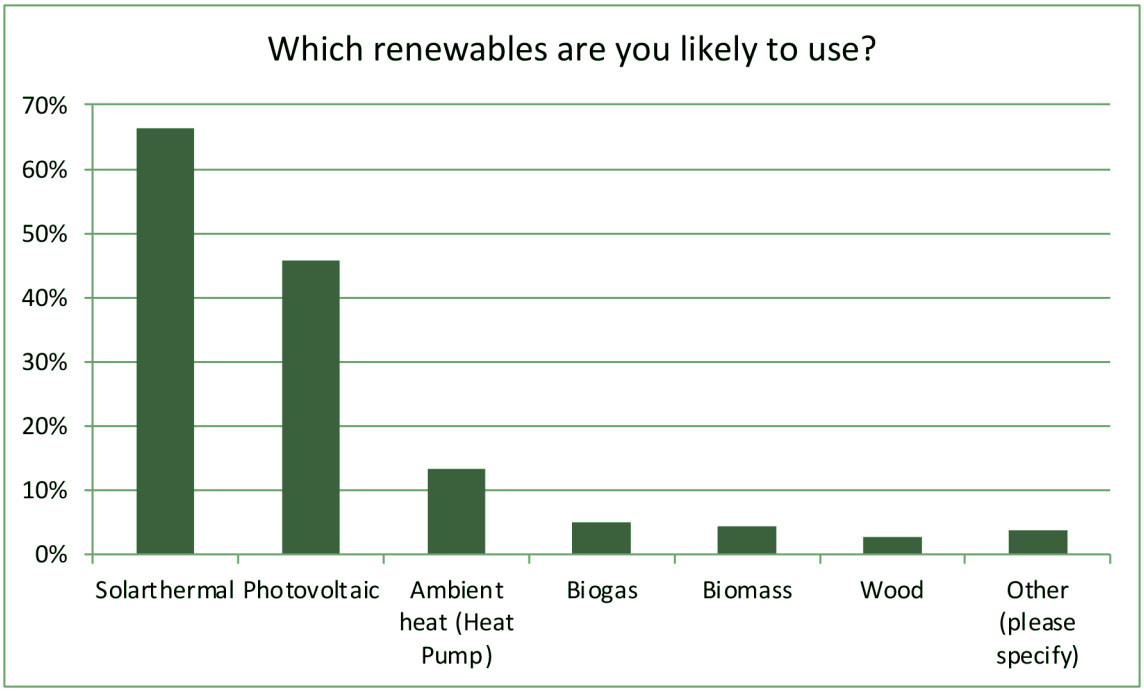


Renewable Energy Plans

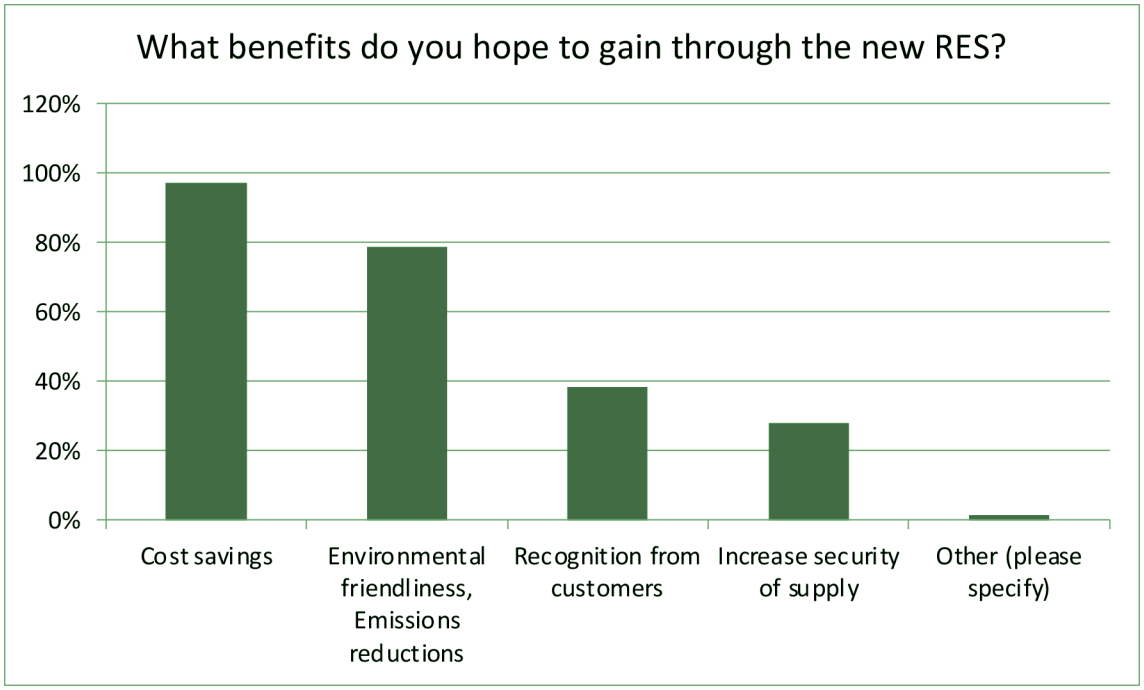
- **Plans for future renewable use and expected benefits.**

79 % of the 231 respondents to this question stated that they were (very likely) planning to use (additional) renewable energy sources.

