YOUNG ENERGY EUROPE

Success Factor Energy Scouts

Young Energy Europe 2017 - 2020

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Supported by:

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based on a decision of the German Bundestag

European Climate Initiative EUKI

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Dear readers,

Energy efficiency is called the sleeping giant of the energy transformation. Young Energy Europe has trained Energy Scouts from companies in four European countries in an effort to awaken this giant. It is doing so, to continue the metaphor, with a double espresso and a breakfast full of innovative and tailor-made approaches to improving energy and resource efficiency, all developed within the companies.

The efficient use of energy and other finite resources represents environmental protection in practice. It provides companies with clear cost advantages and increases their competitiveness. Through efficiency and climate awareness, companies not only save costs but can also offer sustainably manufactured products and services. Companies which use fewer resources and have fewer emissions have a more sustainable business model.

After three years of Young Energy Europe, 339 trained and motivated Energy Scouts are currently assisting their companies in the search for potential efficiencies. The Scouts have designed photovoltaic systems, converted lighting to LEDs and optimized compressed air systems in their companies. Is there an idea that can help your company? I recommend you read the Energy Scouts' success stories and best practices.

Yours,

Sofie Geisel
Managing Director DIHK Service GmbH &
Member of the Executive Board of DIHK e. V.

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Dear Energy Scouts, Young Energy Europe Team and readers,

in 2017, the German Federal Ministry for the Environment launched the European Climate Initiative (EUKI) to share knowledge and experience about environmental protection across national borders. The Energy Scouts are part of the EUKI community: people who are working in a very concrete fashion, in the places where they live, to create an environmentally friendly, modern Europe with a high standard of living. This "EUKI community" now includes over 140 organizations in 25 countries.

Personally, I am particularly pleased to see how Young Energy Europe reflects the spirit of the EUKI: small initiatives, such as the training of junior staff, can achieve great things! What I have in mind is not only the reduction in emissions, but also the motivated colleagues who think outside the box, pass on their knowledge and contribute to the European community through new contacts. In doing so, you are paving the way towards the long-term goal of a climate-neutral EU by 2050.

Wishing you all the best,

Stay engaged!

Dr. Silke Karcher
Head of EU Climate and Energy Policy Division, European Climate Initiative, Carbon Markets
in the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety


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Kateřina Kleinová
Lear Corporation s.r.o., Czech Republic

"I worked at Lear Corporation, a company that has four plants in the Czech Republic. My position was coordinator for continuous improvement, i.e. a coordinator for the improvement of processes throughout the plant. Three of us took part in the course. We found out about it from our HR manager. I really liked the course because no one in the company had ever looked at reducing carbon emissions before. [...] We wondered what we would learn and didn't have high expectations. I must say that we were very pleasantly surprised. During the course, we met many interesting people who gave presentations on various subjects. We learned a lot of important information, so I definitely recommend everyone take the course."

Atanas Milev
ABB Bulgaria EOOD - Petrich, Bulgaria

"Our Energy Scout project concerns an on-grid system for the generation of electrical energy through a rooftop photovoltaic system with a peak output of 30 kW for our own consumption. The system operates in parallel with the public power grid. We've calculated that it can fully meet the energy needs of the firm."


©DIHK


Kurz Young Energy Europe: Při úsporách firmám pomáhají inovativní technologie

5.7.2020 | Česko-německá obchodní a průmyslová komora | Firemní

Bezdrátové řízení vytápění, modernizace osvětlení nebo kamerové senzory zabraňující plýtvání potravin – projekty úspor, které vzešly ze vzdělávacího kurzu pro zaměstnance Young Energy Europe (YEE), ukazují, jak inovativně šetřit zdroje.

zleva: René Harun (ČNOPK), vítěz soutěže Jan Bílek (firma Preol), Janine Hansen (Dinkl Service GmbH)

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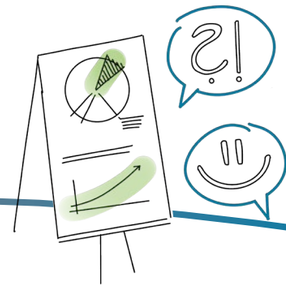
Training Process

Registration
Interested companies register their employees to participate in the training program at their German Chamber of Commerce and Industry (CCI, in German: AHK).

Workshop
The four-day workshop provides a basic understanding of energy - from generation to efficient use and related technologies. To facilitate practical implementation, project management, internal communication and the practical use of measurement instrumentsare also addressed.



Adam Balampanis
TrainOSE SA, Greece

"We installed sensors on energy-intensive machinery which gives us a daily overview of consumption. Special equipment we needed for our project, such as a thermal imaging camera, we received from the German-Greek AHK."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Ágnes Sebestyén
DENSO Manufacturing Hungary Ltd, Hungary

"The most exciting thing was that we replaced two pneumatic pumps with one electric pump on a drill grinder. This type of electric pump did not even exist before, so our team had to develop it from scratch. In this way, we reduced the old pump's energy consumption by 20%. We also used energy-efficient nozzles in our air pressure system and eliminated leaks."


Wirtschaft
Budapester Zeitung

Young Energy Europe

Eine Qualifikation für Klimaschutz und Kosteneinsparung

Im September 2018 startete in Ungarn die erste „Energy Scouts"-Schulung des internationalen Projekts Young Energy Europe. Das übergeordnete Ziel von Young Energy Europe ist es, Junge Fachkräfte für den betrieblichen Klimaschutz zu sensibilisieren.

Im Rahmen von kostenfreien Workshops sollen junge Mitarbeiter zu „Energy Scouts" ausgebildet werden, die den Energieverbrauch in ihren Unternehmen überwachen und Energieeinsparpotenziale erkennen. Dazu erhalten die angehenden „Energy Scouts" mithilfe von leihbaren Messgeräten Verbrauchsdaten und formulieren anschließend Zielsetzungen für ein betriebliches Energieeffizienzprojekt.

Kostenfreie Teilnahme

Die erste Schulungsgruppe besteht aus 30 Personen und setzt sich aus Untergruppen mit zwei bis fünf Personen aus insgesamt zehn Firmen zusammen. Für die Teilnahme an einer „Energy Scouts"-Schulung wird keine berufsfachliche Spezialisierung vorausgesetzt; die Schulung ist überdies kostenfrei. Am ersten Schulungsdurchlauf, der bis Ende Januar 2019 dauert, nehmen ausschließlich Unternehmen aus dem produzierenden und verarbeitenden Gewerbe teil. Für die zweite „Energy Scouts"-Schulung (Beginn: September 2019) können auch Berufsanfänger und junge Arbeitnehmer aus verschiedenen Unternehmensbereichen im Alter von 20-35 Jahren bewerben.

