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## Country Programme of Albania under the Global Solar Water Heating Market Transformation and Strengthening Initiative

PIMS 3611/ Project ID: 00062847

### Final Report

#### Project Identification Table

NAME OF THE PROJECT:	The Country Programme (CP) of Albania under the Global Solar Water Heating Market Transformation and Strengthening Initiative		
GEF ID:	2939	ATLAS ID (Award ID):	50767
UNDP PIMS ID:	3611	UNDP project ID:	62847
Project Type:	Full-size project	Focal Area(s):	Climate Change
GEF OP #:	6	GEF Strategic Priority/Objective:	Promoting the Adoption of Renewable Energy by Removing Barriers and Reducing Implementation Costs
Planned/ start data:	September 2009		
Planned completion date at design:	2014	Planned completion date (revised)	December 31, 2018
Planned project budget at approval:	2,105,000	Total expenditures reported as of [December 30, 2018]:	2,210,965.02

#### 1. PROJECT PERFORMANCE

*Please describe the progress made in achieving the expected outputs and planned targets. Please outline the key activities that have taken place to date under each output, and elaborate on the corresponding results backed by indicators and evidence of achievements. Please provide these in a manner that compares with those outputs, activities, and targets outlined in the Work Plan. (Add more rows as needed)*

**Outcome 1: An enabling institutional, legal, and regulatory framework to promote sustainable SWH market**

**Expected Outputs**

**Actual Output Delivered**

<p>Output 1.1: Analysis, recommendations and the associated advocacy work for the adoption of adequate public financial and fiscal incentives to promote the SWH market finalized.</p> <p>Output 1.2: Analysis, recommendations and the associated advocacy work for the adoption of the required amendments in to the building law and code to encourage the installation of SWH into new buildings and in those going through a major renovation finalized.</p> <p>Output 1.3: Analysis, recommendations and the associated advocacy work for setting up the required regulatory framework for a SWH quality control system finalized.</p>	<p>The CP has supported the drafting of the SWH related chapters of the new law on RES (n°138/2013) adopted by the Albanian Parliament in May 2, 2013. The law requires builders to adhere to a minimum share of solar thermal heat for certain building types and exempts solar thermal systems and components from custom tariffs and Value Added Tax (VAT) altogether. In addition, the law specifies in particular the obligation for the public sector to integrate SWH into all new buildings and those subject to major renovation.</p> <p>Support was also provided to the drafting of the related secondary legislation (decrees). The CP has also supported the National Renewable Energy Action plan which sets a target for Albania of approximately 38% taking into account all sources of renewable energy, with a specific target for the heat produced by renewables of 12.1 %, out of which 1.23 % will be covered by solar water heaters: the plan involves technical and legislative measures for the country until 2020 with the baseline year 2009, in line with the respective EU directives, the obligations to the Energy Treaty and the National Energy Strategy’s objectives.</p> <p>Collaborative work with the municipality of Tirana has been carried out in relation to the prospect of starting the implementation of solar obligation terms. Support was provided by the CP towards drafting a municipal level regulation and for the preparation of training materials. Collaboration with other municipalities (such as the municipality of Lezha, Elbasan, Gramsh, Durres, Shkoder, Lushnje, Vlore, and Sarande) has also been carried out starting in 2013 for the same purpose.</p> <p>In the process of drafting the SWH related chapters of the Renewable Energy Law, it was decided that Albania will not develop its own quality control system for solar thermal hardware but will adopt the European Solar Keymark certification scheme.</p>
<p><b>Outcome 2: Enhanced awareness and capacity of the targeted end-users and building sector professionals to consider and integrate SWH systems into different types of buildings</b></p>	
<p>Output 2.1: Materials for public awareness raising and marketing campaigns as well as for training of building designers developed and/or adopted into Albanian conditions and made available in printed and electronic format.</p> <p>Output 2.2: Final design of the marketing campaign</p>	<p>Various marketing and awareness-raising campaigns have been launched by means of seminars, leaflets, reports and articles in professional magazines. In addition, the CP is continuously delivering public outreach activities.</p> <p>A documentary on the achievements and the challenges of the CP and the experiences of the pilot solar thermal systems already installed was presented on Albanian state-owned television (TVSH) on May 10, 2014.</p> <p>A SWH-specific website (<a href="http://www.ccalb.org">www.ccalb.org</a>) has been created with high visibility but from 2013, following a corporate decision, the website became part of the UNDP website, albeit losing some visibility. Then, the CP increased efforts with the National Agency of Natural Resources, to support a specific link on solar energy (<a href="http://www.akbn.gov.al/energija-diellore/">http://www.akbn.gov.al/energija-diellore/</a>).</p>

