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Energy Efficiency in Tourism – Towards a More Sustainable Travel Industry

Abstract

As the volume of this analysis is mainly focusing on the connection system and relationship between locality and energy utilisation or consumption, the present chapter concentrates on introducing the sustainable side of the tourism industry from a special perspective of energy efficiency.

It is not only important to investigate the purely economic and social factors of the travel and tourism industry, but as the branch develops, we have to take sustainable issues into consideration more and more strongly which, luckily, do not only derive from economic and environmental reasons. However, it seems that an increasing per cent of the travellers (tourists) are more and more aware of sustainability. A tourist accommodation, a catering place or whichever form of tourism enterprise seems to be more attractive for these conscious travellers when they can produce a new form of sustainable energy consumption and utilisation.

The paper intends to demonstrate these best practices of tourism concerning sustainable development and energy efficiency both from Hungarian and international perspectives.

Key words

Energy efficiency; Responsible tourism; Responsible tourist; Sustainable tourism development

Introduction

Tourism is, for many reasons, one of the most important industries of the 21st century. Just highlighting an important aspect from the many, in 2011 there were over 983 million international tourists travelling worldwide that generated some 1,030 billion USD (680 billion GBP) receipts (UNWTO, 2012). According to the latest statistics, at the end of 2012 there were over 1 billion international tourists! Tourism industry's total contribution to GDP is around 9% (direct contribution 6%), and its direct contribution to employment is around 6–7% which stands for 255 million employees worldwide. Global tourism contributes 5% of all the investments and also 5% of the total export (WTTC, 2012b).

We also have to stress that, in despite of the world economic backdrop, the analysed growth—between 3–5% in recent years, 2.7% in 2012—is continuous, although at different scale in the tourism macro and micro regions of the world. Long-term prospects forecast an even higher growth rate (around 4% annually) in the next ten years (*Figure 1*). By 2022, 10% of all the jobs will have been generated by tourism, employing 322 million people globally (WTTC, 2012a).

This continuous growth creates huge challenges not only concerning the “usual” social–economic perspectives (receipts, incomes, employment creation), but taking into account the state of the environment (both cultural and natural) and, of course, the sustainability (AUBERT, A. – BERKI, M. 2007; GYURICZA, L. 2008; HAJNAL, K. *et al.* 2008; BANK, K. 2009; AUBERT, A. 2010). It is also proven by the fact that transport—especially air transport—is responsible for the majority of energy consumption and associated carbon emissions from tourism-related activities. According to the estimations of the *United Nations Development Programme*, energy consumption that can be connected to tourism is 14,000 Petajoules (94% transport, 3.5% accommodations, 2.5% other transport related activities) (FERNANDES, E. – ROMO, Z. 2009).

In the following, we intend to collect examples on both the Hungarian and international scene where energy efficiency practices provides excellent examples of tourism development.

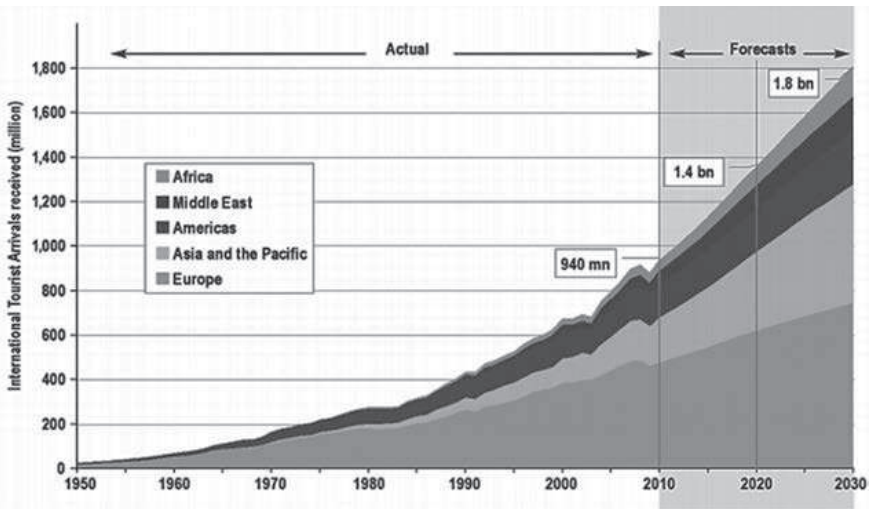


Figure 1 – Present tourism trends and forecasts

Source: UNWTO (2012)

