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SOUTH AMERICA

South America's Largest Exhibition
and Conference for the Solar Industry
Expo Center Norte, São Paulo, Brazil

**AUG
22-24
2017**

www.intersolar.net.br



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CONFERENCE QUICKFACTS

Dates	August 22–24, 2017
Hours	9:00am–8:00pm
Venue	Expo Center Norte, White Pavillon, José Bernardo Pinto St., 333 Vila Guilherme, 02055-000 São Paulo
Program	→ www.intersolar.net.br → Program → Conference
Contact	info@intersolar.net.br

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Distributed Generation
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Research Center for Solar Energy
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Prof. Dr. João Tavares Pinho
Professor, UFPA – Federal
University of Pará, Brazil



Dr. Jutta Trube
Managing Director Photovoltaic
Equipment, German Engineering
Association (VDMA), Germany

CONFERENCE PROCEEDINGS

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CONFERENCE OVERVIEW 2017

TUESDAY, 22 AUGUST, 2017

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Lunch Break		
2:00pm–3:30pm	Brazilian Market Distributed Generation – The Underdog Drives Demand Page 6 Cantareira 2/3	
Coffee Break		
4:00pm–5:30pm	Brazilian Market Centralized Generation – The Final Year for the 1 st Auction Projects Page 7 Cantareira 2/3	
6:00pm–8:00pm	Networking Reception Page 9 Exhibition Ground, Networking Area	

2:00pm–5:30pm	Off-Grid Rural Electrification ¹ Page 8 Workshop Room
6:00pm–7:00pm	Developing PV Projects Using the Software PV*SOL Premium ² Page 8 Cantareira 4
6:00pm–8:00pm	Residential Grid Connected Systems – Technical Aspects ³ Page 7 Cantareira 2/3

WEDNESDAY, 23 AUGUST, 2017

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Coffee Break		
11:00am–12:30pm	Brazil's Domestic PV Market Challenges & Constraints Page 10 Cantareira 2/3	New Market Opportunities for Solar Thermal Page 12 Cantareira 4
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2:00pm–3:30pm	Electrical Energy Storage: What's in for Brazil – Status & Programmes & Prospects (Stationary/R&D/Residential) Page 11 Cantareira 2/3	New Technologies Opportunities for Solar Thermal Page 13 Cantareira 4
Coffee Break		
4:00pm–5:30pm	Electrical Energy Storage: What's in for Brazil – Status & Programmes & Prospects (E-mobility/R&D) Page 11 Cantareira 2/3	Applications (Cases) that Increase Market Perspectives Page 13 Cantareira 4

10:00am–12:00pm	Invest in Minas Gerais Page 14 Workshop Room
1:00pm–4:00pm	Solar Technologies of Canada Page 14 Workshop Room
4:30pm–6:00pm	Intersolar Study Program (free of charge, for students only) Page 14 Workshop Room
6:00pm–8:00pm	Photovoltaic System Protection against Atmospheric Discharges ⁴ Page 14 Cantareira 2/3
6:00pm–8:00pm	Integration Advantages for Solar Thermal & Photovoltaic Systems ⁵ Page 15 Cantareira 4
6:00pm–8:00pm	Business Opportunities in the Photovoltaic Chain of the Green State in Brazil Page 14 Workshop Room

THURSDAY, 24 AUGUST, 2017

WORKSHOPS

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11:00am–12:30pm	Financing Distributed Generation in Brazil Page 16 Cantareira 2/3	
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2:00pm–3:30pm	Financing Utility-Scale in Brazil Page 17 Cantareira 2/3	

9:00am–12:30am	Best Practices for Photovoltaic Systems – Materials and Tools ⁶ Page 18 Workshop Room
1:00pm–6:00pm	Brazil-China Photovoltaic Forum 2017 (PVBC 2017) (register through pv@rtcc-china.com) Page 18 Cantareira 4
6:00pm–7:00pm	Planning Mid and Large Scale Plants: Understand the Differences to Small Installations ⁷ Page 19 Cantareira 2/3
6:30pm–8:30pm	Applications Comparison of Vacuum Tube Collectors x Flat Plate Collectors ⁸ Page 19 Cantareira 4

Subject to change

CONFERENCE TICKETS

(Each ticket includes three day exhibition pass. Workshops and Side-Events are not included.)

	Price
Conference Package	R\$1,495
Photovoltaics (PV) Package	R\$1,380
Photovoltaics (PV) Day Ticket, August 22	R\$520
Photovoltaics (PV) Day Ticket, August 23	R\$520
Photovoltaics (PV) Day Ticket, August 24	R\$520
Solar Thermal Day Ticket, August 23	R\$405

WORKSHOP TICKETS

(Each ticket includes the three day exhibition pass.)

	Price
Workshop ¹	R\$100
Workshop ²	R\$20
Workshop ³	R\$120
Workshop ⁴	R\$120
Workshop ⁵	R\$50
Workshop ⁶	R\$150
Workshop ⁷	R\$20
Workshop ⁸	R\$50

TUESDAY, AUGUST 22, 2017

Hour 11:00am–12:30pm
Room Cantareira **2/3**

Summary

The official opening of the Intersolar South America Conference 2017 is comprised of welcome remarks and keynote speeches given by governmental officials and distinguished solar experts.

