

Innovative Technologies for Renewable Energy Production from Integrated Natural Sources in Complex Installations (TEACHERS)

Having as common focus the innovative developments in renewable energy, the project consortium brings together university, academic and scientific research organizations whose objectives converge towards performance improvement by supporting existing institutional research capabilities. The project aims to optimize renewable energy production facilities and to develop functional models which will ensure electric power supply with integrated natural sources, especially in disadvantaged areas, by applying new and emerging technologies. Starting from the complex electricity generation systems, which are patented/in process of being patented at national level and with the contribution of the coordinator and the partner institutions that will develop the component projects, the integrated generation-supply assemblies will be validated under relevant operating conditions. Within the project the complementary partnership for innovation is promoted, the members having a well-defined role within the consortium, each contributing to the significant optimization of the complex systems for renewable energy production in both coastal areas and for flowing waters, improvement of hydrogenerators and realization of pilot models for demonstration and provision of thermal and electrical energy. This project provides the necessary support to strengthen the scientific and technical competencies through the correlation and coordination of activities and resources within public research organizations and the capitalization of these competences through research results provided to the socio-economic field. The project implementation leads to the improvement of research infrastructure at the consortium level and to the reinforcement of institutions capacity through the formation and involvement of the newly employed human resource, in order to acquire new knowledge in the field of innovative technologies for energy production from renewable resources in integrated complex installations.



- **Partners**

National Institute for Research and Development in Environmental Protection-
INCDPM Bucharest

National Institute for Research and Development in Electrical Engineering ICPE- CA
National Institute for Research and Development in Machines and Installations
designed to Agriculture and Food Industry – INMA
University Politehnica of Bucharest

- **Management team**

Complex Project Director: Professor PhD eng. Mihail Viorel Bădescu
Project 1 Coordinator: PhD. eng. George Poteraş
Deputy Project 1 Coordinator: Eng. Gyorgy Deak PhD habil.
Stage 1 Coordinator: Dr. eng. Dănuţ Cociorva
Stage 2 Coordinator: PhD. phys. Cristina Sîrbu
Stage 3 Coordinator: Eng. Marius Viorel Olteanu
Project 2 Coordinator: PhD eng. Dorian Marin
Project 3 Coordinator: Professor PhD eng. Valentin Apostol
Complex Project Dissemination Responsible: Eng. Andreea Ioana Daescu
Complex Project Communication Responsible: Eng. Iasmina-Florina Burlacu

- **Period**

Martie 2018 – Septembrie 2020 (Ongoing)

- **Financed via**

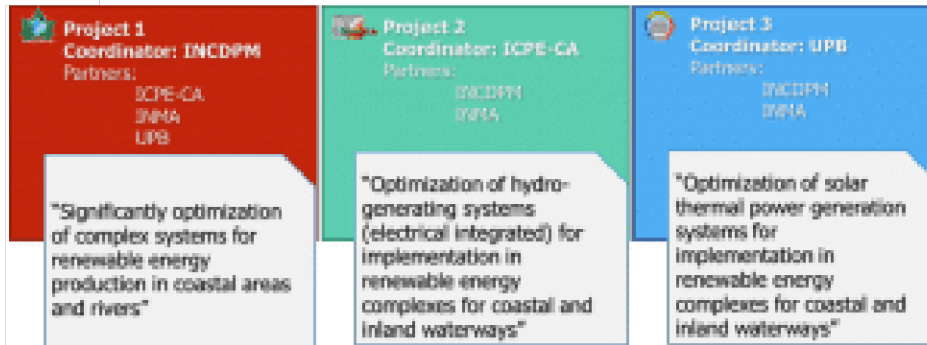
Complex projects carried out in RDI consortia (PCCDI)
PN-III-P1-1.2-PCCDI-2017-0406/, Contract No. 81/PCCDI

Objectives

The complex project has as main objective the optimization of some renewable energy production facilities and the development of functional integrated models that will ensure the supply of electricity from multiple natural sources, especially in disadvantaged areas, by applying new and emerging technologies.

- Significant optimization of complex systems for the production of renewable energy in coastal areas and rivers
- Optimization of hydro-generating systems (electrical integrated) for implementation within renewable energy complexes for coastal areas and rivers