Die Teilnehmergruppe der Hipp Kft. begründete ihre Teilnahme mit den positiven Erfahrungen, die sie bei der EUREM „EnergyManager"-Qualifizierung gemacht hätten. Die EUREM-Qualifizierung, deren Lizenznehmer ebenfalls das Wissenszentrum der AHK Ungarn ist, bietet eine berufsbegleitende, praxisnahe Weiterbildung im Bereich energieeffizienter Technik für Energieverantwortliche in Unternehmen. „Die Energy Scouts'-Schulung soll uns dabei helfen, Schwachstellen in unserem Unternehmen kosteneffizient zu erkennen", erklärte Tímea Kiss-Molnár, Umwelt- und Energiebeauftragte von der Hipp Kft. Das Gesamtpaket habe sie sofort überzeugt. „Die kostenfreien Messgeräte sind eine einmalige Möglichkeit, um umfangreiche Datenerhebungen mit hochwertigen Messgeräten durchzuführen. Diese sollen auch für andere Unternehmensbereiche und -abläufe nutzbringend verwertet werden. Langfristig erhoffen wir uns, dass die Teilnahme an Young Energy Europe die Nachhaltigkeit und Eigenständigkeit der Abteilungen bezüglich Energieeffizienz erhöht", so Kiss-Molnár.

„Die Energy Scouts'-Schulung soll uns dabei helfen, Schwachstellen in unserem Unternehmen kosteneffizient zu erkennen."

Praktische Umsetzung des theoretisch erworbenen Wissens: Energy Scouts bei der Leckage-Ortung

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Practice phase
This is followed by a period of several weeks during which the Energy Scouts design and implement their own energy efficiency project in their company.

Project presentation
In the last module, the practical projects are presented in a joint workshop and evaluated by a jury, with the best receiving an award. Participants benefit from the experience gained in other companies and receive suggestions to conduct their own searches for more potential savings. Finally, the Energy Scouts receive a certificate from their AHK.

1 2 3 4

339
Energy Scouts trained

©European Climate Initiative

YOUNG ENERGY EUROPE

143
Practical projects designed

135
Companies inspired

©German Consulate General Thessaloniki

©European Climate Initiative

The Energy Scouts' projects demonstrate how companies can cut carbon emissions by 26,600 tons per year.

26,600 t CO_2

If all projects are implemented, the companies would reduce carbon emissions by around 26,600 tons per year.

This corresponds to the annual CO_2 absorption capacity of an average growing forest consisting of over

2.1
million beech trees.*

*A beech tree binds an average of approx. 12.5 kg of CO_2 per year during growth. (Forest Centre of the University of Münster)

The projects designed by the Energy Scouts reduce consumption of electricity and other resources.

around

44,400
MWh electricity / year

This corresponds to the average annual electricity consumption of over

15,800
households in Germany.*

The Energy Scouts identified potential reductions in resource consumption in many areas, including

3.6 million
liters of fuel

and e.g.

531,000 m^3
water

oder

260 kg paper per year

*Average household electricity consumption in Germany without thermal storage heating 2018 = 2,801 kWh/a (BDEW/2019)

AHK Czech Republic

Training focus: Czech Republic

In the selection of practical projects, we did not restrict our Energy Scouts to the subject of energy efficiency. The topic of water as a resource was very popular among the participants. This resulted e.g. in projects designed to conserve water through the efficient handling of drinking water, restricting water flow, avoiding water loss and educating the staff, as well as the storage and use of rainwater and the use of water to cool buildings and processes.

Soft skills played a key role in helping participants to better present and implement their projects in the company. For example, we identified relevant internal stakeholders for the projects, formulated arguments and honed presentation skills over the course of the training. The Scouts with little exposure to typical project work particularly appreciated the lessons on soft skills. We also received feedback several times that the Scouts gained a new perspective of the global context thanks to the seminar on environmental protection.


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©Jaromír Zubák, AHK Czech Republic


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Bernard Bauer
Executive Board Member, AHK Czech Republic
YEE's three years in the Czech Republic have been a success story. 78 young employees designed projects for their companies which, if implemented, are expected to cut annual carbon emissions by more than 7,200 tons. This in addition to energy efficiency projects which should save around 3,300 MWh in electricity and resource conservation projects which should save around 531,000 cubic meters of water and 6,300 MWh of natural gas.


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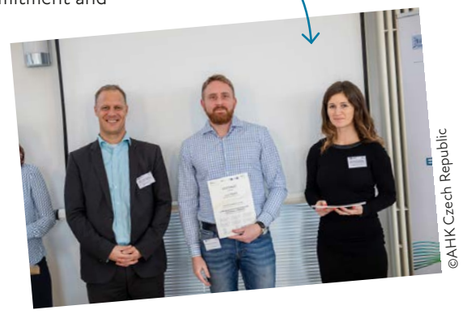
René Harun
Deputy Managing Director, AHK Czech Republic
Energy efficiency and savings are crucial in the Czech Republic as well, and represent important economic factors. This is driven not only by high energy prices and the adoption of low-energy standards for all planned buildings and the tightening of efficiency targets after 2020, but also by subsidies for insulation and efficient home, heating and heat recovery technologies. So YEE is spot on here.

Renáta Knollová
Senior Project Coordinator YEE, AHK Czech Republic
For me personally it was nice to experience the great commitment and active participation of the Energy Scouts in the training. Although the young participants came from different companies, sectors, and positions and brought different experiences with them, they quickly found each other and exchanged ideas. This was the case not only in the analysis phase, when the participants were searching for a practical project. Even in the competition for the best projects, the teams supported and inspired each other and demonstrated the motivation to push their project through in the company.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Dita Šépková
Senior Project Coordinator YEE, AHK Czech Republic
Climate protection is highly topical and much discussed, but practical measures are only slowly gaining acceptance from my perspective. This is where the Energy Scouts come in, combining theory and practice. The projects developed in the course prove it. I am particularly pleased that we have been able to recruit experts as lecturers for this project, who have really inspired the young Energy Scouts.

