



HOTEL ENERGY SOLUTIONS

Fostering innovation
to fight **climate change**

Public Report



Fostering innovation
to fight **climate change**

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Hotel Energy Solutions (HES) Project Basics

Full name: Excellence in Energy for the Tourism Industry (EETI) – Accommodation sector: SME hotels

Contract N°: IEE/07/468/SI2.499390

Hotel Energy Solutions Official Partners



Supported by





INDEX



Introduction /8



HES E-Toolkit /18



Knowledge is Power /24



What Others Already do /42



Why Get Involved? /61



The Way Forward /66



Acknowledgements

After three years of extensive research and testing, Hotel Energy Solutions Partners have the pleasure of inviting you to discover the Hotel Energy Solutions Public Report presenting its principal output: the innovative online software - the Hotel Energy Solutions E-toolkit - alongside with publications, a training manual, Communication materials: videos, E-brochures for hotel guests and the web-based “Energy School”.

The successful implementation of the project was made possible thanks to the leadership of the Coordinator of the overall HES project, UNWTO (Zoritsa Urosevic, Richard Tapper, Claudia Lisboa, Peter Villain, Jelena Novakovic, Jutta Jokinen, Cynthia Viadieu, Chiara Hartmann, Marcelo Risi, Sandra Carvao, Kate Holmes, Louise Rabilloud, Igor Stefanovic, Jo Devine), and the HES project partners: UNEP (Charles Arden-Clarke, Stefanos Fotiou, Helena Rey de Assis, Elodie Perrat, Isidoros Passas, Daniel Magallon, Erica Allis, Brigitte Steinberg-Hines); IH&RA (Ghassan Aidi, Chawki Madawi); ADEME (Marjolaine Pont, Anthony Dupont, Stephane Pouffary); EREC (Emanuela Giovannetti).

We would like to specially thank the Executive Agency for Competitiveness and Innovation (EACI) represented by Timothee Noel, EACI Project Officer, for his constructive guidance and support, his technical input throughout these three years, the Intelligent Energy Europe (IEE) programme, the Directorate General for Enterprise and Industry and Enterprise -Tourism Unit, as well as all individuals and institutions involved in the development of the project, including the Destinations and the Members of the End Users Advisory Group.



Foreword

Taleb Rifai / UNWTO Secretary-General



In a world looking for new models of economic growth and development, fighting climate change and adopting sustainable management practices is no longer an option, but a condition for survival and success.

The tourism sector is well aware of this reality. Tourism is today one of the largest drivers of employment and development. Millions of people are employed in the sector around the world, in a wide range of positions and levels, contributing significantly to local economic growth and wellbeing.

Tourism is also responsible for 5% of the world's carbon dioxide (CO₂) emissions, out of which hotels and other types of accommodation account for 1%. A comparatively small, yet important, footprint that the tourism sector has assumed as a priority to be addressed.

In response to the challenge of climate change, the Hotel Energy Solutions (HES) project aims to increase energy efficiency in European small and medium hotels by 20% and their use of renewable energies by 10%, demonstrating that economic growth and sustainability can, and should, go hand in hand.

The HES software, an innovative online tool, will empower and guide hotels to better understand their energy consumption and show them how to improve energy management and cut costs, thus moving towards a greener economy.

Hotel Energy Solutions, a UNWTO-initiated project made possible by the support of Intelligent Energy Europe, was implemented in close partnership with UNEP, IH&RA, EREC and ADEME.

While built for EU Members in line with EU Energy Policies, the project is expected to be rolled-out globally over the coming years. Once adapted, the project will benefit hotels worldwide, thus contributing to climate change mitigation while helping hotels increase business profits.

We invite hotels and destinations to make the most out of this innovative tool and reduce their carbon footprint while ensuring the economic and environmental sustainability of the sector.

Taleb Rifai
Secretary-General, UNWTO



Introduction

It's time the accommodation sector got smarter about its energy consumption.
HOTEL ENERGY SOLUTIONS will show you how...



Introduction

About HES

Objectives and Timeline

Facing soaring carbon emissions, but prohibitive costs for adaptation, businesses are demanding an effective, cost-efficient response to climate change. Heeding this call, UNWTO has come together with key organizations in the fields of energy and tourism to provide an answer for the accommodation industry: Hotel Energy Solutions (HES).

Hotel Energy Solutions bridges the gap between available Energy Efficiency (EE) and Renewable Energy (RE) Technologies and their actual use in hotels and other types of accommodation. The project was officially launched at the annual World Travel Market (one of the world's major tourism trade fairs with over 50,000 participants) in London, 2008.

The main goals are to increase energy efficiency by 20% and the use of renewable energies by 10% in Small and Medium scale hotels (SMEs) across the 27 European Union Member States, thus demonstrating that economic growth and the environment can, and should go hand in hand.

Hotel Energy Solutions is in fact in line with EU targets and the Davos 2007 process. By reducing hotels' operational costs while increasing their competitiveness, acting on customer demand, staff motivation and sustainability, the project also seeks to contribute in alleviating the tourism industry's impact on climate change.

2011

- **August:** Project Completion
- **June:** HES E-Toolkit and E-Brochure Presentation & HES Video Stream
- **May:** Beta toolkit Pilot Testing Ends
- **February:** HES Publication Series
- **January:** 2nd HES Conference / FITUR Green

2010

- **November:** HES Beta toolkit Pilot Testing Starts
- **January:** 1st HES Conference / FITUR Green

2009

- **May-ongoing:** Research
- **January:** FITUR Website launch

2008

- **November:** Official Launch at WTM London



STRATEGIC OBJECTIVES - SUMMARY

HES focuses on action to foster energy efficiency and the rational use of energy resources in the tourism accommodation sector for SMEs (SME hotels). The HES's objectives are:

- **DEVELOP and DISSEMINATE** tools and materials to change SME hotels management actions and investment decisions in their use of energy;
- **PROMOTE** exchanges of know-how and experience between SME hotels as energy users, and the suppliers and manufacturers of EE / RE technologies, and other key actors;
- **RAISE AWARENESS of SME** hotel managers, decision-makers and staff and consumers in relation to energy use and efficiency
- **STIMULATE** the establishment of networks with commitment to disseminate and promote EE and RE to SME hotels.

Through the above, HES will enable SME hotels to improve their sustainability and competitiveness.

Key target groups for the HES are: SME hotels, hotel associations and national tourism bodies; destination authorities; tour operators; suppliers and manufacturers of EE/RE technologies.



Why do we need to act?

The focus of the project on European SMEs is particularly important as almost half of the world's hotels are located in Europe, and 9 out of 10 of these are SME hotels. Currently, the SME hotels' use of EE and RE technologies is far below its real potential, and the majority of these hotels are relying on older, less efficient equipment. Their greatest limiting factor for greening, however, is lack of access to capital. In fact, lack of human and financial resources and a limited awareness and knowledge on greener alternatives may all be contributing to

decreasing SMEs competitiveness. In addition, SMEs are usually less proactive about the environment in comparison to larger hotel chains. With more knowledge and assistance, SMEs have a high potential to generate greater income and opportunities from green strategies.

In conclusion, it is now recognized internationally that the world must dramatically reduce greenhouse gas emissions by decreasing its use of fossil fuels. The hotel industry can contribute by becoming more energy efficient and increasing its use of renewable energy technologies.

Hotel Energy Solutions will help the sector achieve this and show that energy efficiency and renewable energy technologies can also enable significant benefits.

Who will benefit?

Hotel Energy Solutions is a project primarily directed to small and medium-size businesses in the EU accommodation sector. The project presents substantial opportunities for SME hotels, for hotel associations in providing support for their members, and for destinations working to reduce CO2 emissions and improve their competitiveness.

To secure the best possible support for SME hotels, Hotel Energy Solutions reaches out to:

SME hotels and hotel associations involved benefit from the following free-of-charge:

- **Assessment and decision making support** in EE and RE technology investment, return on investment, as well as carbon footprint calculator through use of the HES E-toolkit.
- **Ready to use communication materials** (video, brochure, newspaper, etc.) to promote good energy savings practices to their guests and staff.
- **Opportunity to network** with other hoteliers, technology providers, leading energy and tourism experts.
- **Promotional opportunities** for displaying their good practices in project's materials (website, online publications, presentations etc.).

Destinations involving national, regional and local tourism and government authorities:

- **Provide support to SME hotels** by conducting policies encouraging energy savings.
- **Benefit** from receiving access to knowledge and know-how from Hotel Energy Solutions.
- **Significantly contribute** to the project with their expertise on specific issues, local networking and dissemination efforts.
- **Learn** how to make their region a market leader in energy and sustainability.
- **Discover** how working closer with the hotel sector will deliver great results for the local economy.
- **Access guidance on policy issues.**

Technology providers involving EE and RE technology providers and specialists:

- **Adapt** specific technologies for use in hotels.
- **Carry out further research**, innovation and development of new products.
- **Learn about the potential** of developing adapted technologies in the hotel sector.
- **Exhibit technologies** at major events.
- **Network** with potential clients from across Europe.

Hotel Energy Solutions offers a unique opportunity for hoteliers, national, regional and local tourism authorities, EE and RE technology providers, energy experts, and other interested professionals, to exchange their knowledge and work jointly on identifying the best solutions in response to the energy needs of the accommodation sector.

Geographical outreach

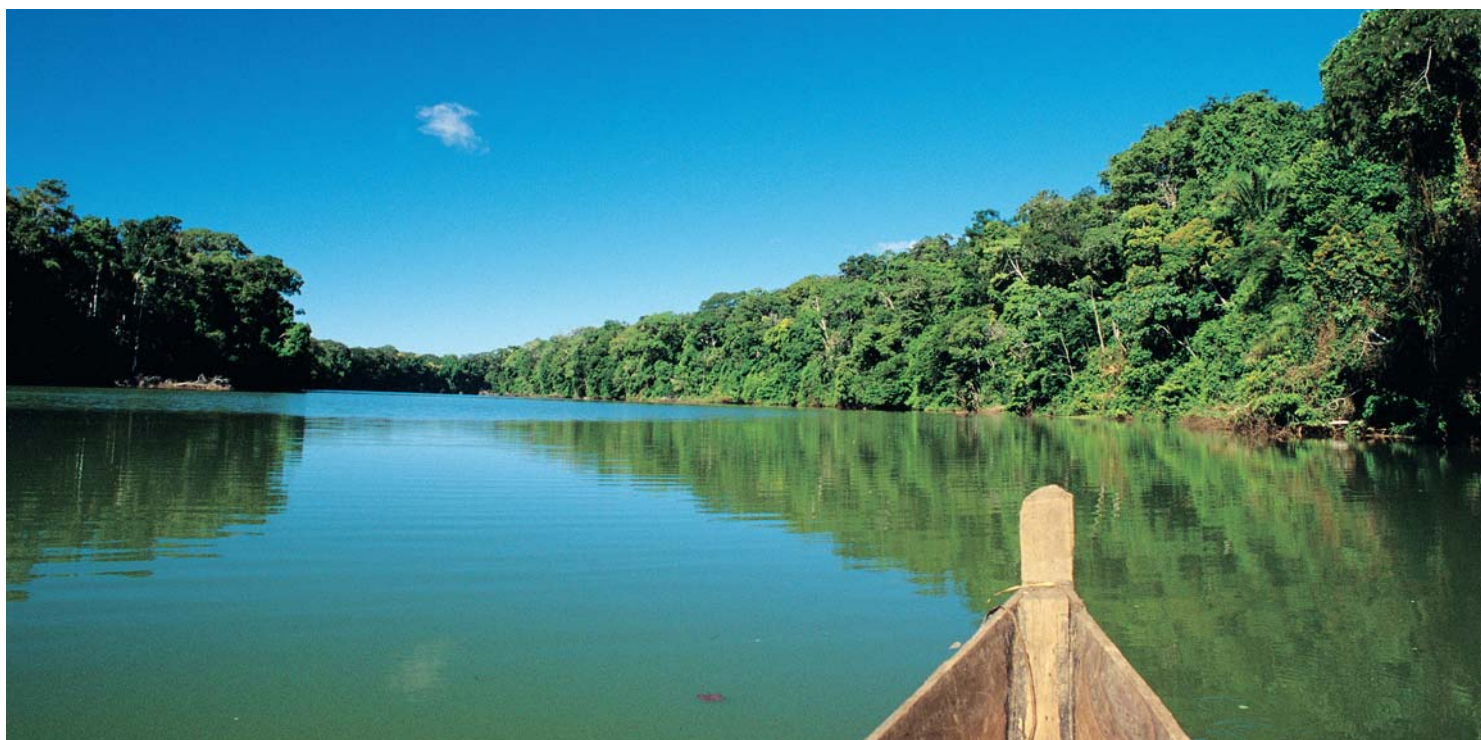
While the project scope covers all European member states, it has a strong focus in four pilot types of destinations. The partners' network and involvement with SME hotels and national and regional authorities is a key element on which the project will build geographical outreach.

The project includes four pilot testing in destinations of contrasting types (coastal, mountain, rural and urban) in four EU members states selected to include at least one member state from the accession states, from southern Europe, and from northern Europe. Through the participation of IH&RA which has members throughout Europe, the project will reach

an extended audience of SME hotels. The End-User Advisory Group, the Energy Efficiency (EE) and Renewable energies (RE) Suppliers and Manufacturers Forum and the Annual Conference will include participants from across the EU.

The project has created a regional network, which will continue beyond the end of the project, for distribution and adoption of the tools and materials developed by the project. The tools and materials will be distributed through the pan-European networks of the partner organisations. The European suppliers and manufacturers in EE and RE will also have a global reach, and can explore new markets.

Application of the tools and materials will also assist SME hotels to contribute to achievement of national indicative targets on renewable energy solutions (RES) and greenhouse gases (GHG) reductions which have been set by all EU members states. The scope of the project is initially within the European Union, however, it can be adapted and rolled out globally in the future to in benefit users worldwide.





Project Partners

Leading agencies in tourism and energy are joining forces to show how the latest energy efficiency and renewable energy initiatives and technologies can significantly increase the accommodation sector's competitiveness and sustainability!