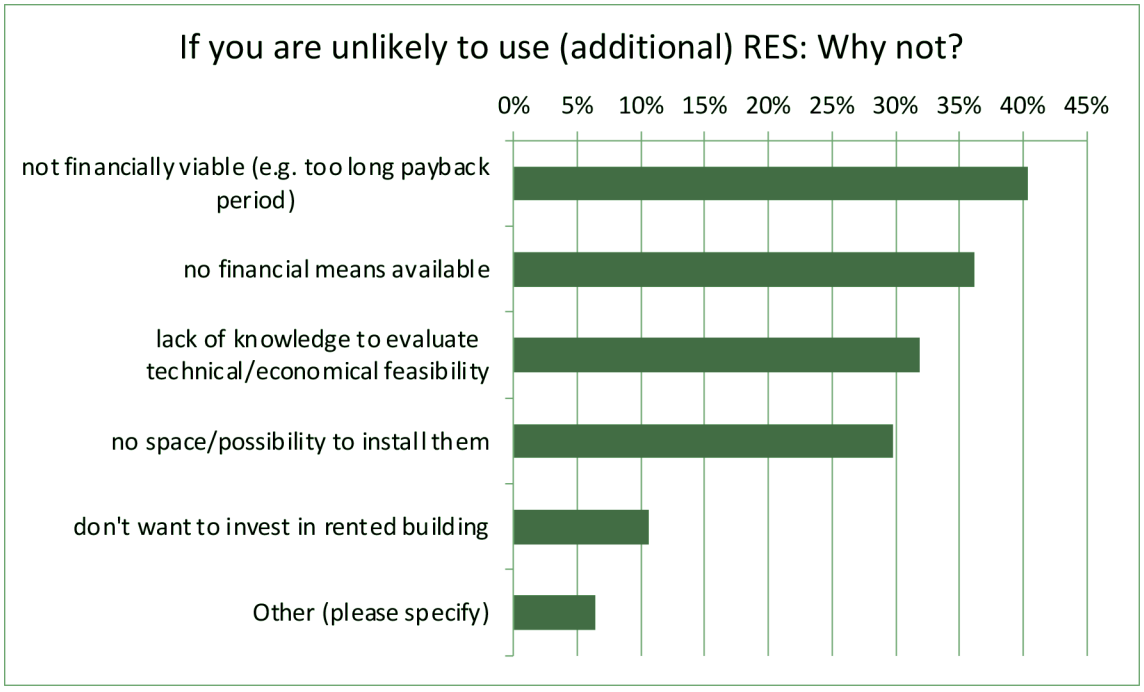
By far most frequently cited among those were solar thermal energy (66%) and photovoltaics (46%), multiple answers were possible.



Achieving cost savings was a motivation for using renewables that almost all (97 %) of the 182 respondents in the question shared. 79 % also wanted to become more environmentally friendly and reduce emissions. About a third of the group also looked for recognition from customers (38 %) and improving the security of energy supply (28 %)



- **Reasons hindering installation of additional renewables**



The most frequently named reasons why businesses considered it unlikely that they would install additional renewables in the near future were the financial viability of the project (40 %) or the lack of financial means (36 %).

In some cases, the issue was that the premises were located e.g. in a technopark, so the business could not dispose freely. Others mentioned they had already invested in renewables and would need time and additional funds/subsidies to consider additions.
(47 respondents to the question, multiple answers possible).

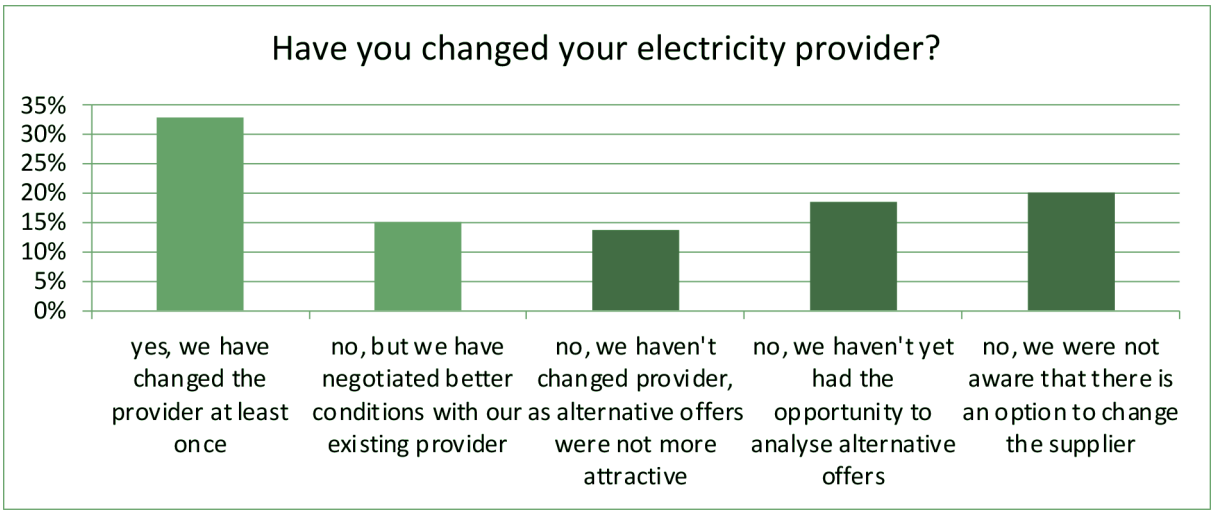
Supplier switching

59 % of the 234 respondents said, their company regularly (e.g. once a year) evaluates the energy tariffs it pays and compares them with alternative offers.

Only a third (33 %), however said they had changed the provider at least once. 15 % have negotiated better conditions with their existing provider, 14 % did not change provider, as alternative offers were not more attractive.

18 % have not yet had the opportunity to analyse alternative offers, and 20 % were not aware of the option to change the electricity supplier.

The latter two groups (mostly SMEs) would probably benefit from more awareness-raising activities as well as information or coaching on how to compare different tariff offers.



Buildings

• Building stock and renovations

The building stock spans a wide range of ages, with many relatively new buildings, as the rough grouping according to the year of construction shows.

Before 1970	**2%**
1970-1989	**9%**
1990-2009	**47%**
after 2010	**34%**

In addition, 8 % of the 208 respondents had several buildings with very different construction phases.