Pavel Zámyslický
Director of Energy and Climate Protection Department, Czech Ministry of Environment, YEE jury
Due to the legally prescribed limits, but also for purely economic reasons, most companies are interested in reducing energy consumption. The Young Energy Europe project shows ways to identify potential savings and thus reduce costs.


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Soňa Jonášová
Director of the Circular Economy Institute, YEE I ecturer
The course is an excellent tool that gives companies the opportunity to put the knowledge they have acquired directly into practice.


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Arne Springorum
Founder HE Consulting s.r.o., YEE lecturer
The training course is great: the participants are highly motivated, the projects are of very high quality and they result in savings. I wish we could launch such a training program every month.


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AHK Bulgaria

Training focus: Bulgaria

In adapting the curriculum for Bulgaria, we combined three proven modules, Energy Efficiency, Resource Efficiency and Mobility, with the Project Management & Economic Analysis and Presentation Techniques & Soft Skills modules. The goal from the beginning was to offer these five modules at two locations. In addition, we expanded our offerings by adding exchange activities such as excursions like the “Green Day” event and alumni meetings.

At the annual “Green Day” event, Energy Scouts from two training locations visited reference projects such as passive houses and met experts in the fields of energy efficiency and environmental protection.

We developed a score card system in order to enable holistic evaluations of the numerous environmental aspects of each company, which are visually represented as leaves of a tree. Based on small audits with mentors, the Scouts learned to identify and, more importantly, to assess the key performance indicators (KPIs) for energy and resource efficiency in companies. The KPIs they calculated are compared against industry benchmarks and the sheets are colored green, yellow and red accordingly. All the Scouts used this analytical tool in their companies.

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The audience finds each company’s performance indicators for energy efficiency on their name cards.

©AHK Bulgaria

The annual award ceremonies provided an opportunity to reach out to many stakeholders. Before the event, all guests received a brochure with information about the teams, the projects and the expected savings in each company. Informal alumni meetings helped promote the knowledge transfer between Energy Scouts from different years, as the network of Bulgarian Energy Scouts became denser and more sustainable. In three years, we have trained 105 Scouts from 34 companies and 13 cities.

Dr. Mitko Vassilev
Managing Director, AHK Bulgaria

Young Energy Europe is an outstanding opportunity for Bulgaria and the local companies to offer young Bulgarian professionals a sustainable training. The program not only teaches basic knowledge in the fields of energy efficiency, resource efficiency and mobility, but also applies this knowledge in practice. With practical projects conceived within the company itself, the Energy Scouts contribute to a climate-conscious economy. The international exchange promotes the cross-border transfer of know-how and is particularly effective in motivating the young participants in the program. A great project within the framework of the European Climate Initiative.

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Dr. Mitko Vassilev presents participation certificates for 2019 to the Bulgarian Energy Scouts

Dr.-Ing. Krassimira Dimitrova
Project Manager YEE, AHK Bulgaria

A key principle for Young Energy Europe is that any company can take part, regardless of which products or services it provides and whether it’s a start-up, small business or large conglomerate. A second principle is the linking of theory and practice: the participants plan practical projects in their companies based on the knowledge they acquire, which are then assessed by a jury of experts. The Energy Scouts thus compete as a team from one company and are highly motivated. The knowledge and skills they acquire in the field of energy and resource efficiency and their awareness for the environment will ideally stay with them for their entire careers. Finally, the Energy Scouts demonstrate that highly beneficial projects can be planned even with limited prior knowledge and at relatively little expense. All you need is creativity and motivation.

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Ing. Ralitza Kusheva
Project Manager, Uphold OOD and Energy Scout

We are a small start-up providing an innovative platform for the use and disposal of industrial waste. Since we are a small team with only two members, we were hesitant to participate at first.

How fortunate that we were brave enough to do it, because the training was very helpful. I was fascinated by the professionalism of the lecturers, the subject of the training and the large number of interested participants. Thanks to the project management seminar, we have learned to apply in detail the steps we go through for our economic analysis. I found the training in presentations & soft skills to be especially helpful. I am a trained civil engineer and I’ve learned how to do calculations, but not how to present the results.

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Raliza Kusheva receiving an award for “feasibility” in 2018.

In the final competition, I initially thought the most important criterion would be the scale of the results achieved. Although first place went to such a company, our project was recognized for its “feasibility,” which we are really very proud of.

Excerpt from an interview for the magazine “1kam1”, January 10th, 2019

AHK Greece

Training focus: Greece

In Greece, we set two goals for the implementation of the project Young Energy Europe. First, we wanted to reach potential Energy Scouts and businesses throughout the country, and second, we wanted to make local greek Chambers of Commerce aware of the issue of energy consumption. As a result, training courses were held not only in Athens, but also on the island of Crete and in Thessaloniki, in cooperation with the well-connected local greek Chambers of Commerce. In addition, lecturers were trained at all three locations so that the Energy Scouts would have direct contact persons in their region. During the four-day training courses, participants were given in-depth instruction in the areas of environmental protection, energy efficiency, resource efficiency and corporate mobility. As the sun shines all year round in Greece, the use of photovoltaic systems proved to be a key topic.

Prof. Dr.-Ing. Athanassios Kelemis
Executive Board Member, AHK Greece

Energy efficiency and reducing costs are important issues for more and more companies in Greece. The Greek economy is benefiting from the work of the young Energy Scouts, who are developing innovative and exemplary ideas for companies.

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Greek award ceremony 2019 with Energy Scouts Christina Skarmoutsou and Mona Kotsini

©AHK Greece

AHK European conference in Athens, 2019
Gabriel A. Brennauer, AHK Hungary, Dr. Mitko Vassilev, AHK Bulgaria, Prof. Dr.-Ing. Athanassios Kelemis, AHK Greece, and Bernard Bauer, AHK Czech Republic

Athanasios Mitakakis
Maintenance Technical Training Department of Rolling Stock Maintenance, TrainOSE

Participation in the Young Energy Europe training program gave our young engineers the opportunity to learn about the latest discoveries in the fields of energy and resource efficiency and to get in touch with colleagues from other companies who are as sensitive to environmental issues as TrainOSE. Implementing some of the new skills our Energy Scouts have acquired during the program is already having a positive impact on our company's environmental footprint.