<p>Output 2.3: Public awareness raising and marketing campaigns implemented in cooperation with relevant public entities and private SWH suppliers and manufacturers.</p> <p>Output 2.4: Trained building designers and other key professionals to consider SWH as an option in the design of new buildings and renovation of the existing ones.</p> <p>Output 2.5: Improved curricula of SWH training courses in relevant academic and technical institutions and vocational schools</p>	<p>As part of the awareness raising strategy of the project, a number of pilot projects were launched, in several social buildings, in collaboration with the State Social Service of Ministry of Labor, Social Affairs and Equal Opportunities. Pilot projects in Thethi and at the Orphans House in Tirana were very well received by the media and increased the awareness of local and central governments as well as participants from businesses, NGOs, academia.</p> <p>Data from the pilot projects (65 buildings) have been collected and used towards further awareness-raising and training activities as well as towards updating the default values of the SWH calculation software provided by the CP.</p> <p>The CP has trained more than 712 professionals<sup>1</sup> (architects, engineers, instructors, etc.) over the last five years mainly in respect of the quality of products and their design and integration into new and existing buildings as well as in monitoring and maintenance. Training has also been organized on the community level for the installation, monitoring and maintenance of SWH systems upon the commissioning/ handing over of pilot projects.</p> <p>A good set of training materials has been developed and integrated in the curriculum/teaching programmes of selected professional schools, after being endorsed by the Ministry of Labor, Social Affairs and Equal Opportunities. Instructors have been trained, necessary equipment is delivered and courses “Repairmen and installers of SWH systems” of 10-15 students are running three times per year in 6 out of 9 existing VTCs (Vocational Training Center) all over Albania. New courses on SWH have also started in the Harry Fultz Institute in Tirana.</p>
<p>Outcome 3: Increased demand for SWH systems by the availability of attractive end-user financing mechanisms or other delivery models</p>	
<p>Output 3.1: Enhanced awareness of the key financial sector stakeholder and local suppliers on the specific characteristics and financing opportunities in the SWH market.</p> <p>Output 3.2: Design, financial structuring and implementation arrangements for the specific purpose financing vehicles responding to the specific SWH market needs finalized and agreed with the key stakeholders and</p>	<p>In cooperation with the Albanian Association of Banks (AAB), several activities have been undertaken such as:</p> <ul style="list-style-type: none"> <li>- A round table with representatives of the main financial institutions in Albania and the association of consumers’ protection on the financing mechanisms to promote SWH market transformation, held at the premises of the AAB on the 14<sup>th</sup> of July 2011;</li> <li>- A round table on the SWH financing opportunities in the Tourism sector in cooperation with the Procredit Bank and the ATA on the 19<sup>th</sup> of April 2012;</li> <li>- A joint awareness raising activity with Procredit Bank and GIZ (German cooperation) on Solar Energy in the touristic remote village of Thethi on July 2012.</li> </ul> <p>In addition, studies and situation analysis reports have been prepared and regular consultations with the commercial banks and</p>

