



BASELINE ANALYSIS

OF RENEWABLE ENERGY SOURCES (RES)
AND ENERGY EFFICIENCY (EE)
IN RURAL TOURISM IN THE
SKOPJE PLANNING REGION

June, 2026



BASELINE ANALYSIS OF RENEWABLE ENERGY SOURCES (RES) AND ENERGY EFFICIENCY (EE) IN RURAL TOURISM IN THE SKOPJE PLANNING REGION

Part of the project: Energy Wise – Empowering Rural Tourism through Renewable Energy
and Energy Efficiency

Supported by BOOST Balkans programme, ALDA – European Association for Local Democracy and
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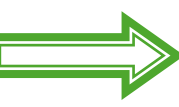
in partnership with Foundation Albiz

Prepared by: Zoran Velkovski

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1. EXECUTIVE SUMMARY

This baseline analysis of the Energy Wise project, implemented under the BOOST Balkans programme and supported by ALDA – European Association for Local Democracy and AFD – Agence Française de Développement, assesses the current status of renewable energy sources (RES) and energy efficiency (EE) practices within rural tourism in the Skopje Planning Region.

The Energy Wise project aims to enhance the sustainability and competitiveness of rural tourism by promoting the adoption of renewable energy technologies and energy-efficient practices among local tourism stakeholders. In this context, the baseline analysis provides an evidence-based overview of existing conditions, identifies key challenges and opportunities, and establishes a reference point for measuring future project progress and impact.

The analysis covers rural municipalities within the Skopje Planning Region, including Saraj, Čučer Sandevo, Ilinden, Petrovec, Sopište, Zelenikovo, and Studeničani, and focuses on a diverse range of rural tourism actors such as guesthouse owners, agro-tourism operators, hospitality businesses and women entrepreneurs.

A mixed-method research approach was applied, combining structured surveys, stakeholder interviews, and field observations. A total of 33 tourism entities participated in the assessment out of more than 50 identified, providing a solid baseline sample of the rural tourism sector in the target area.

The findings indicate that rural tourism businesses are still in an early stage of energy transition. Energy consumption is predominantly based on conventional sources, particularly electricity and firewood, while the adoption of renewable energy technologies remains limited. Energy efficiency practices are generally basic, with LED lighting being the most common measure, while more advanced technologies are rarely implemented.

The analysis further reveals low levels of awareness regarding energy efficiency and renewable energy solutions, as well as significant financial, informational, and institutional barriers to adoption. High investment costs, lack of information, administrative constraints, and limited technical and financial support are identified as the main obstacles to wider implementation.

Despite these challenges, the findings demonstrate a strong willingness among stakeholders to adopt sustainable energy solutions in the future, indicating a high potential for change if appropriate support mechanisms are introduced.

The most demanded forms of support include training and education, technical assistance, and financial incentives, highlighting the importance of an integrated capacity-building and support framework.

Overall, this baseline establishes a clear evidence base for the Energy Wise project and confirms that while rural tourism in the Skopje Planning Region currently faces structural and capacity-related limitations, there is significant potential for progress. The results will directly inform the design of training programmes, awareness-raising activities, and policy recommendations aimed at accelerating the green transition in the rural tourism sector.



2. INTRODUCTION

2.1 Context and Background Analysis

Rural municipalities within the Skopje Planning Region face a range of socio-economic and environmental challenges that affect their long-term development prospects. Many rural communities have experienced population decline, ageing infrastructure, limited employment opportunities, and insufficient investment in sustainable development initiatives. At the same time, these municipalities possess significant assets, including rich natural landscapes, cultural heritage, traditional agricultural practices, and authentic tourism experiences, which provide strong potential for rural tourism development.

Despite this potential, rural tourism businesses often operate with limited resources and outdated infrastructure. The integration of renewable energy sources (RES) and energy efficiency (EE) measures remains relatively low, resulting in higher operational costs, increased dependence on conventional energy sources, and reduced competitiveness within the tourism market. Small accommodation providers, family-run guesthouses, agro-tourism enterprises, and rural hospitality operators frequently lack access to technical knowledge, financial resources, and practical guidance required to implement sustainable energy solutions.

North Macedonia has committed to the principles of the European Green Deal and the Green Agenda for the Western Balkans through strategic policy frameworks, including the Energy Development Strategy 2020–2040 and the National Strategy for Sustainable Tourism Development 2022–2027. These policies emphasize renewable energy adoption, energy efficiency, carbon reduction, and sustainable economic growth. However, implementation at the local level remains limited, particularly in rural tourism destinations.

The Energy Wise project has been developed to address this gap by supporting rural tourism stakeholders and local governments in understanding and adopting renewable energy and energy efficiency practices. Through research, capacity building, knowledge transfer, and awareness-raising activities, the project seeks to create conditions for a greener, more resilient, and economically sustainable rural tourism sector.

By strengthening cooperation among tourism providers, municipalities, civil society organizations, and local communities, the project contributes to environmental protection, local economic development, and alignment with national and European sustainability priorities.

2.2 Rationale for the Baseline Analysis

Although renewable energy and energy efficiency are increasingly recognized as key drivers of sustainable tourism development, there is limited evidence on their current application within rural tourism businesses in the Skopje Planning Region. Existing information remains fragmented and does not provide a comprehensive understanding of energy consumption patterns, levels of awareness, investment readiness, or barriers to adoption among local tourism stakeholders.

Many tourism operators continue to rely on conventional energy systems and have limited knowledge of available renewable energy technologies and energy-saving practices. Financial constraints, insufficient technical expertise, limited access to information, and weak institutional support further restrict their capacity to invest in sustainable energy solutions. In this context, a baseline assessment is necessary to establish a clear and evidence-based understanding of current conditions. The analysis provides insights into existing energy practices, stakeholder awareness, training needs, and potential areas for improvement. It also identifies key challenges and emerging good practices that can inform the design and implementation of project interventions. The baseline findings will directly support the development of training modules, practical recommendations, and awareness-raising activities under the Energy Wise project. In addition, the results will serve as a reference point for measuring project progress and impact over time.

Ultimately, the baseline contributes to evidence-based decision-making and supports the development of a scalable model for integrating renewable energy sources (RES) and energy efficiency (EE) into rural tourism, not only within the Skopje Planning Region but also in other comparable regions in North Macedonia and the Western Balkans.

2.3 SWOT Perspective on Rural Tourism Development in North Macedonia

Based on existing analyses of rural tourism development, several strengths, weaknesses, opportunities, and threats can be identified in relation to regional tourism planning and management processes in North Macedonia.