Vassilis Sakas
Lecturer, YEE Training Sessions

It was heartening for a lecturer to witness the enthusiasm and resourcefulness of the participants at YEE's seminars. The young participants, although not all of them had basic technical expertise, developed a solid understanding of the subject matter of the seminar. With the knowledge they acquired, they will certainly be able to make their small contribution to environmental protection, both at work and in their private lives.

©AHK Greece

Vassilis Sakas with Energy Scout Panagiotis Milionis.

Sarina Thiele
Head of Training and Further Education, AHK Greece

Young Energy Europe is about young professionals taking action in their companies in order to do something for the future of the planet. Entrepreneurs and employees from a wide range of industries from all over Greece have recognized and demonstrated that energy and resource efficiency are important and feasible goals in their companies. In some cases, easily implemented measures such as replacing conventional lighting with energy-efficient LED lamps can bring demonstrable cost savings as well as increasing receptiveness for environmental protection measures within the company. The young people learned how to handle measuring instruments such as light meters, current clamps and power consumption meters, which they used to make actual, comprehensible calculations for their projects. During the final events, they took part in a competition in which they presented their ideas to a jury and an audience consisting of company representatives, journalists and the instructors.

©AHK Greece

Sarina Thiele with the winner, Athina Gonata of Tora Lub Ltd.

Almost all of the participants became proud Energy Scouts and saw themselves as trailblazers in their company, raising awareness for the issue of energy consumption and its impact on the global climate and the environment.

AHK Hungary

Training focus: Hungary

An experienced provider of advanced education and training courses, the YEE project team of the German-Hungarian Knowledge Centre (DUWZ), a subsidiary of the German-Hungarian AHK, relied on proven means and methods to recruit future Energy Scouts. Through direct approaches to managing directors and HR managers on site, telephone and e-mail contact, a special website and PR articles in suitable trade publications, the project team was able to record above-average participation in all three training courses.

The total number of participants, 102 committed young professionals from 33 Hungarian companies, is indicative of the high demand and success of the training. The Scouts come from 24 different cities and 13 of Hungary's 19 counties.

The project underwent challenging transformations as a result of the COVID-19 pandemic. Beginning with conventional in-person classes and interactive lessons, the team later introduced flexible virtualization measures and online workshops, before transitioning into a hybrid final event. Interestingly, optimization of compressed air systems and lighting received were the by far the most popular project categories.

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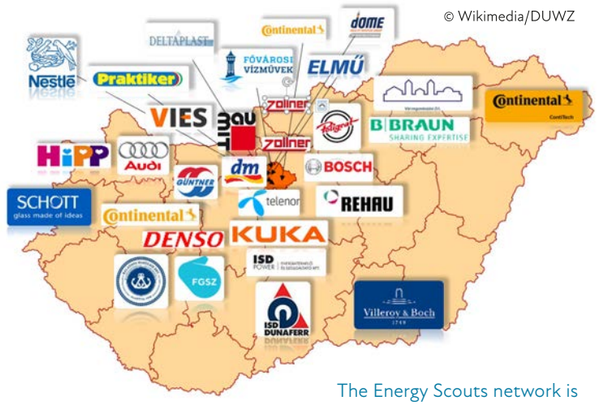

The Energy Scouts network is growing in Hungary.

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Máté Ecker, Mária Kovács, András Kovács und Nikoletta Király from POLIGRAT Magyarorszag optimized lighting and compressed air equipment in 2019

©AHK Hungary

Gabriel A. Brennauer
Managing Director, AHK Hungary
Companies in Hungary with German shareholders are a strong factor in the Hungarian economy and their operations play a role in climate change through the use of energy and other resources. The Young Energy Europe project raises young employees' awareness of these relationships and make an important contribution to achieving Europe's climate protection goals.

Krisztina Kottmayer
Project Manager, AHK Hungary
Reaching out to young employees and raising awareness of climate change and the importance of climate protection for the economy is key for a change. We teach them competences and skills, show them how they can reduce energy and resource consumption in their workplace and companies and finally relate to global warming. . The project focuses on exploiting potentials for energy conservation which were previously undiscovered or not fully exploited, improving energy efficiency and reducing the environmental impact of business activities in general. As Energy Scouts, they learn to plan and execute specific optimization projects in their companies, such as e.g. boosting energy or resource efficiency or replacing fossil fuels with renewable energy. In this way, the Scouts and their companies make an important contribution to climate protection while at the same time reducing costs.

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Dr. Zoltán Magyar
Senior lecturer and jury chairman
Our goal is to raise energy awareness among young professionals, no matter what field they come from or work in. As Energy Scouts, they have the opportunity to translate the knowledge they learn into energy-saving solutions.

©DUWZ

Dávid Rahberger
Energy Scout, REHAU-Automotive Kft.
In training, we acquired a new way of looking at the relationship between companies and the environment.

©DUWZ

Ágnes Sebestyén
Energy Scout, Denso Manufacturing Hungary Ltd.
The cooperation of colleagues from various parts of the company in the project led to a common approach which was very efficient.

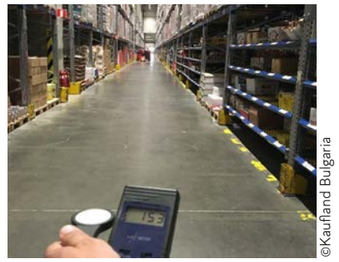
LEDs illuminate Kaufland distribution center in Bulgaria

Lighting

Energy/Electricity

Sector: Retail
Energy source: Electrical energy
Energy saving potential: 2,051 MWh/a
CO_2 saving potential: 1,630 t/a
Amortization period: 3.9 years

Company:
Kaufland Bulgaria EOOD & Co. KD
ul. Skopie 1a
1233 Sofia
Bulgaria
www.kaufland.bg



©Kaufland Bulgaria

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The retailer Kaufland is active in seven European countries, serving customers in more than 1,270 stores. Since 2006 the company has opened 59 stores in Bulgaria.

Behind all the well-stocked shelves, freezers and coolers in every store runs a sophisticated logistic system. Centrally located in Stryama, near Plovdiv, Kaufland owns a large distribution center where all goods are delivered, stored and distributed to the stores as required. In high season, goods can be moved on up to 200 ramps. The distribution center consists of nine large buildings, up to 16 meters high with a floor space of around 10,000 m² each.