The World Tourism Organization (a specialised UN agency for tourism) as coordinator of the Project has brought together key players in the tourism and energy fields, such as United Nations Environment Programme (UNEP), International Hotel and Restaurant Association (IH&RA), French Environment and Energy Management Agency (ADEME), and European Renewable Energy Council (EREC). The project is co-founded by the European Agency for Competitiveness and Innovation (EACI) and was made possible with the support of Intelligent Energy Europe. The partners are described in detail below:



WORLD TOURISM ORGANIZATION (UNWTO)

As the leading international organization in the field of travel and tourism, UNWTO is charged by the United Nations with promoting the development of responsible, sustainable and universally accessible tourism. The organization's aim is to ensure that member countries, tourist destinations and businesses maximize the positive economic, social and cultural effects of tourism while minimizing the negative impacts, this way fully reaping its benefits. Website: www.unwto.org



UNITED NATIONS ENVIRONMENT PROGRAMME (UNEP)

The United Nations Environment Programme (UNEP) is the voice for the environment in the United Nations system. It is an advocate, educator, catalyst and facilitator, promoting the wise use of the planet's natural assets for sustainable development. UNEP's mission is "to provide leadership and encourage partnership in caring for the environment by inspiring, informing, and enabling nations and peoples to improve their quality of life without compromising that of future generations. Website: www.unep.org



INTERNATIONAL HOTEL AND RESTAURANT ASSOCIATIONS (IH&RA)

IH&RA is a non-profit organisation and the only business organization representing the hospitality industry worldwide. IH&RA work focuses on promoting best practices and representing the collective interests of industry to the policy-makers in major international, regional and national bodies involved in tourism and hospitality. Website: www.ih-ra.com

FRENCH ENVIRONMENT AND ENERGY MANAGEMENT AGENCY (ADEME)

ADEME is a state-funded public industrial and commercial establishment, whose activities are supervised by the French government ministries in charge of research, environment and energy. ADEME's priorities include commitment to energy management and the creation of a waste management economy compatible with the environment, reducing air pollution and improving transport. ADEME's core expertise covers research and development stimulation, advisory support, decision-making assistance and the dissemination of best practices. Website: www.ademe.fr



EUROPEAN RENEWABLE ENERGY COUNCIL (EREC)

EREC is an umbrella organization of the leading European renewable energy industry with trade and research associations including those active in the sectors of photovoltaic, wind energy, small hydropower, biomass, geothermal energy and solar thermal. EREC provides the link between assessment of renewable energy technologies and policy developments at European level, contributing to EU-wide awareness on renewable energy through its information dissemination activities. Website: www.erec.org



Supported by:

INTELLIGENT ENERGY EUROPE (IEE)

The Intelligent Energy – Europe programme is run by the Executive Agency for Competitiveness and Innovation (EACI) on behalf of the European Commission. It seeks to bridge the gap between EU policies and their impact on the ground, and works to make Europe more competitive and innovative while, at the same time, helping it to deliver its ambitious climate change objectives. By improving energy efficiency and encouraging the wider uptake of new and renewable energies, the IEE programme aims to boost actions which will help achieve the EU's targets, including measures to foster energy efficiency and the rational use of energy resources, promote new and renewable energy sources and support the diversification of energy sources and promote energy efficiency and the use of new and renewable energy sources in transport such as biofuels. Website: <http://ec.europa.eu/energy/intelligent/>



What is tourism's role in climate change?

We are all aware that global warming is a major concern. Climate change is already having a significant impact on tourist destinations while energy consumption within tourism sector contributes to global warming. The UNWTO has been working to raise awareness on climate change issues in the tourism sector for many years.

A recently issued report commissioned by the European Commission warned that tourism receipts in Europe may decrease by five billion euros per year by 2080 due to the consequences of global warming. Tourism activities, mainly transportation and accommodation, generate 5% of the total greenhouse gas emissions.

The challenge ahead therefore lies in adapting the tourism destinations to changing environmental impacts and at the same time to transform tourism into a greener sector.

As a key driver of jobs, trade, investment and development, the tourism sector has tremendous economic value around the globe. The UNWTO has been lobbying governments around the world to include travel and tourism in their stimulus packages and to encourage its sustainable growth in the transformation toward the Green Economy.

A modeling exercise shows that tourism investments under green economy scenarios have an economic multiplier effect while reducing negative environmental impacts. Progress is also being made by the private sector.

Over the next few years more accommodation businesses will likely be required to obtain energy certificates, showing their energy performance, and ultimately affecting the overall value of the business.

The varied impacts of a changing climate are becoming evident and are already influencing decision-making in the tourism sector. This affects all of us, and we all must think about how best to reduce the burden we place on the environment.

What is Climate Change?

Climate Change refers to the change in climate over time due to natural variability or as a result of human activity. Since pre-industrial times in the past 200 years, the concentration of CO₂ in the atmosphere has increased by 36%, methane by 148% and nitrous oxide gas by 18%. These increases are mostly due to human activities, particularly the burning of fossil fuels for energy, and account for more than two-thirds of the greenhouse effect that human activities have caused to date.

As a result, the Earth's average annual surface temperature has increased the risk of floods, droughts, heat waves, tropical cyclones and other climate effects across the planet. Climate Change also negatively impacts ecosystems, water resources, human health, industries and societies.

There is now a common global understanding that reduction of GHG emissions is crucial, and that to achieve this we need to reduce the amount of energy used from fossil fuels, and to increase the amount supplied from renewable energy sources, and the efficiency with which we use all types of energy.

LEARN MORE ON TOURISM AND CLIMATE CHANGE!

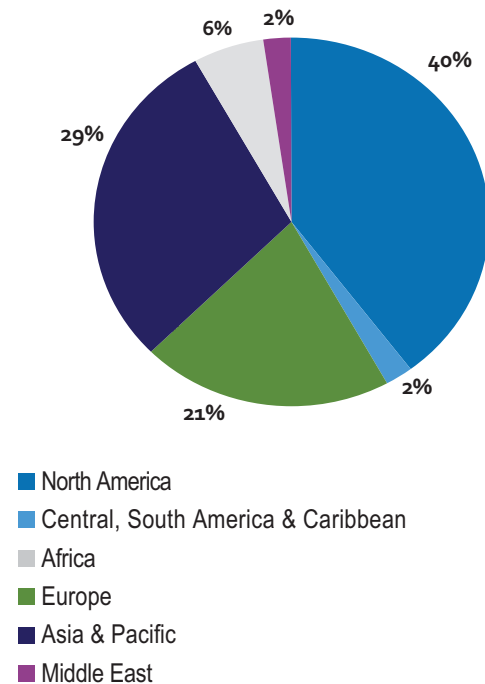
- EUROPE 2020 initiative - Energy Efficiency Plan 2011
http://ec.europa.eu/energy/efficiency/action_plan/action_plan_en.htm
- From Davos to Copenhagen and Beyond: Advancing Tourism's Response to Climate Change
<http://sdt.unwto.org/en/content/climate-change-tourism>
- Davos Declaration: Climate Change and Tourism Responding to Global Challenges
<http://sdt.unwto.org/sites/all/files/docpdf/davosdeclaration.pdf>

Climate Change and Energy

Human quality of life and productivity rely on secure, affordable and sustainable energy. As economies expand and the world population continues to grow, energy demand is increasing worldwide. Currently, 80% of the world energy supply comes from fossil fuels (coal, oil and natural gas) which emit greenhouse gases, causing climate change and other negative environmental impacts. Fossil fuels are finite and non-renewable, and their reserves are decreasing faster than new ones are being formed. Inefficient energy consumption is causing climate change.

It is now internationally recognized that the world must dramatically reduce greenhouse gas emissions by decreasing its use of fossil fuels. Renewable energy sources like wind, solar and hydropower are unlimited, as they capture energy flows available from the natural environment. Use of renewable energy sources will help secure our future energy supply and lower the negative human impact on the environment. Currently, renewable energy accounts for 8% of the total energy used in the European Union, and targets have been set for this to increase to 20% by 2020.

Accommodation Emissions - 2005 (MtCO₂)



Source:
UNWTO, WRI, IEA, Booz & Company Analysis

Europe has the world's largest hotel stock with approximately 5.45 million hotel rooms – nearly half of the world's total, but represents only 21% of the world total accommodation sector's CO₂ emissions.

Energy Use in Tourism

The energy hotels consume is not only expensive, but also contributes to the environmental challenges we are all so well aware of. Hotels are among the top five types of buildings in the service sector for energy consumption, after food production, sales and health care facilities. Europe has the world's largest hotel stock with approximately 5.45 million hotel rooms – nearly half of the world's total. A typical hotel annually releases between 160-200kg of CO₂ per m² of room floor area. By reducing CO₂ emissions, hotels can make a positive contribution to the environment and, at the same time, reduce their operational costs.

The EU Action Plan for Energy identifies the tertiary sector, including hotels, as having the potential to achieve 30% savings on energy use by 2020 – higher than savings from households (27%), transport (26%) and the manufacturing industry (25%).

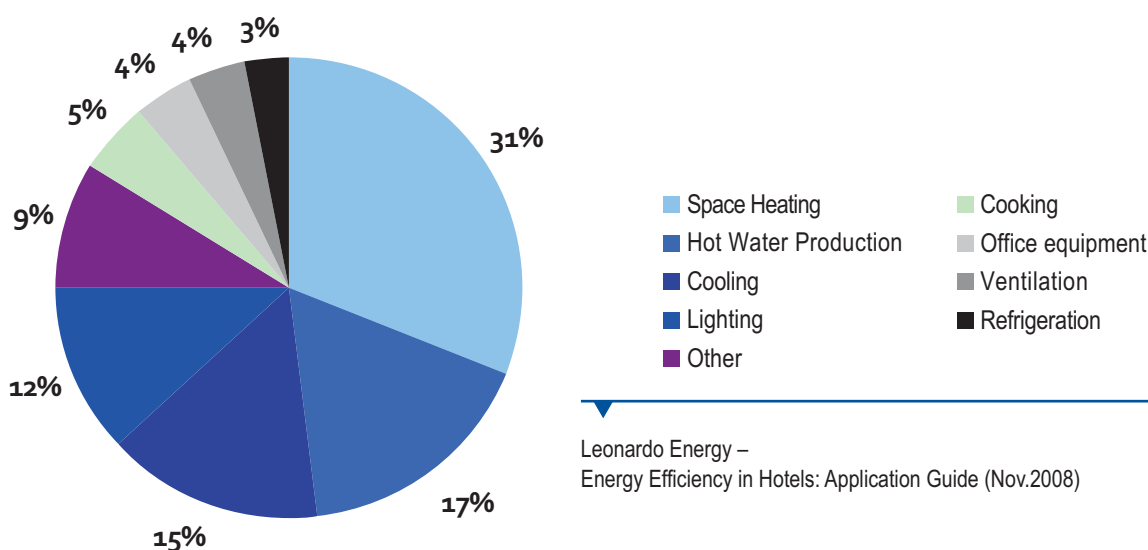
There are great opportunities for the hotel sector to save on operational costs by taking advantage of the potential of energy efficiency and renewable energies. About 40% of the energy used by hotels is electricity, and 60% comes from

natural gas and oil fuels. Three-quarters of this energy is used for space heating, hot water production, air conditioning and ventilation, and lighting. These are all uses where energy efficiency can be increased dramatically, and where renewable energies can also be easily harnessed by use of simple, proven technologies.

EU hotels are in strong position to access renewable energies as over one third of the world's renewable power capacity is located in the European Union. Due to the number of clients they receive, hotels are in a good position to act as a beacon of energy responsibility for other industries, as well as for individuals.

Currently, the SME hotel sector's use of energy efficiency and renewable energy is far below its real potential, and the majority of hotels are relying on older, less efficient equipment. We will show you how - by using energy efficient and renewable energy technologies, hotels can reduce operational costs while also helping to alleviate the industry's impact on the environment. Together we can pave the way to increasing competitiveness and reducing greenhouse emissions.

Typical Total Energy Consumption by End Use in Hotels - 2008



Leonardo Energy –
Energy Efficiency in Hotels: Application Guide (Nov.2008)



Hotel Energy Solutions **E-Toolkit**



HES E-Toolkit

What is the E-Toolkit?

The HES E-toolkit, accessible on www.hotelenergysolutions.net is an easy to use online software, provided free-of-charge, that allows hotels to:

- **Assess their energy consumption** and performance compared to a statistic average of European hotels of the same category
- **Make the right choice** in proposed Energy Efficiency (EE) and Renewable Energy (RE) technology solutions based on the hotel's energy performance.
- **Calculate the return on investment** of chosen EE and RE technology solutions
- **Measure** the hotel's carbon emissions
- **Monitor** and track the hotel's progress and improvement over time, and verify results

In addition, the E-Toolkit provides:

- A useful compendium of factsheets with detailed information on EE and RE technologies.
- Information on how to save on energy cost with respectively NO, SMALL and HIGH investment Case studies on the successful implementation of EE and RE technologies in hotels.

Why?

Easy to Use
Free of Charge
Wide scope

HES e-toolkit Home About Application Components Resources English

Supports the adoption of energy efficiency and renewable energy technologies

Benchmark your energy use/efficiency

The benchmarking tool enables European Small and Medium Enterprises (SMEs) in the accommodation sector to assess their current energy use/efficiency and carbon footprint against similar enterprises.

[It's free! Get Started](#)

[Why to use the tool](#) | [Take a quick tour](#)

Assess energy use > Technological Solutions: Cut Energy Costs > Reduce CO2 Emissions > Learn More...

Top 4 reasons to use the energy calculator

1. Understand how much energy you could save
2. Measure your energy usage
3. Compare your results with similar hotels and measure your progress

Save your Free User Profile

- to follow your energy performance year after year
- to compare your results with similar hotels
- to access your personal data and recommendations at any time

The HES E-Toolkit enables Small and Medium Enterprises (SMEs) in the accommodation sector, in all types of climate, to compare their current energy use to similar enterprises, and provides support in ranking practical and cost-effective energy efficiency (EE) and renewable energy (RE) investment options.

The HES E-toolkit offers the best solutions to enhance and optimize energy performance, calculate the necessary initial investment and the return on that investment; furthermore it compares the obtained results of one hotel with another similar properties. After installation of the recommended technologies, energy consumption and hotel energy bills decrease, which makes a positive contribution to the environment and increases profits.

It also provides a carbon footprint calculator for hotels, aiming to have an impact in reducing the hotels' energy consumption, energy bills, and their environmental impact.

The HES E-toolkit is a user-friendly, web-based platform comprised of an energy-benchmarking tool and a decision support sequence, which provides assistance in evaluating carbon emissions and mitigation techniques through EE and RE investment options. It also includes information on best practices and capacity building materials, a carbon footprint calculator and a return on investment calculator.

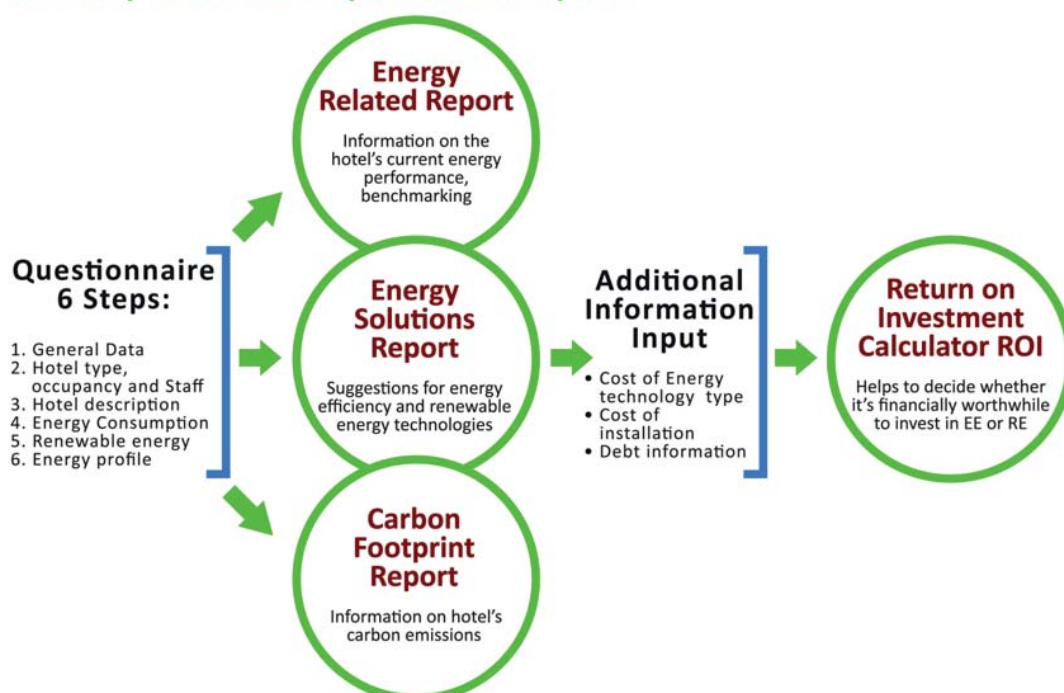
THE HES E-TOOLKIT IS QUICKLY COMPLETED AND EASY TO USE



Why use the Hotel Energy Solutions E-toolkit?

