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NATIONAL INSTITUTE OF INVENTIONS, IASI, ROMANIA



INSTITUTE OF POWER ENGINEERING, TUIASI

RESEARCH AND PROMOTION OF HIGHLY EFFICIENT ENERGY GENERATION THROUGH TRIGENERATION BY USING SOLAR RENEWABLE RESOURCES FOR GETTING ELECTRICITY, HEAT AND COLD AND PURCHASING OF EQUIPMENT

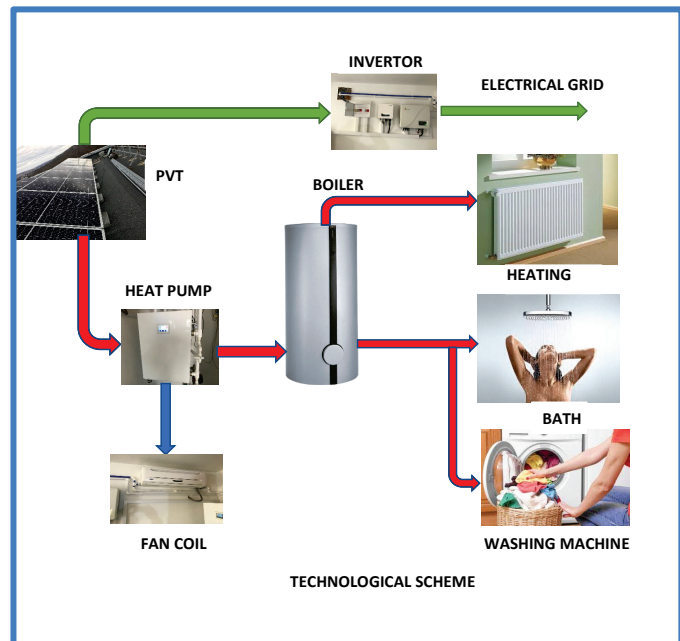
Research project: 2SOFT/1.2.66

Inventors: Covalenco Nicolae, Tirsu Mihai, Gavrilas Mihai, Negura Ion, Neagu Bogdan

GENERAL INFORMATION

Autonomous Photovoltaic System is an ultramodern technology, demonstrated for the first time in the Republic of Moldova. It generates electricity, hot water for heating the building, domestic hot water and cold all year round and has the following properties:

- Generates **hot water** with a temperature of 50°C and more for heating and in daily life (bathing, washing clothes, kitchen utensils, etc.);
- Generates **cold air** for air conditioning in rooms during the warm period of the year;
- Higher efficiency than ordinary photovoltaic systems for **electricity** generation;
- It works in automatic mode;
- It has the function of **protection against frost** of the room heating system.

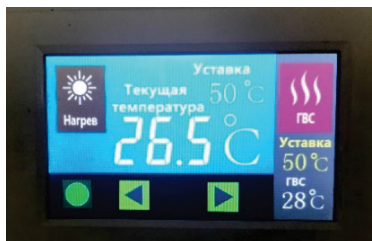


AREAS OF APPLICATION

- Individual dwelling houses and apartment blocks
- Public buildings: administrative and social buildings (kindergartens, hospitals, schools, etc.)
- Industrial and office buildings
- Healing and leisure buildings (sanatoriums, leisure centers, chalets, etc.)
- Seasonal and permanent greenhouses
- Vegetable and fruit dryers, agricultural production processing enterprises
- Buildings for poultry, animals and fish farmers

ADVANTAGES OF THE SYSTEM

- The building is energy autonomous;
- It works on the basis of the electricity generated during the year, permanently ensuring the water temperature of 50°C;
- The system is automatic - maintains the programmed temperature, protects the heating system from freezing to cooling below 8°C by unscheduled starting and stopping it at 12°C;
- In winter it works efficiently on snow and ice with the help of the defrost system;
- It is simple in maintenance, does not emit noise.



Developed technical solution is based on 5 patents.
Project is implemented with financial support of European Commission

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