47 % of respondents said they had renovations planned (some mentioned explicitly this was conditional on subsidies being available), 6 % said renovations are carried out based on a needs assessment and 47 % said no renovations were planned. However, more than half of these (26 % of the total) had carried out renovations in the last 5 years or their premises were new.

• Building energy certificates

Energy identity certificates for buildings were not very prevalent among the building stock of the respondents: 6 % said all their buildings had such a certificate, and 8 % said some of the buildings did so, whereas 86 of respondents said their buildings did not yet have one.

However, we have to note that the certificate is not mandatory for buildings operating in administration and production in industry, which is a large part of the sample surveyed.

5 respondents (2 % of 231) mentioned that their premises had special green building certifications like BREEAM or LEED.

77% of participants do not own buildings that are larger than 20 000 m^2 - this threshold value is relevant, because for buildings above that size certain requirements apply – e.g. commercial and service buildings need to conduct energy audits every 7 years.

Economic parameters

Clearly, the financial viability of an investment is crucial for a positive investment decision. As shown above in the case of renewable energy projects, lack of financial viability is one of the main barriers to implementation of more such projects.

However, what criteria businesses define, can differ widely, from requirements of very short pay-back periods to a more long-term investment horizon looking at the total benefits of an investment over its expected useful life.

The following questions aim at understanding better, what criteria businesses in this sample set.

• Maximum acceptable payback time for investments?

Answers given by the respondents ranged from 0 to 25 years, with the median at 5 years, and the mean value at 6.4 years. The results do not vary considerably if segregated according to business size.

56 % of businesses said the criteria for maximum payback time were the same for energy investments as for investments in general, 44 % said they were different.

Of those who had stated criteria were different, 78 respondents gave minimum pay-back times for energy investments. 24% of those allow longer payback times for energy investments, On the other hand, 76% require that the payback time be shorter.

Efficiency in procurement decisions

Purchasing and design decisions – especially with regard to buildings or major pieces of equipment – are crucial moments, as the effect of the choice on energy consumption will be felt throughout the entire useful life of the asset. It is therefore wise to include energy criteria also into all procurement decisions.

• Criteria for product choice

Accordingly, 84 % of236 respondents confirmed that they take energy efficiency of new appliances, machines, buildings or vehicles into account when making a purchasing/planning decision.

More than three quarters (79 %) do this by trying to estimate total cost of ownership including energy-related cost. Product energy labels also serve as a guide (55 %) In the open answers, several participants highlighted that they paid particular attention to energy efficient motors, some conducted measurements of energy consumption at samples, or have demonstrations by the suppliers, some also mentioned experience with certain brands and recommendations from fellow businesspeople and consultants.

• Early replacement of inefficient equipment

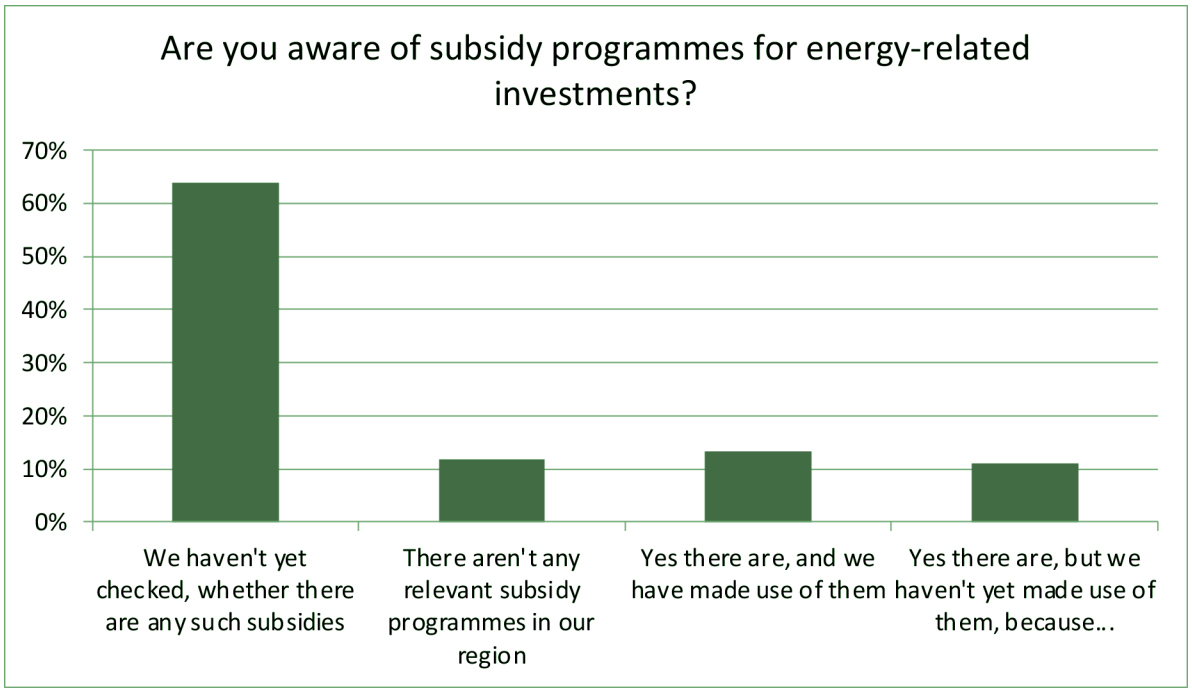
While 5 % of the 37 respondents would replace inefficient equipment before end-of-life, the majority (49 %) would do so only if commercially viable. An almost equally big group (46%) would refrain from changing equipment earlier than necessary.

Support instruments and needs

● Awareness and use of subsidy schemes

13 % of businesses that participated in the energy efficiency activity have already made use of subsidies for energy related investments.