Language:

Simultaneous translation to English and Portuguese

PV CONFERENCE OPENING

11:00am Welcome Address

Dr. Florian Wessendorf, Managing Director, Solar Promotion International GmbH, Germany

11:05am Conference Opening

- Prof. Dr. Ricardo Rüter, Professor, Federal University of Santa Catarina (UFSC), Brazil
- Dr. Rodrigo Sauaia, CEO, ABSOLAR, Brazil
- Carlos Augusto Leite Brandão, President, ABAQUE, Brazil
- Thiago Vasconcellos Barral Ferreira, Generation Projects Superintendent, EPE, Brazil



Dr. Florian Wessendorf



Prof. Dr. Ricardo Rüter



Dr. Rodrigo Sauaia



Carlos Augusto Leite Brandão



Thiago Vasconcellos Barral Ferreira

Hour 2:00pm–3:30pm
Room Cantareira **2/3**

Summary

The Brazilian market offers a promising outlook and improved momentum for distributed solar PV projects in the near term. Federal and state governments, as well as the national regulatory agency ANEEL have repeatedly addressed the main obstacles related to the Brazilian net-metering program, including taxation, grid-connection procedures, dissemination and financing. Demand for distributed solar PV is anticipated to remain high, due to its competitiveness compared to local retail electricity tariffs. On the ground dynamics and respective opportunities for distributed PV generation in Brazil will be shared by relevant stakeholders representing both, the private and public sector.

Language:

Simultaneous translation to English and Portuguese

BRAZILIAN MARKET DISTRIBUTED GENERATION – THE UNDERDOG DRIVES DEMAND

2:00pm Welcome and Introduction

Carlos Evangelista, President, ABGD – Associação Brasileira de Geração Distribuída, Brazil

2:05pm Detailed Profile of PV Distributed Generation Installations in Brazil 2012–2017

Reinaldo Escada Chohfi, Ph.D., Managing Partner, GeoDesign Internacional, Brazil

2:20pm Distributed Generation – Evolutions since the Regulation 482/ANEEL

Carlos Evangelista, President, ABGD – Associação Brasileira de Geração Distribuída, Brazil

2:35pm Distributed Generation – Contribution to the Electrical System and regulatory Issues

Ricardo Costa, CEO, GD Solar, Brazil

2:50pm Private PPA for the distributed generation market

Alexandre Brandao, Ceo, 3b energy, Brazil

3:05pm The Future of small-scale PV in Brazil

Helena Chung, Research Analyst, Bloomberg New Energy Finance, Brazil



Carlos Evangelista



Reinaldo Escada Chohfi



Ricardo Costa



Alexandre Brandao



Helena Chung

TUESDAY, AUGUST 22, 2017

BRAZILIAN MARKET CENTRALIZED GENERATION – THE FINAL YEAR FOR THE 1ST AUCTION PROJECTS

Hour 4:00pm–5:30pm
Room Cantareira **2/3**

- 4:00pm** Welcome and Introduction
Luis Pita, General Manager Brazil, Atlas Renewable Energy Brasil, Brazil
- 4:05pm** 2016 Auction Cancellation Impact and Future Plans
Christian Hunt, Renobrax, Brazil
- 4:20pm** Brazilian Utility Scale in 2017: Where we are and where we go
Luis Pita, General Manager Brazil, Atlas Renewable Energy Brasil, Brazil
- 4:35pm** Utility-Scale PV in Brazil – Present and Future
Ricardo Barros, Country Manager, Solairedirect Engie, Brazil
- 4:50pm** Adopting International Standards and Best Practices
When Building a Utility-scale PV Plant in Brazil
Sergio Reinas, Founding Partner, Grupo Rio Alto, Brazil
- 5:05pm** Assessment of the Soiling Impact in PV Projects in Brazil based on DNV GL Experience
Fernando Martins, Solar Energy Engineer, Renewables Advisory Americas, DNV GL, Brazil



Luis
Pita



Christian
Hunt



Ricardo
Barros



Sergio
Reinas



Fernando
Martins

Summary

Brazil has conducted a series of highly successful national PV electricity auctions until the end of 2015. However, the sector expected two further auctions to be conducted during 2016, however were cancelled at rather short notice. Against this background, a reality check of what has happened after the auctions will be at the heart of this session. That means, how did this market segment develop, what are the shortcomings and obstacles, or is it just plain sailing?

Language:

Simultaneous translation to English and Portuguese

WORKSHOP: RESIDENTIAL GRID CONNECTED PHOTOVOLTAIC SYSTEMS – TECHNICAL ASPECTS

Hour 6:00pm–8:00pm
Room Cantareira **2/3**

Summary The objective of this workshop is to present an overview of the technology that allows generating electricity directly from solar radiation, covering basics of solar energy, photovoltaic technology and technical aspects of grid connected PV systems for residential installation.

Aimed at the general public – architects, engineers, builders, technicians, electricians, students and interested people -, besides technical aspects some regulatory aspects will be also addressed, such as ANEEL Normative Resolution, which allows to install grid connected photovoltaic systems in buildings to generate electricity for own consumption.