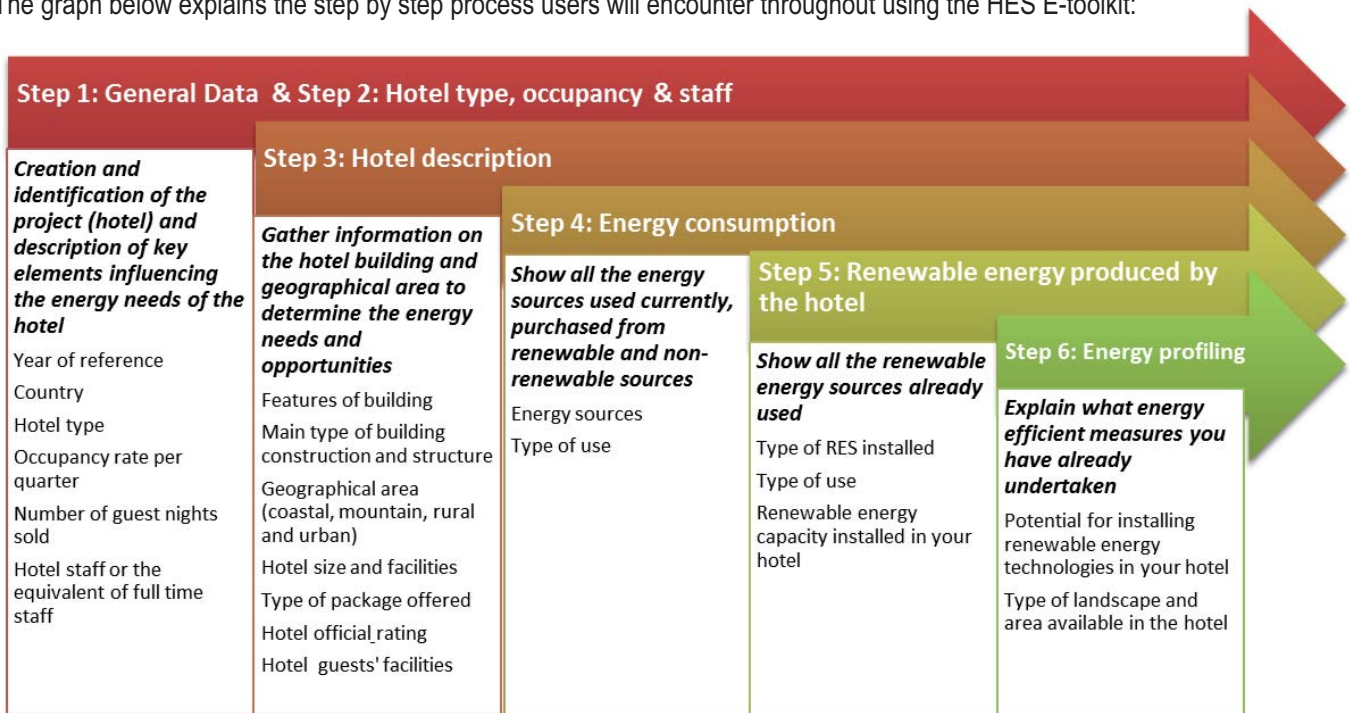
The HES E-toolkit will help hoteliers to understand better energy management, develop a strategy for reducing their energy consumption, their energy bills, and their environmental impact. It will help them to assess, act, develop a strategy and monitor their efforts.

Summary of the toolkit process and reports



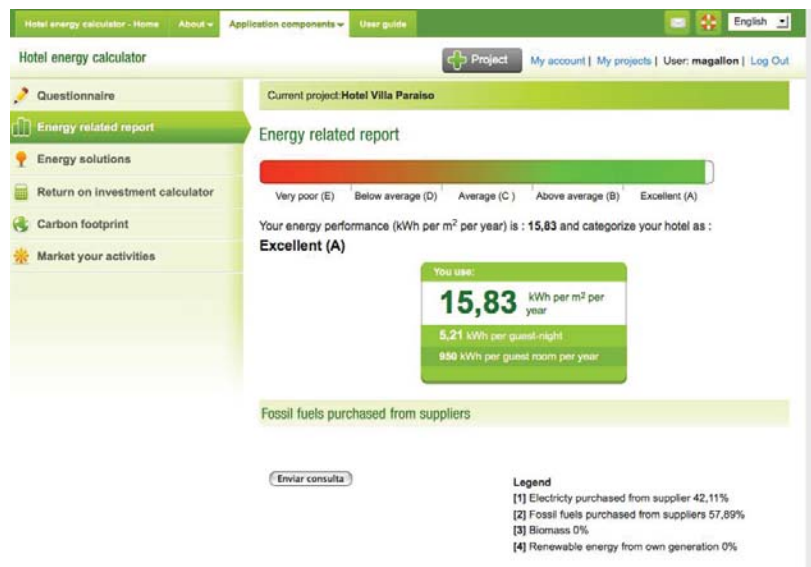
Hotel Energy Solutions E-Toolkit Process

The graph below explains the step by step process users will encounter throughout using the HES E-toolkit:



Energy performance reports

An energy performance report gives an overview of the hotel's electricity consumption and renewable energy usage compared to similar European hotels. It also assesses the potential of energy consumption reduction. This tool has been set based on review and analysis of data available on energy use by hotels in Europe. The data was extracted from a selection of around 20 studies that provide information on energy use intensity in hotels.



Personalised energy technology solutions

The HES E-toolkit tailors the current energy saving opportunities with potential energy solutions. Case studies and statistics on the competitive business advantage, sound energy investments and best practices of other hoteliers are also provided. The tool provides recommendation in EE and RE application in the hotel according to the hotel's characteristics, geographical location, main available natural resources, and easy-to-implement actions that could be useful for the hotel.

Energy Solutions

Proposed energy saving solutions for your hotel

According to your answers the following are the proposed solutions to be implemented at your hotel

Reduce your energy consumption!			Use renewable energy!
	No / small investment	High investment	
Heating / Cooling	Thermal insulation of boilers, water systems, domestic hot water tanks and water pipes Read more ... 	Installation of sun shading devices Read more ... 	Aerothermal heat pumps Read more ... 
	Electric appliances with high energy efficient rating Read more ... 	Key card systems to switch off electricity in guestrooms Read more ... 	
General electricity			



How to go further

- Obtain in-depth recommendations: ask for an [energy audit of your hotel](#)
- Involve your staff: see [how to train them on energy issues](#)

Carbon footprint report


The carbon footprint report is a useful tool to provide an estimation of the volume of CO2 emitted according to the hotel's energy consumption, facility characteristics and location.

[HES e-toolkit Home](#)[About](#)[Application Components](#)[Resources](#)



English

Supports the adoption of energy efficiency and renewable energy technologies



Calculate your carbon footprint

The carbon footprint calculator measures your hotel's impact on our climate by estimating the total set of greenhouse gases (GHG) emissions caused by the hotel. The calculator also gives you advice on how you can reduce these emissions.

It's free! Get Started

[Why to use the tool »](#) | [Take a quick tour »](#)

Assess energy use

Technological Solutions: Cut Energy Costs

Reduce CO2 Emissions

Learn More...

Return on Investment calculator

The return on investment calculator (RIC) helps to evaluate the best investment choices for each energy technology solution based on specific inputs provided by the hoteliers. The tool assists the user in making informed strategic decisions regarding their EE and RET investments. The aim is to support the analysis of the cost-benefit implementation of these technologies. With the RIC report the user will be able to continue the assessment of investment opportunities, including this report in consultation with financing entities.

[HES e-toolkit Home](#) [About](#) [Application Components](#) [Resources](#) [English](#)

Supports the adoption of energy efficiency and renewable energy technologies



Choose the right investment for your hotel

The decision support tool provides support in ranking practical and cost-effective EE and RE investment options. The solutions are presented along with best practices on the competitive business advantage of sound energy investments.

[It's free! Get Started](#)

[Why to use the tool »](#) | [Take a quick tour »](#)

[Assess energy use](#) [Technological Solutions: Cut Energy Costs](#) [Reduce CO2 Emissions](#) [Learn More...](#)

Testing on destinations

Before becoming available publicly, testing of the Beta version of HES E-toolkit was carried out in four types of pilot destinations around Europe: **Haute Savoie, France (mountain), Palma de Mallorca, Spain (coastal), Bonn, Germany (urban) and Strandja, Bulgaria (rural)**. Very positive feedback was received from hotel owners and managers (ranging from 4 bedrooms to large hotel chain properties) who have tested it and adjustment has been made to the Beta version coming from the recommendations of users. It is important to note as well that besides the fact that the access to the tool has been exclusively restricted to the 100 European properties testing the tool (during 6 to 8 months), more than 1,100 users have accessed the HES E-toolkit around the world during the testing phase.

We encourage you to use the HES E-toolkit and move towards and increased competitiveness and sustainability!



<http://hes.unwto.org/en/etoolkit>



<http://hes.unwto.org/en/etoolkit-demo>



Knowledge is **Power**



Knowledge is Power

Providing basic understanding, in a simple format has been at the core of Hotel Energy Solutions objectives. Understanding better how to improve energy management will empower the hotel owners and managers to make the right decision in investing in energy efficiency and renewable energy technologies. In addition, introducing some soft systems such as staff training or guest sensitization can bring about substantial savings in energy costs as well as building a responsible brand.

HES Energy School

The Energy School provided on the Hotel Energy Solutions website will allow you to learn basics on energy and technologies.

There are great opportunities for the hotel sector to save on operational costs by taking advantage of the potential of energy efficiency and renewable energies. About 40% of the energy used by hotels is electricity, and 60% comes from natural gas and oil fuels.

Three-quarters of this energy is used for:

- Space heating
- Hot water production
- Air conditioning and ventilation
- Lighting

The above uses are areas where energy efficiency can be increased dramatically, and where renewable energies can also be easily harnessed by use of simple, proven technologies.

What is Energy Efficiency?

In simple terms, energy efficiency (EE) means using less energy to perform the same tasks and functions. For hotels, this could mean reducing the amount of energy needed for heating by improving insulation of the hotel building, by introducing lighting control or also regulate space heating and cooling.

Energy efficiency saves energy, costs, and reduces emissions of greenhouse gases like CO₂.



1 Make a first assessment

Energy consumption monitoring

Energy consumption monitoring is highly recommended to establish fundamental information on energy use in the hotel. It can help reveal problems (e.g. abnormal changes in energy consumption), identify energy saving opportunities, and to verify the effectiveness of the energy conservation measures implemented.

Energy audit

An energy audit (an inspection which identifies energy consuming devices, determines their rate of energy consumption) carried out by an energy expert is the best way to get a comprehensive view of the actions that need to be taken in order to improve the energy efficiency of a specific hotel.

This is an essential step to identify the technical solutions which are the most appropriate.

“Audit” for the European Eco-label for tourist accommodation service

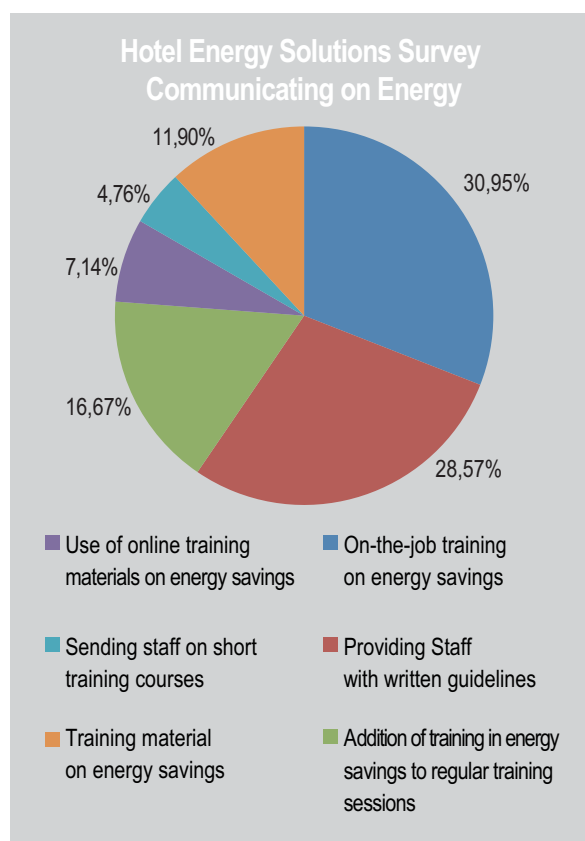
If planning to set up an environmental policy and action plan for the hotel, it may be worth establishing whether the hotel meets the standards of the EU Eco-label, and what actions are needed in order to qualify for the EU Eco-label.

The EU Eco-label is an official certification from the European Union that has gained European-wide recognition and can be effectively integrated into your marketing strategy. Even if you are not planning to obtain the EU Eco-label, reading about it may inform you on the actions you can take to improve your hotel's environmental performance, especially in regards to energy use and efficiency.

2

Involving your staff in the hotel's energy action plan is not only essential for your energy efficiency policy to be successful, but it is also a very effective way to motivate them and give a new meaning to the business! Staff knowledge and involvement is important to ensure that hotel guests are provided with appropriate information on the hotel's practices, as their behavior will be mostly monitored by your employees. The staff will be happy to support your efforts for a more sustainable business and their direct participation will lead to increased satisfaction in the workplace.

To actively involve your staff, it is highly recommended that you provide them with information and training on the actions they should take to support your efforts. Since continuous improvement is an important part of the hotel action plan, you should also invite your staff to provide you with their feedback and ideas.



3 Involve your guests

For your energy efficiency policy to be successful, it is essential for you to involve your guests. This is why it is strongly recommended that you let them know you care for the environment and invite them to take simple actions to support your efforts.

It is often wrongly perceived that restrictions imposed on guests will jeopardize their enjoyment and over-all satisfaction with the hotel. But it is just the opposite, guests worldwide are increasingly environmentally concerned and are demanding sustainable standards in the hotels they visit.

Hotel Energy Solutions provides you with a video and a brochure to help you in sensitizing your guests, free downloads.

www.hotelenergysolutions.net



4

How to protect the building from extreme temperatures

Window insulation

Windows may cause large heat losses in winter, whereas in summer the glass surfaces may be a source of overheating. The installation of thermal insulated windows is the key to reducing heating and cooling issues. The type of glazing and the type of frame are important aspects to consider.

Building insulation

Improving the thermal insulation of the hotel building is important for keeping the hotel warm while reducing heating costs. Good insulation means keeping the heat generated inside the hotel for a longer period of time, so the heating system does not need to work as hard.

Prevention of air infiltration and of unnecessary outdoor air supply

Did you know that almost half of the energy consumed in hotels is used for space heating and cooling and that an important part of it is just wasted? One solution to avoid this waste is to make sure that there is no air infiltration at doors and windows, and that entrance doors are not a large source of energy loss.