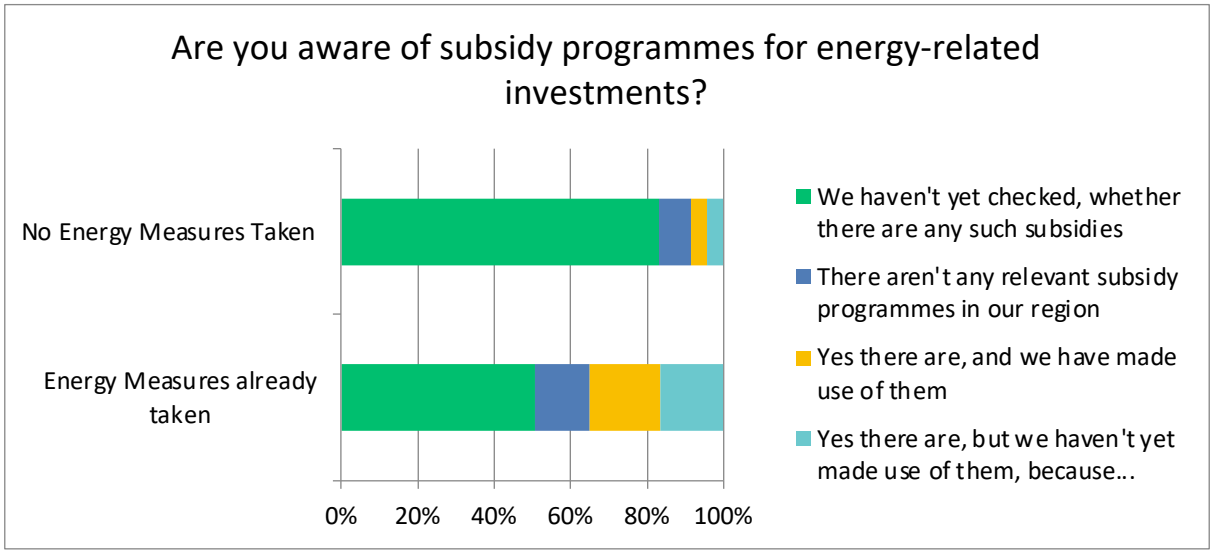
However, almost two thirds (64%) of the businesses had not yet checked whether there were any subsidies available for energy related investments.

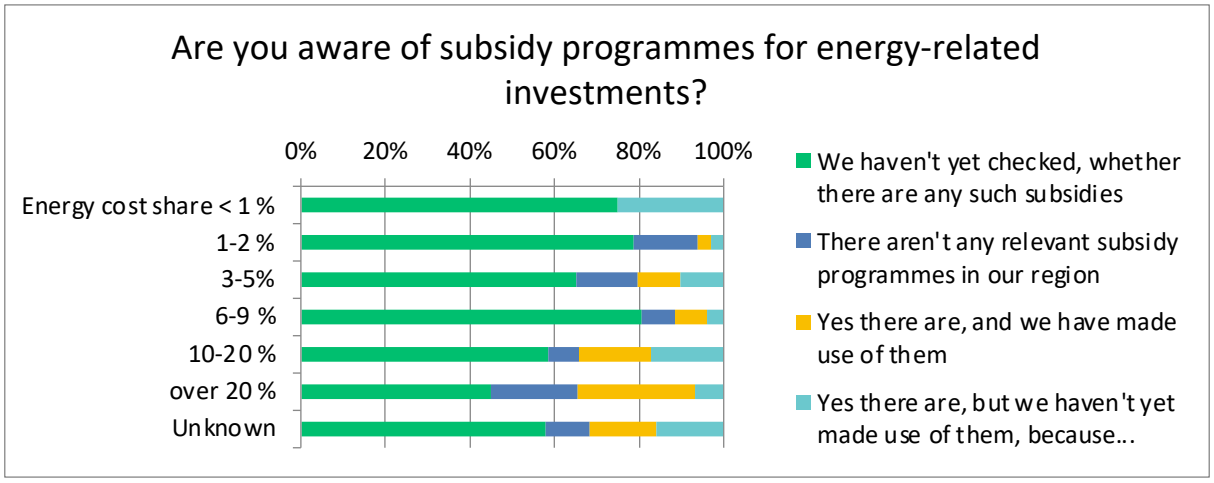


12 % said there were no relevant programmes in their region, and 11 % said that there were subsidies, but they had not yet made use of them. (235 respondents to this question).

Among the reasons cited for not using subsidy programmes, a lack of information about subsidies was relatively frequently mentioned in the comments. In addition, there were a number of comments that referred to barriers of implementing energy projects in general, such as different management priorities, but also to processes taking a long time.

As one would expect, the level of awareness of energy subsidy programmes is significantly higher among those businesses who have already taken energy efficiency measures in the last 4 years.