Strengths of rural tourism development include favorable geographic position, diverse climate conditions, rich natural heritage, cultural and historical assets, authentic rural landscapes, traditional lifestyles, and the availability of organic local food and traditional products. These elements provide a strong foundation for developing distinctive and competitive rural tourism offerings.

Weaknesses are primarily related to structural and socio-economic constraints, including population decline in rural areas, unfavorable demographic and age structures, small and aging households, limited educational and professional capacity, low levels of awareness regarding tourism opportunities, lack of financial resources, and insufficient development of new skills and professions required for modern tourism services.

Opportunities for rural tourism development include investments in infrastructure and accommodation capacities, increased visibility and promotion of rural destinations, development of new tourism products such as thematic routes and tourism clusters, improved integration of local food and cultural experiences, diversification of services, and stronger use of new technologies and digital platforms.

Threats include potential conflicts between local communities and visitors, marginalization of rural areas, neglect of traditional values and cultural heritage, lack of coordination between traditional and modern tourism approaches, increasing competition from other tourism destinations and types, environmental degradation, migration and depopulation trends, and limited adaptive capacity to new development models.

Overall, sustainable development of rural tourism depends on targeted public policies aligned with regional needs, increased investment in tourism infrastructure and accommodation capacity, and continuous efforts to enhance income generation from rural tourism as a key driver of regional development.



3. PURPOSE OF THE BASELINE ANALYSIS

This baseline analysis is conducted within the framework of the Energy Wise project in order to establish an evidence-based overview of the current state of renewable energy sources (RES) and energy efficiency (EE) practices among rural tourism providers in the Skopje Planning Region.

The analysis aims to assess existing energy consumption patterns, levels of awareness and knowledge related to sustainable energy solutions, and the extent of adoption of RES and EE measures among rural tourism stakeholders. It further examines the key barriers limiting wider implementation, including financial constraints, limited technical capacity, insufficient information, and institutional gaps.

In addition, the baseline identifies existing capacities, needs, and readiness levels of rural tourism actors and local institutions in relation to the green transition. It also highlights potential entry points for improving energy performance and strengthening the integration of sustainable practices within rural tourism development. The baseline establishes a reference point for future comparison and monitoring of changes resulting from project interventions. It provides a structured evidence base against which progress in awareness, capacity, and adoption of RES and EE practices can be measured throughout the implementation period of the Energy Wise project.

The findings provide a basis for the design of project activities, training programmes, and awareness-raising interventions.

Overall, the baseline supports evidence-based planning and contributes to ensuring that project interventions are relevant, targeted, and aligned with the actual needs and conditions of rural tourism providers in the Skopje Planning Region.



4. BASELINE ANALYSIS FRAMEWORK

General Objective

To assess the current level of awareness, adoption, challenges, and opportunities related to renewable energy sources (RES) and energy efficiency (EE) among rural tourism stakeholders in the Skopje Planning Region.

Specific Objectives

1. To assess current energy consumption patterns and the types of energy sources used by rural tourism providers.
2. To determine the level of implementation and use of renewable energy technologies in rural tourism facilities.
3. To evaluate existing energy efficiency practices and measures applied by tourism operators.
4. To measure the level of awareness and understanding of renewable energy and energy efficiency concepts among stakeholders.
5. To identify key barriers and challenges affecting the adoption of sustainable energy solutions in rural tourism.
6. To assess the willingness and readiness of stakeholders to invest in renewable energy and energy efficiency measures.
7. To identify training needs, advisory requirements, and capacity-building gaps among rural tourism actors.
8. To generate evidence that supports the development of project training materials and practical guidance resources aligned with identified needs.

4.1 Research Questions

The baseline analysis seeks to answer the following key questions:

Energy Use and Consumption

- What are the main energy sources used by rural tourism businesses?
- What are the approximate energy costs faced by tourism providers?

Renewable Energy Adoption

- To what extent are renewable energy technologies currently being used?
- Which renewable energy technologies are most commonly adopted?

Energy Efficiency Practices

- What energy-saving measures have been implemented?
- What is the current state of building energy performance and equipment efficiency?

Awareness and Knowledge

- How familiar are tourism stakeholders with renewable energy and energy efficiency concepts?
- What information sources do they use?

Barriers and Challenges

- What obstacles prevent investment in renewable energy and energy efficiency?
- What forms of support are most needed?

Future Potential

- Are tourism providers interested in adopting green technologies?
- What investment plans and opportunities exist for future implementation?

4.2 Geographic Scope

The baseline analysis covers rural municipalities within the Skopje Planning Region, including:

The baseline analysis focused on rural tourism entities operating within the rural municipalities of the Skopje Planning Region, namely Saraj, Čučer Sandevo, Ilinden, Petrovec, Sopište, Zelenikovo, and Studeničani. These municipalities were selected due to their rural character, tourism potential, and their relevance to the objectives of the Energy Wise project. As these are relatively small rural municipalities, the tourism sector is characterized by a limited number of accommodation providers, while restaurants and catering establishments constitute the majority of tourism-related businesses. This posed a challenge in identifying eligible guest houses, apartments, rural lodges, and small hotels, requiring extensive field visits and direct engagement with local stakeholders to map and reach potential respondents.

A mapping exercise conducted at the beginning of the analysis identified more than 50 rural tourism entities across the target municipalities. Out of these, 33 entities participated in the baseline assessment, representing a response rate of approximately 66%. Data collection was carried out using a combination of field interviews (conducted through direct visits to tourism providers) and online questionnaires, allowing for broader participation while accommodating the availability and preferences of respondents.

Based on the responses received, the largest share of participants came from Saraj (27.2%), followed by Studeničani (18.18%), Sopište (15.15%), Čučer Sandevo (12.12%), Ilinden (9.09%), and Zelenikovo (6.06%). Two responses (6.06%) were received from Aračinovo, while two respondents (6.06%) indicated other municipalities outside the project's primary geographic scope. This distribution demonstrates good representation across the target municipalities while also capturing a limited number of perspectives from neighboring areas.