Results

According to the research paper of the UNWTO (2012), the sustainable tourism is defined as “*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*”. The guide of the UNEP-UNWTO (2005) defines 3 important aspects of sustainable tourism out of which we will stress the following definition in this paper: “*Make optimal use of environmental resources that constitute a key element in tourism development, maintaining essential ecological processes and helping to conserve natural heritage and biodiversity*”.

1. Energy efficiency and tourism development

The tourism and travel industry can be connected to energy efficiency in almost every aspect and field of the industry. Among them, maybe tourist accommodations is the most concrete area of tourism, improving its energy efficiency, but many other aspects and fields can be connected to create a more sustainable industry, as well. The major factors are collected in the following figure (Figure 2).

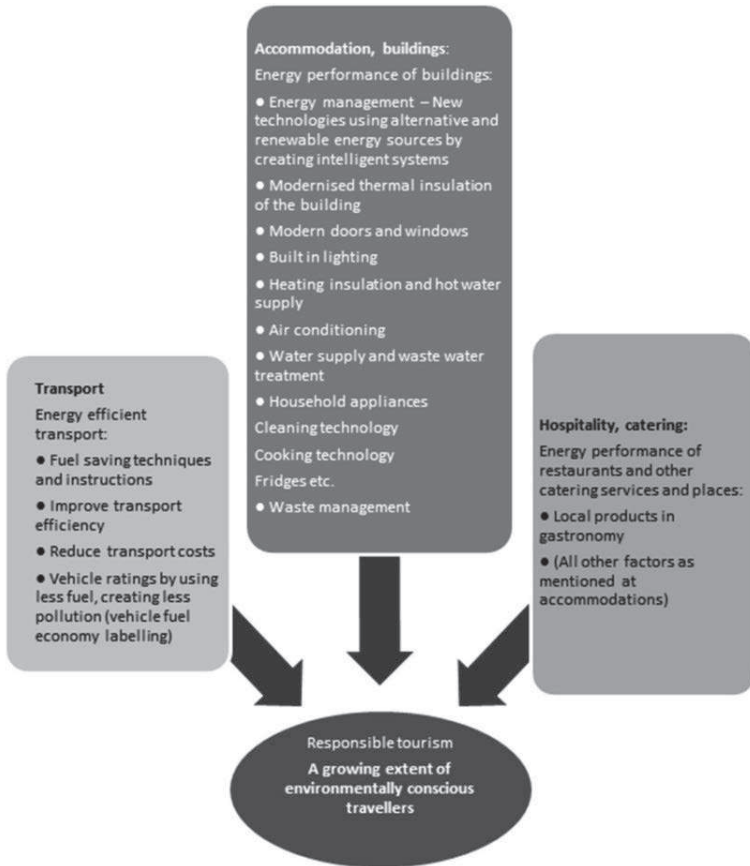


Figure 2 – Major fields of travel and tourism industry, concerning energy efficiency

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In the recent years, new initiatives have been born determining methods for the evaluation of tourism foot-printing or, in other words, the carbon footprints of destinations (BECKEN, S. 2001; WWF, 2002; DICK, S. 2007). These researches (1) analyse the energy consumption of the major components of tourism and catering; (2) provide methodology to determine carbon footprints of destinations, determine the specific areas of energy consumption and, of course; (3) provide useful and practical energy saving tips.

