"Promoting Sustainable Development Cooperation and Solar-PV Capacity Building Measures in the Gulf Region"

Training Outline and Outcomes

of GSAN's intensive

PV Business Training Week in Abu Dhabi

22nd ___ 28th January, 2025

Venue: Al Ain University (AAU), Abu Dhabi Campus, on site – United Arab Emirates

Co-hosted online by SRH Berlin University of Applied Sciences / School of Technology -- Germany

The German Solar Academy Network (GSAN), Berlin, in cooperation with the two partnering universities AAU and SRH, cordially invites you to seize this great opportunity to gather vast know-how in the exciting and so promising solar-PV business field. Feel welcome to become part of our network: touch base with our industry partners, professors and trainers, as well as with other like-minded trainees in the MENA and worldwide.

Your Trainers and Speakers

On site / offline:

– Mr. Ragy Ramadan Ahmed Shehata, Lead Trainer and Managing Director, Green Energy Academy - GEA, Cairo – Mr. Matthias Raab, Lead Trainer and Managing Director, German Solar Academy Network - GSAN, Berlin – Prof. Dr. Mohammad Alhassan, College of Engineering, Al Ain University, Abu Dhabi – Ms. Jalen de Jesus and Mr. Jack Moyle (tbc), CEO and Instructor, Go-Heller, Berlin – representatives from IRENA, SMA, ministries etc.

Online / virtually face-to-face:

– Dr. Bernhard Brand, CEO, Enerpirica, Berlin – Prof. Dr. Michael Hartmann, Academic Director School of Technology and Architecture, SRH University of Applied Sciences Heidelberg, Campus Berlin – Mr. Kusai Masyout, SRH/AAU affiliate, Stuttgart – Mr. Julius M. Dzah, GSAN affiliate, Accra – and more representatives/instructors from the solar industry

Training Outline

Day 1 Training Session (7 Hours)

on Wednesday, 22nd January 2025, 10.00 – 17.00
on site and on Zoom (GMT+4 Abu Dhabi Time):

Introduction to Solar-PV Energy and Market Overview; Solar-PV System Components and Applications

Topics covered:

- Welcoming Speeches by Officials; Course Organization
- Introduction to Photovoltaic (PV) Technology
- Global Solar-PV Market and Trends
- Overview of the Solar-PV Market in the UAE and MENA Region
- Components of Solar-PV Systems (Modules, Inverters, Batteries)
- Different Types of Off-Grid and On-Grid Systems
- Applications in Various Sectors (Residential, Agriculture, Commercial)

Activities:

- Group Discussion and Icebreaker Exercises
- Hands-on Introduction to Solar Assessment Tools (e.g., PVGIS)
- Interactive Component Workshop
- Case Studies on Solar-PV Applications

Day 2 Training Session (4 Hours)

on Thursday, 23rd January 2025, 14.00 – 18.00
on site and on Zoom (GMT+4 Abu Dhabi Time):

Design and Sizing of Solar-PV Systems

Topics covered:

- Basics of PV System Design and Sizing
- Energy Needs Assessment and Load Calculation
- Introduction to Design Software and Tools (e.g., PVSOL)

Activities:

- Practical Exercise: Sizing a Small Solar System
- Software Demonstration and Practice

Day 3 Cultural Event (2 Hours)

on Friday, 24th January 2025, 15.00 – 17.00 (Jumu'ah, cultural)
on site and on Zoom (GMT+4 Abu Dhabi Time):

Cultural Afternoon Event in Abu Dhabi

Topics covered:

- Visit to Maryah Center or Louvre, Palace and Mosque

Activities:

- Cultural Get-together for Networking and Fun

Day 4 Site Visits (4 Hours)

on Saturday, 25th January 2025, 11.00 – 15.00 (excursion)
on site and on Zoom (GMT+4 Abu Dhabi Time):

Excursion to PV Installation Sites in and nearby Dubai

Topics covered:

- Visit to MW Plant
- Visit to Installation Sites downtown

Activities:

- Witnessing real-world Solar-PV Applications

Day 5 Training Session (4 Hours)

on Sunday, 26th January 2025, 14.00 – 18.00
on site and on Zoom (GMT+4 Abu Dhabi Time):

Financial Analysis, Project Feasibility, Bankability, Sustainable Buildings

Topics covered:

- Cost Analysis and Financial Considerations
- Assessing Project Feasibility and Return on Investment (ROI)
- Writing Financial Offers / Procurement Preparation
- Introduction to Solar Business Models / BIPV Solutions

Activities:

- In Group: Financial Modeling Exercise
- Real-world Project Feasibility Case Study

Day 6 Training Session (5 Hours)

on Monday, 27th January 2025, 15.00 – 20.00
on site and on Zoom (GMT+4 Abu Dhabi Time):

Installation Best Practices and Safety

Topics covered:

- Installation Standards and Safety Measures
- Common Installation Challenges and Solutions
- System Commissioning and Quality Assurance

Activities:

- Safety Equipment Demonstration
- Hands-on Installation Workshop

Day 7 Training Session (5 Hours)

on Tuesday, 28th January 2025, 15.00 – 20.00
on site and on Zoom (GMT+4 Abu Dhabi Time):

Applications of AI in Solar Energy; Business Opportunities and Closing

Topics covered:

- Role of AI in Solar-PV Monitoring and Maintenance
- Designing AI-integrated Solar Use Cases
- Data Analytics for Performance Optimization
- Course Follow-up / discussing possible Cooperation
- Farewell

Activities:

- In Group: AI Simulation for Solar-PV System Management
- Case Study: AI-driven solar Projects
- Workshop: building a solar Use Case with AI
- Team-talks

Training Outcomes

Upon completing GSAN's intensive Solar PV Business Training Program at Al Ain University, participants will have a foundational understanding of solar-PV technology and business applications. Specifically, they will be able to:

Technical Knowledge

- understand the basic principles of solar-PV systems and their key components.

- distinguish between different PV system types and their suitable applications.
- perform preliminary system sizing and design calculations using industry software.

Financial and Business Skills

- conduct basic cost-benefit analyses for solar projects.
- explore different business models for solar energy projects.
- understand the financial implications and environmental impact of solar projects.

Practical Installation and Safety

- learn industry best practices for safe and effective PV system installation.
- understand the basics of system commissioning, quality checks, and troubleshooting.
- recognize essential safety protocols for working with solar PV systems.

AI Applications in Solar PV

- gain awareness of how AI can be used in solar PV monitoring and maintenance.
- explore potential AI-based solutions for solar energy applications.
- understand the role of data analytics in optimizing PV system performance.

Project Development and Communication

- develop and present basic solar project proposals.
- effectively communicate project benefits to stakeholders.
- gain confidence in presenting solar solutions.

Industry and Cultural Awareness

- do networking and orient in a complex international and cross-cultural industrial and political environment.

The training plan described here and the results depend on the characteristics of the group of participants and the dynamics on site and online. They are intended as a guide, are the maximum goal and are subject to change.

Registration

Please send a mail to either training@gsan.solar or raab@pv-pa.com

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