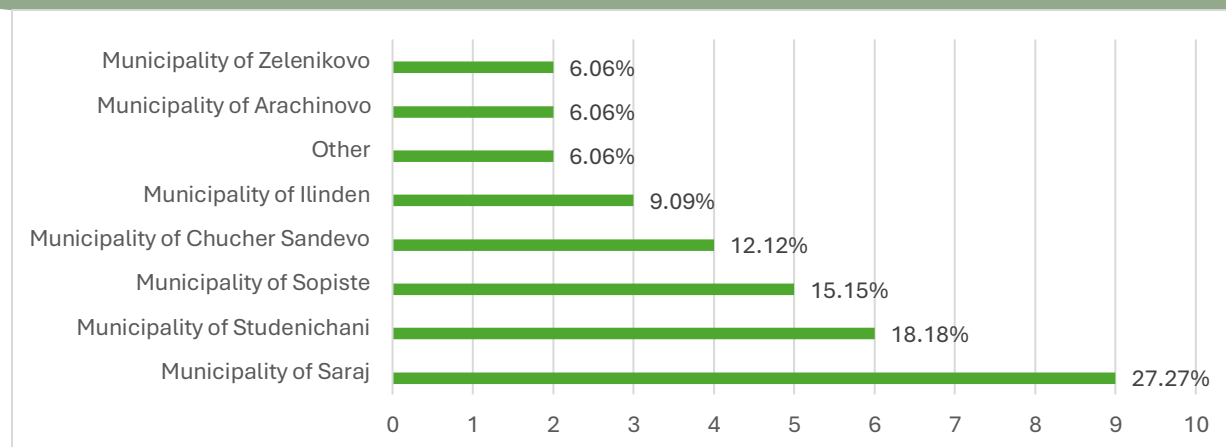


Figure 1: Geographic distribution of surveyed tourism entities by municipality

4.3 Target Groups

The baseline assessment targeted a broad range of stakeholders involved in rural tourism development and service provision across the selected municipalities. The primary target groups included:

- Rural households offering tourism services
- Guesthouse owners and rural accommodation providers
- Apartment and holiday home owners
- Restaurant and hospitality business owners
- Agro-tourism operators
- Women entrepreneurs
- Local tourism service providers
- Municipal representatives
- Community stakeholders involved in tourism and local development

A mapping exercise conducted prior to the assessment identified more than 50 tourism-related entities across the target municipalities. Out of these, 33 entities participated in the baseline assessment. Data were collected through a combination of face-to-face interviews conducted during field visits and online questionnaires, ensuring representation from tourism entities across the target municipalities.

The structure of respondents reflects the characteristics of the local rural tourism sector. Restaurants represented nearly half of all respondents (48.5%), highlighting their dominant role in the tourism economy of the selected municipalities. Accommodation providers accounted for the remaining participants and included apartments (18.2%), rooms for rent (12.1%), rural households (9.1%), holiday homes (6.1%), wine tasting facilities (6.1%), and other tourism-related businesses (3.0%). No responses were received from holiday apartments, indicating their limited presence within the surveyed municipalities.

This distribution confirms that rural tourism in the project area is primarily driven by restaurants and small family-operated businesses, while dedicated accommodation facilities remain relatively limited. Consequently, identifying and engaging accommodation providers required extensive field outreach and direct communication with local stakeholders.

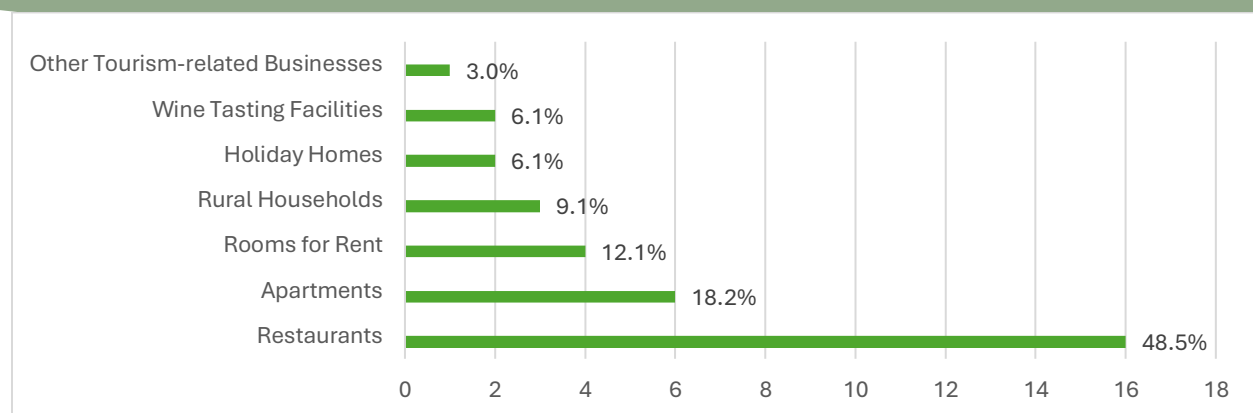


Figure 2: Structure of surveyed tourism businesses by size

4.4 Methodology

The baseline analysis applied a **mixed-method approach**, combining quantitative and qualitative research methods to assess the current state of renewable energy and energy efficiency practices among rural tourism entities.

4.5 Data Collection Methods

4.5.1. Rapid Assessment Survey

A structured questionnaire was administered to rural tourism stakeholders to collect quantitative information on:

- Energy consumption patterns
- Renewable energy use
- Energy efficiency practices
- Awareness levels
- Future investment intentions

The survey was conducted through a combination of **face-to-face interviews during field visits** and **online questionnaires**, depending on the location and availability of respondents.

4.5.2 Field Visits and Direct Interviews

The project team carried out extensive **field visits** across the target municipalities to identify, verify, and engage rural tourism businesses. During these visits, businesses were visited on-site, allowing the team to validate their operations, conduct interviews directly with owners or managers, and gather first-hand information on their facilities, energy use, and operational practices. Where field visits were not feasible or respondents preferred a remote format, interviews and questionnaires were completed online.

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Conducting interviews in the field allowed the project team to better understand the specific circumstances of each municipality. While the assessment followed a common methodology, it became evident that every municipality has its own characteristics, needs, and challenges, ranging from the availability of tourism infrastructure and accommodation capacities to differences in visitor flows, access to renewable energy solutions, and investment opportunities. These observations complement the survey findings and provide important context for interpreting the results and developing tailored recommendations.

4.5.4. Field Observation

In addition to interviews and survey responses, field visits to selected tourism facilities in the Skopje Planning Region enabled direct observation of existing infrastructure, operational practices, and energy use patterns. The observations focused on the type of energy sources used, the condition of heating and cooling systems, building efficiency characteristics, and the presence of renewable energy and energy efficiency measures. Field visits confirmed that most tourism facilities operate in small-scale, often family-run settings with limited technical capacity for advanced energy management. Electricity and wood-based heating systems were the dominant energy sources, while only a small number of facilities had integrated renewable energy technologies such as solar photovoltaic panels or solar thermal systems.