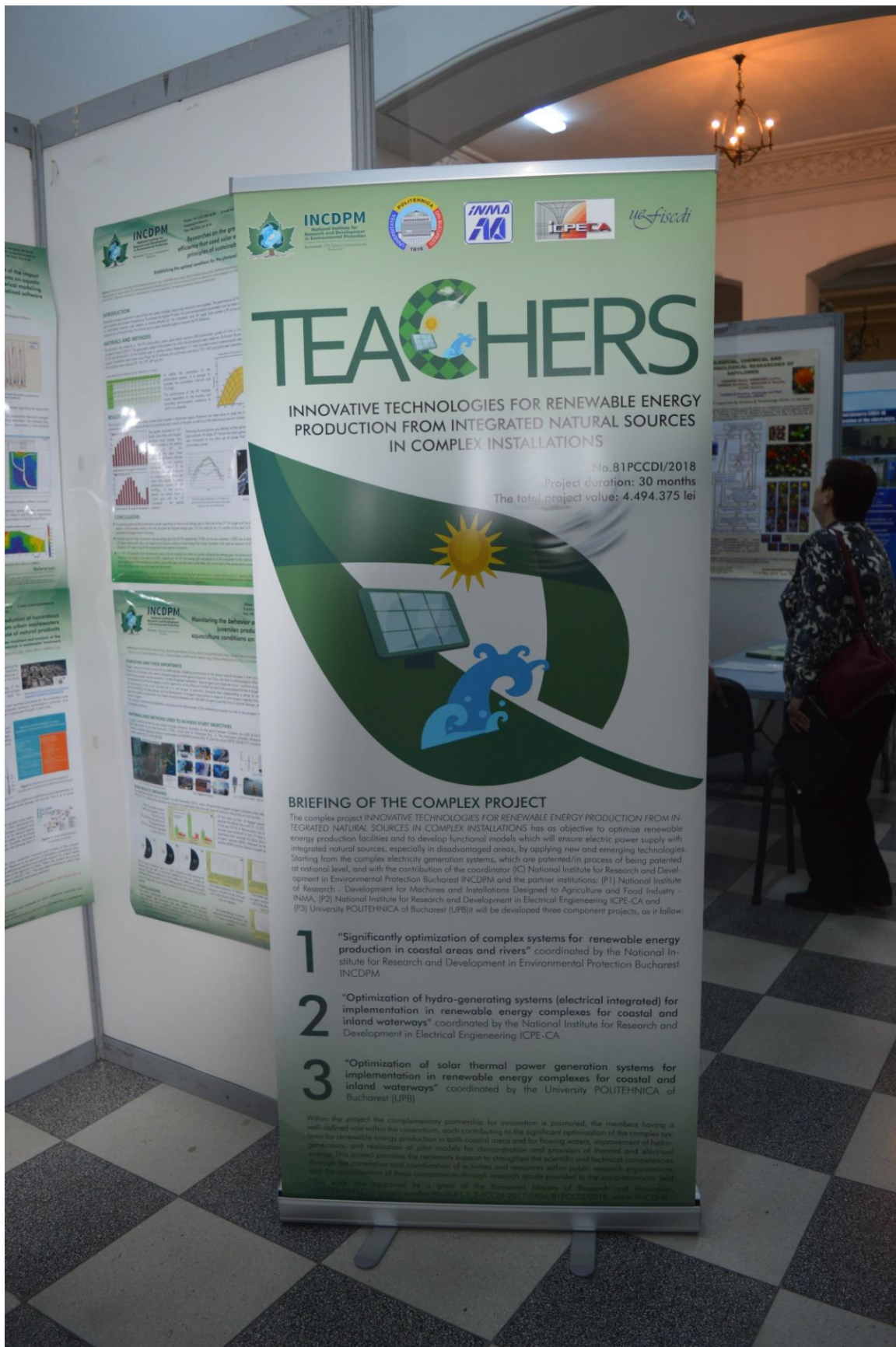
- Optimization of thermal energy production systems with solar collectors in order to integrate in complex systems for energy production from renewable resources for coastal areas and rivers



Results

INDICATORS	ESTIMATED VALUE
Web page	1
Opening and closing workshop of the TEACHERS complex project	2
Innovative technology	1
Patent application at national level	5
New jobs in research and development	17
Participation in national and international conferences	7
Publishing of scientific articles in specialized journals	11
Offer of research and technology services presented on the platform www.erris.gov.ro	3
New or significantly improved technology	7
Improved research services	4
Methodologies	2
Experimental reports	2

Joint RDI program correlated with the institutional development plan of each partner (the sustainability of the collaboration after the completion of the project)	3
New product	1



TEACHERS

INNOVATIVE TECHNOLOGIES FOR RENEWABLE ENERGY PRODUCTION FROM INTEGRATED NATURAL SOURCES IN COMPLEX INSTALLATIONS

No. 81PCCDI/2018
Project duration: 30 months
The total project value: 4.494.375 lei



BRIEFING OF THE COMPLEX PROJECT

The complex project **INNOVATIVE TECHNOLOGIES FOR RENEWABLE ENERGY PRODUCTION FROM INTEGRATED NATURAL SOURCES IN COMPLEX INSTALLATIONS** has as objective to optimize renewable energy production facilities and to develop functional models which will ensure electric power supply with integrated natural sources, especially in disadvantaged areas, by applying new and emerging technologies. Starting from the complex electricity generation systems, which are patented/in process of being patented at national level, and with the contribution of the coordinator (IC) National Institute for Research and Development in Environmental Protection Bucharest INCDDM and the partner institutions: (P1) National Institute of Research - Development for Machines and Installations Designed to Agriculture and Food Industry - INMA, (P2) National Institute for Research and Development in Electrical Engineering ICPE-CA and (P3) University POLITEHNICA of Bucharest (UPB) it will be developed three component projects, as it follows:

- 1** "Significantly optimization of complex systems for renewable energy production in coastal areas and rivers" coordinated by the National Institute for Research and Development in Environmental Protection Bucharest INCDDM
- 2** "Optimization of hydro-generating systems (electrical integrated) for implementation in renewable energy complexes for coastal and inland waterways" coordinated by the National Institute for Research and Development in Electrical Engineering ICPE-CA
- 3** "Optimization of solar thermal power generation systems for implementation in renewable energy complexes for coastal and inland waterways" coordinated by the University POLITEHNICA of Bucharest (UPB)

Within the project the complementary partnership for innovation is promoted, the members having a well-defined role within the consortium, each contributing to the significant optimization of the complex systems for renewable energy production in both coastal areas and for flowing waters, improvement of hydro-generators, and realization of pilot models for demonstration and provision of thermal and electrical energy. This project provides the necessary support to strengthen the scientific and technical competences through the coordination and coordination of activities and resources within public research organizations and the realization of these competences through research results provided to the socio-economic field.











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is awarded to:

Innovative technologies for renewable energy production from integrated natural sources in complex installations – TEACHERS

Complex project 81PCCDI/2018

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President of Exhibition
Prof. Ion SANDU

May 19, 2018