Installation of sun shading devices

Installation of external movable sun-shading devices is highly recommended in hotels that are highly exposed to sunlight. Well-designed sun shading devices will help keep the building cool and comfortable and will limit the space-conditioning needs of the hotel.

Outside work to improve summer comfort

Well-designed landscaping can minimize the summer heat gain in your hotel, reducing your cooling needs by 20% to 100%. Planting a deciduous tree on the southwest or southeast side of your hotel, for instance, will help reduce your cooling needs and help maintain a comfortable indoor air temperature by casting a shade on the hotel.

You may also consider planting indigenous shrubs, or installing open pools or fountains for cooling by evaporation. Choosing the right ground cover for the surrounding area also plays an important role in summer comfort.



5 Improve equipment efficiency

Key card systems to switch off electricity in guestrooms

Key card systems switch off electricity automatically when guest rooms are vacated, and thus avoiding useless consumption of electricity (TV, lighting, etc).

Lighting control

The principle of lighting control is to light only the areas that are occupied or truly need to be lit. This can only be achieved with technical measures, such as automatic devices.

Energy saving light bulbs

Use of energy saving light bulbs reduces the hotel's electricity consumption.

Electric appliances with high energy efficiency rating

If you want to replace or upgrade the old appliances and electronic products in your hotel, make sure that you choose a product with a high energy efficiency rating.

Energy efficient motors in Heating, Ventilation and Air-Conditioning (HVAC) applications

You probably have noticed that space heating and cooling is one of the largest energy consuming activities within your hotel. What you probably do not know is that the motors of the ventilators, compressors and pumps involved in your HVAC applications are responsible for a large share of your electricity consumption, because they generally work at full load all the time!

Actually motors do not need to work continuously at full load. Energy efficient solutions like variable frequency drive (VFDs) are available to adjust the speed of the motors to the actual needs of your hotel and can help reduce the electricity consumption of your HVAC applications.

Regulation of space heating and cooling

Space heating and cooling is generally the largest energy consuming activity within a hotel. To keep energy consumption at a reasonable level, it is necessary to regulate temperatures



according to the actual needs and occupancy of the different zones of the hotel. In particular, having close control for individual rooms is very important.

High efficiency boilers

The energy efficiency of boilers available on the present market is much better than it used to be. If your boiler is old (>15 years old) or needs to be replaced, it is highly recommended to switch to a high energy efficient boiler: an A-rated boiler, a condensing boiler, or a low-temperature boiler.

Thermal insulation of boilers, water systems, domestic hot water tanks and water pipes.

Insulation of boilers, hot water storage tanks and water distribution systems is a very efficient way to keep your water hotter for longer, especially if the equipment is exposed to cold conditions in winter.

By reducing heat loss, insulation allows for a lower water temperature setting, and thus provides energy and money savings for your hotel. In addition, insulation of water distribution systems results in a shorter time for your guests to get hot water when they turn on a faucet or showerhead, helping to conserve water.

Efficient solutions for active space cooling

Preventive measures (installation of sun protectors, etc.) are sometimes enough to keep a hotel cool and comfortable in summer. But the installation of an active space cooling solution may be necessary if your hotel still has cooling needs in summer.

Because air-cooling systems may have a strong impact on guests' comfort and on your electricity bill, it is necessary to choose them carefully.

Efficient ventilation systems

Controlled ventilation is highly recommended in hotels for the following reasons:

- **air quality:** the quantity of fresh air needed depends on room occupancy and the activities within the rooms (for instance, bathrooms require a big need for air refreshing); therefore air renewal should be adjusted accordingly,
- **reduction of heat loss:** excessive ventilation should be avoided in cold conditions because it will result in important heat loss (ventilation may be responsible for up to 15% of heat loss in winter),
- **need for cooling in hot conditions:** over-ventilation may be very useful at mid-season or at night during summer in order to keep the hotel cool and comfortable.

Various solutions exist for efficient ventilation; the most reliable ones (currently on the market) are demand-controlled mechanical system. But these systems are only worth considering if the present air infiltrations at doors and windows are already in place!



What is Renewable Energy?

Renewable energy sources like **wind, solar, bioenergy, geothermal and hydropower** are unlimited, as they capture energy flows available from the natural environment.

Use of renewable energy sources will help secure the future energy supply and lower the human impact on the environment.

Renewable power capacity is increasing worldwide, accounting for 280 GW during 2008 (excluding large hydropower), representing an increase of 75% since 2004.

Currently renewable energy accounts for 8% of the total

energy used in the European Union, and targets have been set for this to increase to 20% by 2020.

The EU Action Plan for Energy identifies the tertiary sector, including **hotels**, as having the potential to achieve **30% savings on energy use by 2020** – higher than savings from households (27%), transport (26%) and the manufacturing industry (25%).

EU hotels are in a strong position to access renewable energies as **over a third of the world's renewable power capacity is located in the European Union**.

Hotels can benefit from using renewable energies for example in water heating, space heating and air-conditioning.

Wind

Wind energy is extracted via wind turbines, either as single installations or grouped into 'wind farms' that can have a generation capacity of several hundred megawatts (1000 kW).

Situated in an area with a good wind source, a single 1 MW turbine can provide the energy needs of 650 households.

Wind power capacity has doubled between 2004 – 2008, and continues to grow rapidly. The capacity for wind energy resources in Europe is substantial. Spain, Germany and France are currently the top three EU countries for wind power capacity.

ADVANTAGES

- Low cost
- Rapid deployment – modular and quick to install
- Provides bulk power equivalent to conventional source
- Produces little environmental pollution

DISADVANTAGES

- Noise (mechanical and aerodynamic)
- Electromagnetic interference can distort TV and radio reception locally
- Visual impact

These impacts are of little significance when compared to other energy sources (in particular fossil fuels).



Solar

Solar power is energy obtained from the sunlight that reaches the Earth. Solar power is harnessed in two main ways: by using photovoltaics to produce electricity, solar thermal systems to heat water or power solar cooling systems.

Even within regions such as Northern Europe there is sufficient sunlight to make solar power a good source of energy, and Germany is a leading producer of electricity from solar power. Northern Europe receives between 4.5 and 5 kWh/m²/day in the summer, and Southern Europe can receive up to 6 to 7.5 kWh/m²/day. In winter these fall to around 0.5 kWh/m²/day in northern parts and 1.5 to 2 kWh/m²/day in southern parts. 5 kWh of energy is enough to heat up a very hot bath.

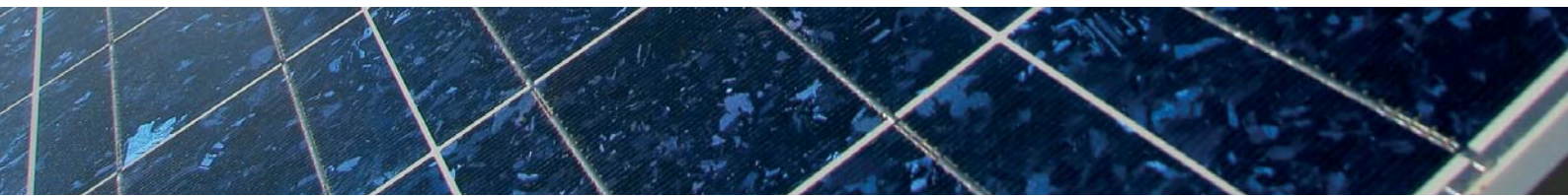
ADVANTAGES

- Can generate power on dull days
- Does not produce noise, harmful emissions or polluting gases
- Equally well suited for installation in high density urban areas and in rural areas
- Minimal maintenance required to keep systems running
- Modular systems can be quickly installed anywhere and easily expanded as requirements or financial resources increase

DISADVANTAGES

- Solar cells have a relatively low conversion efficiency for converting sunlight to electricity, of between 10-15%.

Nonetheless, the conversion efficiency is increasing as research leads to commercialization of improved solar cells.



Bioenergy

Bioenergy refers to energy obtained from wood, crops, straw, food wastes, paper, animal manure, and other forms of 'biomass'. Biomass can be used for different purposes: heating, electricity production and transport fuels (biofuels). It can be burnt directly, or converted into other forms of energy (e.g. digested to produce methane gas, or processed to produce fuels like ethanol and biodiesel). This source of energy is considered to be renewable because trees, crops and vegetation can be regrown.

ADVANTAGES

- Low cost
- Can be stored and used on demand
- Releases less CO₂ than fossil fuel

DISADVANTAGES

- Burning municipal solid waste (garbage) can release chemicals found in the waste
- The ash from the combustion of the garbage may contain heavy metals.
- Bioenergy requires a lot of land (for cultivations of crops)
- Effects on the agricultural landscape: risk of reduction on biological diversity and high inputs of fertilizers and pesticides





Geothermal

Geothermal energy is energy extracted from the heat below the Earth's surface. Hot springs have been used since ancient times for heating, and can now be harnessed for electricity generation. Even without hot springs there is plenty of heat in the ground, and small ground heat pumps (no more than a few metres underground) can be installed for individual buildings to use this energy for space and water heating.

Today, geothermal energy is used for district heating, as well as for the heating (and cooling) of individual buildings, including offices, shops, small residential houses, etc. There are large geothermal district heating systems in Europe, for example in: France, Austria, Germany, Hungary, Italy, Poland, Slovakia. Sweden, Switzerland, Germany and Austria are the European markets for geothermal heat pumps.

ADVANTAGES

- Available anywhere
- Very low visual impact, as the infrastructure is mostly beneath the ground
- Not dependent on climatic conditions
- Long term durability of installation

DISADVANTAGES

- The initial investment costs can be high

Hydropower

Hydropower is extracted from a flow of water, and is used to generate electricity. Hydropower schemes can range from electricity generation from water gathered behind large dams, to small of just a few kilowatts capacity from rivers or streams.

Hydropower already provides over 17% of the world's electricity. Europe, with about 12 GW of hydropower, is the second largest generator of hydropower, just behind Asia . About 7% of Europe's hydropower is generated by small schemes of 10MW or less. Italy, France, Germany, Spain and Sweden are currently the leading countries for hydropower in Europe.

ADVANTAGES

- Positive environment effects such as flood control
- Reduced land requirements
- Proven and reliable technology

DISADVANTAGES

- High initial costs
- May disrupt the natural flow of rivers, causing damage to ecosystem
- In times of drought hydropower cannot generate electricity
- Possibility of flooding



Communications Materials: Sensitize your guests and staff!

The first step is to begin with a change in our behavior and in how we use energy for our daily operations.

Hotel Energy Solutions has developed a series of communication materials that hoteliers can use to sensitize their guests and staff on energy efficiency and renewable energy technologies. Unlike more profound changes which require an investment on the part of hoteliers, these materials come at zero cost, but produce very tangible results.

The approach ensures that visitors do not feel guilty, but rather provides them with new behaviors that they can apply at home. In fact, this is a crucial step, all hotel users should be aware and concerned about the environmental goals which the hotel they are staying in is seeking to achieve, to be able contribute in materializing these final objectives. Often guests have little knowledge on these issues, and while on holiday

and trying to increase their entertainment, they carry out wasteful actions that harm the environment.

Likewise, staff may not be aware of the damaging potential of their actions. At the same time, hoteliers are reluctant to set up too many rules and restrictions, fearing that this will jeopardize their customers' holidays, and prevent them from having a good time. However, guests are increasingly aware and respectful of green measures in their hotels, even choosing "green hotels" which carry out these measures over others. Environmental standards are therefore in high demand. This highlights the need to communicate environmental norms to the public, in order to reinforce their opinions and change their actions. The Hotel Energy Solutions communication materials include a series of simple tips, given out in different formats, which guests and staff can easily follow to make a difference.



<http://vimeo.com/29033687>

Unplug, relax and enjoy your stay! 3D Video

A 3D video has been created to explain the benefits of energy savings for the travelers. The educative video can be shown in receptions to guests who have just checked into the hotel, or in other moments throughout their stay. It can also be shown to staff during their initial training. The video depicts a figure carrying out steps to conserve energy inside their rooms.

Examples include using a bath instead of a shower and using little amounts of water, un-plugging their electronic equipment when they leave the room or switching off the room lights when these are not being used, along with adjusting the thermostat to “auto” to prevent unnecessary wasting. The video was created to be visually appealing and interesting for guests of all ages. Through this tool they can easily follow the procedures shown in the video and copy the simple actions depicted, in their guestroom or at home.



Brochure, Leaflets - FREE downloads!

In a different format, a Hotel Energy Solutions brochure has been created for distribution to guests and staff.

This material briefly explains the project and then mentions the tips to save energy, along with visual representations of each tip, to make it attractive and easily copied by the audience. It can be placed in each guestroom, so guests have easy access to the materials.

Download link:

<http://hes.unwto.org/sites/all/files/docpdf/eng-cb.pdf>



UNPLUG, RELAX AND ENJOY YOUR STAY!

We as a hotelier, are taking measures... but you as a guest can also play an important part!

We would like to provide you with some **tips and ideas** that you can apply at home, as well as during your stay with us!



www.hotelenergysolutions.net

Tips and

Many of our guests would like to know how they can be more energy efficient in their daily lives. Here are some very helpful, yet simple steps wherever you are...

Lighting the way. Use lighting only when needed... A good rule of thumb is to turn off the lights when you close a door or when leaving a room.

TIP: Switching to energy efficient lighting at home will pay for itself quite quickly!



Plug and play. Did you know that a lot of energy is lost through plugged in appliances that are not in use or are left on overnight? It is true, your computer, cell phone or hair dryer is consuming energy even when not in use.

TIP: Unplug, relax and enjoy your stay!



Trust your thermostat. Thermostats work best on AUTO... Extreme variations of temperatures or turning the Air Conditioning or heating system ON and OFF will not make you feel more comfortable any faster and in the process unnecessary energy is wasted.

TIP: Try maintaining the temperature between 24 and 26°C in the summer and at 21°C in the winter. Remember this rule and you will save energy at home.



and ideas

can be more energy efficient in their daily lives, or which you can already do back at home or

Stay cool and use windows wisely.

In summer keep your windows and curtains closed during the day and your room will stay cooler. Keeping your room comfortable with fresh air and at the right temperature is just as important as knowing when to open the window. Try it yourself at home and you will also be surprised in how much energy is saved!

TIP: In the summertime, ventilate only in the evening for a few minutes when the temperature is cooler outside to refresh your room.



Save water and energy. Did you know that taking a bath instead of a shower consumes three times the amount of water and energy?

TIP: By taking a shower instead of a bath, you will save more than 100 liters of water.



For our guests who choose NOT to have bed linen and towels changed each day, they will also be saving energy and water, one of our most precious resources.



What is Energy Efficiency? It means reducing our energy consumption by improving our facilities and how to use them, while at the same time maintaining the same level of comfort and service for our guests.

How to reduce our Carbon Footprint? How does saving energy relate to it?

Your carbon footprint is a measure of the impact your activities have on the environment, and in particular climate change. It relates to the amount of greenhouse gases produced in your day-to-day life through burning fossil fuels for electricity, heating and transportation, etc.

What are we doing about it? We are preparing an action plan with practical solutions for energy efficiency.

The first step is to begin with a change in our behavior and as to how we use energy in our daily operations.