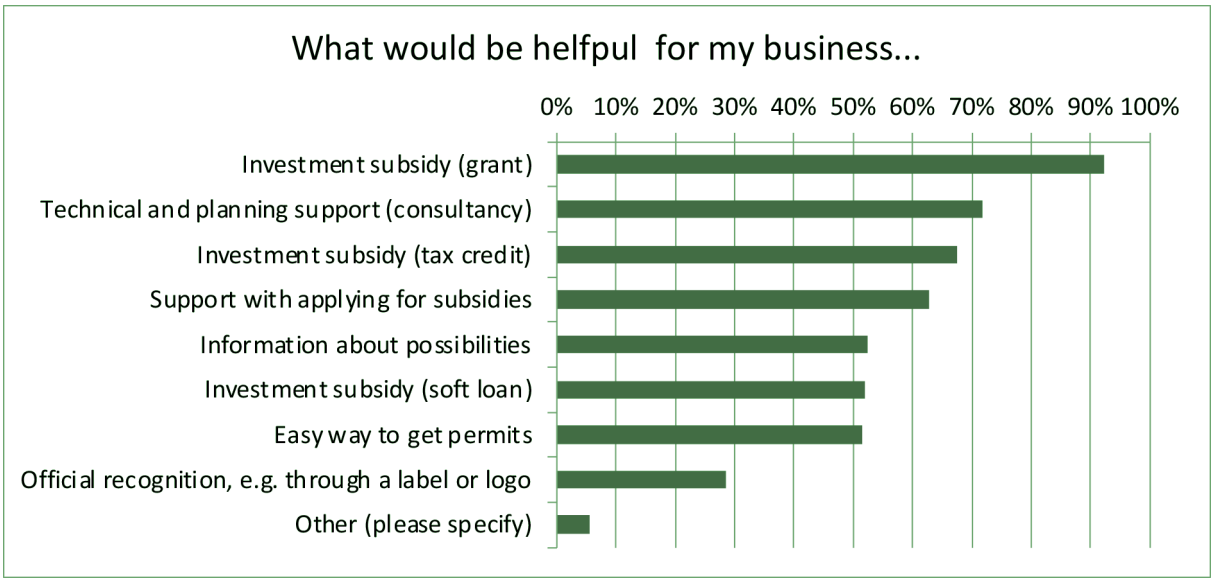
As the above graph shows, businesses that are more energy intensive have more awareness of subsidies and more experience using them. But still, there remains a considerable portion that have not yet examined the availability. Also, it can be seen that there are regions without relevant subsidy programmes.

Similarly, the level of awareness and use of such subsidies increase with the presence of an energy manager and also with the size of the company.

● Support instruments perceived as helpful

As a final question, participants were asked which support measures would help their business take measures to be more energy efficient or use renewables. The following graph shows the preferences of the 231 respondents. (Multiple answers were allowed.)

These answers correspond to solutions to tackle the barriers identified in other parts of the questionnaire.



Support in covering the investment cost is perceived as most important, preferably in the form of grants or tax credits. Support in the form of soft loans are considered less helpful – which can probably be explained by the fact that a reduction of the investment cost – as is the case for a grant – has a stronger impact on the financial viability of the investment. Also, **support for subsidy applications** would be very valuable for the businesses.

Support for technical and planning activities is important, as well as more general **information about the different possibilities.**

Another issue are **permits** – making it easier to obtain them would help about half the businesses.

Official recognition of achievements related to more energy efficiency or environmental friendliness **via a label** would be helpful for about a third of the respondents.

Most participants that mentioned additional ways of support in the open question considered that support for personnel expenses would be valuable. Individual responses also highlighted the possibility of selling excess energy produced, the importance of investment grants for renewable energies and also pointed out the shortage of trained personnel with knowledge of industrialised processes.

These priorities were **relatively similar across business sizes.** Businesses with more than 1000 staff tended to place less emphasis on planning and subsidy application support and information, than the other size groups, though even in the biggest group, slightly more than half the respondents considered this valuable. On the other hand, businesses in the smaller size categories tend to consider easier permits and subsidies in the form of tax credits less relevant than the bigger ones.

[7]Differences between groups not statistically significant, due to small number of responses in the largest and smallest size groups.

6 Recommendations

Capacity Building

The Turkish Chambers clearly have significant outreach potential for their member businesses. Participation was particularly impressive for both the training (30 Chambers of Commerce), in returning completed questionnaires (264 businesses), and in participating in a Turkish Chamber organised workshop (223 businesses). The Turkish Chambers are clearly in a strong position to execute industry outreach and change programmes.

• This notably strong position should be taken advantage of by stakeholders, through involving the Chambers in information gathering, planning, and execution of energy related measures and projects.

• Capacity building for the Chambers should be considered, as a means of maintaining and strengthening their potential to implement outreach and change programmes.

Chamber staff with knowledge of energy matters could act as a first point of contact for businesses, giving basic information and facilitating contact with entities providing or subsidising further activities.

Among the Turkish Chambers, there are entities with little in-house expertise in energy efficiency, and entities, which have considerable in-house expertise, such as Bursa Chamber (BCCI), which have an energy auditing department complete with energy efficiency facilities and training partnerships with a national university.

It is recommended to establish service agreements between Chambers in order to extend the knowledge and service available to the Bursa Chamber (BCCI). An online resources platform allowing Chambers access could be developed, which has both a public profile to allow certain information to be released to participating businesses, as well as a private online area for the Chamber users.

Collaborative knowledge

There are different Chambers throughout the national territory, with the characteristic of representing poles of companies from different sectors. Depending on the area of the country and its type of industry and service companies, the Chambers have a training of knowledge more focused on the type of companies they represent in their area. It would be useful to be able to make this regional or sectorial knowledge available to all Chambers and their businesses.

It is recommended to establish inter-chamber working groups to expose the strengths in specific sectoral knowledge that can define a global field of knowledge that allows, according to the scope that you want to share, a collaborative tool of the best practices available in the field of efficiency and the implementation of projects carried out by companies and that they can learn about the rest thanks to the dialogue of the Chambers themselves.

Support for businesses

Lack of expertise and lack of funds, as well as prioritising other investments, were cited by about **30- 40%** of businesses that said they considered it unlikely to take energy efficiency measures within the next 4 years. Also, for the installation of renewables, lack of financial means or the financial viability of the project was a barrier about a third of the businesses mentioned. Thus, support for the cost of external consultants and for the investment expenditure could be instrumental in enabling those businesses to also contribute to energy efficiency efforts.

• Currently, there is a focus on supporting energy efficiency in larger industrial companies. While this should be continued to achieve major steps in emission reductions, industrial competitiveness, and reduced import dependence for fuels, also support for smaller businesses and the somewhat less energy intensive ones, is recommended. This can bring about a win-win situation helping them cope with energy cost and achieve environmental benefits simultaneously.

