



1st TRAINING COURSES TECHNICAL FOCUS ON FUTURE SOLAR PV SYSTEMS

Online event | October 26-29th 2020
10:00-12:00 – 14:30-16:30

>>> Organised by



MAIN TOPICS

- | STATE-OF-THE-ART TECHNICAL KNOWLEDGE ON DESIGN, PERFORMANCE AND OPERATION OF PV SYSTEM
- | FOCUS ON BIFACIAL AND TRACKING TECHNOLOGIES FROM A TECHNICAL POINT OF VIEW
- | SHARE OF EXPERIENCE WITH EXPERTS FROM DIVERSE LEADING EUROPEAN COMPANIES AND INSTITUTIONS

CONDITIONS

- | FREE OF CHARGE
- | ONLINE TRAINING ON TEAMS
- | REGISTRATION REQUIRED

>>> www.gopvproject.eu

GLOBAL AGENDA

Central European Time Zone

- Oct. 26th** - Introduction to GOPV & Global PV Market (14:30-16:30)
- Oct. 27th** - PV Modules: Market & Technologies Trends (10:00-12:00)
- Oct. 27th** - PV Modules: Bifacial technology (14:30-16:30)
- Oct. 28th** - PV Tracker: Design & Control (10:00-12:00)
- Oct. 28th** - PV Inverter: Design & Performance (14:30-16:30)
- Oct. 29th** - PV System: Design & Performance (10:00-12:00)
- Oct. 29th** - PV System: Operation & Maintenance (14:30-16:30)

TARGETED AUDIENCE

- | PHD STUDENTS
- | RESEARCHERS
- | ENGINEERS
- | TECHNICAL MANAGERS, TRAINERS

PARTNERS



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 792059



October 26th

Introduction to GOPV & Global PV Market (14:30-16:30)

CEA-INES

- General figures and scenarios about energy generation
- Brief history of PV from market point of view
- Global PV Market: technologies, costs, applications of PV systems
- Introduction to **GOPV project : positioning and targets**
- Expected impacts on European PV market

October 27th

PV Modules: Market & Technologies Trends (10:00-12:00)

EPFL

- From solar cells to modules
- Materials and processes used in **solar module manufacturing**
- Targeting PV module service lifetimes of 35+ years

PV Modules: Bifacial technology (14:30-16:30)

TECNALIA

- Introduction to **bifacial technology**
- Recent developments in bifacial: market and technology status
- Bifacial modules developed in GOPV project: materials, processes
- PV production of bifacial systems: model approaches and simulation tools
- PV production of bifacial systems: practical case

GLOBAL OPTIMIZATION OF
INTEGRATED **PHOTOVOLTAIC** SYSTEM
FOR LOW ELECTRICITY COST

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October 28th

PV Tracker: Design & Control (10:00-12:00)

CONVERT

- **Mono axial tracker concept design:** performances vs. reliability
- Structural Design of mono axial tracker: static loads, international design codes and aero-elastic phenomenon
- Criteria for the evaluation of corrosion resistant of tracker operating in aggressive environment
- Electronic control board and powering system of mono axial tracker
- Failure modes, Qualification of tracker and Maintenance actions

PV Inverter: Design & Performance (14:30-16:30)

INES -PFE

- Introduction to **inverter technology and types** (CSI vs. VSI)
- State-of-the-art simplified electronic architecture of inverters
- Reducing overall costs of internal components
- Targeting inverter service lifetimes of 20+ years

October 29th

PV System: Design & Performance (10:00-12:00)

RSE

- Introduction on **PV system design**
- Site Analysis
- Modelling of PV System and loss analysis
- Monitoring system requirement (equipment and measurements, KPIs)
- Factors affecting energy performance & Optimization for bifacial system

PV System: Operation & Maintenance (14:30-16:30)

Enel Green Power

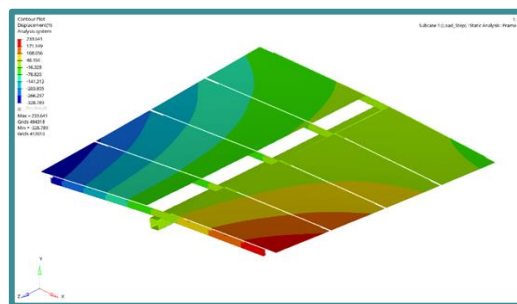
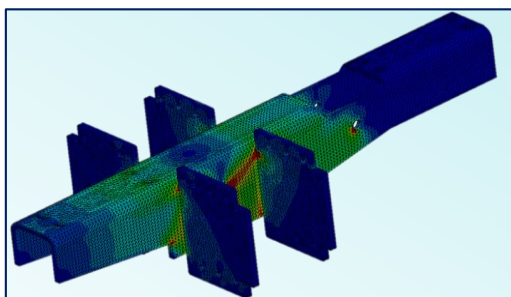
- Introduction to **Operation & maintenance for PV system**
- Early diagnosis of failures and degraded mode of operation
- Improving global performance ratio with data mining techniques
- Reducing OPEX costs with predictive maintenance (tools for data monitoring)



| About GoPV Project

The **GoPV** research project brings the opportunity for Europe to catch up with the Asian continent on the **photovoltaic market**. By **developing highly competitive technologies**, GoPV's 11 partners could **get Europe back in the game** as a prime player on high-efficiency premium technologies. The project will achieve **at increasing the PV module lifetime by 10 years**, **at reducing electricity cost by 50%** as well as **reducing the energy payback time by 40%**.

| Selection of Tracker Structural Material



| New tracker design through large-scale testing and numerical simulation



| **Samples for ageing** (designed and prepared by EPFL and CEA) have been installed at PSDA [Plataforma Solar del Desierto de Atacama].

2 year-ageing-study started this summer 2020



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