Energy efficiency practices were generally basic, with LED lighting being the most common measure observed. In a smaller number of cases, partial building insulation and energy-efficient windows were identified, although comprehensive energy efficiency retrofitting was rare. Overall, field observations aligned closely with survey responses, confirming a high dependency on conventional energy sources and limited uptake of renewable energy technologies

5. FINDINGS AND ANALYSIS

5.1 Structure of tourism businesses

The sample of surveyed tourism businesses is dominated by small enterprises, which account for 55% of the respondents, followed by micro businesses with 27%, while medium-sized businesses represent 18% of the total sample (N = 33).

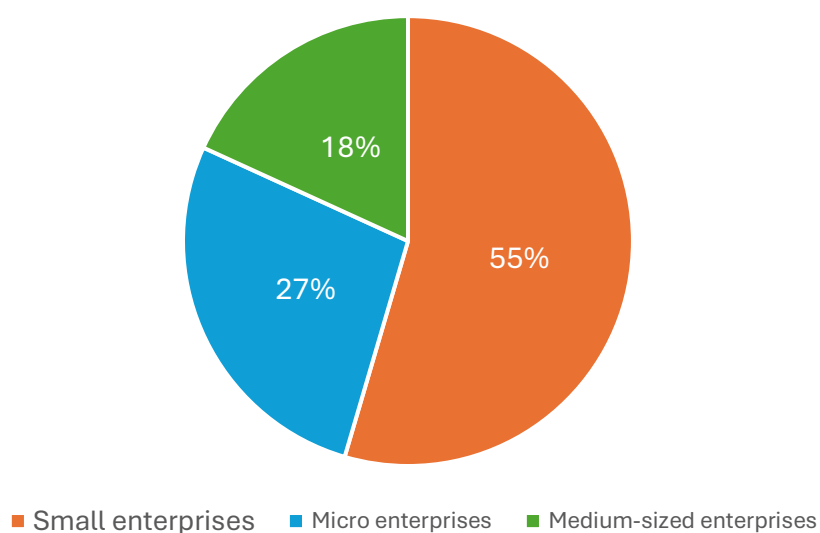


Figure 3: Distribution of surveyed tourism entities by type

Energy sources used in rural tourism facilities show a strong dominance of electricity, which is used by all surveyed businesses (100%). Firewood remains the second most common energy source, used by 66.7% of respondents, indicating continued reliance on traditional heating systems. Gas is used by 36.4% of facilities, while renewable energy sources such as solar energy are present in 21.2% of cases. Biomass pellets are used by 18.2% of respondents, and heat pumps remain the least common technology at 9.1%. Overall, the results indicate a gradual diversification of energy sources, but still a strong dependence on conventional energy systems.

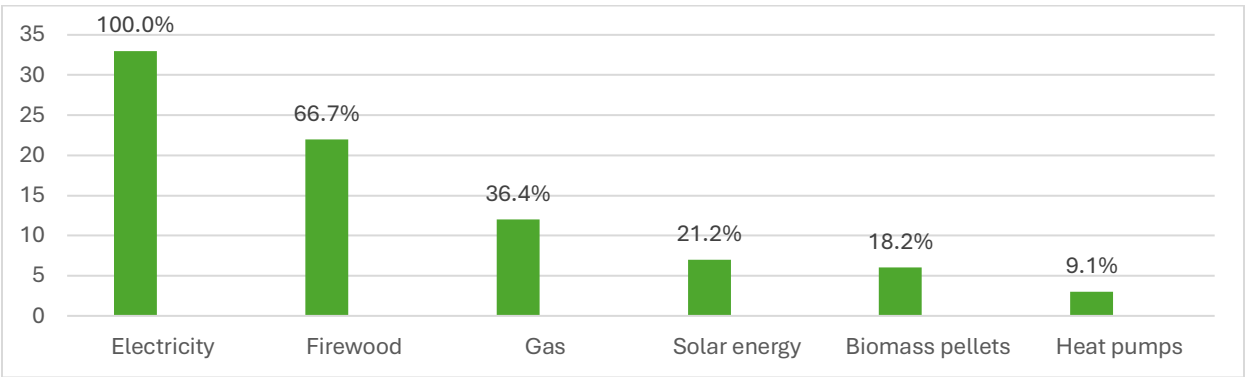


Figure 4: Energy sources used by surveyed rural tourism facilities

Heating is the most dominant energy consumption category, reported by all surveyed tourism facilities (100%). It is followed by appliances (84.8%), while cooling and water heating are equally significant at 78.8% each. Lighting is also widely used (78.8%), and cooking represents the lowest but still considerable share of energy consumption at 66.7%. Overall, the results indicate that thermal energy needs, particularly heating, represent the main driver of energy consumption in rural tourism facilities.

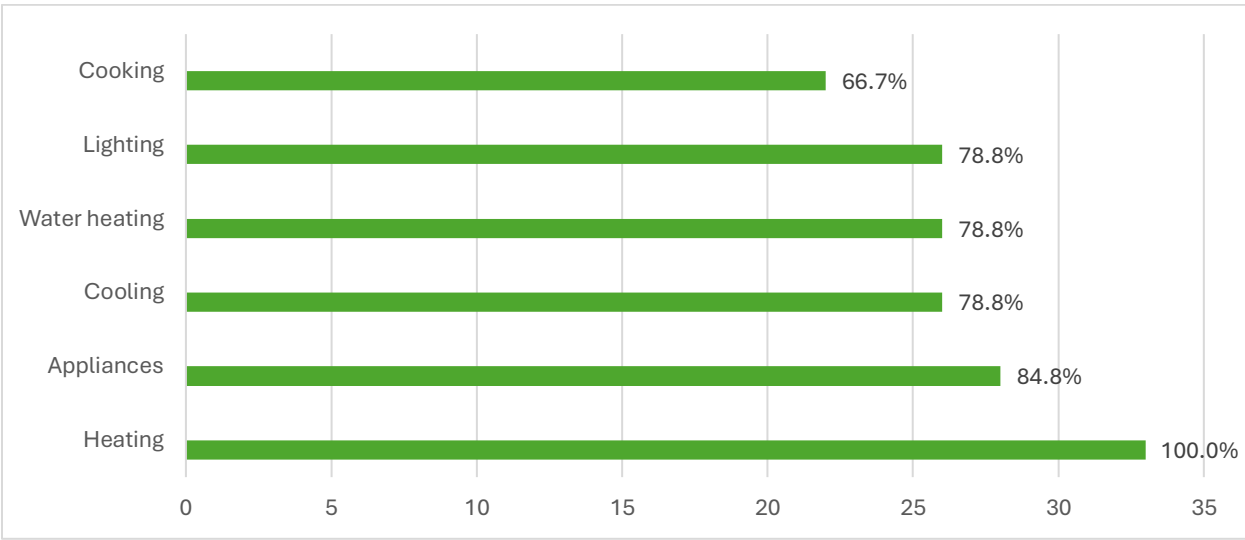


Figure 5: Main energy consumption categories in surveyed rural tourism facilities

The majority of respondents (51.5%) reported high energy costs, followed by 30.3% who described their costs as moderate, while 15.2% indicated very high energy expenses. Only a very small share of respondents reported very low energy costs. Overall, the findings indicate that energy expenditures represent a significant financial burden for most rural tourism businesses.