<sup>1</sup> Source: PIR reports

<p>integrated into the overall SWH marketing package.</p> <p>Output 3.3: As required, trained SWH supply side stakeholders to effectively operate and/or market the new financing services.</p>	<p>representatives of the Tourism and Business associations were conducted to discuss the most feasible support mechanisms based on the findings study of different financial support schemes.</p> <p>The CP has provided support to the establishment of the Energy Efficiency Fund through making the sharing of the Slovenian and Croatian Eco-fund experiences possible and through organizing for a number of Albanian decision-makers a study tour in Slovenia and Croatia. The MEI has set aside some budget for the fund which is expected to become operational in Fall 2016. Since February 2016, the CP assisted MEI in drafting its statute and the Operations manual.</p> <p>As an alternative, the CP established a grant cost-sharing scheme for the implementation of pilot projects within municipalities (which had to contribute in cash or in kind up to 10% of the total project cost).</p> <p>A scheme was also developed to co-finance innovative private projects in the tourism industry.</p> <p>NAMA entitled “Financing mechanism for EE in buildings” was developed to support the implementation of the NEEAP in the Residential, Public and Commercial sectors. It aims at promoting EE and RE technologies in buildings including SWH.<sup>2</sup></p> <ul style="list-style-type: none"> <li>- Training workshop on Testing, Certification and Labelling Schemes of SWH collectors and systems as necessary mechanisms to boost the market, in cooperation with the Solar und Wärmtechnik Stuttgart on the 23-24 October 2012;</li> <li>- Training of the instructors of the vocational training centers to deliver the new curricula developed by the CP “Installer and Repairman of the solar panels”, including the possible financial mechanisms to promote the market development for SWH systems and the increased demand for certified installers, repairmen and designers, in Tirana, on May 26, 2012;</li> <li>- A roundtable with representatives of Tirana municipality, local banks and the home owners’ association and other citizens to share and discuss on the feasibility study, business plan and elaboration of a supporting financing scheme (developed by the CP) for the rehabilitation of one multi-apartments residential building in Tirana on April 23, 2014;</li> <li>- A roundtable and training of the high representatives of the Tirana Municipality on the Solar Thermal Obligation (STO) (developed by the CP for the specific needs of the Tirana Municipality together with the legal acts to allow for its endorsement and implementation on September 25, 2014;</li> </ul>
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<sup>2</sup> EO: Another NAMA: ‘Replacing fossil fuels with non-hazardous waste in the Albanian cement industry’ was also developed as indicated by UNDP during the evaluation report review process and confirmed by a document ‘Third National Communication of the Republic of Albania under the United Nations Framework Convention on Climate Change’ (June 2016)

	<ul style="list-style-type: none"> <li>- Training workshops organized at local level in collaboration with OSCE for the presentation of the SWH technologies and their financing mechanisms alongside all south coastal municipalities and communes of Albania (Vlore, Orikum, Himara, Lukova, Saranda, Ksamil, etc.), during May-October 2014 and June 2015;</li> <li>- Exchange Visit in Madrid and Barcelona, organized during 6-11 of November 2011 (in cooperation with the Spain Solar Association), with the involvement of key stakeholders from different public entities at central and local level, to profit from the experience/lessons learnt applied in Spain and by the Barcelona Municipality;</li> <li>- Exchange Visit in Slovenia, organized during 16-19 of June 2014, with the involvement of key stakeholders from different public entities at central and local level, to profit from experience/lessons learnt and financing mechanisms for the promotion of Solar Water Heating technologies of the Slovenian Eco Fund. This is followed by a very intensive work the Project is doing to put into operation the EE/RES Fund, established in Albania as per the new EE law (entered into force November, 2015), by putting together the statute and its operational manual, seen as the major financing mechanism to secure the sustainability of the Project's results;</li> <li>- Round tables with the mayors and the technical staffs of a number of Albanian municipalities to share the project's findings on SWH systems benefits and possible financing mechanism before entering into MoUs to jointly piloting the SWH systems in selected public buildings and training of their respective staffs in charge, including training on ToRs preparation and technical specification when the local governments would need to advertise for public procurement of solar systems;</li> </ul> <p>Very active participation of the CP in many round tables and other events organized by the developing partners, public institutions (central and local), or civil society advocating for the financing mechanisms for the promotion of the SWH systems, based on the Project's results.</p>
<p><b>Outcome 4: A certification and quality control scheme applicable for Albanian conditions adopted and enhanced capacity of the supply chain to offer products and services promoting sustainable SWH market</b></p>	
<p>Output 4.1: Set of SWH standards and an associated certification and labeling system developed (or adapted) for Albanian conditions</p>	<p>The CP ensured the full package EU standards in the area of solar thermal is adopted in cooperation with the General Directory of Standardization. Upon request of the domestic solar industry, three of them were provided in Albanian language for the ease he solar thermal supply chain. The government's decision was made to apply the European Solar Keymark<sup>3</sup> certification scheme following specific</p>