The European Action Plan for Energy Efficiency estimates that:

Hotels have the ability to **reduce** energy consumption **by 30%** by the year 2020, just about the same potential energy savings for the **residential** and the transportation sector.



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Hotel Energy Solutions Official Partners

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ENERGY SOLUTIONS

BROCHURE "Unplug, Relax & Enjoy Your Stay" Preview

Lighting the way. Many guests would like to know how they can be more energy efficient in their daily lives. Investing in an efficient lighting system consumes less energy, but it also improves your comfort. During your stay, we ask you to use lighting only when needed, and to **please turn the lights off when leaving the room.**

TIP: Switching to energy efficient lighting at home will pay for itself quite quickly!

Un-plug and play. Did you know that a lot of energy is lost through plugged-in appliances that are not in use or are left turned on overnight? **Your computer, cell phone or hair-dryer are consuming energy even when not in use.** So, unplug, relax and enjoy your stay!

Trust your thermostat. Thermostats work **best on AUTO.** Extreme variations of temperature, or turning the air conditioning/ heating system ON and OFF will not make you feel more comfortable any faster, and in the process unnecessary energy is wasted.

TIP: Try maintaining the temperature between 24 and 26°C in the summer and at 21°C in the winter. Remember this rule and you will save energy at home also.

Keep your cool. In summer keep your windows and curtains closed during the day and your room will stay cooler. Try it at home and you will be surprised about how much energy is saved!

Use windows wisely. Keeping your room comfortable with fresh air and at the right temperature is just as important as knowing when to open the window. In the summer-time ventilate only in the evening, for a few minutes when the temperature is cooler outside, to refresh your room.

Save water and energy. Did you know that taking a bath instead of a shower consumes three times more the amount of water and energy? **Choosing not to have bed linen and towels changed every day** also saves energy and water.

TIP: By taking a shower instead of a bath, you will save more than 100 liters of water.

HES Promotional Material

Hotel Energy Solutions Newspaper

As a key promotional tool for Hotel Energy Solutions was produced to make the information (E-Toolkit, background and tips) more exciting and attractive. The newspaper can be used by hotels associations, destinations and service providers to promote the use of the HES E-toolkit and its materials.

The Hotel Energy Solutions
Fostering innovation to fight climate change in the accommodation sector

In a world looking for new models of economic growth and development, fighting climate change and adopting sustainable management practices is no longer an option, but a condition for survival and success.

The tourism sector is well aware of this reality.

Tourism is today one of the largest drivers of employment and development. Millions of people are employed in the sector around the world, in a wide range of positions and levels, contributing significantly to local economic growth and well-being.

Tourism is also responsible for 5% of the world's CO2 emissions, out of which hotels and other types of accommodation account for 15%. A comparatively small, yet important, footprint that the tourism sector has assumed as a priority to be addressed.

In response to the challenge of climate change, the Hotel Energy Solutions (HES) project aims to increase energy efficiency in European small and medium hotels by 20% and their use of renewable energies by 10%, demonstrating that economic growth and sustainability can, and should, go hand in hand.

The HES software, an innovative online tool, will empower and guide hotels to better understand their energy consumption and show them how to improve energy management and cut costs, thus moving towards a greener economy.

Hotel Energy Solutions, a UNWTO-initiated project made possible by the support of Intelligent Energy Europe, was implemented in close partnership with UNEP, IHARA, EREC and ADEME.

While built for EU Members in line with EU Energy Policies, the project is expected to be rolled-out globally over the coming years. Once adopted, the project will benefit hotels worldwide, thus contributing to climate change mitigation while helping hotels increase business profits.

We invite hotels and destinations to make the most out of this innovative tool and reduce their carbon footprint while ensuring the economic and environmental sustainability of the sector.

Taleb Rifai
Secretary-General, UNWTO

HES PROMOTIONAL VIDEO

<http://vimeo.com/29604479>

THE HES E-TOOLKIT IS QUICKLY COMPLETED AND EASY TO USE

What do I need to start?
40 minutes of time

What do I need to do?
Register, fill in the questionnaire

What do I get as a result?
Once the questionnaire is completed, you have access to the different reports

HES E-TOOLKIT

Hotel Energy Solutions bridges the existing gap between available Energy Efficiency/Renewable Energy technologies and their actual use in SMEs in the accommodation sector. In response to the challenge of climate change, HES provides an innovative online mitigation toolkit: the HES e-toolkit to help hotels reduce their carbon footprint and operations costs, thus increasing business profits.

The project delivers information, technical support & training to help Small and Medium Enterprises (SMEs) in the tourism and accommodation sector across the EU 27 to increase their energy efficiency and renewable energy usage. HES provides an innovative software - the HES E-toolkit - as well as a number of resources to learn more about and improve energy management.

The hotel sector is one of the tourism industry's largest drivers of employment and economic revenue but at the same time it is one of the most energy-intensive. Hotels and other types of accommodation account for 2% of the 5% global CO2 emitted by the tourism sector.

The project's focus on SMEs is particularly important, as the utilization of out-dated technologies, lack of human and financial resources and a limited awareness and knowledge on greener alternatives may all be contributing to decreasing their competitiveness.

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HOTEL ENERGY SOLUTIONS

Home About Us Partners e-Toolkit Energy School Resources Contacts

E-Toolkit

In a world looking for new models of economic growth and development, fighting climate change and adopting sustainable management practices is no longer an option, but a condition for survival and success.

Hotel Energy Solutions, a UNWTO-initiated project made possible by the support of Intelligent Energy Europe, and implemented in close partnership with UNEP, IHARA, EREC and ADEME, has a goal to increase energy efficiency by 20% and the use of renewable energies by 10% in SMEs across the EU, demonstrating that economic growth and the environment can and should go hand in hand.

After three years of testing and research, HES has the pleasure to introduce you to its principal output, an innovative online application, the "Hotel Energy Solutions E-toolkit" which provides hoteliers with a report assessing their current energy use and recommends appropriate renewable energy and energy efficiency technologies along with a carbon footprint calculator and a return on investment calculator. In addition, an educative section called "Energy School" deepens knowledge on sustainable practices and technologies available, along with a variety of informative publications and communication materials to sensitize guests and staff.

UNWTO video channel

Hotel Energy Solutions Promotional Video



<http://vimeo.com/29604479>

For destinations and hotels associations, a promotional video was put together with the participation of the UNWTO Secretary General Taleb Rifai giving background information and the rationale of the project, followed by a series of hotelier users who have used the tool and who voice their positive opinions on it. For example, the success of the tool in the partner destinations: Haute Savoie, Bonn, Palma, and Strandja are discussed in this video, to provide case studies to a wider public that is interested in the use of the tool. The video is accompanied by screenshots of the HES E-toolkit, allowing users to catch a glimpse of the process and in order to tempt them to try the tool.

Internet site and promotion of this to the target groups and key actors via relevant networks and media channels

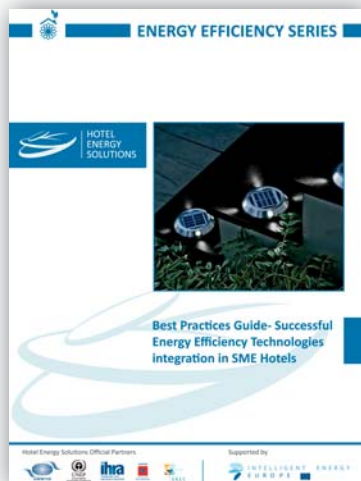
www.hotelenergysolutions.net

The project established a public web presence and HES promotes this vigorously as part of its communication's strategy. The public web pages include details of the project background, rationale and activities, on-line surveys, quarterly progress reports, and the beta-test versions of tools and materials being tested in the pilot destinations.

In general, the communication materials seek to be visually attractive and simple, so that they can be easily accessed by a varied range of public. They are primarily created to be disseminated within hotels, however the tips included are useful not only in guestrooms but can be applied in everyday life in people's homes.

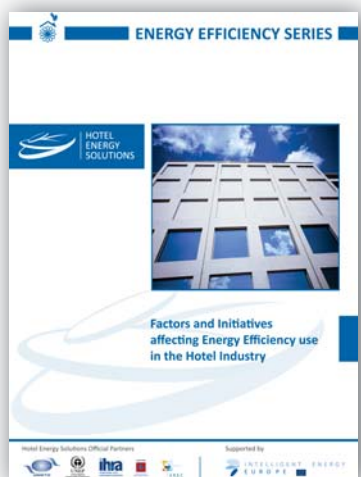


Hotel Energy Solutions - Publications



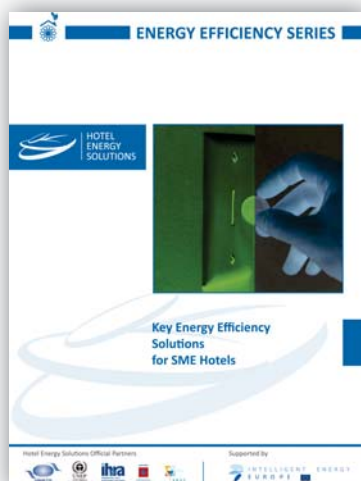
Best Practices Guide - Successful EET Integration in SME Hotels

By presenting the case studies of selected hotels throughout Europe we show the ways these hotels have successfully applied energy efficiency and renewable energy solutions and the benefits they incurred by the implementation of these changes.



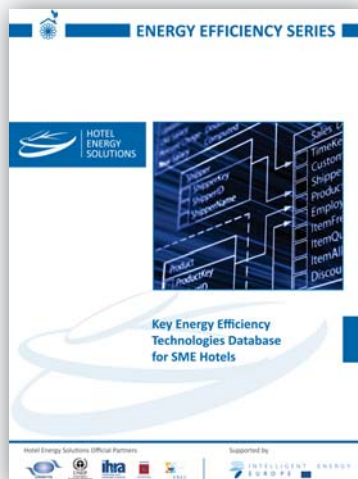
Factors and Initiatives affecting Energy Efficiency use in the Hotel Industry

This study demonstrates the barriers faced and the drivers behind the implementation of energy efficiency programs in SME hotels, by pointing out lessons learnt from previous surveys. In addition, we take a look at how education and awareness raising campaigns play a key role in implementing these programs.



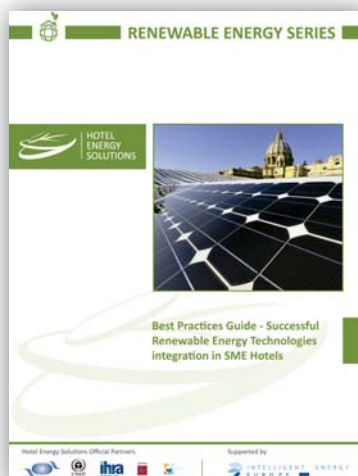
Key Energy Efficiency Solutions for SME Hotels

This publication provides a clear overview of energy efficiency solutions that are available to SME hotels. It is not intended to be a step-by-step guide for hotel managers, but rather an overview of 20 solutions which can be easily implemented by a SME hotel.



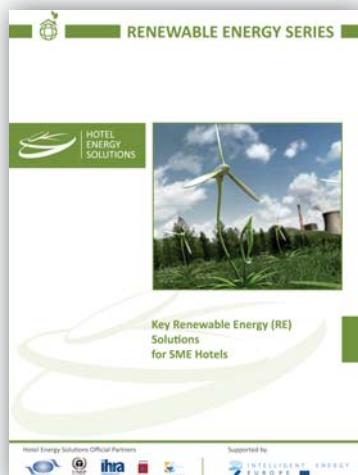
Key Energy Efficiency Technologies Database for SME Hotels

This publication provides a clear overview of energy efficiency technologies that are available to SME hotels. It is not intended to be a step-by-step guide for hotel managers, but rather an overview of 20 solutions which can be easily implemented by a SME hotel.



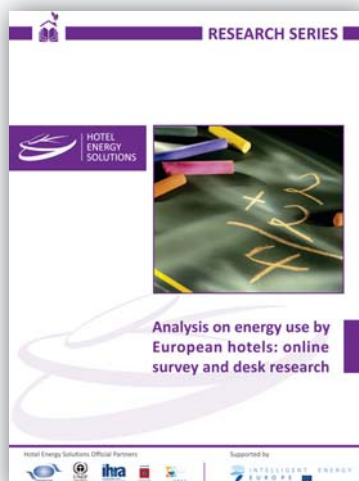
Best Practices Guide- Successful Renewable Energy Technologies (RET) Integration in SME Hotels

Since there is not a single, universal RET solution available, this study investigates different examples of how SME Hotels have successfully incorporated renewable energy technologies into their facilities.



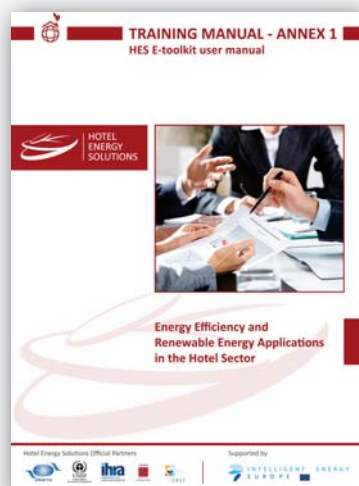
Key Renewable Energy (RE) Solutions for SME Hotels

There are many renewable energy options available for SME Hotels: wind, solar, biomass etc. But which are the best solutions? This report presents an overview of each RE solution and the rationale, implementation, benefits and disadvantages of each one.



Analysis on Energy Use by European Hotels: Online Survey and Desk Research

This publication records the results of an on-line survey and desk research conducted to assess energy use in hotels across EU Member States, their use of energy efficiency and renewable energy technologies, and the factors that affect this.



Energy Efficiency and Renewable Energy Applications in the Hotel Sector: Training Manual

This training manual is intended to assist trainers and to raise the awareness of hotel decision-makers and staff about the opportunities for implementation and use of EE and RE technologies and practices.



HES Trainer Manual E-Toolkit User Manual

This manual is a step-by-step guide which assists users in the e-toolkit use, with screenshots enabling them to easily follow the process and understand the background information at every stage.



What Others Already Do



Destinations

Hotel Energy Solutions worked in partnership with four destinations for the testing of the e-toolkit.

The destinations were chosen due to their geographical differences, in order to test the credibility of the project in different circumstances. Hence, Palma de Mallorca, Spain, is coastal, Bonn, Germany, is a city, Haute-Savoie, France, is mountainous and Strandja, Bulgaria, is rural. As a result of this testing, users were engaged and were able to witness the facility of using the toolkit. The following chapter gives a background of these four destinations, their experience with HES and the outcomes of the use of the tool.

Urban Pilot Destination / Bonn, Germany

Conference Sector Qualifies for Sustainability

Since 2006, Germany's United Nations City runs a unique project, "Sustainable Bonn", whose aim is more sustainable performance of the conference-tourism sector. Within five years, 49 hotels and businesses have qualified as "Partners of Sustainable Bonn"- accounting for more than half of the city's hotel beds. Conferences on sustainable development to be managed sustainably. The hotels, restaurants, and catering businesses should all demonstrate sustainable practices in order to show solidarity with the conference themes.

Bonn: Germany's United Nations City

Bonn is Germany's United Nations City, where UN agencies have concentrated their efforts toward sustainable development worldwide. There are 17 UN agencies in Bonn and more than 850 UN employees. The biggest UN agency is the Climate Secretariat, followed by the Desertification Secretariat and the UN Volunteers Programme. Other units deal with water, threatened species and natural disasters. The UNWTO runs a consultancy unit for tourism and biodiversity in the city.