LEDs in – fluorescent lighting out

An internal audit showed that 35% of total on-site electricity consumption was due to fluorescent lighting, although the luminous efficiency was not very high. This became the obvious aim of Energy Scout Vladislav Varbanov and internal coach Ivo Vasilev. Compared to fluorescent lamps, modern LED lighting offers higher luminous efficiency with lower energy consumption and less maintenance. In addition, the light output hardly decreases during operation and the LEDs have a lifetime of 50,000 hours, as compared to 20,000 hours for fluorescent lighting. With an estimated annual savings of 2,051 MWh, the replacement of the lighting will pay off in less than four years. The company will reduce its yearly carbon dioxide emissions by 1,630 tons due to less energy consumption, and it will also avoid the negative impact of harmful gases and heavy metals such as mercury contained in the fluorescent tubes.

Lighting intensity adapted to demand

For the narrow and high aisles of the halls, the Energy Scout selected LEDs with low beam angles, while choosing LEDs with a larger beam angle and a wider light cone for the loading area in front of the ramps. The new LED modules are being installed and connected to a building automation system during operation while the old lighting is dismantled and recycled.

The lighting project at Kaufland is outstanding because of its dimensions. Around 3,000 LED modules, each 1.5 meters long, have been newly installed. As a result, the savings in terms of electricity and CO_2 emissions are particularly huge.

Lidl Hellas reduces costs for air-conditioning in storage rooms

Energy/Electricity

Air Conditioning

Thermal Insulation

Sector: Retail
Energy source: Electrical energy
Energy saving potential: 1,206 MWh/a
CO_2 saving potential: 958 t/a
Potential cost reduction: 155,587 €
Investment costs: 121,550 €
Payback period: around 9 months

Company:
LIDL Hellas & SIA O.E.
Block 31, DA 13
GR-57022
Sindos – Thessaloniki
Greece
www.lidl-hellas.gr

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Lidl Stiftung & Co. KG, based in Neckarsulm, Germany, opened its first supermarket in 1973 and currently operates in 30 countries with around 10,500 stores. The company posted strong growth in Europe during the 1990s and entered Greece in 1999. Today, LIDL Hellas & SIA O.E. manages 221 stores, four logistics centers, and two administrative offices with around 5,000 employees on the Greek mainland and islands. The company has implemented two major energy saving measures across the country in recent years. These include the transition to LED lighting (lighting costs down 52%) and the optimization of stand-by-modes for baking ovens in its stores (operational costs for ovens down 38%). The biggest share of energy in the stores goes to cooling the goods and air conditioning the stores, followed by lighting and baking ovens – so huge potential for energy savings remains in the fields of cooling and air conditioning.

Open gates upon delivery

Energy Scout Eleni Outsiou started her project analyzing the use of air conditioning in one store's storage area during a typical working day. She noticed that the daily peaks in energy consumption occurred during deliveries in the warm months of the year. During delivery, the gates at the loading ramp as well as the refrigerated and deep freeze storage rooms are temporarily opened. As a result, the air conditioning automatically switches on. The solution to this problem is a stripe curtain at the gate to the loading ramp which minimizes air exchange. In the first tests, the strip curtain was black but for implementation it was replaced by a transparent version in all 221 stores, improving safety.

Strip curtain reduces heat and cold air loss

The installation of the strip curtain led to a significant reduction in energy consumption for air-conditioning. According to Eleni Outsiou's calculations, Lidl Hellas will reduce consumption by around 5.5 MWh per year and store after her project is implemented in all stores. A one-time investment of 121,550 € will save 155,587 € a year. The investment pays off after just nine months. Additionally, the strip curtain performs a protective function when unloading sensitive goods such as fruits and vegetables, as it reduces the risk of insect infestation and accelerated ripening. As a result, the project helps to avoid food waste.

Eleni Outsiou's project won second place among all Greek Energy Scouts' projects in 2018.

Optimization of compressed air system for Schott in Hungary

System Optimization

Compressed Air Systems

Sector: Glass industry
Energy source: Electrical energy
Energy saving potential: 402,637 kWh/a
CO_2 saving potential: 102.7 t/a
Potential cost reduction: 31,753 €/a
Investment costs: 28,555 €
Payback period: 11 months

Company:
SCHOTT Hungary Kft.
Otto Schott utca 1
H-9724 Lukácsháza
Hungary
www.schott.com/hungary

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Founded in 1884 as „Glastechnisches Laboratorium SCHOTT & Genossen" (Glass Technology Laboratory SCHOTT & Associates), the company first developed glasses for microscopes and telescopes and later technical glasses and ceramics as Ceran cooktops or the heat protection tiles on NASA space shuttles. Currently, SCHOTT AG operates in 34 countries with around 15,500 employees, manufacturing a wide range of special glasses and glass-ceramics for the household appliance industry, pharma, electronics, optical, life science, automotive and aviation industries.

Compressors consume 20% of electricity

At the Hungarian factory in Lukácsháza, about 600 employees fabricate around 1.3 billion pharmaceutical glass packaging items, such as vials, ampoules and cartridges, every year. The production process is highly automated and uses compressed air generated by six compressors for its many production steps. The compressed air supply accounted for more than 20% of the plant's electricity consumption. Energy Scouts Dóra Páti (logistics engineer), Dávid Németh (mechanic) and András Rege (team leader) examined the load profiles of the compressors and found that two of the six compressors could be more efficient. The next step was to optimize the compressed air system and to replace the two inefficient compressors.

Even out peaks and avoid stop-and-go mode

A frequency converter inside the new powerful compressor controls motor speed depending on demand. This on-demand operation mode saves around 25% of electricity compared to the load/idle mode before – like dimming a lamp instead of switching it on and off. In addition, the Energy Scouts analyzed the air consumption and eliminated leaks.

The new system reduces electricity consumption by 402,637 kWh per year, cuts CO_2 emissions by 102.7 tones and saves the company 31,754 € per year. The investment costs of 28,555 € will pay off in 11 months.

In the Hungarian competition, the project was awarded a special prize by the jury. SCHOTT and the German-Hungarian AHK also highlighted the project in a workshop with around 20 energy efficiency experts in May 2019.