Just to give some examples:

- According to estimates, hotels could reduce their energy costs by 10–40% by using more efficient methods of energy consumption.
- 10–30% of laundry costs could be reduced by the option to reuse towels and bed linen for those guests who stay more than one night at the accommodation.
- Lighting: incandescent light fixtures can last 8–10 times longer than fluorescent ones (DICK, S. 2007).
- While energy costs in hotels usually represents about 6 per cent of the annual turnover, in the “best practice” establishments this expense factor has been significantly decreased to 1.5–2.8 per cent (HAMELE, H. – ECKARDT, S. 2006; PRATT, L. 2011).
- A 6% increase in investment in energy-efficient design and equipment can lower electrical consumption by 10 per cent (PRATT, L. 2011).
- Water-efficient design and operation can reduce consumption by 30% (NEWSOM, D. – SIERRA, C. 2008; PRATT, L. 2011).

Taking a look around the international scene, we have to say that the relationship between tourism development and energy efficiency is mostly dealt with in those destinations which belong to the so-called developed countries. In other words, these are the countries where social–economic background is as developed as their social need to maintain principles of sustainability.

We also have to take into consideration that the idea and introduction of the so-called soft tourism was first announced in 1984 in the *Chur Declaration of the Commission Internationale pour la Protection des Regions Alpines (CIPRA)* which provided the basis for the new approach to tourism and tourists. “By soft tourism, CIPRA denotes a form of tourism which leads to mutual understanding between the local population and their guests, which does not endanger the cultural identity of the host region and which endeavours to take care of the environment as best as possible. Soft tourists give priority to using infrastructures des-

tinued for the local population and do not accept substantial tourist facilities harmful to the environment” (BROGGI, M. F. 1985).

This approach also brings forward another very important aspect of using and introducing energy efficiency in tourism in a greater extent or with a higher priority. It sheds light on the (changing) demand of tourists that can successfully influence tourism enterprises to be involved in the principles of sustainable tourism development. Those firms and enterprises which prove to be committed to energy efficiency can, first of all, significantly reduce their costs but, on the other hand, they can attract those responsible tourists—with an ever growing number, meaning a special increasing market segment—who are aware of energy efficiency. This attraction could also be marketed and advertised on different channels to the potential tourists, due to which the other service providers in tourism will be forced to be involved in a greater extent in energy efficiency.

A designed label or logo—energy label (just as eco labels work in ecotourism)—could be used for these marketing purposes which makes clear to the tourist that the certain firm—e.g. bus company, taxi company, airlines, hotels, restaurants—focuses special interest on sustainability and energy efficiency.

2. Selected case studies – Methods and practices

2.1. New Zealand

One of the most useful examples of tourism and energy efficiency policy on national level can be studied in *New Zealand*. In 2009, the *Tourism Industry Association New Zealand* published a selection of best practices in energy efficiency entitled: *Save Energy Save Money – Energy Efficiency in Tourism*. The document was created based on the opinion and practice of tourism operators on areas such as practical tips to save money and energy, government funding and services or fuel efficiency (TIANZ, 2009).

In their study, they provide useful topics on sustainability and efficient tourism development and also highlight exact ideas about energy

efficiency when it comes to transport, lighting, appliances, heating and renewable energy:

- How to be a competitive and responsible tourism operator by running an energy efficient business;
- Future proof of the business—based on the fact that the visitors expect more and more sustainable enterprises and actions;
- Analysing the energy bill;
- Invest in an energy audit;
- Motivate and empower the staff (TIANZ, 2009).

2.2. Australia – model for water use and waste water management

The different regions of the world face different scale challenges of the natural resources. *Australia* is one of the best examples where water use and waste water management create a high level priority in tourism, as well. In this case study, we would like to mention the research and action paper of TAYLOR, M. A. P. *et al.* (2010) who created a modelling method for tourism demand and estimating costs of water provision and operation.