The UN is the heart of a dense cluster of organizations dedicated to sustainability, including federal ministries; science, research and business organizations; the media and some 150 NGOs, such as the Forest Stewardship Council and the Fairtrade Labelling Organizations International. It is clear that Bonn is committed to sustainability.

Hosting major environmental conferences

Bonn has become a platform for international debates and cooperative efforts, with a huge part of the Bonn conference-tourism business being sustainability-driven. The needs of these conferences and their delegates cannot be met by non-sustainable services if they want to demonstrate their sustainability integrity. Hence, the project Sustainable Bonn began to address the conference-tourism sector in 2006. It supports sustainable practices in Bonn's hotel, restaurant and catering businesses.

While reluctant at first, the ten pilot hotels for Sustainable Bonn soon found that their sustainability strategies brought sustainable and financial benefit – as well as the opportunity to invest savings in social responsibility and fair purchasing

practices. From 2006 to 2010, 49 hotels, caterers and event locations successfully participated in Sustainable Bonn – in such diverse sustainability areas as energy efficiency and renewable energies, water and waste management, mobility and fair and sustainable purchasing.

Five years of Sustainable Bonn

After five years of Sustainable Bonn, the success is visible in implementation, follow-up-strategies and dissemination. The conference-tourism sector is highly motivated and committed: partners continue upon completion of the programme, applying for re-audits and disseminating the ideas of Sustainable Bonn to staff, clients and through the channels of hotel chains. Moreover, the idea has spread to the cultural sector as well as to educational field.

Sustainable performance is sought after, and not only for UN conferences and meetings on environmental or development topics: it sometimes it even constitutes a condition for the choice of a venue.



Sustainable Bonn has greatly helped to achieve sustainable performance and to make it part of the image the city projects to the world. Tilmann Flaig, Managing Director of Tourismus & Congress GmbH, sees an enormous increase in meetings and conferences in the field of sustainability. Future concepts should be geared toward this main focus, says Flaig.

Sustainable Bonn has been an asset from the beginning, the charm of it being easy access and an individual approach. There is more to this project than merely “greening” conferences – we are talking about an increased conscience for development issues. According to Bonn’s Mayor, Jürgen Nimptsch, it is this conscience that makes up Sustainable Bonn.

**NACHHALTIGKEIT.
SUSTAINABILITY.
DURABILITE.
BONN.**

**FREUDE.
JOY.
JOIE.
BONN.**



Hotel Energy Solutions in Bonn

In 2011, 25 hotels in Bonn have tested the new HES e-toolkit, contributing with their experience gained from Sustainable Bonn. Mayor Nimptsch, who met UNWTO Secretary-General Taleb Rifai in Bonn in March 2010, considers the testing a milestone and expects that HES will unveil further potential for energy efficiency and renewable energies in Bonn. Also in his capacity as Vice Chair of the World Mayors Council On Climate Change (WMCCC), he welcomes the UNWTO’s initiative to support small and medium-sized hotels and destinations in their endeavors towards sustainable energy management. Bonn is committed to further pursue the dialogue with the Sustainable City Network worldwide to promote, use and adapt the HES e-Toolkit.



Mountain Pilot Destination / Haute-Savoie, France

Combining development with an exceptional environment

Creating wealth without harming the planet: this is a permanent concern for the Haute-Savoie department in the French Alps. The region is committed to developing economic and touristic activities while ensuring their successful integration into its postcard-like landscapes.

To minimize the ecological footprint, elected officials, policy makers and tourism professionals constantly strive to find the right balance between encouraging healthy tourism and protecting a unique environment. They have found that the answer lies in promoting renewable energies and “soft mobility,” a new trend in tourism that allows all stakeholders in travel to reduce the impact tourism activities have on the environment.

has undertaken 21 projects. Some examples are reducing waste production, building and renovating buildings that utilize energy efficiency, sensitizing secondary school students to environmental responsibility and experimenting with alternative means of transportation. In 2006, the region also established a departmental energy plan.

Haute-Savoie launched a Climate Action Plan in 2008, and in 2009 it joined the European Union program EnercitEE (European networks, experience and recommendations helping cities and citizens to become Energy Efficient). The goal is to strengthen energy efficiency, the use of renewable energies and energy conservation. Furthermore, the institution Savoie-Mont-Blanc. Tourisme is encouraging the development of “eco-stations.”

Protecting the quality of life and the environment

In 2004, Haute-Savoie committed to a policy of environmental excellence to better address such concerns. Since then, the region



© Savoie Mont Blanc / Haase



© Savoie Mont Blanc / Haase

An old concern

This concern for the environment is far from recent: SILA (the Inter-municipal Association of Lake Annecy) was created in 1957 by eight municipalities in order to save the lake from pollution. The association accomplished its mission and more: Lake Annecy is now known as the cleanest in Europe.

In Haute-Savoie, there is a common goal: to create a delicate balance between economic development and environmental protection in order to preserve the high-quality natural and living environments.

This goal is perfectly addressed by a program like Hotel Energy Solutions, which local hoteliers, who are very sensitive to these issues, have spontaneously lauded.



Hotel Energy Solutions in Haute Savoie

From March to July 2011, 26 hotels have tested the HES E-Toolkit. After answering the online questionnaire, they were able to gauge their energy performance level and the carbon footprint associated to it. Practical factsheets on the possible ways to improve were also provided to them. The result was an average consumption of 240 kWh / year, per m² and per building.

Actually, new buildings should not exceed a consumption of 50 kWh/m²/year on average by 2012, under the new energy regulations. Following this, 26 action plans on energy efficiency were developed respectively for each of the 26 hotels involved.

The record of actions leads to the following conclusions:

- Among the energy efficiency actions the most encountered is isolating the buildings to prevent heat loss and raising the awareness of staff.
- Among the actions to be made in the future, the focus is on those related to heating needs, and communication to sensitize guests.



"I involve my clients in my strategy, explaining them how heating works through a booklet upon their arrival, for example. I also inform them about comfort temperatures. At the same time thermometers have been installed in each room to get rid of any scepticism. They appreciate it."

Benoit Heu. Hotel Le Dahu, Morzine.

"My hotel has been built to work only on electricity. To optimise heating with this constraint we had to find better performing, correctly regulated systems. Consultations with providers led me to install heaters that work on accumulation, which immediately shut off when windows are open, and which are controlled by a central base with an external sensor."

Christophe Mellinet. Montana, Chamonix.

"To reduce my operating costs in the long term, I invested in the renovation of the building's heating system. The energy savings realised allowed me to absorb the cost of installation of a jacuzzi and a hammam."

Jean-Yves Lépine. Hotel Le Saint-Antoine. Les Houches.

Success Story: Haute Savoie

One of HES's success stories is the pilot testing in the mountain destination, Haute Savoie, France. The HES testing by 26 hoteliers was made very comprehensively by the sub-contractor, Chambre de Commerce et d'Industrie (CCI) Haute Savoie. The technical expert provided relevant advice to SME hotels in regards to energy efficiency and renewable energy solutions, on the basis of the HES e-toolkit. The partnership with local bank Banque de Savoie is extremely promising. The initial target of 26 hoteliers is now in the process of expanding, even though the HES project has come to an end in August 2011. CCI Haute Savoie has contracted the technical expert for another year to conduct energy audits in more hotels, using the toolkit as a basis. The financial possibilities (loans) offered by Banque de Savoie will also expand the possibilities for SME hotels to take measures.

Regarding the testing of the toolkit, CCI Haute Savoie noticed some lack of adequacy of the toolkit for the mountain destination. CCI provided an accurate description of the problems and gave solutions to overcome these difficulties, so the HES team could work on more reliable research to improve the tool.

The launching of the pilot testing on March 1, 2011 provided the necessary technical information to hoteliers.

The closing of the pilot testing on July 7, 2011 was professionally organised by CCI and brought technical and financial elements to hoteliers to help them continue with improving their energy performance. The communication support for this event was large-scale and can be used as a basis for CCI to carry out action from September 2011.

The very practical work of CCI Haute Savoie throughout the pilot test could lead to the implementation of HES in Haute Savoie, giving solid and long term possibilities to SME hotels wishing to improve their energy performance. Possibilities are given by technical (CCI energy experts) and financial (Banque de Savoie loan) support.

It is also expected that other Chambers of Commerce and Industry in France will have the opportunity to launch initiatives similar to the technical expertise set by CCI Haute Savoie, on the basis of the HES E-toolkit and with the support of an energy expert.

Rural Pilot Destination / Strandja Nature Park, Bulgaria

A Diverse Ecosystem within a Culturally Historical Region

The Strandja Nature Park is one of the largest in Europe and is renowned for its diversity of plants and wildlife. In addition, great care has been taken to preserve the rich culture and folklore of the existing villages within the Park. The Park is located in the Burgas region in south-eastern Bulgaria and is on the Black Sea coast known for its mild climate. The Park also includes the country's highest peak, Strandja Mountain with an height of over 900 meters.

Strandja Nature Park is the largest protected natural area in Bulgaria, established to protect unique ecosystems and their biodiversity and to preserve the folklore, culture and heritage of its villages. In the park there are 54 species of mammals and 261 species of birds. Strandja is the only Bulgarian territory included in the five priority conservation areas in Central and Eastern Europe. It lies within the second largest bird migratory path in Europe - the Via Pontica.

There are 121 unique ecosystems, and in this respect, the park is one of the foremost of Europe's protected areas. For many years now, the area has received the support of the Swiss government for nature preservation and ecotourism development via the Bulgarian-Swiss Biodiversity Program.

The Sustainable Tourism Project

Park management is actively working for the sustainable development of the area, implementing a number of projects that also address the sustainable development of local tourism. For the last 15 years many locals have begun looking for alternative sources of income, and currently there are more than 100 establishments that offer accommodation, food and sightseeing in the area. There are guest houses in the villages, as well as small hotels.

Taking into account that these establishments are in a nature park, they must be even more responsible to the environment. By using alternative sources of energy, they are able to reduce their impact on the environment. In the past two years, a regional trade mark was developed and launched. The trademark recognizes accommodation providers and other tourism service providers who fulfill the criteria of responsible tourism.

The United Nations Environmental Program (UNEP) is in partnership with the Bulgarian Social and Environmental Responsibility Center (SERC) in the implementation of the Hotel Energy Solutions pilot phase activities. It is anticipated that the HES pilot destination will build on the existing sustainable tourism initiatives within Bulgaria.

SERC and the Bulgarian government have demonstrated their commitment to sustainable tourism through their partnership with the United Nations Industrial Development Program (UNIDO) on the Resource Efficient and Cleaner Production (RECP) project in Bulgaria. As a direct result of SERC's activities, 20 Bulgarian experts have been trained on cleaner production (CP) and another 20 in corporate social responsibility (CSR). CP and CSR activities have been implemented in 25 hotels and five tourism-related enterprises from the supply chain in three Bulgarian locations, and stakeholders have been engaged in the promotion of sustainable destination management organizations.



Hotel Energy Solutions in Bulgaria- Best practices

Marina Palace Hotel in Duni Resort has coolers with heat exchangers for utilizing the heat from the cooling process. The application of this measure has led to a 90% savings of gasoil for domestic hot water heating during the hottest summer days.

Marina Palace Hotel, Duni Resort

In hotel Forum, Sofia, 30W halogen bulbs in the corridors, bar and lobby were replaced with 5W LED bulbs. As the premises are constantly lit, the energy savings for one year is estimated to be 11 000 kWh.

Forum, Sofia

Fairy Hotel in the village of Chiflik elaborated instructions in accordance with the energy efficiency policy of the hotel for the chambermaids and kitchen equipment usage. Energy savings are estimated at 5-7%.

Fairy Hotel, Chiflik

In hotel "Premier", Veliko Turnovo, the swimming pool cover is used when the pool is not in use. Energy savings are estimated at 1050 kWh/y, and water savings of 35 m³.

Premier, Veliko Turnovo

As a direct result of the undertaken measures for wall insulation and windows replacements, the owners of Dobrevi guest house in Chernomorets, have achieved a 50% reduction of the heating costs.

Dobrevi, Chernomorets

The thermal solar system of park-hotel Continental in Sunny Beach Resort is the largest in Bulgaria project for providing hot water generated by solar energy. The system consists of 300 selective flat-plate solar collectors (645 m²), heating 20 boilers, each 1 500 l and serving the needs of 1000 guests.

Continental, Sunny Beach Resort



A Success Story

The Engagement and Support of the Bulgarian Authorities

The project has received tremendous support of the local government and local municipalities. The HES project was recognized by the authorities as a tool to support the energy and tourism strategies, both on a national and local level. Several municipalities in Bulgaria have shown interest in replicating the project or having the accommodation providers trained on the aspects of EE and RE. SERC has committed to continue to provide capacity building workshops and training to assist in implementing the HES E-toolkit.



Coastal Pilot Destination / Palma de Mallorca, Spain

Committed to responsibility

Palma de Mallorca, the capital of the Balearic Islands, is a city that offers a unique urban lifestyle within close proximity to a scenic coastline, the countryside and mountains.

The Instituto Municipal de Turismo (IMTUR) of the Palma City Council has taken the UNWTO Davos Declaration as an inspiration for its 'Palma, Responsible Tourism' initiative, aimed at raising awareness and promoting shared responsibility and commitment to environmental, social and economic sustainability amongst public administration, private businesses, residents and tourists.

The project's main objectives are the promotion of the municipality as a destination which is responsible and committed to sustainability, raising awareness among residents and tourists, and disseminating the environmental best practices of businesses in Palma. The 2nd International Conference on Climate Change and Tourism took place in

October 2007 in Davos, Switzerland. The conclusions of the conference were brought together in a document, the Davos Declaration, which the Palma City Council Municipal Tourism Institute used as an inspiration and reference for the creation of this project, with the cooperation and support of the World Tourism Organization (UNWTO).

The Palma City Council, working through the Municipal Tourism Institute in collaboration with private businesses of the sector, wishes to promote an image of this destination which is more firmly linked with different segments of the tourism market and which demonstrates a capacity for investing in projects that respect the environment, improving its competitiveness and positioning Palma as a differentiated tourist destination with added value in quality and excellence.



Palma Responsible Tourism

The Palma Turismo Responsable Project aims to ensure that all public-private initiatives are profitable and contribute to reinforcing a new image of this destination. To this end, all the City Council's promotional resources will be employed, together with those resources placed at the disposal of the City Council by collaborating businesses in order to disseminate the project in national and international forums.