Preol explores potential for waste heat recovery

Waste Heat Recovery

Process Optimization

Sector: Chemical industry
Energy source: Lignite dust
Potential energy saving: 405 MWh lignite
CO_2 saving potential: 147 t/a
Potential cost reduction: 52,617 €/a
Investment costs: 72,833 €
Payback period: 1.4 years

Company:
PREOL, a.s.
Terezínská 1214
410 02 Lovosice
Czech Republic
www.preol.cz/de/

©AHK Czech Republic

©Preol

Preol, a.s. was founded in 2003 and produces mainly biofuels and vegetable oil with currently about 146 employees. The plant - located in an industrial chemical park between Prague and Dresden - processes 550,000 tons of rapeseed annually into vegetable oil for the food industry, rapeseed oil methyl ester (so-called rapeseed diesel), glycerine and rapeseed meal as animal feed.

Energy Scout and graduate engineer Jan Bilek worked on two aspects in his practical project. The first is based on the use of the waste heat of the condensate from a heat exchanger. He wants to replace the steam heat exchanger with a plate heat exchanger to allow the utilisation of waste heat with a newly designed condensate line. By doing so, the thermal energy of the condensate can be used in the future for space heating and domestic hot water. In this way, 405 MWh less heating power from pulverised lignite is required annually and emissions are reduced by around 147 t CO_2. Preol also benefits financially - annual savings of 52,617 € offset the initial investment after just 1.4 years. The project is scheduled for implementation in 2021.

How can waste heat be used and CCS technology applied?

In the second concept, the Energy Scout examined the potential of capturing and storing CO_2 from combustion products in Preol's own combined heat and power plant. He showed how his company could achieve climate neutrality by 2050, as envisioned in the European Green Deal. He analyzed three methods for dealing with the captured CO_2. As things stand at the moment, CCS (carbon capture and storage) seems to be the most realistic. However, implementation of this method would result in additional costs of around € 100 per ton of CO_2 and it is therefore not viable under the given economic conditions. "This technology has great future potential for the ecological use of fossil fuels. However, it is currently too expensive and energy-intensive", says Energy Scout Jan Bílek.

The jury honored this visionary project by awarding 1st place in the 2020 Czech Energy Scouts competition.

Aurubis shifts freight from road to rail

Mobility

Sector: Metal industry
Energy source: Diesel
Fuel saving potential: 273,645 l/a diesel
CO_2 saving potential: 236.5 t/a

Company:
Aurubis Bulgaria AD
ul. Tzar Osvoboditel
Pirdrop | 2070 Bulgaria
www.bulgaria.aurubis.com/bg/

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Aurubis Bulgaria AD, founded in 1958, produces copper cathodes – the basic product in copper production and the starting material for further processing into high-grade copper products. Aurubis supplies most of its production in Pirdop (in Western Bulgaria) to Turkey. Until 2018, the transport to Turkey was carried out with up to 40 trucks per week. At the beginning of 2019, Aurubis switched to intermodal transport: At the plant, the cargo is loaded onto electric locomotives on the company's own railroad tracks. The trains transport the cathodes to Cherkezkoy, Turkey. There, they are unloaded so that trucks can cover the last part of the journey. Two electric locomotives a week can transport the same amount of cargo as 40 diesel trucks. Thus, this simple change represents an innovative and energy-saving change.

Two trains replace 40 trucks

Due to the change, expedition planning as well as the loading and unloading activities had to be restructured. But the advantages outweigh the disadvantages. On the one hand, the time required for transportation has decreased significantly. Instead of 40 trucks, only two trains have to be loaded and checked. Additionally, the planning certainty has increased since the transport no longer depends on the changing traffic situation on the motorways. There are also additional economic advantages of the project that further contribute to increasing the company's competitiveness: lower transportation costs without additional investment and safer transport, as well as lower use of consumables and maintenance costs.

Electric locomotives reduce emissions – less noise, dust, NOx und CO_2

In addition, the new intermodal transport with energy-efficient locomotives represents an important contribution to environmental protection: dust emissions have decreased by approx. 89% and NOx emissions by approx. 92%. There is less noise on the company premises and green spaces have now replaced the parking spaces previously required for the trucks. In addition, the locomotives are 98% recyclable. Further advantages include relief of the road network and the associated avoidance of traffic accidents. Furthermore, there is no more waiting at the border and the copper cathodes reach the customers faster.

The Energy Scout project for Aurubis Bulgaria shows that intermodal transport is a sustainable, practical and efficient solution. The team itself consisted of young employees from the departments of logistics, human resources, research and development, maintenance and sulfuric acid production.

Photovoltaic unit cools organic pomegranate juice at Askofruit on Crete

Energy Management
Cooling
Photovoltaics
Awareness

Sector: Food and beverage industry
Energy source: Electrical energy and diesel
Energy savings potential: 39 MWh/a und 424 l diesel
CO_2 saving potential: 30.6 t/a
Potential cost reduction: approx. 5,000 €/a
Investment costs: approx. 35,000 €
Payback period: 7 years

Company:
Askofruit
Voroi Heraklion Crete
70200 Greece
www.askofruit.gr


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Since its formation in 2014, Askofruit has been processing pomegranates from its own organic cultivation into juice, jam and other products – directly and without additives. The first pomegranate trees were planted in 2009 and the number is increasing every year. This is where Energy Scout Konstantinos Spyridopoulos works. He carried out his practical project together with Vlassis Dalmaris, who trades in local foods from Crete, including Askofruit's pomegranate products, which he supplies to supermarkets, wholesalers and hotels.

Processing of fresh food requires a lot of energy

The two young professionals first performed an analysis of energy consumption at Askofruit. In order to prevent the products from perishing without the use of preservatives, energy-intensive cooling in the warehouse is required. The cold chain must also not be interrupted during transport and in stores. Since refrigeration is energy-intensive and therefore expensive, the Scouts looked for efficiency improvement potential in this area.

PV unit and LED lights save 39 MWh electricity per year

The two Scouts took advantage of the many hours of sunshine on Crete by installing a photovoltaic unit with 10 kWh capacity on the company's roof. During the day, the cooling system is now supplied primarily by the PV system, which covers approx. 40% of the total power requirement. At night, the company takes advantage of low-cost nighttime electricity rates. An optimised control system automatically regulates the electricity supply. This significantly reduces the use of cost-intensive daytime electricity. The Energy Scouts also replaced the conventional outdoor lighting and installed LED lights.

Saving diesel by raising awareness among the staff

The two Scouts also reduced the diesel consumption of the sales vehicles. By training the drivers, consumption can be kept close to the manufacturers' reference values. The refrigerated vehicles at the company headquarters are now primarily cooled with PV electricity in the early morning and late afternoon, as well as with inexpensive night-time electricity and not with diesel, as is typically the case. The Scouts calculated that this awareness measure will save around 424 litres of diesel per year.

