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## INTERVIEW WITH ANWAR HILAL, CENTRE FOR CULTURAL HERITAGE PRESERVATION

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**Full Name**

Mr. Anwar Hilal

**Position and organisation**

Renewable Energy Expert  
and Chairman at the  
Centre for Cultural Heritage  
Preservation in Palestine

PALESTINE

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*“The BEEP project provides us with a methodology aligned with our climate goals, which can be adopted for the energy retrofitting of heritage but also new buildings”.*

*Mr. Anwar Hilal*

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**What is the main role of your organisation in the BEEP project?**

The main role of the Centre for Cultural Heritage Preservation is to develop an energy concept for the energy rehabilitation of the case study, associate the decision of the interventions within the three design scenarios, and study of legal and technical aspects in using “Building Information Modelling (BIM)” methodology for implementing “Energy Performance Contracting (EPC) models”.



### Which pilot building has been chosen as a case study in Palestine and why?

The pilot building is Morcos Nassar Palace, in Bethlehem – Palestine, it is used as a research centre & guest house, it has an area of 540 square meters, and it was constructed in late 1890s.

The case study was chosen based on multiple criteria as it is a traditional/historic building, cultural heritage value of the building, with a high energy consumption, electrical and mechanical system loads, potential restoration works in the near future, willingness of the owner to cooperate and adapt the project outputs, and benefits towards the public sector.



### What retrofitting scenarios are envisaged for the case study?

Two scenarios were proposed based on the analysis and simulations:

- The short-term scenario involved the thermal insulation intervention, and the shading elements as passive interventions, and the replacement of the fluorescent lamps with LED in order to reduce the lighting consumption, in addition to the renewable energy systems related to water heating and generating electricity.



- The middle-term scenario included all the previous interventions, in addition to substituting the existing glazing with triple clear glazing and installing a new HVAC (Heating, Ventilation, and Air Conditioning) system with VRF (Variable Refrigeration Flow) technology rather than the existing one.

#### Comparative assessment of the proposed energy retrofit scenarios:

Parameters	Existing building	Short Term	Middle Term
Total Primary Energy EP <sub>tot</sub> [kWh/annual]	38,365.50	28,900.59	25,700.23
Total Primary Energy EP <sub>tot</sub> [kWh/m <sup>2</sup> annual]	94.48	69.76	62.48
Primary Energy consumption percentage reduction		24.67 %	33.01 %
Overall Investment Cost [€]	/	28,208	51,358
Simple payback time [year]	/	6.69	12.18
Payback time [year]	/	8.35	19.25

#### What opportunities does the BEEP project offer to your region?

BEEP project provides us with a model that can be adopted for the restoration of traditional and even new buildings, by improving energy efficiency in buildings to save energy costs, through adopting the BIM model by the ministries and responsible authorities in Palestine.

#### What results of the BEEP project would you highlight?

Promote Energy Performance Contracting (EPC) and their adoption in renewable energy and energy efficiency projects, in addition to encouraging the implementation of energy efficiency techniques to reach the standard comfort conditions and saving energy costs in old and new buildings.

#### How will your organisation exploit the results of BEEP after the end of the project?

The final results of BEEP project will be deployed from the decision makers for all the future rehabilitations for heritage buildings in Palestine.



## THE TEAM



### Centre for Cultural Heritage Preservation (CCHP): BEEP partner

Since its establishment in 2001, the Centre for Cultural Heritage Preservation (CCHP) has been leading the way in preserving tangible and intangible heritage resources, as a manifestation of Palestinian cultural history and identity. CCHP major activities include the rehabilitation of traditional buildings and historical centres, besides the urban planning for the protection and management of this heritage.

By adopting a holistic approach to conservation, CCHP integrates research, documentation and training as well as community development into its rehabilitation projects. CCHP act as guardian for the cultural heritage in Palestine, ensuring that history, nature, and communities are central to everything we do. More information at [www.cchp.ps](http://www.cchp.ps)

### Palestine Solar and Sustainable Energy Society (PSSSES): BEEP Associated Partner

Palestinian Solar and Sustainable Energy Society (PSSSES) is a non-governmental organization that works on introducing energy efficiency & renewable energy in Palestine. (PSSSES) was founded in 2008 by a number of activists and individuals including researchers, experts, producers, community leaders, former ministers and directors in various institutions, who are interested in adopting and expanding the use of energy efficiency and renewable energy in Palestine.

PSSSES believes that the available renewable sources of energy can assist and aid deprived Palestinian communities out of access of energy, to be accessing possible low-cost source of energy and, therefore, helping them to endure on their land. PSSSES seeks to adopt local and national policies to enhance the use of energy efficiency and renewable energy and to stimulate its expansion as a major source of energy. More information at [www.pssses.org](http://www.pssses.org)



## COLOPHON

### About the BEEP project:

BEEP project aims at strengthening the use of Building Information Modelling (BIM) to enhance energy efficiency in buildings. The testing of this emerging technology on built heritage will be performed to demonstrate its scalability to the entire building stock. The project will provide public administrations with a powerful method for the energy rehabilitation of public buildings to be supported with private funds through the Energy Performance Contracting (EPC). The project main outcome will be an innovative methodology based on the integration of emerging technologies tested on 9 heritage public buildings located in Italy, Spain, Cyprus, Jordan, Palestine, Lebanon, and Egypt.

The BEEP project, which started in September 2019, has a duration of three years, and counts with a total budget of € 1,934,184.51 of which 90% is funded by the EU under the ENI CBC Med Programme.

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