• Enable also businesses with energy consumption below 500 toe to benefit from the incentives, if they can achieve the required savings and /or invest in relevant measures.

• Support low-threshold - capacity building activities (e.g. also informing about possibilities in a liberalised electricity market, low-hanging fruit energy measures, etc.) and external consultancy for SME on energy issues, as they may not have the relevant in-house expertise to plan and implement energy measures.

85% of businesses expect energy costs to increase significantly in the future. (The survey started end of June and was completed by September 3, 2021, e.g. just before the major price hikes saw energy markets double just after summer 2021.) This could be a factor in the very high participation rate by business in this TEBD outreach programme. This high expectation and the recent developments also indicate that **the timing may be opportune to promote energy efficiency amongst businesses through further dedicated outreach programmes.**

Respondents indicated the following departments as important in internal energy management: 76% top management, 46% maintenance, and 31% facilities. In such situations, inter-departmental communication and procedures are important in ensuring that decision takers are provided with the information they need to act decisively. Outreach programmes should consider involving varied departments and **modules aimed at strengthening inter-departmental collaboration.**

SMEs would probably benefit from more awareness-raising activities as well as information or coaching on how to compare different tariff offers. This could be incorporated into any knowledge sharing or capacity building outreach programmes.

Carbon footprint and LCA analysis

There is no standardized tool or legal obligation to calculate the carbon footprint for small and medium-sized companies. However, **the calculation of the carbon footprint and the complete life cycle of the product and service** facilitates the understanding of the emissions and pollution caused by the businesses, allows them to measure their consumption, and allows them to plan when acting on measures aimed at increasing efficiency. In addition, it is likely that in the future, more customers will demand information about the carbon footprint of the businesses in their supply chain, either for marketing purposes (e.g. to claim a product is carbon neutral), because they have set voluntary targets, or are subject to reporting requirements in their respective countries of origin.

Therefore, it is recommended to implement simple **online tools that the Chambers of commerce could promote and that would allow different sectors to use simple forms to obtain their carbon footprint.** Such a tool could allow for streamlining of carbon footprint calculations across sectors, with the formulas used able to be updated as developments require.

Planning Cycle

84% of respondents take energy efficiency into consideration when purchasing new equipment, 79% of which do so by considering energy cost as part of the total cost of ownership. 49% of respondents would change inefficient equipment if there was a commercially viable case, while 46% would not. **This also highlights the importance of starting outreach programmes at the inception of new policies or technological advancements,** in order to inform behaviour change in as many businesses as possible, and support them with finding and investing in the most efficient solution.

Energy auditing, management and certification

Only 23% of respondent businesses have undertaken an energy audit in the past four years. Measures promoting energy auditing are important as a first step towards increased energy efficiency - without the energy audits, businesses' ability to identify and implement relevant energy efficiency measures will not be strong. The utility of energy audits is demonstrated by the intention of 73% of respondent businesses which have carried out an energy audit, to repeat an energy audit within the next four years.

E.g. Malta offers SMEs a grant to carry out an energy audit. The grant is a cash contribution to energy auditing costs, requiring that appointed auditors are certified as per regulatory standards, and tiered according to an enterprise's size. View here.

Also in Austria, there are grants for businesses supporting energy audits of different levels of detail, in addition to consulting on other environmental matters. They are organised on a regional level, often as a co-operation of the regional administrations (or their regional energy agencies), and the regional Chambers of Commerce and Industry, and these so called regional programmes, which have been successful since the 1990s, are also co-financed by the national Ministry of Environment. View here. There is also a subsidy programme at national level for SMEs that introduce an energy management system, covering part of related consultancy and training costs as well as part of monitoring and measurement equipment.

Efficiency -without the energy audits, businesses' ability to identify and implement relevant energy efficiency measures will not be strong. The utility of energy audits is demonstrated by the intention of **73%** of respondent businesses which have carried out an energy audit, to repeat an energy audit within the next four years.

86% of respondents do not have any form of building certification. Tying into the above point regarding a long planning-to-project cycle for building modifications, and also relating to the lack of internal expertise or externally sourced expertise (energy managers, energy audits, energy standard certification), this presents an opportunity to **integrate building certification into the longer-term energy strategy, by promoting certification at periodic intervals and integrating building certification into drives promoting energy expertise.** 47% of respondents indicated renovation plans over the next few years, suggesting that timing is opportune to carry out policy measures aimed at increasing the uptake of building certification. It is worth noting that some respondents explicitly stated that the planned upgrades are subject to financial support measures being available.

73% of businesses do not have a designated energy manager. Future outreach programmes should consider **promoting the establishment by businesses of internal (or external) energy managers.** The relatively low percentage of businesses with energy managers indicates that outreach programmes should take into consideration that businesses may need additional support in establishing energy management, including capacity building, training for new energy managers, best practice dissemination, and other such knowledge and capacity building programmes.

In this survey transport energy consumption was included in the total energy consumption for companies, yet legal requirements only oblige companies to mainly focus on process and building emissions. **Integrating transport energy into standard energy auditing and management measures, could yield attractive returns.** Expertise for energy efficiency in transport is a specialist sector, yet efforts to **incorporate it into outreach programmes,** in addition to including it in regulatory and auditing, would be attractive.