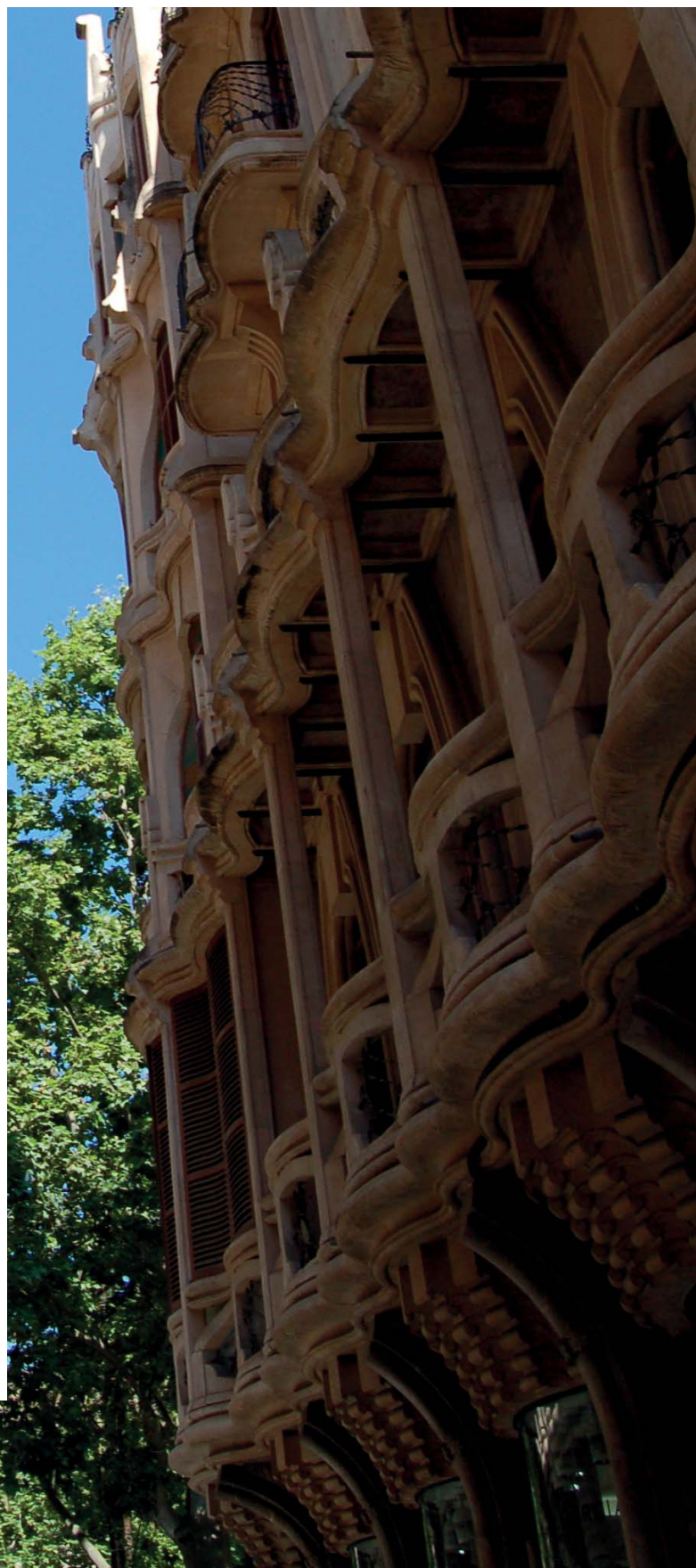
Palma Turismo Responsable promotes the concept of shared responsibility among citizens, tourists, and the destination which hosts their visit.

Boosting Participation

The Municipal Tourism Institute promotes and encourages the participation of businesses and institutions in the project by means of the signing of collaboration protocol, allowing them to work together to create synergies in the development of tourism policy within the framework of its competencies. Companies such as Air Berlin, Das Insel Radio, El Corte Ingles, Coca Cola, Sol Melia and CitySightseeing Palma have already signed up for the initiative.

“We began to use Hotel Energy Solutions (HES) because, as one of the leading tourist destinations in Europe, we must be extremely aware of the environment and its conservation. How do I see the future? This isn't the end of the project; it's the starting point for us and we hope that we can convince more hoteliers, here in Palma and elsewhere on the island of Majorca, to use the tool so that they can get as good results as we have achieved so far with the project.”

Mr. Xavier Pascuet, Technical Director, Palma Tourist Board – Palma City Council



Hotel Energy Solutions in Palma

Palma has always been a coastal destination with high commitment in sustainability matters and responsible tourism, and has been selected for the pilot phase of the HES project, during which it boosted its sustainability and competitiveness, testing the Beta version of the HES E-Toolkit and receiving training from leading European agencies.

Palma has embraced the HES project and has actively participated throughout the pilot phase to ensure that the project and its results will respond to the sector's actual needs. This involvement has a more far-reaching effect by showing the

overall importance of EE/RE for any destination and helping generate support for and encourage local incentives and measures to promote EE/RE.

23 hotels in the city of Palma have been participating in this project, taking advantage of the opportunity to benefit from free, specialized training in energy efficiency and renewable energies organized by some of the most significant worldwide agencies in the spheres of tourism and energy. Thanks to HES, these hotels will achieve a reduction in their operating costs, increase their competitiveness, and eventually help to reduce the impact of the sector on climate change, promoting sustainability.



- The destination has a consolidated contact with UNWTO and with several energy stakeholders at European level. It has achieved good knowledge on EE and RE technologies derived from the results of the project. Also, it has obtained knowledge of the most significant energy characteristics and demands from a certain type of hotel (high-quality, urban hotels in Palma).
- The participating hotels have been able to begin reflecting as to their EE/RE policy and the most significant things they have to be aware of. The mini-audit and the Action plan have been good tools to define an energy policy for the hotel.
- All hotels in Palma and, in general, all coastal hotels can, from now on, use the HES toolkit in order to start their own EE/ RE reflection process and to define their energy policy.
- The HES E-Toolkit has been tested for a coastal destination and its results will be included in the tool improvement.
- The HES project has been disseminated between Palma hotels, as well as national and local hotel associations, and has achieved its objectives in what refers to a coastal destination.



Hoteliers

Hoteliers had the chance to participate in the HES project in numerous ways.

Hoteliers were part of the End User Advisory group which evaluated the project during its different phases and contributed to the formation of the e-toolkit. In addition, 25 hotels per destination (hence 100 hotels) had the opportunity

to test the beta version of the e-toolkit and hence learn about and change their energy efficiency and renewable energy patterns. The hoteliers also had the occasion to be involved in the HES workshops, conferences and in the FITUR Green forum where they were able to gain knowledge about and discuss new technologies.



<http://vimeo.com/29604479>

Hotelier Opinions

“I would definitely recommend other hoteliers to use this tool, especially because it offers the possibility of gathering information and getting the result online very quickly.”

Mr. Tim Bernhardt, General Manager, Bonn Maritim Hotel

“I would recommend the HES E-Toolkit to all hoteliers because I think it’s very easy to use, it’s fast and it can give you a good starting point, a clear picture of where you are at present and where you can make changes in the future, in order to be more energy efficient, and also more economically efficient.”

Mr. Bernat Vicens, General Manager, Marina Hotel Palma de Mallorca

“Relais & Châteaux is delighted to participate in the HES EUAG. For the very first time I have the feeling that there is a very precise and global work being taken on sustainable hotel energy needs and solutions. The group is participative and efficient and I am sure that we will develop great tools to help hoteliers move forward.”

Jaume Tàpies, President International, Relais & Châteaux, EUAG Member

The End User Advisory Group (EUAG) comprises experts from across the tourism and energy sectors. In addition to validating each step of the project throughout its buildup, the group's role is to ensure that Hotel Energy Solutions meets the hotels' needs, by providing feedback on:

- HES E-Toolkit functionality and design
- Planning and implementation
- Training programmes and conferences
- Communications

The EUAG consists of representatives from the following organizations:



TOUR OPERATORS INITIATIVE
FOR SUSTAINABLE TOURISM DEVELOPMENT



Technology Providers

The providers and manufacturers of energy efficiency (EE) and renewable energies (RE) technologies played an important role in the course of the project. The HES End User Advisory Group (EUAG) comprised of experts from across the tourism and energy sectors, among these various energy technology providers.

In addition to validating each step of the project throughout its buildup, the group's role ensures that Hotel Energy Solutions meets the hotels' needs, by providing feedback on e-toolkit functionality and design, planning and implementation, training programmes and conferences and communications.

The FITUR Green Exhibitions and Conferences enabled the participation of a significant number of energy providers and manufacturers, offering opportunities for conference and workshop participation, networking, and importantly so, a chance to exhibit their products to FITUR Green Exhibition visitors, numerous hoteliers and tourism professionals.

Responding to the Challenges of Global Tourism

FITUR is a meeting point for tourism professionals where they can establish strategies, plans of action and business alliances to energize and get the most out of the tourism business. FITUR showcases innovative solutions for the changing demands of the tourism industry. At the last edition, FITUR welcomed 10,966 exhibiting companies from 166 countries/regions, 124,644 professional participants and 7,532 journalists.

FITUR goes beyond promoting the revitalization of businesses by also aiming to provide solutions to new tourism challenges. During these times, marked by growing concern and increasing social awareness with regard to climate change, the organizers of the event are committed to promoting respect for the environment within the tourism industry



FITUR Green: A startup of a new tradition at FITUR

FITUR GREEN emerged as an initiative inspired by HES introduced by the World Tourism Organization (UNWTO) in collaboration with the International Tourism Trade Fair (FITUR) and the Madrid Tourism Board. This increase in FITUR's themed section transmits the industry's interest in making a contribution toward environmental sustainability. Based on the variety and number of its participants, FITUR GREEN is well on the way to consolidating its presence in successive editions as a model effort in the promotion of eco-friendly tourism. Its strategic location places it alongside the greatest concentration of accommodation businesses that are also participating in the fair. It is worthwhile to note that at FITUR 2010, 39% of the 10,966 participating businesses were in the accommodation sector. By locating FITUR Green in this fair, the networking possibilities between technology providers and accommodation professionals have multiplied.

FITUR GREEN EXHIBITIONS were organized as a complementary event in support of the aims of the Hotel Energy Solutions project. FITUR GREEN EXHIBITIONS (2010 & 2011) were organized as special exhibitions showcasing the most advanced technology providers working specifically for the accommodation sector. Hoteliers were presented with an opportunity to meet directly with the experts throughout the days of FITUR to discover how a better energy management strategy can boost their business profits and reduce their carbon footprint. By adopting this active role in environmental protection, the hotel industry stands out as an example to other industries and business sectors.



HOTEL ENERGY SOLUTIONS CONFERENCES (2010 & 2011)

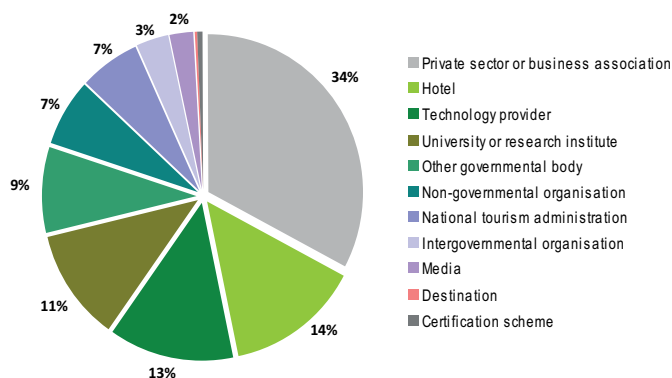
These included plenary presentations and technical panels showcasing best practices and techniques on energy efficiency and renewable energy technologies for hotels, while creating the best setting to network with Europe's leading energy technologies suppliers. The 2011 HES Annual Conference served to unveil after two years of research and testing, the HES E-Toolkit: an innovative software application available online to help hotels improve energy management. The audience at the conferences comprised of approximately 250 attendees on average per each year, representing professionals from national and professional associations in tourism and energy, hotels, certification bodies, technology businesses and other tourism entities.

In working towards a greener future for the tourism sector, Hotel Energy Solutions provided an interactive forum for two consecutive years to demonstrate innovative energy and sustainability solutions specifically for the hospitality sector, to an audience comprised of representatives from national tourism administrations, hoteliers, technology suppliers, certification schemes and education institutions

“The first HES conference in Madrid was a true success with great attendance from interested hoteliers as well applicable solutions being presented by industry-experts – a great mix to encourage the implementation of best practices in the industry to save energy efficiently and provide food for further thought and exploration in the HES-project team. I look forward to the working on the project and the second conference.”

Wouter Staal, Marketing Manager EMEA, Philips Lighting, EUAG Member

HES Conference 2010 - Participants





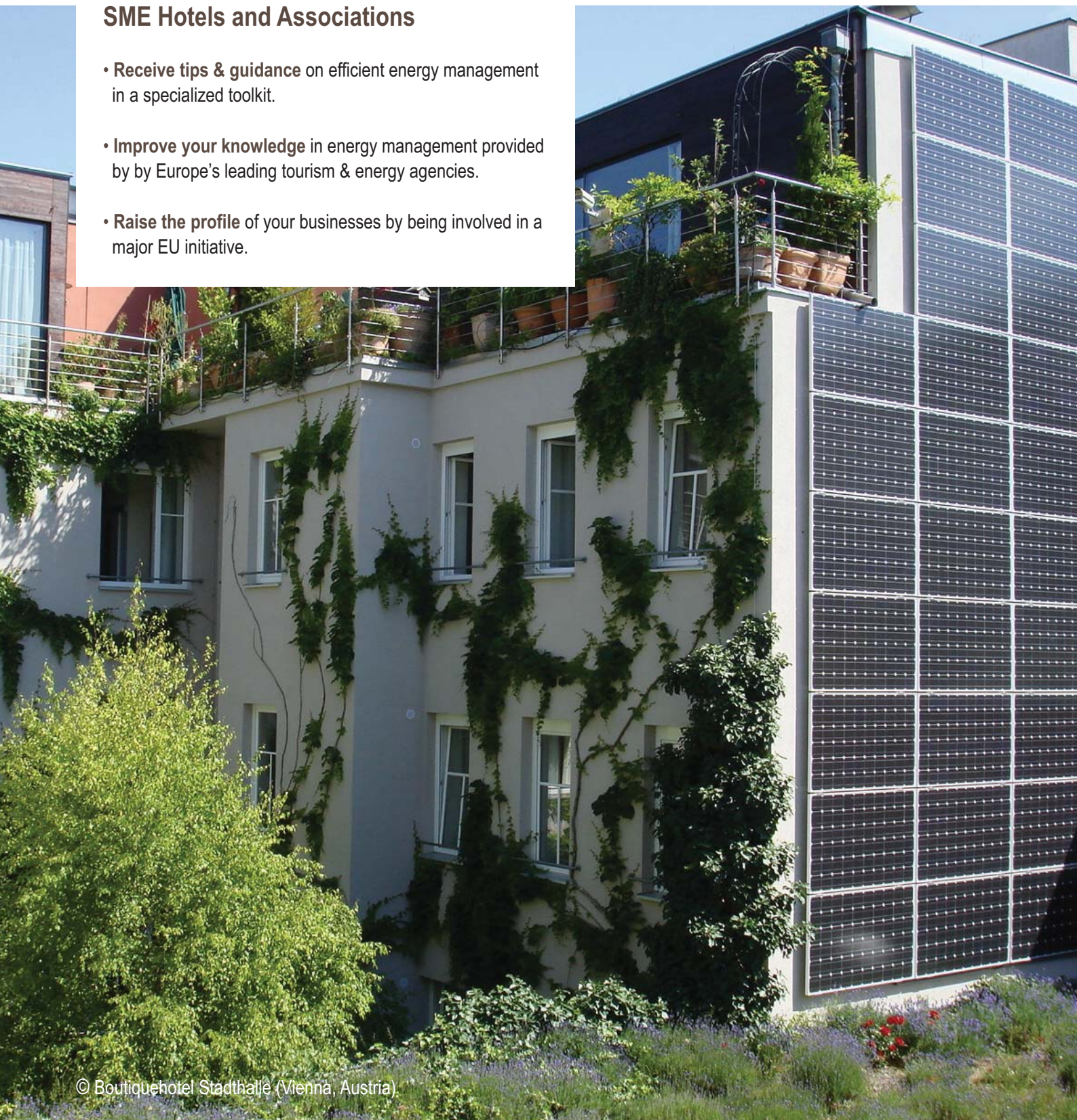
Why Get Involved?