<sup>3</sup> The Solar Keymark is a voluntary third-party certification mark for solar thermal products, demonstrating to end-users that a product conforms to the relevant European standards and fulfills additional requirements. It was developed by the European Solar Thermal Industry Federation (ESTIF) and CEN (European Committee for Standardisation) in close co-operation with leading European test labs and with the support of the European Commission. It is the main quality label for solar thermal products and is widely spread across the European market and beyond (source: <http://www.estif.org/solarkeymarknew/press-room/solar-keymark-certification>)

<p>Output 4.2: A pilot testing facility to check compliance with adopted standards.</p> <p>Output 4.3: Technical support to local manufacturers and importers to obtain a certification and to improve their product quality in general.</p> <p>Output 4.4: A training and recognition system in place for SWH system installers</p>	<p>studies/recommendations undertaken by the CP and three rounds of wide discussions with the General Directory of Standardization, the Accreditation Directory and the representatives of the SWH supply chain. The CP also required the Solar Keymark certification for the SWH systems acquired in the tenders' procedure (for the demonstration projects) as it was launched. As part of the cooperation with the local governments, this is also recommended to them, when publishing public tenders under their procurements rules as a package with improved specifications for the solar collectors and other necessary equipment to enable installation/monitoring and repair of SWH systems.</p> <p>The pilot testing facility has been temporarily established at the Harry Fultz Institute through a cooperation programme with the Austria Development Agency (ADA), which, does not fully comply with the EU requirements for the durability test alone. In the circumstances where funds to upgrade it were considerably high (100,000 – 150,000 euros) and the market is still not sufficient in size to enforce the EU standards (still on voluntary basis), the CP decided to use the existing testing facility for pre-testing of solar collectors and other demonstration/ training purposes. As of June 2018, the Testing Facility is finally transferred to the public Tirana Polytechnic University.</p> <p>CP managed to cooperate with Swiss Consortium of INFRAS/Swiss Solar who implemented a two-year program funded by Swiss REPIC as a parallel financing contributing to the Outcome 4 of the CP. Under this cooperation, a series of investigations were undertaken to check the quality of the SWH systems installations in the tourism sector and the tests of locally-produced collectors were carried out at the Solar technology institute (SPF) in Switzerland in the early stages of the CP implementation. The support for the Albanian manufacturers was continued by putting them into contact with the Business Advisory Services project of EBRD and the AIDA (Albanian Investment Development Agency) for possible co-financing opportunities of full testing/certification of solar collectors as this technology is qualified as innovative under the above-mentioned institutions' policies.</p> <p>To date, installers get their training certificates; however, the quality management system is not yet in place for domestic products and producers. Indeed, to qualify for the ISO or Solar Keymark requirements, the production process should be duly documented and archived. The CP has helped in the drafting of the decree (relating the RES law) obliging in the public tenders, the use of certified system designers, installers and imported products.</p>
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<p><b>Outcome 5: The provided support institutionalized and the results, experiences and lessons learnt documented and disseminated (including monitoring, learning, evaluation and other feedback for adaptive management)</b></p>	
<p>Output 5.1: The reporting framework and arrangement for the SWH market monitoring established and continuing after the end of the project.</p> <p>Output 5.2: An agreed business and financing plan for the establishment of an Albanian Solar Center, a Solar Thermal Industry Association or a similar entity to sustain the required market promotion activities.</p> <p>Output 5.3: An established Albanian Solar Center, A Solar Thermal Industry Association or a corresponding entity</p> <p>Output 5.4: Project mid-term and final evaluation.</p> <p>Output 5.5: The project final results and lessons learnt documented and disseminated.</p>	<p>Annual SWH market monitoring was carried out by the CP with the estimation for the penetration rate of the SWH for households, the service and industrial sectors until 2025, with annual updates</p> <p>A governmental initiative was completed in 2013 which consisted in a one-year monitoring program of electricity consumption for producing hot water in 20 families located in three climatic zones in Albania, as well as the installation of performance monitoring equipment for large solar thermal systems at three different sites in Tirana. This program continued with other sets of families in other areas and in the new pilots installed by the CP in cooperation with local municipalities and for which monitoring equipment is included.</p> <p>Pending the enforcement of the RES law which makes it mandatory for all producers and installers to “report the quantity and technical data of the SWH systems - imported, produced or installed - to the AKBN”, the market monitoring was done by the CP. To date, it is not yet institutionalized within the Government. It is expected that the new Energy Efficiency Agency, established by the Energy Efficiency law in November 2015 (into operation from 2017) will host the monitoring system, taking over this task from the CP.</p> <p>A charter for the establishment of a local solar thermal association and a business plan were drafted in 2011 with CP support, shared and discussed in minimum two dedicated round tables with potential members (manufacturers and importers). The idea of establishing such an association never really took off among the supply-side stakeholders due to (i) weak in-country tradition with effective industry associates, and (ii) different viewpoints among manufacturers and importers. Therefore, no further project activities have been planned in this direction, following the MTE recommendation.</p> <p>MTE conducted in June/July 2012. Interim TE conducted during April/May 2016.</p> <p>A complete publication « Best Practice from Albanian SWH Project and Solar thermal energy case studies” is under final draft, to be published and launched in September, 2016.</p> <p>A SWH calculation tool/software designed and available on line (<a href="http://www.ccalb.org/solar_live/index.php">http://www.ccalb.org/solar_live/index.php</a>) and further developed as an application for smart phones (<a href="https://itunes.apple.com/us/app/solar-app/id792965104?ls=1&amp;mt=8">https://itunes.apple.com/us/app/solar-app/id792965104?ls=1&amp;mt=8</a>)</p>
<p><b>Outcome 6: Project Management – delivered as per the AWP</b></p>	