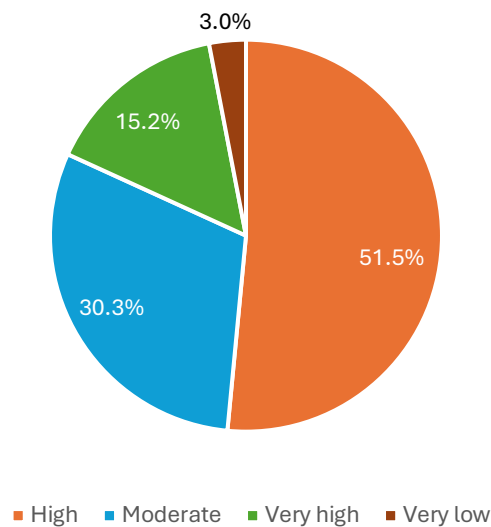


Figure 6: Perception of energy cost levels among surveyed rural tourism facilities

The majority of respondents (78.8%) stated that energy costs represent a significant burden for their business, while 15.2% reported that they do not perceive energy costs as a burden. A smaller share were unsure. Overall, the results indicate that energy expenses are widely perceived as a key operational challenge in rural tourism businesses.

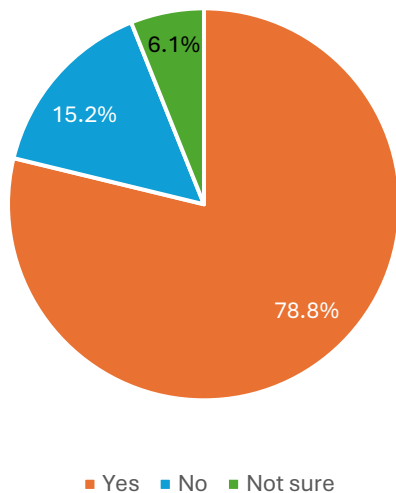


Figure 7: Perception of energy costs as a burden for rural tourism businesses

More than half of the respondents (54.5%) reported that they are not aware of energy efficiency measures, while 30.3% indicated partial awareness. A smaller share reported moderate awareness (9.1%), and only 6.1% stated that they are highly aware. Overall, the findings show a relatively low level of knowledge regarding energy efficiency measures among rural tourism businesses.

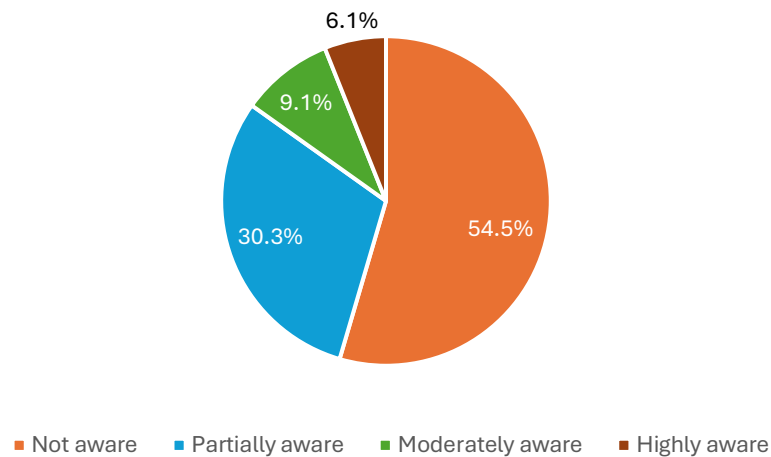


Figure 8: Level of awareness of energy efficiency measures among surveyed rural tourism businesses

Based on the results, the most widely implemented energy efficiency measure among tourism businesses is LED lighting, reported by 24 out of 33 respondents (72.7%), making it by far the dominant practice. This is followed by energy-efficient windows, adopted by 10 respondents (30.3%), and thermally insulated walls or roofs, used by 9 respondents (27.3%). More advanced or system-based measures are less common, with efficient heating systems reported by 6 respondents (18.2%). A smaller share of businesses indicated having no energy efficiency measures in place (6 respondents, 18.2%). Very few respondents reported the use of smart thermostats (3%), heat pumps (3%), efficient cooling systems (3%), or solar panels (3%), while “other” measures were mentioned by 2 respondents (6.1%). Overall, the findings show that basic low-cost measures dominate, while advanced renewable and smart energy technologies remain limited in adoption.

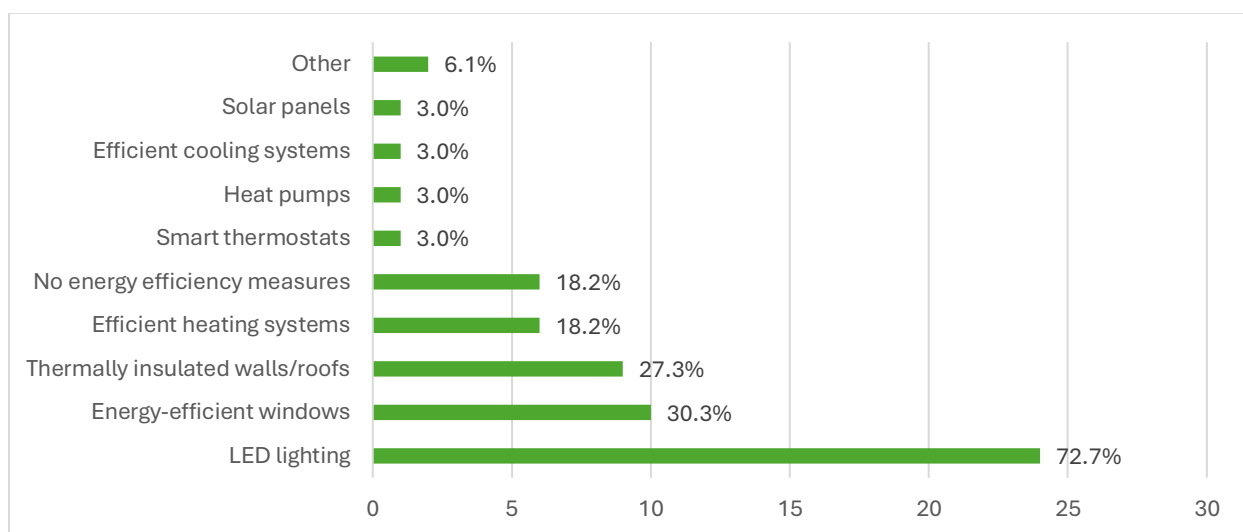


Figure 9: Energy efficiency measures implemented by surveyed rural tourism businesses

