

# ANALYSIS OF THE OPPORTUNITY OF USING THE “MULTI SOLAR SYSTEM” TECHNOLOGY IN RESIDENTIAL BUILDINGS IN ROMANIA

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## ABSTRACT

*The Multi Solar PV/T technology, developed by Israeli scientists, is an innovative technology that makes possible to convert solar energy into thermal and electric energy at the same time (cogeneration). The Multi Solar System (MSS) collects the visible and infrared side of the spectrum, cools the photovoltaic (PV) cells which generate electricity and makes the heat available for heating, hot water generation and air conditioning. The MSS behave like a "living" skin surrounding the building, allowing the flow of water/air, capturing heat and storing it in an insulated tank, thus making it available for the heat control of the living environment while the cooled PV cells generates 30% higher PV efficiency for production of electricity.*

*The paper analyses the opportunities to use this technologies in residential buildings in Romania*

## REFERENCES

1. LAZARI, A., "Building Integrated Multi PV/T/A Solar System Roof Tile", PVSEC-12, The 12th International Photovoltaic Science and Engineering Conference, June 11-15, 2001, Cheju Island, Korea
2. \* \* „Innovative PV Technology for Industrial Production, Sales and Maintenance of Photovoltaic Cells, Panels, Applications and Multi Solar Systems”, Millenium Electric Ltd., Executive Summary, May 2005.
3. BLANKINSHIP, S., "1,500 kW of Rooftop Solar", Power Engineering – March 2007, [www.power-eng.com](http://www.power-eng.com).
4. POPA, I.M., "Instalație pentru încălzirea și condiționarea aerului într-o pensiune montană turistică", Proiect de Diplomă, Universitatea Tehnică din Cluj-Napoca, Facultatea de Mecanică, 2006.
5. Investopedia.com - The Investing Education Site.