- 6:00pm** Residential Grid Connected Photovoltaic Systems – Technical Aspects
Prof. Dr. Trajano Viana, Director, TrajanoViana.com, Brazil



Prof. Dr.
Trajano Viana

Organizer



Price: R\$120

Language: Portuguese only

TUESDAY, AUGUST 22, 2017

Hour 2:00pm–5:30pm
 Room Workshop Room,
 Ground Floor

Price: R\$100

Language: English only

WORKSHOP OFF-GRID RURAL ELECTRIFICATION

Summary The objective of this ARE workshop is to inform about the perspectives for the clean off-grid industry in LAC from financier and industry side. During the three sessions panellists with diverse backgrounds will share their best practices, experiences and advice on how to successfully implement innovative RETs, smart applications and business models for the benefit of the local communities.

Aimed at the general public – dedicated experts, international companies, organizations and delegations active in the field of off-grid solutions with focus on Latin America are invited to participate. This workshop will be held in English.

2:00pm Opening Remarks – Setting the Scene
2:15pm Latin America: Outlook on Renewable Off-Grid Energy/
 Policy Frameworks and Financing Setup for Clean Off-Grid Rural Electrification in Latin America
3:00pm Smart Renewable Energy: Industrial Micro/Mini-Grid Concepts & Technologies/PV/Storage Systems
4:00pm Renewable Energies and their Role in Rural Development
5:00pm Closing Remarks
5:15pm Networking Reception

Organizer



Hour 6:00pm–7:00pm
 Room Cantareira **4**

Price: R\$20

Language: Portuguese only

WORKSHOP DEVELOPING PV PROJECTS USING THE SOFTWARE PV*SOL PREMIUM

Summary The development of a pv project includes several steps, starting with the analysis of the energy account and the client's location, going through the elaboration of the architectonical and technical concept until simulating the electricity production and the economic evaluation. The workshop presents these steps, supported by the software PV*SOL premium and additional tools.

Contents:

- Steps of developing a pv project
- Dimensioning according to Brazilian laws, considering the client's consumption
- Modelling of the 3D scenery by using a satellite map
- Technical configuration of the system with modules and inverters
- Dimensioning of cables aiming at losses
- Evaluating the return of investment
- Defining Brazilian tariffs and simulation of the specific results
- Steps that ask for complementary tools

6:00pm Developing PV Projects using the Software PV*SOL Premium
 Hans Rauschmayer, Managing Partner, Solarize Serviços em Tecnologia Ambiental Ltda, Brazil



Hans
 Rauschmayer

Organizer



TUESDAY, AUGUST 22, 2017

NETWORKING RECEPTION

Summary

Network and celebrate in a relaxed atmosphere with exhibitors, conference delegates and keynote speakers enjoying drinks, finger food and a special guest. The Networking Reception takes place on Tuesday evening at 6:00pm on the exhibition site. It will be the perfect way to unwind with up to 400 solar experts.

Hour 6:00pm–8:00pm
Room Exhibition Ground
Networking Area

Price: R\$200



WEDNESDAY, AUGUST 23, 2017

Hour 9:00am–10:30am
Room Cantareira 2/3

Summary

Brazil's domestic solar PV market is in an early but rapid stage of development, hence the need to share real-life project experience is crucial among stakeholders. This session is designed to offer practical insights gained from already executed and operational solar PV systems of different sizes in various locations across the country. Challenges and pitfalls, the importance of a thorough system design, the selection of BOS components, the lack of enough trained and experienced workforce, a proper operation & maintenance scheme among other issues will be at the heart of this session.

Language:
Simultaneous translation to English and Portuguese

BRAZILIAN FIELD EXPERIENCE: DISTRIBUTED PV POWER PLANTS/CENTRALIZED PV POWER PLANTS

- 9:00am** Welcome and Introduction
Harry Schmelzer Neto, Head of Sales, WEG Equipamentos Elétricos, Brazil
- 9:05am** Step-by-step Design of a Solar Photovoltaic Plant Seen from Another Angle
Leonardo Diniz, Gerente Nacional de Expansão Comercial, Sices Brasil Ltda, Brazil
- 9:25am** Case Study of a 117,6kWp PV System
 - Rafael Kotchetkoff Carneiro, Technical Director, Solstício Energia Projetos e Engenharia Ltda, Brazil
 - Bruno Wilmer Fontes Lima, Commercial Director, Solstício Energia Projetos e Engenharia Ltda, Brazil
- 9:45am** Risks and errors in the installation of photovoltaic systems in Distributed Generation
Jose Carlos Tormim, CEO, MTEC Energia, Brazil
- 10:05am** 400MWp of Pirapora in 19 Months: Challenge Accepted
Jean de Ginestous, EDF EN do Brasil, Brazil



Harry Schmelzer Neto



Leonardo Diniz



Rafael Kotchetkoff Carneiro



Bruno Wilmer Fontes Lima



Jose Carlos Tormim



Jean de Ginestous

Hour 11:00am–12:30pm
Room Cantareira 2/3

Summary

Currently, Brazil's domestic solar PV market is experiencing rapid development due to the successful execution of various auctions over the past years. However, as observed in other markets as well, during such booming years equally important issues like consumer awareness, consumer protection, product labelling or establishing an independent 3rd party testing, certification and installer accreditation scheme tend to enjoy less (regulatory/institutional) attention as they should do. Against this background, this session will shed light on these challenges and constraints from various angles offering insights on how these issues are being addressed today and in future.