<b>Output 7: A Comprehensive, Climate-Resilient Approach to Sustainable Hydropower for Albania (Small Hydro Power Plants - SEA)</b>	
Output 7.1 Establishment of the Baseline, determination of the scope of SEA and selection of the Site as pilot basin region. Output 7.2 Assessment and Report Compilation, Consultation and Launching Event	Strategic Environmental Assessment Report is prepared, consulted, finalised and delivered compiling the existing information, determining a format for the report, editing the report, and conducting expert review for quality control purposes. The report presented the information on the potential effects of SHPP development (and alternatives).  Awareness raising activities at local and central level is delivered.
<b>Output 8: Municipal energy tracking platform in Albania</b>	
<b>Output 8.1</b> Preparation of an operational municipal energy tracer platform/tool, Testing of pilot technologies and Capacity building <b>Output 8.2</b> Enhanced capacities for financing/upscaling of EE/RES interventions	Capacity building of public officials delivered;  Awareness raising and capacity building of municipal citizens through their involvement with data collection/assessment – involvement of the system EMIS Energy Management Information System – piloted at Durres Municipality  Finalization of feasibility studies for the selected projects, facilitating their financing through existing EE/RE facilities in Albania and upscale the project at the national level to enable financing through the Green Climate Fund – concept note prepared – the full project preparation under discussion with the GCF Secretariat.
<b>2. PROJECT CHANGES</b>	
<i>Please outline and explain any significant changes in the project's activities, outputs or delivery schedule.</i>	
<u>Please note:</u> <b>Significant changes</b> in the work plan and/or budget require prior approval from IRH through a separate correspondence, and in accordance with the risk management plan provided in the project proposal.	
<p>The project was initially designed as a stand-alone project and afterwards it became part-of the UNDP/UNEP/GEF Global Solar Water Heating Market Transformation and Strengthening Initiative.</p> <p>In addition to the project extensions, the CP has not undergone formal changes in design during its implementation but had to adopt an adaptive management approach in respect of a number of constraints or new developments. An example of this was the unfulfilled commitment of the Italian Government with regard to providing funding to a total of USD 1,000,000 through UNEP towards the implementation phase of the financial mechanisms or such as cancelling plans to 1) establish/create a SESCO and a Solar Thermal Industry Association, which was still premature and did not meet with a positive reception from among the SWH stakeholders on the supply-side, 2) adopt a national system for product standards and quality control scheme and an Albanian certification label for SWH (it was decided to adopt the EU Solar Keymark certification), 3) establish an in-country testing center (the pilot Solar Testing Center initially established by the Harry Fultz Institute and later transferred to the Tirana Polytechnic University does not fully comply with all the requirements of the European standards and after checking the feasibility of investing in its upgrade, it was decided that it is more efficient to support</p>	



the producers in testing their products abroad than upgrading the existing center, which is then used for pre-testing and training activities).