The majority of the consumed water in tourism is majorly used in garden and outdoors, bath and shower, laundry, kitchen and toilet (SA WATER, 2009). The research of the mentioned authors focused on the possible solutions to fund, provide and operate water and wastewater infrastructure in order to meet the ever growing demand of tourists. In order to achieve this, they identified the exact costs of visitors using the tourism infrastructure and created a forecast of how infrastructural developments should respond to the growing demand.

Finally, they created a GIS-based spread sheet model that included the previously mentioned future tourist demand in the analysed area and the estimation of the requirements for water and waste water infrastructure development with a special emphasis on the appearing costs. According to the researchers, this model can be easily used by the decision makers of local communities and governments (TAYLOR, M. A. P. *et al.* 2010).

2.3. European Union

It should also be highlighted that the *European Union*—and consequently its member countries—pay a special emphasis on energy efficiency in tourism. The most recent project (European SETCOM) that comprises 11 partners from 10 member countries was launched in 2008 with the co-finance of the *EU* programme called *Intelligent Energy Europe (IEE)*. The comprehensive programme's main aim was to raise awareness in energy related topics and encouraging the use of sustainable energy in tourism across *Europe*.

The Three Main Project Targets are:

1. *“Raise awareness of substantial energy topics among tourism companies, local administration and tourists in the participating communities.*
2. *Raise awareness of ‘sustainable energy tourism’ throughout Europe.*
3. *Set up energy action plans for the participating communities with realistic and clearly defined ways to improve energy efficiency and reduce GEG-emissions” (IEE, 2011).*

As one of the most important outcome of this project, the tourism companies of the cooperating countries were provided with useful tips and ideas how to reduce their energy costs and also best practices were presented to learn the techniques along with their general approaches. Due to this initiation, new energy saving ideas and measures were achieved and acknowledged (IEE, 2011).

3. A Hungarian best practice: The “eco farm houses”/eco accommodations (South Transdanubia, Hungary)

Among the attractions of village tourism, the values of rural heritage—so the material heritage of the villages, the tradition of keeping buildings which serves as an attraction and also as the framework of the supply—play highlighted roles. If we want to make the products of village tourism more adequate to the needs of the market and would

like to introduce a new quality in this service, then we have to take into consideration the values of the countryside and their special characteristics, as well.

Since the autumn 2010, an accommodation network has started functioning in a new qualification system that has now become known as “Environmentally friendly guest caterer”, in other words “Eco-farm House”. The 32 guest caterers—in 20 settlements—who are signed by separate trademarks started to attract visitors to the villages which are placed around protected natural sites.

These eco-farm houses are found in the areas of the *Danube–Drava National Park* (9 settlements), in the *Eastern Mecsek Landscape Protection District* (5 settlements), in the *Western Mecsek Landscape Protection District* (2 settlements), and in the *Zselic Landscape Protection District* (4 settlements) (SZABÓ, G. 2006; SZABÓ, G. 2011) (Figure 3).