In total, the measures save almost 39 MWh of electricity per year. This reduces Askofruit's CO_2 balance by more than 30 tons per year. The jury selected this practical project as the best energy efficiency project on Crete.

Steel plant ISD Dunaferr optimizes lighting

Lighting

Resource Efficiency

Sector: Metal industry
Energy source: Electrical energy
Energy saving potential: 1,280 MWh/a
CO_2 saving potential: 326 t/a
Potential cost reduction: 121,185 €/a
Investment costs: 229,685 €
Payback time: 1.9 years

Company:
ISD Dunaferr Zrt.
Vasmű tér 1-3
H-2400 Dunaújváros
Hungary
www.dunaferr.hu

©Dunaferr

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The Hungarian steel plant ISD Dunaferr Zrt. is a subsidiary of the Ukrainian ISD Group. Since 1950, steel products have been produced in Dunaújváros, about 50 kilometers south of Budapest, with a current workforce of around 3,500 employees. The majority of metal products are exported, primarily to Germany, Poland and Austria. They are used in the engineering, automotive and construction sectors.

Analysis – where are we?

Energy Scouts Tamás Angeli and Dániel Szalai focused on optimization of the lighting in the steel plate profiling. It is a huge hall of about 15,000 m² which is illuminated by 326 lamps 24 hours a day. First, the energy consumption and the light yield were measured in the current state according to the DIN EN 12464-1:2012 standard. With the help of DIALux, a software for lighting planning, it became clear that 300 modern LED lamps with 200 watts each and a total output of 60,000 watts can replace the old setup with over 190,000 watts total output. At the same time, the luminous efficiency and expected lifetime of the lamps are increased.

Furthermore, the roof windows, which are currently not very translucent, are to be replaced with transparent roof windows made of polyester material, so that natural light can also be used to illuminate the profiling process during the day. The average solar radiation (2,000.7 h/a) in Hungary was used as calculation base.

Costs for lighting reduced by 76%

The current electricity consumption for lighting in the profiling hall is thus reduced by a total of 76%, from 1,686 MWh/a to 405 MWh/a, which corresponds to a potential cost reduction of more than 120,000 € per year. The investment costs amount to almost 230,000 € and pay off after 1.9 years. The project not only improved the illumination of the hall and reduced energy costs but also reduced emissions of CO_2 by 326 tons per year.

With their project, Energy Scouts Tamás Angeli and Dániel Szalai won first place in the competition for the best Hungarian project. The expert jury especially praised the professional approach of the two Scouts.

Underground rainwater reservoir cools production halls and processes at Brose

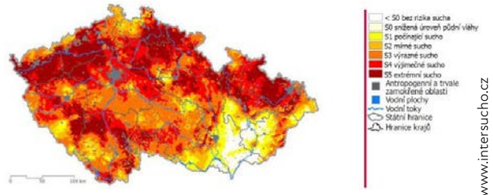
Air Conditioning

Ventilation

Consumption of Water

Sector: Automotive supplier
Water savings: 4,560 m³/a
Energy source: Electrical energy
Potential energy saving: 186 MWh/a
CO_2 saving potential: 162 t/a
Potential cost savings: 25,061 €/a
Investment costs: 459,317 €
Payback period: 18 years

Company:
Brose CZ spol. s.r.o.
Průmyslový park 302 | 742 21 Kopřivnice
Czech Republic
www.brose.com



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With 26,000 employees in 23 countries, family-run Brose is one of the worlds's largest automotive suppliers. Brose produces mechatronic components and systems at two locations in the Czech Republic. At the Kopřivnice factory, more than 2,500 employees produce components for car seats, doors, and air conditioning systems. Among them is the interdisciplinary Energy Scout team, consisting of Petra Bradáčová (Finance Department), David Marek (Logistics) and Jiří Vaculík (Facility Management).

The challenge: during the increasingly dry summer months, the company's green spaces require additional irrigation. To reduce water consumption, the Scouts plan to collect rainwater from the factory roofs underground. The reservoir will have a capacity of 1,000 m³ to provide a ten-day reserve for night-time irrigation of the surrounding green areas. In addition, the constant underground temperatures of 7-11°C provide an additional advantage as cold storage. The water can be used to pre-cool the ventilation systems in the production halls and can also cool the welding processes by using heat exchangers in a second step.

Water reservoir and cold storage

These measures significantly reduce the energy consumption of the existing air conditioning systems used in the production halls. A 1°C reduction in the room temperature by pre-cooling reduces energy consumption by 5%, equivalent to a savings of about 70 MWh per year. The cooling of the welding processes via a heat exchanger can replace one or two compressors of the cooling system, saving another 116 MWh per year. The project is technically challenging – especially due to the interaction with the production process – and requires substantial investment. The estimated payback period of 18 years is still too long. Yet, with increasing drought periods in the summer, an expected increase in water prices and the threat of water rationing by the authorities, the project might be realized within a shorter payback period.

The jury recognized the project as the second-best project in the Czech Republic in 2019 because of its innovative character.

Young Energy Europe has trained a total of 339 Energy Scouts in four countries.
The number of Scouts trained went up every year.

30 Hungary
29 Bulgaria
26 Czech Republic
16 Greece

101 Scouts

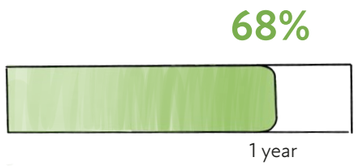
33 Hungary
33 Bulgaria
24 Czech Republic
21 Greece

111 Scouts

39 Hungary
43 Bulgaria
28 Czech Republic
17 Greece

127 Scouts

The companies realized 68% of all electricity projects within one year.*

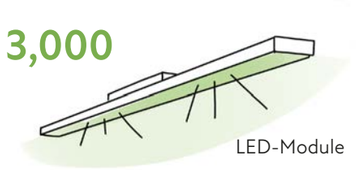


*This was revealed in a survey of the companies about a year after the end of the 2018 training courses.

The practical projects may trigger investments of around € 9.7 million per year.*

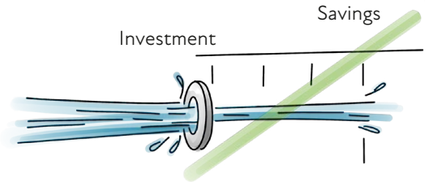
*Result of a survey of participating companies in 2019/2020.