The results indicate generally low levels of awareness among respondents regarding the topic. A total of 33 responses were recorded. The largest share of participants reported being “not informed” (42.4%), followed closely by those who are “partially informed” (39.4%). Only a small proportion indicated higher levels of awareness, with 12.1% reporting being “moderately informed” and 6.1% stating they are “very informed.” Overall, the findings suggest that most respondents have limited or no knowledge of the subject, highlighting a clear need for improved information dissemination and awareness-raising activities.

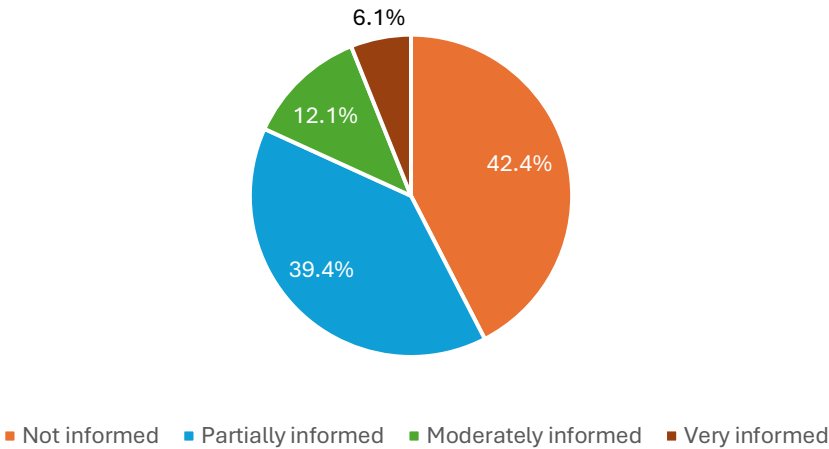


Figure 10: Level of information among surveyed rural tourism businesses regarding energy-related topics

The results show that the adoption of renewable energy technologies among respondents is still relatively limited. Out of the total responses, the majority (54.5%) indicated that they are not currently using any renewable energy technologies. Among those who do use such technologies, the most common solution is photovoltaic (solar) panels (18.2%), followed by biomass heating systems (24.2%) and solar thermal collectors for domestic hot water preparation (18.2%). Heat pumps are less frequently reported (9.1%), and only a small number of respondents indicated using a combination of multiple renewable energy solutions (3.0%). Overall, the findings suggest that while some renewable energy technologies are present, particularly solar-based systems and biomass heating, a significant proportion of respondents have not yet adopted any form of renewable energy (54.5%), indicating considerable potential for further development and investment in this area.

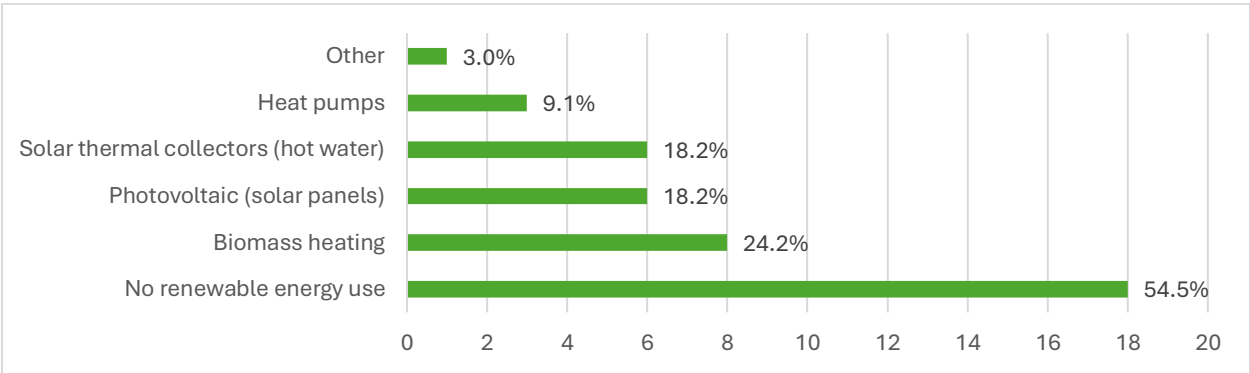


Figure 11: Adoption of renewable energy technologies among surveyed rural tourism businesses

The findings show that the most significant barrier to the adoption of renewable energy and energy efficiency measures is high investment costs, reported by 63.6% of respondents. This is followed by lack of information, indicated by 54.5%, suggesting that many respondents still do not have sufficient knowledge or guidance regarding available solutions and their benefits. Administrative barriers were also frequently mentioned, with 42.4% of respondents highlighting challenges related to procedures and regulations. In addition, 30.3% of respondents pointed to a lack of technical support, indicating difficulties in accessing professional assistance for implementation. A smaller share, 21.2%, reported a lack of financing and incentives, showing that financial support mechanisms are still insufficient or not easily accessible. Finally, 18.2% of respondents expressed uncertainty about the benefits of such investments, reflecting a degree of hesitation and lack of confidence in the outcomes

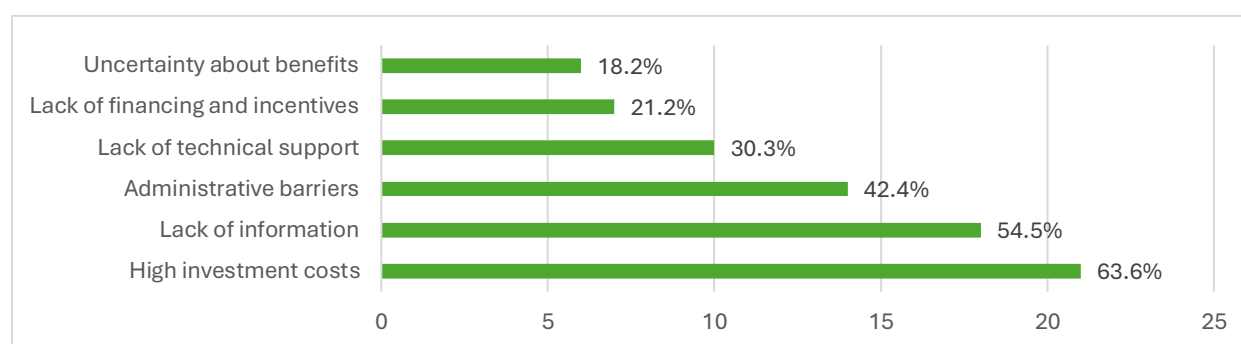


Figure 12: Barriers to the adoption of renewable energy and energy efficiency measures among surveyed rural tourism businesses