Language:
Simultaneous translation to English and Portuguese

BRAZIL'S DOMESTIC PV MARKET CHALLENGES & CONSTRAINTS

- 11:00am** Welcome and Introduction
Nelson Colaferro, Chief Executive Officer, Blue Sol Energia Solar, Brazil
- 11:05am** Research Results Presentation – PV Integration Market
Marcio Takata, Director, Greener/Enova Solar Energia, Brazil
- 11:20am** Business Startup Generated by the PV in the Brazilian Territory
Priscila Alves dos Santos, Consultant, MAPRE – MANUTENÇÃO E AUTOMAÇÃO PREDIAL, Brazil
- 11:35am** Challenges and Restrictions in the Brazilian Photovoltaic Market under the Regulatory Perspective
Heloisa Ferreira Andrade Scaramucci, Partner, Scaramucci Aronne Advogados, Brazil
- 11:50am** Quality as a big Challenge in Brazil's D.G. FV sector
Nelson Colaferro, Chief Executive Officer, Blue Sol Energia Solar, Brazil
- 12:05pm** Risk Mitigation, Insurance and Guarantees for Solar PF Projects
Andre Dabus, Director-Infra, Power & Utilities, Marsh Brasil, Brazil



Nelson Colaferro



Marcio Takata



Priscila Alves dos Santos



Heloisa Ferreira Andrade Scaramucci



Andre Dabus

**ELECTRICAL ENERGY STORAGE – WHAT'S IN FOR BRAZIL –
STATUS, PROGRAMS & PROSPECTS (STATIONARY/R&D/RESIDENTIAL)**
Hour 2:00pm–3:30pm
Room Cantareira 2/3

- 2:00pm** Welcome and Introduction
Prof. Dr. João Tavares Pinho, Professor and Researcher, UFPA – Federal University of Pará, Brazil
- 2:05pm** Modeling the Value of Storage with Stacked Services
Jeff Gates, President, Alevo, U.S.
- 2:25pm** Technical and Commercial Arrangements for the Insertion of Energy Storage Systems Combined with PV in the Distribution Grid
Gustavo Malagoli Buiatti, President, Alsol Energias Renováveis S.A., Brazil
- 2:45pm** Lithium-In Batteries, Power Electronics and Chemistry Working Together
Ildo Bet, Director, PHB Eletrônica Ltda., Brazil
- 3:05pm** Large Scale Battery Energy Storage for Grid Stabilization in Electricity Grids with high Penetration of Renewable Energies
Herwig Andreas Ragossnig, Head of Business Development for Smart Energy in Latin America, NEC ENERGY SOLUTIONS, US


 Prof. Dr. João
Tavares Pinho

 Jeff
Gates

 Gustavo
Malagoli Buiatti

 Ildo
Bet

 Herwig Andreas
Ragossnig

Summary

The Brazilian electricity industry has a well established R&D programme mandated by the National Regulatory Agency ANEEL, and electrical energy storage related research has been on the agenda of various Brazilian R&D facilities for decades. This session will provide a glance on the current status of related research for stationary purposes being undertaken in various labs and what are the prospects in the near and mid-term. Moreover, as well how electrical energy storage (ees) industry is anticipated to evolve in future. Representatives of relevant R&D labs will be part of this session.

Language:

 Simultaneous translation to
English and Portuguese

**ELECTRICAL ENERGY STORAGE – WHAT'S IN FOR BRAZIL –
STATUS, PROGRAMMES & PROSPECTS (E-MOBILITY/R&D)**
Hour 4:00pm–5:30pm
Room Cantareira 2/3

- 4:00pm** Welcome and Introduction
Prof. Roberto Zilles, University of Sao Paulo, Brazil
- 4:05pm** The Experience of CPqD in R&D Projects Focusing on Energy Storage for E-mobility
Vitor Torquato Arioli, Engineer, CPqD – Gerência de Sistemas de Energia, Brazil


 Prof. Roberto
Zilles

 Vitor Torquato
Arioli

Summary

The Brazilian electricity industry has a well established R&D programme mandated by the National Regulatory Agency ANEEL, and electrical energy storage related research has been on the agenda of various Brazilian R&D facilities for decades. This session will provide a glance on the current status of related research for e-mobility being undertaken in various labs and what are the prospects in the near and mid-term. Moreover, as well how electrical energy storage (ees) industry is anticipated to evolve in future. Representatives of relevant R&D labs will be part of this session.

Language:

 Simultaneous translation to
English and Portuguese

WEDNESDAY, AUGUST 23, 2017

Hour 9:00am–10:30am
Room Cantareira **4**

Summary

The objective is to discuss with the Government, the strategic guidelines and sustainable mechanisms for development of the Solar Thermal Energy and its contributions to the national energy matrix and to greenhouse reduction.