Small lever, big effect: One Energy Scout alone initiated the replacement of all lighting in a central warehouse. Thanks to Vladislav Varbanov, more than 3,000 energy-efficient LED modules are in use today and annual carbon emissions have been reduced by 1,630 tons.*



*See Best Practices page 16 / Kaufland Bulgaria

Low cost, high yield: Two simple measures often pay for themselves in just a few days: eliminating microscopic leaks in the compressed air system and conserving (hot) water using flow restrictors or aerators. *

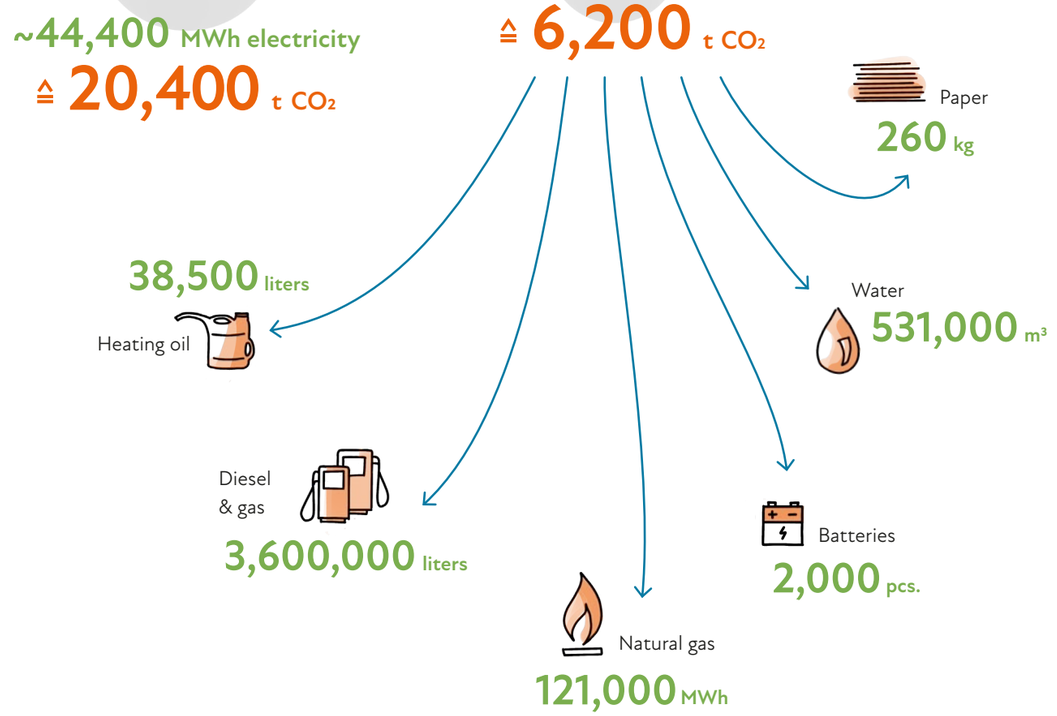


*See Best Practices on the website:
https://young-energy-europe.eu/en/tag/compressed-air-systems/
https://young-energy-europe.eu/en/tag/consumption-of-water/

The Energy Scouts planned 143 practical projects in their respective companies.
The top 10 project categories are:

- **29** Lighting
- **21** Compressed Air Systems
- **12** Photovoltaics
- **10** System Optimization
- **8** Water Consumption
- **8** Awareness
- **8** Mobility
- **7** Resources Efficiency
- **6** Process Optimization
- **6** Energy Management

The 143 practical projects address the potential conservation of energy and resources.
Overall, all projects result in the following potential annual savings:



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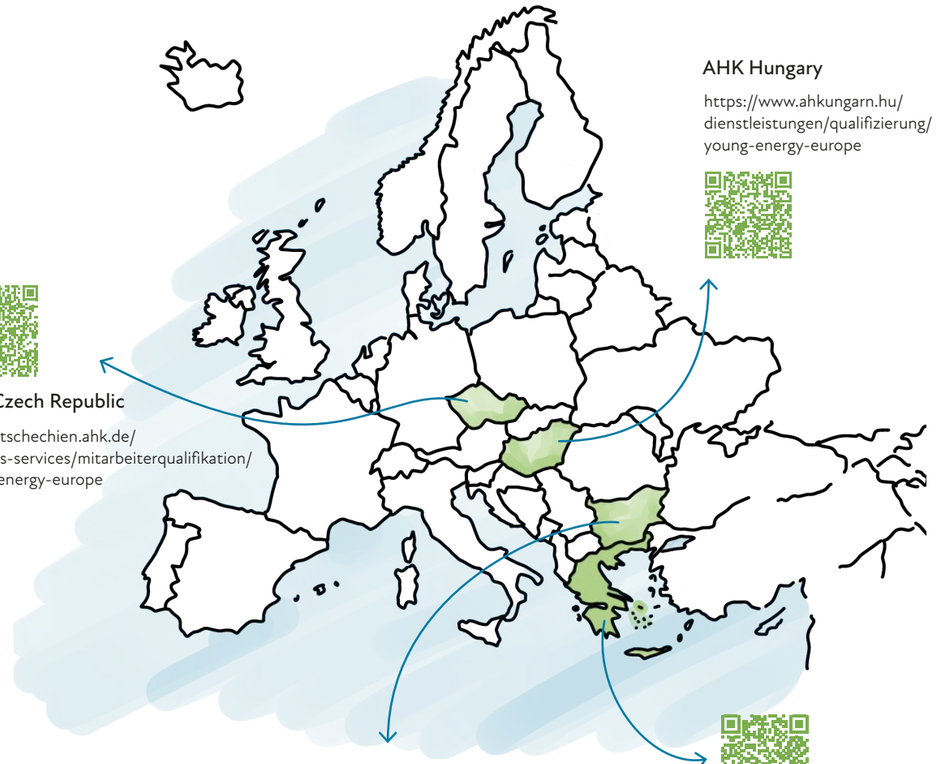

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Seeding Good Ideas:

This brochure is designed to provide you with insights, ideas and inspiration. We would be pleased if you would pass on your findings and thus prepare the ground for ecological awareness and sustainable action in your environment.

Speaking of “preparing the ground”: you can actually plant the bookmark.
The plants that grow from it will be a lasting reminder of our common goal.

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