Financial Measures

78% of respondents are planning to or consider it very likely that they will implement energy efficiency measures in the next four years. This is particularly high when considering that only 23% of respondents had carried out an energy audit, and only 27% have a designated energy manager. This indicates that the measures being taken are likely 'low hanging fruit'. It also highlights the importance of carrying out energy audits, as audits would result in measures companies might not yet be considering. Respondents who were not planning to implement energy efficiency measures gave the following reasons: other investments take priority (43%), that no financial resources were available (38%), and a lack of technical expertise (33%). The high percentage of businesses intending to implement energy efficiency measures is very encouraging, however, the **lack of auditing, energy managers or energy management systems** presents a risk that measures implemented would not be based on detailed study, and **thus possibly not the most effective choice or combination of measures.** The high motivation to implement such measures could be supported through the provision of technical support through **promotion of energy audits, energy managers, energy management**

systems, and coupled with financial support. Financial support should be designed to address both **availability of funding for businesses, as well as business' reserving internal finances for areas of higher strategic priority.**

43% of respondents consume below 500 toe or 5.8 GWh per annum. Financial incentives exist for companies consuming above these mentioned figures, yet those companies consuming below these figures may be under-represented in financial incentives. **Incentives tailored for businesses with lower energy consumption levels would support efficiency goals** by generating energy efficiency action amongst this group and allowing outreach efforts to businesses to include all targeted businesses through the availability of support measures, thus contributing to a business culture of acting on energy efficiency regardless of business size.

Financial support measures have been tapped by only 13% of respondent businesses. 64% have not checked whether such measures are available. This presents an excellent **opportunity for help desks or other information outreach programmes,** as if this information is successfully brought to the business, it can be expected to result in increased uptake.

According to the responses given in the survey, the maximum acceptable mean return on investment period is 6.4 years. However, it is the experts' view that the threshold for investments in industry can be much lower. **Policy measures should address particularly technologies which offer longer return on investment periods**, as such measures would not be considered at present.

79% of respondents indicated that they were planning to use additional renewable energy sources, mostly solar thermal (66%) and photovoltaics (46%). The motivation is almost exclusively cost cutting, however a desire to be environmentally conscious is strongly present in 79% of respondents. **Key barriers are financial viability of the project (40%) or lack of financial means (36%). Financial support measures could address these barriers.**

74% of respondent businesses have ISO 9001, 42% have environment management systems, and only 6% have ISO 50001. 49% of those which do not have ISO 50001, have considered implementing it. There is significant scope for the adoption of energy management specific certification, such as ISO 50001. **Facilitation measures, including financial support measures aimed at upgrading the business to standards compliance,** could support increased uptake of energy management certifications.

1. Annexes Questionnaire

1. Demographic Information

1. How many employees do you have?

- ◯ 0-9
- ◯ 10-49
- ◯ 50-249
- ◯ 250-1000
- ◯ 1001 and more

2. Sector of activity

- ◯ Industry/Manufacturing
- ◯ Retail trade
- ◯ Wholesale Trade
- ◯ Tourism
- ◯ Other (please specify)
- ◯ Transport
- ◯ Construction
- ◯ Agriculture
- ◯ Services

2. Basic Energy Situation

3. What is the share of energy cost in your total cost?

- ◯ less than 1 %
- ◯ 1-2 %
- ◯ 3-5%
- ◯ 6-9 %
- ◯ 10-20 %
- ◯ over 20 %
- ◯ don't know

4. What energy sources do you use?

- ◯ Coal
- ◯ Heating oil
- ◯ Gas
- ◯ Liquid gas
- ◯ Wood
- ◯ Other biomass
- ◯ Other (please specify)
- ◯ Electricity from the grid
- ◯ Electricity from own photovoltaic plant
- ◯ Solarthermal energy (e.g. hot water)
- ◯ Geothermal energy (e.g. heat pump)
- ◯ Gasoline/diesel for transport

5. How high is the total consumption of energy (e.g. electricity, coal, natural gas, oil) of your company per year?

- ◯ less than 500 toe (tons of oil equivalent)
- ◯ 500 to 999 toe
- ◯ 1000 to 4999 toe
- ◯ 5000 to 49999 toe
- ◯ 50000 toe and above

6. Does your company have one or several designated energy managers?

- ◯ Yes, it is mandatory
- ◯ No
- ◯ Yes voluntary <50% full time equivalent (FTE)
- ◯ Yes, voluntary>50% FTE

7. Who (else?) is responsible for energy topics?

- ◯ Top management
- ◯ Maintenance department
- ◯ Facility management
- ◯ Purchasing Department
- ◯ Controlling
- ◯ Other (please specify)

8.When is your consumption mainly?

- ◯ Winter
- ◯ Summer
- ◯ Homogeneous monthly

9. Do you operate/run consumption all year?

- ◯ Yes
- ◯ No

If no: which months do you consume

3. Use of consultancy/audit

10. Have you had an energy audit/an energy consultancy visit within the last 4 years?

- ◯ Yes
- ◯ No
- ◯ Not sure

11. If "yes", which areas in your company have been audited?

- ◯ Building
- ◯ Processes
- ◯ Equipment
- ◯ Transport/Vehicles
- ◯ Other (please specify)

12. Are you planning to have an energy audit in the future?

- ◯ yes, this year
- ◯ yes, within the next 4 years
- ◯ only, if there would be a partial subsidy for it
- ◯ Other (please specify)
- ◯ only, if there would be a full subsidy for it
- ◯ only if this were mandatory

13. Do you have any ISO certification?

- ◯ No
- ◯ Yes, ISO 50001 (energy management system)
- ◯ Yes, ISO 14001 (environmental management system)
- ◯ Yes, ISO 9001 (quality management system)
- ◯ Other (please specify):

14. If you don't have it yet: have you considered implementing ISO 50001?

- ◯ Yes
- ◯ No

4. Energy efficiency measures

15. Have you carried out any energy efficiency measures in the last 4 years?

◯ Yes ◯ No

16. If yes, in which areas? Did you see any savings in the area measured (e.g. 20 % of compressed air energy consumption)?