Language:

Simultaneous translation to English and Portuguese

SOLAR THERMAL CONFERENCE OPENING: THE STRATEGIC IMPORTANCE FOR SOLAR THERMAL ENERGY IN BRAZIL

9:00am

Opening Speech

Eduardo Azevedo, MME, Energy Planning and Development Secretary, MME, Brazil
[The Strategic Importance for Solar Thermal Energy in Brazil](#)

- Amaurício Gomes Lúcio, President, ABRASOL – BRAZILIAN SOLAR THERMAL ENERGY ASSOCIATION, Brazil
- Bärbel Epp, Founder and Managing Director, Solrico, Germany
- Prof. Dr. Elizabeth Marques Duarte Pereira – Professora no Centro Universitario UNA, Brazil
- Rafael Campos – Institutional Vice President and Conference Coordinator ABRASOL – BRAZILIAN SOLAR THERMAL ENERGY ASSOCIATION, Brazil

Questions and Conclusions



Eduardo Azevedo

Amaurício Gomes Lúcio

Bärbel Epp

Prof. Dr. Elizabeth Marques Duarte Pereira

Rafael Campos

Partner



Hour 11:00am–12:30pm
Room Cantareira **4**

Summary

Business opportunities at expanding market segments with technical and economic feasibility of the use of solar thermal energy, aiming to reduce costs and providing environmental benefits.

Language:

Simultaneous translation to English and Portuguese

NEW MARKET OPPORTUNITIES FOR SOLAR THERMAL

11:00am

Welcome and Introduction

Luís Augusto Ferrari Mazzon, President of National Solar Heating Department, ABRASOL – BRAZILIAN SOLAR THERMAL ENERGY ASSOCIATION, Brazil

11:10am[Sales Motivators of Construction Sector](#)

Claudio Conz, ANAMACO President, Brazil

11:30am[Successful Sales Experiences Using the Internet](#)

Thiago Sarraf, E-commerce Specialist, Dr. e-commerce, Brazil

11:50am[Opportunities to Expand the Market Base](#)

Luís Augusto Ferrari Mazzon, President of National Solar Heating Department, ABRASOL – BRAZILIAN SOLAR THERMAL ENERGY ASSOCIATION, Brazil

12:10pm

Questions and Conclusions



Luís Augusto Ferrari Mazzon

Claudio Conz

Thiago Sarraf

Partner



WEDNESDAY, AUGUST 23, 2017
NEW TECHNOLOGIES OPPORTUNITIES FOR SOLAR THERMAL APPLICATIONS
Hour 2:00pm–3:30pm
Room Cantareira **4**

- 2:00pm** Welcome and Introduction
 Oscar de Mattos, Vice President of Technology and Environment,
 ABRASOL – BRAZILIAN SOLAR THERMAL ENERGY ASSOCIATION, Brazil
- 2:10pm** **Wold Stage and Solar Payback Project**
 Bärbel Epp, Founder and Managing Director, Solrico, Germany
- 2:30pm** **Test Challenges – Regulation Adjustments**
 Prof. Dr. Elizabeth Marques Duarte Pereira, Adjunct Professor, UNA University Centre, Brazil
- 2:50pm** **Application of Collector Test Parameters to Immetro Classification**
 Oscar de Mattos, Vice President of Technology and Environment,
 ABRASOL – BRAZILIAN SOLAR THERMAL ENERGY ASSOCIATION, Brazil


 Oscar de
 Mattos

 Bärbel
 Epp

 Prof. Dr.
 Elizabeth
 Marques Duarte
 Pereira

Partner


Summary

Studies, projects and equipment to ensure performance and applicability in various situations with creative solutions and employing techniques of last generation.

Language:

Simultaneous translation to English and Portuguese

APPLICATIONS (CASES) THAT INCREASE MARKET PERSPECTIVES
Hour 4:00pm–5:30pm
Room Cantareira **4**

- 4:00pm** Welcome and Introduction
 Rafael Campos – Institutional Vice President and Conference Coordinator
 ABRASOL – BRAZILIAN SOLAR THERMAL ENERGY ASSOCIATION, Brazil
- 4:10pm** **Solar Heating Projects and the New Rules of PROPEE/ANEEL**
 Alexandre Moana, President, ABESCO, Brazil
- 4:30pm** **Sustainable Products Financing Lines**
 Aderlânio Prado, Director, LT & F Services, Brazil
- 4:50pm** **Solar Heat System at Minha Casa, Minha Vida Program**
 Jean Benevides, Caixa Econômica Federal, Brazil
- 5:10pm** Questions and Conclusions


 Rafael
 Campos

 Alexandre
 Moana

 Jean
 Benevides

Partner


Summary

Cases for the use of solar thermal that present applications of the technology perspectives at new niches of market.