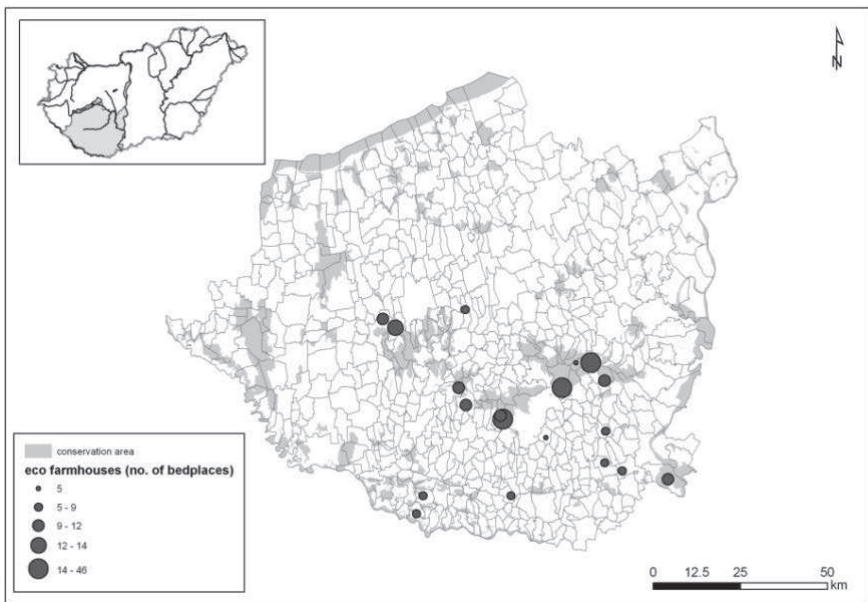


Figure 3 – The spatial allocation of eco-farm houses in South Transdanubia with special attention paid to the protected areas

Edited by PIRKHOFFER, E. 2013

The eco-farm houses of the region can receive their accommodation titles by a qualification system created for the private accommodations and, within that, for the village guest caterers. The eco-farm house qualification system is regulated by the *2003/287 EU Commission Decision* on the quality of commercial accommodations and camps (2009/578/EC, 2009). One can receive the “eco brand” quality by fulfilling these requirements. The system, which is studiously elaborated only to commercial accommodations, determines 5 professional areas (energy saving, water saving, reflective functioning, waste decrease and visitor information provision) and the requirements for environmentally friendly establishment and functioning (SZABÓ, G. – CSAPÓ, J. 2012a; 2012b).

Following the *EU* regulations, *Hungary* has worked out the “Environmentally friendly product” trade mark criteria which are also related to the commercial accommodations. We also have to emphasise that no such state system has been created yet which would be able to create the “eco” qualifications for the private accommodations characteristic to rural tourism and, within that, village tourism. On the sample area of the *South Transdanubia Region*, by the promotion of the great project of the *Norwegian Civilian Fund* between 2008–2010, the *Village Tourism Association* of the *Baranya County* worked out and elaborated the experiences of the earlier mentioned systems, creating the qualification system and criteria for the “Environmentally friendly guest caterers” network called “eco farm houses”. Based on this system, the organisation also completed the qualification of the eco farm houses (SZABÓ, G. 2011).

The elements—which, of course, should be accomplished—of the qualification system concerning energy efficiency are:

- The use of energy and water saving equipment and technologies;
- Only environmentally friendly cleaning supplies can be used;
- Compost and waste management is carried out selectively;
- Using renewable energy sources (as a special or added value);
- Using environmentally friendly heating system.

4. Summary

As we intended in this research paper, energy efficiency—coupled with sustainability and the appearance of responsible tourism and responsible tourists—is proven to be an important driving factor for tourism development. Energy efficiency means conscious energy consumption. The growing efficiency and the economic utilisation of energy sources results in the fact that we have to exploit far less natural resources, while we do not have to compromise the everyday comforts that we are used to.

The major benefits of the introduction and application of energy efficient techniques and methods in tourism are:

- Increased competitiveness of the sector;
- Reduction of environmental pollution;
- Increase in the energy security of the economy;
- Economic and employment spin-offs;
- Relatively quick reimbursement of the investments;
- Increasing efficient use of natural resources;
- Lower operating and maintenance costs;
- More environmentally friendly and efficient transport;
- Increasing percentage of renewable and alternative energy sources (SOOKRAM, S. 2010).

It is also very important to accentuate that by the introduction and spread of the new technologies, tourism does not only benefit from an economic point of view but also from the behavioural changes of tourists who will be more and more aware of responsible tourism, principles of sustainability and, due to this phenomena, those tourism enterprises involved in energy efficiency can also benefit from the marketing aspects of their investments. One of the most realisable outcome or driving force of introducing new technologies and practices comes, first of all, from the direct increase of incomes, but also by introducing “eco labels” in tourism. The changing approach of the responsible tourists will increase the attraction of the tourism and travel enterprises with an energy efficient background.

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