Why get involved?

SME Hotels and Associations

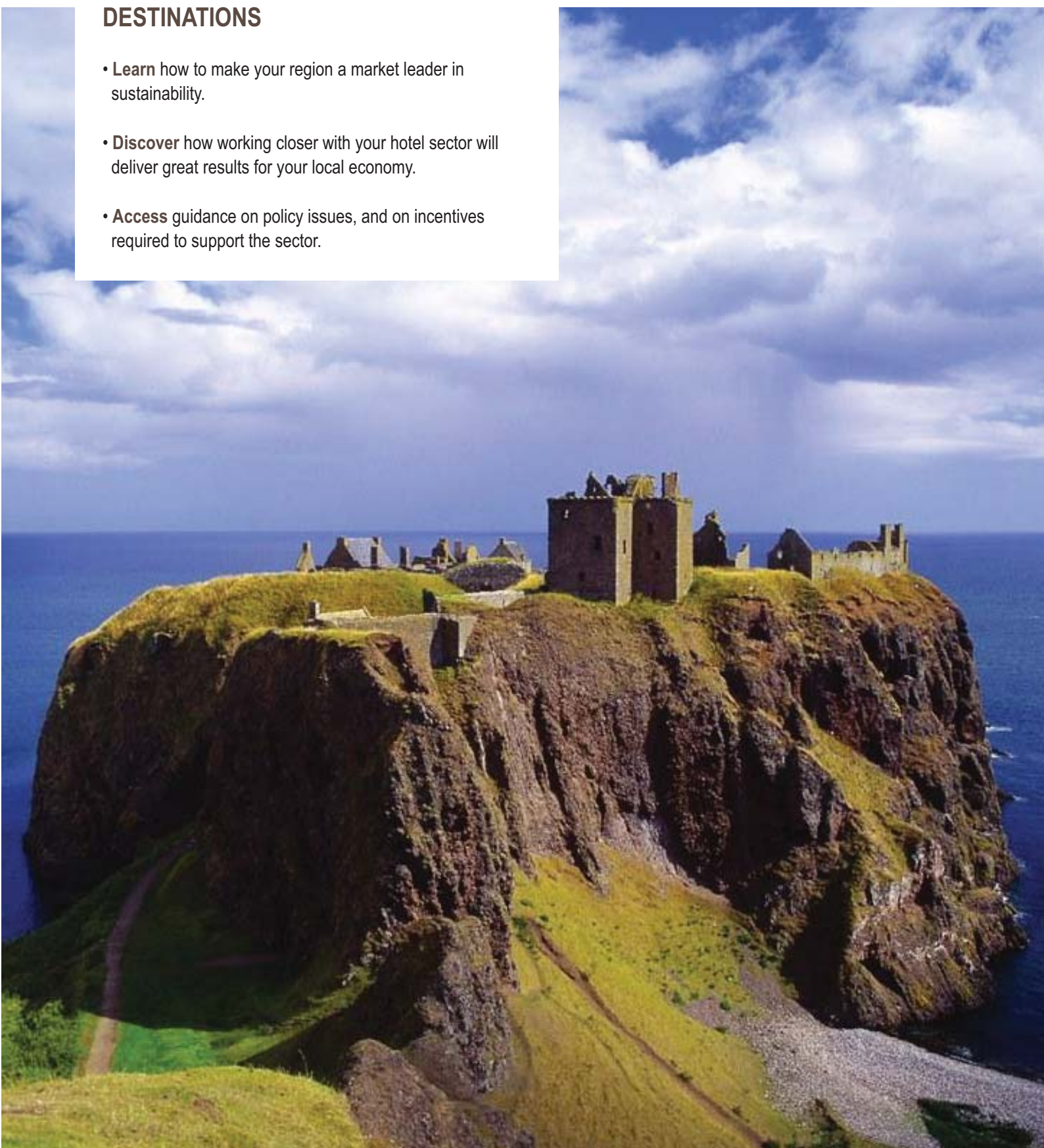
- **Receive tips & guidance** on efficient energy management in a specialized toolkit.
- **Improve your knowledge** in energy management provided by by Europe's leading tourism & energy agencies.
- **Raise the profile** of your businesses by being involved in a major EU initiative.



© Boutiquehotel Stadthalle (Vienna, Austria)

DESTINATIONS

- **Learn** how to make your region a market leader in sustainability.
- **Discover** how working closer with your hotel sector will deliver great results for your local economy.
- **Access** guidance on policy issues, and on incentives required to support the sector.



TECHNOLOGY PROVIDERS

- **Learn** about the potential of developing adapted technologies in the hotel sector.
- **Exhibit** your technologies at major events.
- **Network** with potential clients from across Europe.



increase



Profits
Competitiveness
Sustainability
Responsibility
Brand value

reduce



Costs
Energy consumption
Carbon footprint
Tourism impact on
Climate Change

WHAT'S IN IT FOR THE COMMUNITY?

Green Businesses and Sustainable Tourism

Tourism is one of the largest world's industries with a large participation of private sector stakeholders. By now private stakeholders know that in order to boost their competitiveness and ensure the continuation of their business, the principle of sustainability needs to apply. Sustainability principles refer to the environmental, economic, and socio-cultural aspects of development, and a sustainable balance must be established between these three dimensions to guarantee long-term sustainability of businesses, communities and the environment.

Sustainable tourism development requires the informed participation of all relevant stakeholders, as well as strong political leadership to ensure wide participation and consensus building.

Achieving sustainable tourism is a continuous process and it requires constant monitoring of impacts, introducing the necessary preventive and/or corrective measures whenever necessary.

Sustainable tourism should make optimal use of environment resources that constitute a key element in tourism development, maintaining essential ecological processes and helping to conserve natural heritage and biodiversity while respecting the sociocultural authenticity of host communities and providing socioeconomic benefits to all stakeholders involved.

It should also maintain a high level of tourist satisfaction and ensure a meaningful experience to the tourists, raising their awareness about sustainability issues and promoting sustainable tourism practices amongst them.

"Tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment and host communities."

Reference: "UNWTO Making Tourism More Sustainable: A Guide for Policy Makers", 2005



The Way Forward



The Way Forward

Faced with the complexity of the challenges of climate change, and the increasing risk of reliance on fossil fuel-based energies as well as the cost of energy, governments are looking at economic instruments and promotional measures that insist on mitigation by the private sector.

Investments in technologies that respect the environment have proven to be win-win activities that contribute both to the protection of the environment and to the long term competitiveness of the private sector. Given the growth of the tourism sector, and its potential as a leading agent for change in the transformation to the Green Economy, it is necessary to direct activities and proper information about energy efficiency and renewable energy opportunities at SMEs level in the European Union Member States. The majority of tourism businesses are SMEs with the potential to generate greater income and opportunity from green strategies.

Their single greatest limiting factor for greening, however, is a lack of access to capital and market. The support received by the Intelligent Energy Europe Programme represents seed support for more ambitious goals where local government and the private sector, in partnership with leading tourism and energy agencies, could further enhance the availability of instruments to facilitate large renewable energy investments.

A growing number of tourism businesses are voluntarily participating in labeling and certification initiatives as pressure from customers and the private sector grows. Big European tour operators are now accounting for their carbon footprint

and that of their supply chain to demonstrate environmentally or socially sound practices. The HES E-Toolkit can be an asset to these companies in moving towards better energy management, through NO, LOW or HIGH investment in technologies, as well as evaluating the footprint of their accommodation suppliers, (keeping in mind there is no check on the accuracy of the hotel information input, and hence on the accuracy of carbon footprint information.).

The engagement of local authorities and industry associations in assisting SMEs has been crucial for the success of the project implementation. The pilot testing shows that destinations have a major role to play in promoting energy performance improvements in their hotel sectors – this helps the destination to be more sustainable and to face future challenges regarding the environment and competitiveness.



EC/DG ENVIRONMENT

Considering the lack of aggregated data for the tourism and accommodation sector in Europe, the Directorate C: Sustainable Resources Management, Industry & Air (Unit C.1 Sustainable Production & Consumption) of the European Commission identified the HES initiative as an important and reliable source of data available for the EU - by collecting data through the E-Toolkit - which increasing number of users will consolidate in the future. The DG Environment has used the HES project's reports on energy consumption, use of energy efficiency and renewable technologies in hotels for the development of guidance on management best practices for the tourism sector. The Unit is preparing this guidance as part of the requirements of the revised EMAS 3 regulation (EC 1221 / 2009), and will use it to disseminate best practice information throughout the sector.

Fighting Climate Change

The World Tourism Organization (UNWTO) has answered the call to make tourism a vehicle to foster growth and development, by promoting the development of responsible, sustainable and universally accessible tourism. UNWTO endeavors to maximize tourism's contribution to socio-economic growth, job creation, development, environmental conservation, cultural enrichment and international understanding, while minimizing negative social, cultural or environmental impacts. UNWTO is committed to the United Nations Millennium Development Goals (MDGs), geared toward reducing poverty and fostering sustainable development.

As indicated in the conclusions and global orientation of the "UNWTO White Paper" released in 2011, besides actions geared towards poverty alleviation, employment, competitiveness and sustainability, climate change issues are vital to members and governments, including EU member states. The lessons learnt and the pilot applications of Hotel Energy Solutions, supported by Intelligent Energy Europe, are taken as a flagship example and should be widely disseminated.

2003
Djerba
Declaration

2007
Davos
London
Cartagena

2015
Millenium
Development
Goals

Tourism and the Green Economy

International tourism has been identified within the Green Economy debate as one of ten sectors, alongside manufacturing or energy, which can lead the transformation to this new model.

According to the 2011 Green Economy Report (led by UNEP), tourism is one of the most promising drivers of growth for the world economy and, with the appropriate investment, can continue to grow steadily over the coming decades, contributing to much-needed economic growth, employment and development while mitigating its environmental impact.

Correct investment in green strategies would allow the sector to continue to expand steadily over the coming decades while ensuring significant environmental benefits such as reductions in water consumption, energy use and CO₂ emissions. With this investment, significant reductions in water consumption (18%), energy use (44%) and CO₂ emissions (52%) are possible, as compared with a “business-as-usual” scenario.

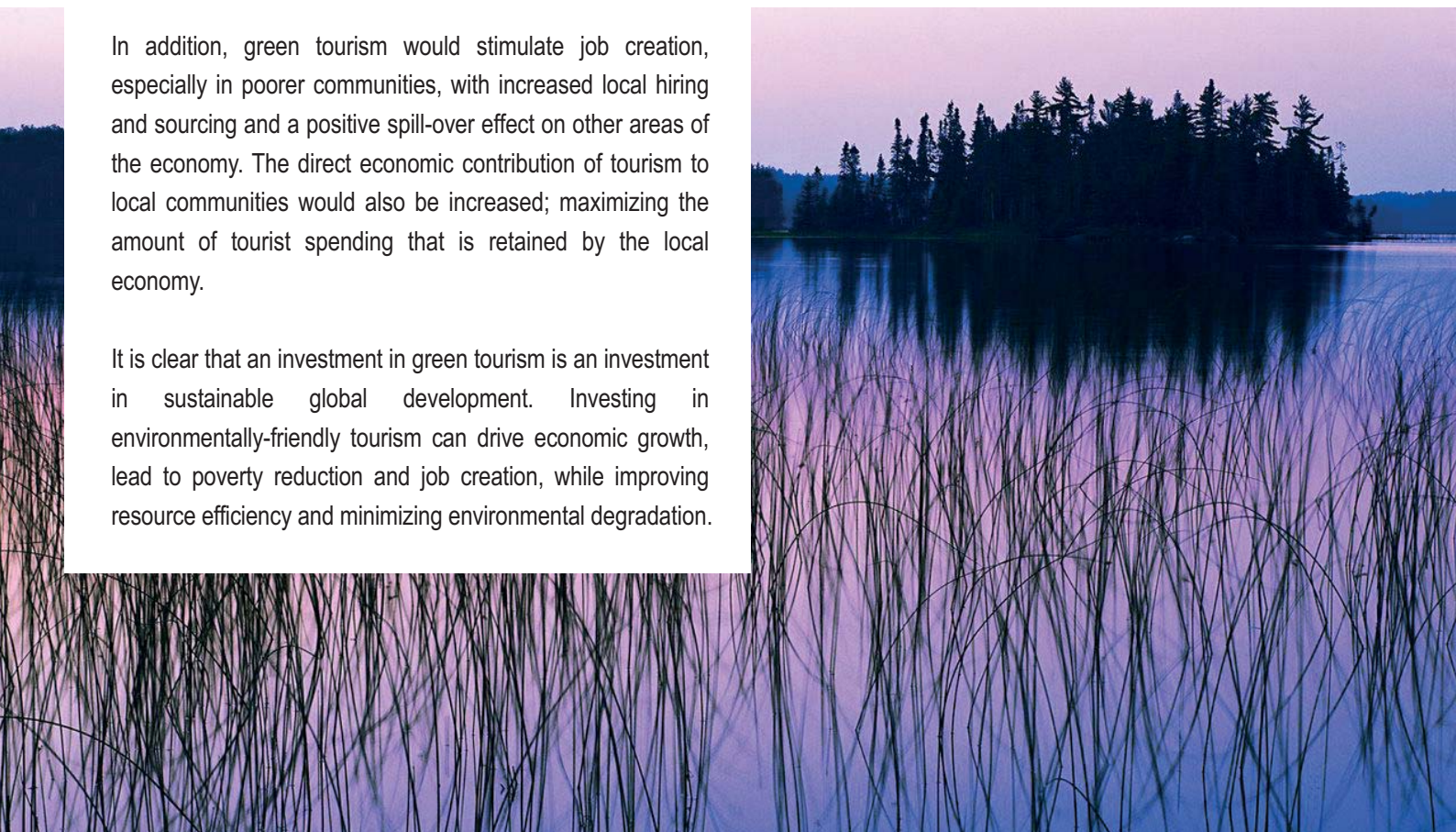
In addition, green tourism would stimulate job creation, especially in poorer communities, with increased local hiring and sourcing and a positive spill-over effect on other areas of the economy. The direct economic contribution of tourism to local communities would also be increased; maximizing the amount of tourist spending that is retained by the local economy.

It is clear that an investment in green tourism is an investment in sustainable global development. Investing in environmentally-friendly tourism can drive economic growth, lead to poverty reduction and job creation, while improving resource efficiency and minimizing environmental degradation.

Tourism is also responsible for 5% of the world's CO₂ emissions, out of which hotels and other types of accommodation account for 1%. This is a comparatively small, yet important, footprint that the tourism sector has assumed as a priority to be addressed.

In the Green Economy report, the tourism chapter presents Hotel Energy Solutions as an innovative industry's response to climate change.

While designed initially for EU members in line with EU Energy Policies, Hotel Energy Solutions is expected to be adapted and rolled out globally over the coming years. Once adapted, the project will benefit hotels worldwide, thus contributing to climate change mitigation and ensuring the economic and environmental sustainability of the sector.



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