Language:

Simultaneous translation to English and Portuguese

WEDNESDAY, AUGUST 23, 2017

Hour 10:00am–12:00pm
Room Workshop Room,
Ground Floor

Free of charge

Language:
Simultaneous translation to
English and Portuguese

WORKSHOP: INVEST IN MINAS GERAIS: BUSINESS AND INVESTMENTS OPPORTUNITIES IN THE SOLAR ENERGY CHAIN

Summary On August 23th, from 10:00am to 12:00pm, the Federation of Industries of the State of Minas Gerais – FIEMG, in partnership with the Minas Gerais Government, will hold the Seminar: Invest in Minas Gerais: business and investments opportunities in the Solar Energy Chain.

The event's goal is to present the state of Minas Gerais as the best location in Brazil for the solar industries set up, as well as a favorable environment to identify industrial and technological business associate for local production. FIEMG, together with its partners, supports the coming of companies to the state, let us find out more about this providing environmental, labor, tax, financing and innovation support free of charge. Let's to know better this opportunity!

Partner



Hour 1:00pm–4:00pm
Room Workshop Room

Free of charge

Language: Portuguese only

WORKSHOP: SOLAR TECHNOLOGIES CANADA

Summary Canadian technologies in solar energy by GMA Solar, Opal-RT and Rackam. Please confirm attendance at rsvp.spalo@international.gc.ca.

Partner: Canadian Consulate



Hour 4:30pm–6:00pm
Room Workshop Room,
Ground Floor

Free of charge

Language: Portuguese only
Access for students with
student ID only.

INTERSOLAR STUDY PROGRAM

4:30pm Intersolar Study Program

- Prof. Dr.-Ing. João Tavares Pinho, Full Professor at the Federal University of Pará, Brazil
- Prof. Wilson Macêdo, Federal University of Pará, Brazil



Prof. Dr.-Ing.
João Tavares
Pinho



Prof.
Wilson Macêdo

Organizers



Co-Organizer



WEDNESDAY, AUGUST 23, 2017
WORKSHOP: INTEGRATION ADVANTAGES FOR SOLAR THERMAL AND PHOTOVOLTAIC SYSTEMS

 Hour 6:00pm–8:00pm
 Room Cantareira **4**

Summary How to set-up a financially and technically advantageous project with the integration of solar thermal and photovoltaic technologies that be attractive to the end user/customer.

6:00pm Integration Advantages for Solar Thermal and Photovoltaic Systems
 Moderator: Carlos Artur Alves de Alencar – ABRASOL Vice President of Marketing
 Elizabeth Pereira Duarte – Professor of UNA


 Carlos Artur
 Alves de Alencar

 Elizabeth
 Pereira Duarte

Partner


Price: R\$50

Language: Portuguese only

WORKSHOP: PHOTOVOLTAIC SYSTEMS PROTECTION AGAINST ATMOSPHERIC DISCHARGES

 Hour 6:00pm–8:00pm
 Room Cantareira **2/3**

Summary The objective of this workshop is to present fundamentals of atmospheric discharges, the influence on electric circuits, such as grid connected photovoltaic systems, and how to minimize induced overvoltage transients using surge protection devices (SPD). SPD electric characteristics and basic application criteria for PV systems will be presented according to technical standards. The workshop is mainly intended for engineers, technicians and electricians.

6:00pm Photovoltaic Systems Protection against Atmospheric Discharges
 Prof. Dr. Trajano Viana, Director, TrajanoViana.com, Brazil


 Prof. Dr.
 Trajano Viana

Organizer


Price: R\$120

Language: Portuguese only

WORKSHOP: BUSINESS OPPORTUNITIES IN THE PHOTOVOLTAIC CHAIN OF THE GREEN STATE IN BRAZIL

 Hour 6:00pm–8:00pm
 Room Workshop Room

Summary Investe São Paulo is the official investment, exports and competitiveness promotion agency of the state of São Paulo. During the presentation it will be offered an overview of the main advantages and assets when choosing the state as a destination for new investments. Investe São Paulo has already supported diverse companies from the green economy sector and the team is looking forward for new investment opportunities. Therefore the presentation will also present the main free-of-charge consultancy services Investe São Paulo is able to provide for companies at Intersolar who are seeking for new business opportunities in the country and in the number one state of Brazil.

Partner


Free of Charge

Language: Portuguese only

THURSDAY, AUGUST 24, 2017

Hour 9:00am–10:30am
Room Cantareira 2/3

Summary

Markets across Latin America are expected to grow significantly in terms of annually deployed solar PV power generation capacities in the near and mid-term. Sustained, long-term demand is a key feature of the region due to favorable conditions including high solar irradiation levels, high retail electricity tariffs, and sustained economic growth that combine strong with globally reducing PV system prices. This session will provide insights into the demand dynamics in selected markets. This session is jointly organized with GTM Research and will draw heavily on the company's Latin America PV Playbook report.