The findings show a clear preference for hands-on and financially oriented support mechanisms to facilitate the adoption of energy efficiency and renewable energy solutions. The most frequently selected type of support is training and education, mentioned by 75.8% of respondents, indicating a strong need for capacity building and awareness-raising. This is followed closely by technical advice, selected by 72.7%, showing that many businesses require expert guidance during planning and implementation. Financial incentives or grants were also highly requested, reported by 45.5% of respondents, highlighting the importance of direct financial support in overcoming investment barriers. In addition, practical guidelines or manuals were chosen by 24.2%, suggesting that a portion of respondents would benefit from structured, easy-to-use informational resources. Only a very small share of respondents indicated that they do not require any support.

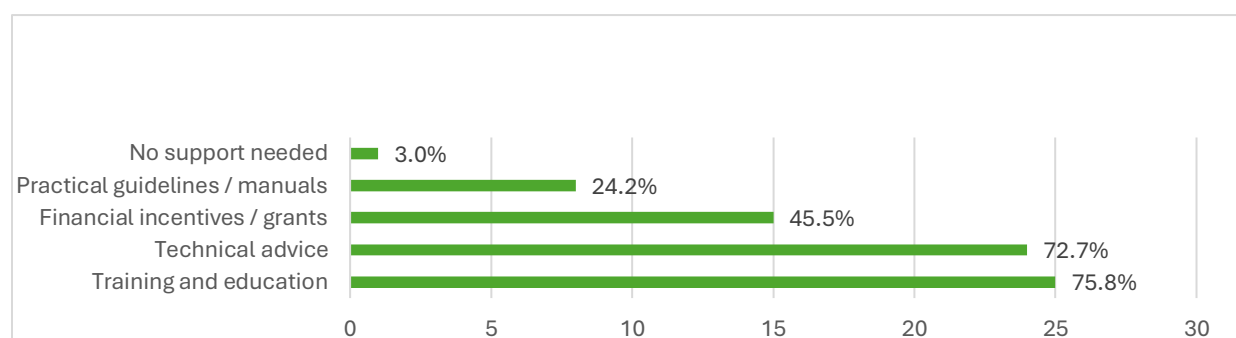


Figure 13: Preferred support measures for the adoption of renewable energy and energy efficiency solutions

There is a very high level of interest in the future implementation of sustainable energy practices among respondents. The vast majority, 81.8%, stated that they are interested (“Yes”) in adopting energy efficiency measures and renewable energy solutions in the near future. A smaller share of respondents, 15.2%, indicated that they are “Maybe” interested, suggesting a level of uncertainty that could potentially be addressed through better information, financial incentives, or technical support. Only 3.0% reported that they are not interested, representing a very small minority.

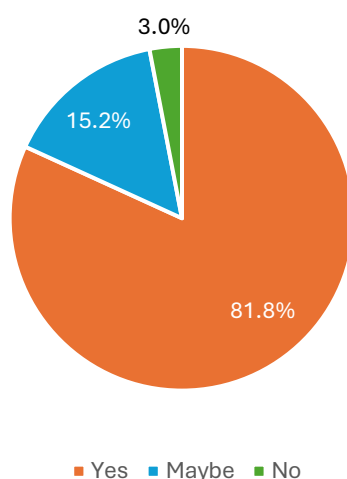
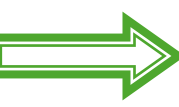


Figure 14: Interest in adopting energy efficiency measures and renewable energy solutions among surveyed rural tourism businesses

Overall, the findings from the survey (N = 33) present a comprehensive picture of the current energy situation, awareness levels, barriers, and future intentions among rural tourism businesses. The sample is predominantly composed of small and micro enterprises, and their energy consumption is still largely dependent on conventional sources, particularly electricity and firewood, while renewable energy technologies remain relatively limited in use, with solar photovoltaic systems and biomass solutions being the most common among adopters.

Energy demand is driven mainly by heating, followed by appliances, cooling, water heating, lighting, and cooking, highlighting the importance of thermal energy needs in this sector. Although energy costs are widely perceived as a significant financial burden, awareness of energy efficiency measures remains low, and implementation is still largely limited to basic, low-cost solutions such as LED lighting, while more advanced technologies and smart systems are rarely adopted. The main barriers to further adoption are high investment costs, lack of information, administrative challenges, and insufficient technical and financial support, indicating that constraints are both economic and institutional in nature.

At the same time, respondents clearly express strong demand for support mechanisms, particularly training and education, technical assistance, and financial incentives, which suggests that capacity-building combined with financial support could significantly improve uptake. Despite current limitations, the findings reveal a very strong willingness to adopt sustainable energy practices in the near future, with the vast majority of respondents expressing interest. Overall, while the sector is still at an early stage of the energy transition, the results show strong potential for progress if appropriate policy, financial, and technical support measures are introduced.



6. LIMITATIONS OF THE ANALYSIS

The findings presented in this report are based on responses and observations collected during the project implementation period. While the data provides important insights into the current state of energy use, awareness, and practices among rural tourism businesses, several limitations should be acknowledged when interpreting the results.

Firstly, the relatively small sample size ($N = 33$) limits the statistical generalizability of the findings. Although the sample offers a useful snapshot of the sector, it does not fully capture the diversity and complexity of all rural tourism providers across different regions of North Macedonia. The variation in business size, structure, and operational context may also influence energy practices, meaning that results should be understood as indicative rather than representative at national level.

Secondly, the study relies on self-reported data, which may be subject to response bias, including overestimation or underestimation of certain practices, awareness levels, or constraints. In addition, respondents' interpretations of questions may vary, particularly in relation to technical concepts such as energy efficiency measures and renewable energy technologies.

Furthermore, the cross-sectional nature of the data means that the findings reflect a specific point in time and do not capture seasonal variations, long-term trends, or changes in behaviour over time. External factors such as energy price fluctuations, policy changes, or access to funding may also influence responses but are not fully captured within this analysis.