	Not applicable in our business	No measures taken	0-4%	5-9%	10-14%	15-19%	20%-39%	40%+	Savings not known
Energy Management	◯	◯	◯	◯	◯	◯	◯	◯	◯
Heating/Boilers	◯	◯	◯	◯	◯	◯	◯	◯	◯
Steam	◯	◯	◯	◯	◯	◯	◯	◯	◯
Heating, ventilation and air conditioning	◯	◯	◯	◯	◯	◯	◯	◯	◯
Compressed air	◯	◯	◯	◯	◯	◯	◯	◯	◯
Refrigeration	◯	◯	◯	◯	◯	◯	◯	◯	◯
Lighting, Electrical and IT equipment	◯	◯	◯	◯	◯	◯	◯	◯	◯
Building	◯	◯	◯	◯	◯	◯	◯	◯	◯
Install Renewable Energy generation	◯	◯	◯	◯	◯	◯	◯	◯	◯

Other (please specify):

17. Are you planning any (further) energy efficiency measures in the next 4 years?

◯ Yes or rather likely ◯ No or rather unlikely

18. Which energy efficiency measures are you likely to take?

19. If you consider it unlikely to take measures, why?

◯ No measures known that would be useful
◯ Lack of time
◯ Lack of technical expertise
◯ No financial resources available
◯ Other investments take priority
◯ Other reasons (please specify)

5. Renewable energy sources

20.Are you planning to use (additional) renewable energy sources?

- ◯ Yes or rather likely
- ◯ No or rather unlikely

21.Please tick the ones you are likely to use:

- ◯ Photovoltaic
- ◯ Solarthermal
- ◯ Wood
- ◯ Biomass
- ◯ Ambient heat (Heat Pump)
- ◯ Biogas
- ◯ Other (please specify)

22. What benefits do you hope to gain through the new RES?

- ◯ Cost savings
- ◯ Increase security of supply
- ◯ Environmental friendliness, Emissions reductions
- ◯ Recognition from customers
- ◯ Other (please specify)

23. If you are unlikely to use (additional) Renewables: Why not?

- ◯ No space/possibility to install them
- ◯ Not financially viable (e.g. too long a payback period)
- ◯ No financial means available
- ◯ Lack of knowledge to evaluate technical/economical feasibility
- ◯ Don’t want to invest in rented building
- ◯ Other (please specify)

6. Supplier switching / Energy price monitoring

24. Does your company regularly (e.g. once a year) evaluate the energy tariffs it pays and compare with alternative offers?

- ◯ Yes
- ◯ No

25. Have you changed your electricity provider?

- ◯ yes, we have changed the provider at least once
- ◯ no, but we have negotiated better conditions with our existing provider
- ◯ no, we haven't changed provider, as alternative offers were not more attractive
- ◯ no, we haven't yet had the opportunity to analyse alternative offers
- ◯ no, we were not aware that there is an option to change the supplier

7. Building implications

26. List the type and number of sites from which you operate

	1	2	3	4	5 or more
Factories	◯	◯	◯	◯	◯
Warehouses	◯	◯	◯	◯	◯
Offices	◯	◯	◯	◯	◯
Distribution Centers	◯	◯	◯	◯	◯
Transport centers	◯	◯	◯	◯	◯
Hotels/Restaurants	◯	◯	◯	◯	◯
Other (please specify)					

27. Do any of your premises have a special green building certification (e.g. BREEAM, LEED,..)

- ◯ Yes
- ◯ No

28. Do your premises have an Energy Identity Certificate?

- ○ Yes, all
- ○ Yes, some
- ○ No

29. Do you own any buildings larger than 20000 m²?

- ○ No
- ○ Yes, one
- ○ Yes, several

30. How often do you renovate your premises?

31. Do you have any renovations planned?

32. When was your premises last renovated?

33. When was your premises constructed?

8. Business Case

34. What is your maximum acceptable payback time for investments?

0 years — 25 years

35. Is it different for energy investments?

- ◯ No
- ◯ Yes (please specify)

9. Purchasing/planning

36. Is energy efficiency of new appliances, machines, buildings or vehicles taken into account when making a purchasing/planning decision?

- ◯ Yes
- ◯ No

37. If yes, how is it taken into account (multiple answers allowed)

- ◯ We try to estimate total cost of ownership, including energy-related cost (purchase + operating cost including energy consumption)
- ◯ We use product energy labels as a guide
- ◯ Other (please specify)

38. Would you replace inefficient equipment before end-of-life?

- ◯ Yes
- ◯ Only, if it is commercially viable
- ◯ No

10. Subsidies

39. Are you aware of subsidy programmes for energy-related investments?

- ◯ We haven't yet checked, whether there are any such subsidies
- ◯ There aren't any relevant subsidy programmes in our region
- ◯ Yes there are, and we have made use of them
- ◯ Yes there are, but we haven't yet made use of them, because...

11. Future expectations

40. For the future, do you expect that energy costs will...

- ◯ Increase very much in importance
- ◯ Increase somewhat in importance
- ◯ Have the same importance as now
- ◯ Decrease somewhat in importance
- ◯ Decrease a lot in importance

12. Support needs

41The following support would help my business to take measures to be more energy efficient or use renewables (multiple answers allowed)

- ◯ Technical and planning support (consultancy)
- ◯ Support with applying for subsidies
- ◯ Investment subsidy (grant)
- ◯ Investment subsidy (soft loan)
- ◯ Other (please specify)
- ◯ Investment subsidy (tax credit)
- ◯ Easy way to get permits
- ◯ Information about possibilities
- ◯ Official recognition, e.g. through a label or logo

Administrative information

42. Please enter your chamber code (5 letters) and the number you assigned to the company visited.

This project is co-funded by the European Union
and the Republic of Turkey

TEBD TURKEY-EU BUSINESS DIALOGUE

The project is implemented by

EUROCHAMBRES

in partnership with

THE UNION OF CHAMBERS AND COMMODITY EXCHANGES OF TURKEY TOBB

20 CFCU years
REPUBLIC OF TÜRKIYE MINISTRY OF TREASURY AND FINANCE
CENTRAL FINANCE & CONTRACTS UNIT

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