Language:
Simultaneous translation to English and Portuguese

LATIN AMERICA: EMERGING MARKETS, BUSINESS MODELS & FINANCING SCHEMES

- 9:00am** Welcome and Latin American Market Update
Manan Parikh, Senior Analyst, Global Solar Markets, GTM Research, U.S.
- 9:25am** PV Module Reliability: Implications for the Latin American Market
Jenya Meydbray, Vice President of Strategy and Business Development, DNV US, U.S.
- 9:45am** Risk Mitigation for PV Plants – Experience across South America
Vitor Rodrigues Gonsalves, Business Stream Manager Products Spain, Regional Field Manager Solar – South America, TÜV Rheinland Group en España, ES
- 10:05am** Renewable Energy – Argentina
Ministro Marcos Bednarski, Cônsul Geral Adjunto – Argentina, General Consulate and Promotion Centre for Argentina in Sao Paulo, Brazil



Manan Parikh



Jenya Meydbray



Vitor Rodrigues Gonsalves



Ministro Marcos Bednarski

Partner



greentechmedia:

Hour 11:00am–12:30pm
Room Cantareira 2/3

Summary

The growth of the DG market in Brazil surpassed all expectations in 2016, representing a 342% increase in both installed capacity and number of installed systems. What are the most competitive debt financing lines currently available? Are entrepreneurs being successful in accessing such lines? Are the projects sufficiently attractive for equity investors in terms of the risk-return relationship? What are the main challenges to be overcome?

Language:
Simultaneous translation to English and Portuguese

FINANCING DISTRIBUTED GENERATION IN BRAZIL

- 11:00am** Panel Opening
Marília Rabassa, Associate Manager, CELA – Clean Energy Latin America, Brazil
- 11:10am** Panelists
- Humberto de Souza Leite, General Manager, Banco do Nordeste, Brazil
 - Ítalo Freitas, Chief Executive Officer, AES Tiete S.A., Brazil
 - Pierre-Yves Mourgue, CEO, GreenYellow do Brazil, Brazil
 - Márcio Trannin, CEO, Enel Soluções do Brazil, Brazil



Marília Rabassa



Humberto de Souza Leite



Pierre-Yves Mourgue



Márcio Trannin

Partner



FINANCING UTILITY-SCALE IN BRAZIL

- 2:00pm** Panel Opening
Eduardo Tobias Ruiz, Director, CELA – Clean Energy Latin America, Brazil
- 2:10pm** Panelists
- Paulo Abranches, CEO, EDF EN do Brasil, Brazil
 - Marcus Cardoso Santiago, Manager of the Energy Department, BNDES – Brazilian Development Bank, Brazil
 - Alberto Coqueiro, Corporate Business Manager, Banco do Nordeste, Brazil
 - Marco Moroni, CFO, Enel Green Power Participações Ltda., Brazil



Eduardo Tobias Ruiz



Mr. Paulo Abranches



Marcus Cardoso Santiago



Alberto Coqueiro



Marco Moroni

Partner



Hour 2:00pm–3:30pm
Room Cantareira **2/3**

Summary

Despite the cancellation of two auctions in 2016, there is still over 3 GWp of solar projects to be commissioned between 2017 and 2018, as well as more auctions to be held soon. Are the entrepreneurs that secured these PPAs being successful in accessing equity and debt to implement such projects? How are entrepreneurs and lenders dealing with the modules' sourcing (local versus imported) and financing sourcing dilemma (local versus foreign)? Are BNDES' and BNB's financing conditions competitive enough to compensate the lower cost of importing modules? What are the main challenges for the entrepreneurs to raise funds for solar projects?

Language:

Simultaneous translation to English and Portuguese

OUTLOOK FOR PV-MANUFACTURING IN BRAZIL

- 9:00am** Welcome and Introduction
Dr. Jutta Trube, Managing Director Photovoltaic Equipment, VDMA – German Engineering Federation, Germany
- 9:05am** Update of the 8th Edition of the International Technology Roadmap for Photovoltaic (ITRPV) – Current Trends and Future Challenges in c-Si PV
Dr. Jutta Trube, Managing Director Photovoltaic Equipment, VDMA – German Engineering Federation, Germany
- 9:20am** Starting a New Era in PV Manufacture in South America: Introduction and Optimization of Key Equipments for Mass Production of Highly Efficient Heterojunction Solar Cells
Thomas Künzl, Director Sales & Marketing Solar, SINGULUS TECHNOLOGIES AG, Germany
- 9:35am** First Hand Experience in the Brazilian Solar Industry
Harry Schmelzer Neto, Head of Sales, WEG Equipamentos Elétricos, Brazil
- 9:50am** Trends on PV Manufacturing – Complete PV Value Chain in Brazil
Nelson Falcão, Senior Director, Business Development, Flextronics International Tecnologia Ltda., Brazil
- 10:05am** Challenges and Opportunities for Solar Energy Generation in Brazil
Adalberto Maluf, Director of Marketing, Sustainability and New Business, BYD Energy do Brasil Ltda., Brazil

Partner



Dr. Jutta Trube



Thomas Künzl



Harry Schmelzer Neto



Nelson Falcão



Adalberto Maluf

Hour 9:00am–10:30am
Room Cantareira **4**

Summary

PV costs have come down drastically in the last months. In this session we will focus on the on industrial manufacturing and innovation for the complete PV value chain. Topics presented will include advanced fabrication concepts, automation and laser processes, fabrication equipment for high-efficiency solar cells and vertical integration solutions for cost effective production in Brazil.