Despite these limitations, the study provides valuable and practical insights into the current situation of rural tourism businesses. It establishes a solid baseline for understanding existing conditions and can serve as a reference point for future monitoring, comparative analysis, and evaluation of interventions aimed at improving energy efficiency and promoting renewable energy adoption in the sector.



7. IMPLICATIONS FOR TRAINING DESIGN AND CAPACITY BUILDING IN RURAL TOURISM

The analysis of rural tourism development in North Macedonia, particularly in rural and mountainous areas, highlights several structural and capacity-related constraints that directly inform the design of training interventions under the Energy Wise project.

One of the key findings is the generally low level of awareness among rural populations regarding the economic potential of rural tourism. In many communities, tourism is not yet perceived as a viable development opportunity, which limits local engagement and reduces initiative for developing tourism-related activities. This indicates a clear need for awareness-raising components within training programmes, particularly targeting local communities and potential new entrants in the tourism sector.

A further critical barrier is the limited knowledge of available financial mechanisms and support schemes for rural development and tourism investment. Although funding opportunities such as IPARD and other national or international programmes exist, local stakeholders often lack the information and technical capacity to access and utilize them effectively. This highlights the importance of including dedicated training modules on access to finance, project preparation, and funding application procedures.^a

At the same time, existing tourism asset holders, such as owners of rural houses and villas, demonstrate a relatively positive attitude towards tourism development. However, this potential remains underexploited due to weak promotion, lack of structured support services, and insufficient business and operational knowledge. This suggests a need for practical, business-oriented training focused on rural tourism service development, hospitality standards, and basic entrepreneurship skills.

The analysis also indicates that rural tourism development is constrained by broader systemic factors, including limited implementation of local development strategies, weak coordination among stakeholders, and insufficient institutional capacity at the local level. In response, training activities should not be limited to private actors only but should also include municipal representatives and local institutions, with a focus on integrated planning, inter-sectoral coordination, and sustainable tourism governance.

Furthermore, low levels of motivation and limited engagement of civil society organizations point to the need for participatory and interactive training approaches. Capacity-building activities should therefore encourage collaboration, peer learning, and the exchange of good practices among stakeholders from different municipalities.

Despite these challenges, rural areas possess significant untapped potential in terms of natural, cultural, and traditional resources. However, these assets are not yet sufficiently transformed into structured tourism products. This reinforces the need for training on product development, destination branding, and the creation of integrated rural tourism experiences.

In addition, previous analyses underline the importance of improving infrastructure, promoting sustainable practices, and enhancing the marketing and visibility of rural destinations. Within this context, the Energy Wise project introduces an additional strategic dimension by integrating renewable energy sources (RES) and energy efficiency (EE) into rural tourism development. Therefore, training content should also include practical modules on energy-saving measures, renewable energy applications in tourism facilities, and the economic benefits of the green transition.

Overall, the findings clearly indicate that capacity-building interventions must be practical, locally tailored, and multi-level, targeting both tourism providers and local authorities. The training programme under the Energy Wise project should therefore combine awareness-raising, technical knowledge, business development skills, and sustainability practices to effectively address identified gaps and support the green transformation of rural tourism in the Skopje Planning Region.



8. RECOMMENDATIONS

Based on the findings of the baseline analysis, several recommendations can be made to support the adoption of renewable energy sources (RES) and energy efficiency (EE) practices among rural tourism businesses in the Skopje Planning Region.

8.1 Strengthen Awareness and Information Dissemination

The findings reveal relatively low levels of awareness regarding renewable energy and energy efficiency among rural tourism providers. Awareness-raising campaigns, information sessions, and communication materials should therefore be developed to improve understanding of available technologies, their environmental benefits, and their long-term economic advantages. Practical examples and local success stories should be promoted to increase confidence and encourage wider adoption.

8.2 Develop Targeted Capacity-Building Programmes

Training programmes should be tailored to the specific needs of rural tourism businesses and combine theoretical knowledge with practical application. The training should cover energy efficiency measures, renewable energy technologies, energy management, available funding opportunities, and the preparation of investment plans. Practical demonstrations, study visits, and peer-learning activities should complement classroom-based training.

8.3 Improve Access to Technical Assistance

Many respondents identified a lack of technical knowledge as a barrier to implementation. Establishing advisory services or technical support mechanisms would help tourism providers assess their energy performance, identify suitable technologies, estimate investment costs, and prepare implementation plans. Continuous technical mentoring would further support businesses throughout the transition process.

8.4 Increase Financial Support and Investment Incentives

High investment costs were identified as the most significant barrier to adopting sustainable energy solutions. National and local institutions should strengthen financial support mechanisms through grants, subsidized loans, tax incentives, or co-financing schemes that specifically target small rural tourism businesses. Information on existing funding opportunities should also be made more accessible.

8.5 Simplify Administrative Procedures

Administrative barriers remain an important obstacle to investment. Relevant institutions should simplify application procedures, reduce administrative complexity, and provide clear guidance for obtaining permits and accessing financial support. Improved coordination between local and national authorities would facilitate implementation.

8.6 Promote Demonstration Projects and Good Practices

Pilot investments and demonstration sites within rural tourism facilities should be supported to showcase the practical and economic benefits of renewable energy and energy efficiency measures. Visible examples can increase stakeholder confidence and encourage replication by other tourism businesses.

8.7 Strengthen Cooperation Among Stakeholders

Closer cooperation between municipalities, tourism businesses, civil society organizations, educational institutions, and energy experts should be encouraged. Local partnerships can facilitate knowledge exchange, joint initiatives, and coordinated efforts to promote sustainable tourism development throughout the region.

8.8 Integrate Sustainable Energy into Local Tourism Development

Municipalities should incorporate renewable energy and energy efficiency measures into local tourism development strategies and action plans. Sustainable energy should become an integral component of destination planning, infrastructure development, and tourism promotion, contributing to both environmental sustainability and local economic competitiveness.

8.9 Establish Continuous Monitoring and Evaluation

The baseline findings provide a valuable reference point for measuring progress throughout the implementation of the Energy Wise project. Follow-up assessments should be conducted periodically to monitor changes in awareness, technology adoption, investment levels, and business performance. The collected data can be used to evaluate project impact and inform future policy and programme development.

Prepared by:

Center for Sustainable Development ALKA in partnership with Foundation Albiz

Author:

Zoran Velkovski

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Contact:**Center for Sustainable Development ALKA**

www.alka.mk | +389 2 321 4505 | Georgi Dimitrov 11-1/4, 1000 Skopje

Foundation Albiz

www.albiz.org.mk | +389 2 2057 632 | str.20. nr.97 Saraj, 1000 Skopje

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