### **3. CHALLENGES OR ISSUES AFFECTING IMPLEMENTATION**

*Please explain any challenges or issues which have affected or may affect project implementation in the future.*

The CP has planted the seeds of the market transformation of SWH in Albania and expected targets have been quite easily achieved. However, a number of issues are still not fully solved and challenges to its sustainability still remain.

The socio-political sustainability could seem to in question when the new government put on hold the RES Law adopted in 2013. However, the Law got revised and endorsed in 2015, which together with the decision of the Government of Albania to keeping on with its reforms (revising the electricity tariffs, fighting against the illegal connections to the grid and the unpaid electricity bills whose rate has passed in a few years, from 43% to 25% in 2016). This has contributed a lot to a change in the mentality and pushed people to seek an alternative and turn to SWH.

Financial resources are an issue due in particular to the lack of a financial mechanism to support the development of SWH in other economic segments of the society (collective SWHs, industrial and services sectors in particular the tourism sector where there is an interesting niche). It is useful to recall that the demand for SWH systems in Albania has mainly increased due to the availability of subsidies through the CP. The EE fund which is supposed to bring the solution is to date not in operation. The interest of other donors located in Albania that resulted in the mobilization of additional funds. According to the MIE, a budget has been set aside for this purpose and the fund is expected to become operational in fall 2019.

There is a risk of lack of institutionalization of the knowledge developed by the CP, for instance for the SWH data monitoring and the website as well as a high risk of loss of the skills and competencies acquired by the CP team if its human resources are not integrated in the relevant governmental institutions after the project's completion.

In terms of the project's catalytic role and replication, the success achieved by the demonstration projects has generated an additional demand by the public institutions. Therefore, the market is very likely to benefit from it, if a financial mechanism is rapidly established, given that the market growth of SWH experienced by Albania was mainly due to the subsidies provided by the CP and if the legal framework is maintained and enforced.

### **4. SUCCESSES AND OPPORTUNITIES**

*Please outline the major successes of the project to date. Please list the main opportunities which have been the key enabling factors to support the implementation of the project to date, including partnerships, scaling-up, etc.*

1) raising of the awareness and of the interest of all the stakeholders including the decision makers, in particular thanks to the demonstration projects

2) the pivotal role of the Project Team team in inter-linking all national players and in ensuring effective communication channels between all parties

- 3) The interest of other donors located in Albania that resulted in the mobilization of additional funds
- 4) The target of 75,000 m<sup>2</sup> new installed SWH capacity reached by the end of the evaluation period;
- 5) An annual sale of 20,000 m<sup>2</sup> reached by the end of the evaluation period with a growing trend at the average rate of 20% per year to reach the stated longer term goal of 520,000 m<sup>2</sup> of installed capacity by 2020;
- 6) The adoption of a national system for adequate product standards, labelling and quality control scheme, to the extent possible harmonized with international schemes such as CEN/GENELEC “Solar Keymark” supported by the EU;
- 7) An Enhanced capacity of the supply chain to offer their products and services and verified customer satisfaction ;
- 8) The SEA of the SHPPs.

#### 5. ANY OTHER REMARKS

#### 6. SUMMARY OF THE PROJECT’S FINANCIAL STATUS

Project: 62847 SWH  
Expenditure as per CDR

<b>Year</b>	<b>Amount</b>
2009	14,154.14
2010	242,567.47
2011	294,231.00
2012	230,430.53
2013	233,775.17
2014	239,903.08
2015	75,439.95
2016	417,141.85
2017	354,734.43
2018	108,587.40
<b>TOTAL</b>	<b>2,210,965.02</b>