Language:

Simultaneous translation to English and Portuguese

THURSDAY, AUGUST 24, 2017

Hour 9:00am–12:30pm
Room Workshop Room,
Ground Floor

Price: R\$150

Language: Portuguese only

WORKSHOP: BEST PRACTICES FOR PHOTOVOLTAIC SYSTEMS: MATERIALS AND TOOLS

Summary The objective of this workshop is to disseminate best practices related to main materials and tools used in installation of grid connected photovoltaic systems. With the increasing number of grid connected PV systems in Brazil raise concerns about quality of installations, which should have a lifetime expectation of 25 years or more. Quality of installation depends on training of professionals, quality of materials and tools and its correct use. Training of professionals begins with knowledge of the specific materials and tools of the photovoltaic area and the risks of inappropriate practices. The workshop is aimed to electricians, installers, builders, engineers and technicians.

9:00am Best Practices for Photovoltaic Systems: Materials and Tools
Prof. Dr. Trajano Viana, Director, TrajanoViana.com, Brazil



Prof. Dr.
Trajano Viana

Organizer



Hour 1:00pm–6:00pm
Room Cantareira 4

Language: Portuguese only

SIDE-EVENT: BRAZIL-CHINA PHOTOVOLTAIC FORUM 2017 (PVBC 2017)

Summary China is the largest photovoltaic production country and solar market. The Brazilian photovoltaic market will soon be flourishing by several promotion policies from the government in recent years. In order to promote the sustainable development and enhance the standardization of Brazil Photovoltaic industry, achieving the energy saving and green economy progress with widely photovoltaic application and innovation in Brazil, Chinese Renewable Energy Society (CRES) will invite Brazilian relevant organizations jointly organize the event of 'Brazil-China Photovoltaic International Forum 2017' (August 23rd–24th, 2017), which is also supported by the Confucius Institute of Unicamp.

This international Photovoltaic forum will focus on the areas of photovoltaic industry research, policy guidance, technology innovation, testing and standardization, talent cultivation and training, etc. Aiming to devote itself to promote the Photovoltaic international cooperation between Brazil and China.

For registration please send your Name, Company Name, Email and Cellphone Number to pv@rtcc-china.com

Organizers



THURSDAY, AUGUST 24, 2017

WORKSHOP: DIFFERENCES BETWEEN SMALL, MEDIUM AND LARGE SCALE PLANTS DURING PROJECT DEVELOPMENT

 Hour 6:00pm–7:00pm
 Room Cantareira **2/3**

Summary The great majority of companies that operate in the photovoltaic sector start installing small commercial or residential systems. In course of success new challenges appear by clients asking for medium and large scale plants. The workshop aims to elucidate, what items should be observed on this growth path to ensure quality service and avoid risks.

Contents:

- Differences between the categories of systems in Brazilian regulation: micro generation, mini generation and plants in central generation
- Dimensioning of systems with modules and inverters
- Rules for grid connection
- Technical Project with Support structure, surge protection and cabling
- Climate data
- Calculation of return on investment
- Commissioning and operation

6:00pm Differences between Small, Medium and Large Scale Plants during Project Development
 Hans Rauschmayer, Managing Partner,
 Solarize Serviços em Tecnologia Ambiental Ltda, Brazil



Hans Rauschmayer

Organizer


WORKSHOP: APPLICATIONS COMPARISON OF VACUUM TUBE COLLECTORS X FLAT PLATE COLLECTORS

 Hour 6:30pm–8:30pm
 Room Cantareira **4**

Summary Performance characteristics and comparisons of typical collector types and applications.

6:30pm Applications Comparison of Vacuum Tube Collectors x Flat Plate Collectors
 Moderator: Oscar de Mattos, Vice President of Technology and Environment, ABRASOL – BRAZILIAN SOLAR THERMAL ENERGY ASSOCIATION, Brazil
 Luciano Torres Pereira, Technical director, Resolver Engenharia, Brazil



Oscar de Mattos



Luciano Torres Pereira

Partner


Price: R\$50

Language: Portuguese only



| EXHIBITION QUICKFACTS

Dates August 22–24, 2017

Hours 12:00pm–8:00pm



Venue Expo Center Norte, White Pavillon,
José Bernardo Pinto St., 333
Vila Guilherme, 02055-000 São Paulo

Exhibitor Profile Manufacturers | Suppliers | Distributors | Service Providers | Project Developers/EPC Contractors | System Integrators | Research Institutes | PV Equipment & Materials Manufacturers

Areas of Focus Photovoltaics | PV Production Technology | Energy Storage | Solar Heating & Cooling Technologies

Visitor Profile Installers and System Integrators | Distributors | Project Developers/EPC Contractors | Architects | Manufacturers and Suppliers | Investors and Analysts | Utilities | Government Officials/Policy Makers



- Equipamentos de fabricação PV. Materiais e componentes
- Células e módulos fotovoltaicos
- Regulação de sistemas PV
- Componentes fotovoltaicos
- Tecnologias Termossolares
- Geração Distribuída/Bomassas
-  Armazenamento de Energia Elétrica
-  Áreas especiais

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Intersolar Europe | Munich | June 20–22, 2018

Intersolar North America | San Francisco | July 10–12, 2018

Intersolar South America | São Paulo | August 28–30, 2018