

*in collaboration with*



## ***Advanced training course: "Integration of Renewables in the Mediterranean electricity markets"***

17/11/2014 - 28/11/2014

**Mon 17 Nov** *Politecnico di Milano - Campus Bovisa - Building 25 - conference room*

**Morning**

**International energy market insight**

09:30 - 10:15	<b>Welcome and course presentation</b> Ing.Vigotti - <b>RES4MED</b> Ing.Testi- <b>RES4MED</b> Ing.Germini - <b>Enel Foundation</b> Prof.Macchi- <b>PoliMI</b>
10:15	<i>Welcome coffee break - opening ceremony</i>
10:45 - 11:45	<b>General trends in the world energy field and the role of renewables</b> Ing.Vigotti – <b>IEA – Renewable Energy Industry Advisory Board</b>
11:45 - 12:15	<b>Drivers and barriers for sustainable development in the Mediterranean Region</b> Prof.ssa Colombo - <b>PoliMI</b>
12:15 - 13:00	<i>Participants presentation</i>
13:00- 14:30	<i>Lunch</i>

**Afternoon**

**PV**

14:30 - 16:00	<b>PV basic principles, state of the art and future developments</b> Prof.Bottani - <b>PoliMI</b>
16:00 - 16:30	<i>Break</i>

16:30 - 17:15	<b>PV presentation of a leading Italian Inverter Manufacturer</b> Ing. Bernardi - <b>Carraro</b>
17:15 - 18:00	<b>PV presentation of a leading Italian Module Manufacturer</b> Ing. Irace - <b>3SUN (EGP)</b>

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**Q&A**

**Tue 18 Nov** *Politecnico di Milano - Campus Bovisa - Building 25 - conference room*

**Morning**

**CSP**

09:15 - 11:00	<b>CSP basics, state of the art and future development</b> Prof. Silva - <b>PoliMI</b>
11:00 - 11:30	<i>Break</i>
11:30 - 13:00	<b>CSP Morocco case: Ait Baha Plant</b> Ing. Donati - <b>Italgen</b>

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**Q&A**

13:00- 14:30 *Lunch*

**Afternoon**

14:30 - 16:30	<b>Visit to Solar tech Lab - Politecnico di Milano</b> Prof.ssa Leva - <b>PoliMI</b>
16:30 - 17:00	<i>Break</i>
17:00 - 18:00	<b>Presentation of a leading Italian CSP Manufacturer</b> Ing. Martini - <b>Archimede Solar Energy</b>

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**Q&A**

**Wed 19 Nov** *Politecnico di Milano - Campus Bovisa - Building 25 - conference room*

**Morning**

**Wind**

09:15 - 11:00	<b>Wind Energy basic principles, state of the art and future development</b> Prof. Zasso - <b>PoliMI</b>
11:00 - 11:30	<i>Break</i>
11:30 - 13:00	<b>Renewables: Incentive mechanisms and cost issues</b> Ing. Arienti - <b>Edison</b>

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**Development Process of a Wind Projects**

Ing.Bacco – Edison

**The Eureka Project: how to attract new investors and become the Italian third wind operator**

Ing.Peruzzi – Edison

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**Q&A**

13:00 - 14:30 | *Lunch*

**Afternoon**

**Wind Lab and Biomass**

14:30 - 15:30 | **Biomass energy basic principles and state of the art**

Prof. Consonni - PoliMI

15:30 - 16:00 | **Large biomass programs: the supply chain and the chicken and egg problem**

Ing.Andreoni - Poyry

16:00 - 16:15 | *Transfer to Wind Tunnel*

16:15 - 17:30 | **Visit to Polimi Wind tunnel**

Prof.Zasso - PoliMI

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**Q&A**

**Thu 20 Nov** *Politecnico di Milano - Campus Bovisa - Building 25 - conference room*

**Morning**

**Grid operation**

09:15 - 10:00 | **Electrical grid: basic principles**

Prof.Berizzi - PoliMI

10:00 - 11:00 | **The challenges of TSO to manage the Renewable variability generation**

Ing.Carlini - TERNA

11:00 - 11:30 | *Break*

11:30 - 13:00 | **Med infrastructure: how to meet the energy potential?**

Ing. Provenzano - CESI

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**Q&A**

13:00- 14:30 | *Lunch*

**Afternoon**

**Distributed generation and regulation**

14:30 - 15:30 | **Distributed generation: a solution to look forward the integration of RES into electricity market**

Ing. de Nigris - RSE

	<b>Regulatory framework</b>
15:30 - 16:30	<b>Basic Principles of market opening</b> Dott.Lanza - <b>MEDREG</b>
16:30 - 17:00	<i>Break</i>
17:00 - 18:00	<b>Market rules and renewable sources: an open challenge</b> Dott.Marino - <b>Poyry</b>

**Q&A**

*Politecnico di Milano - Campus Bovisa - Building 25 - conference room*

**Fri 21 Nov**

**Morning**

**Storage solution**

09:15 - 10:00	<b>Energy storage basic principles</b> Prof.Delfanti - <b>PoliMI</b>
10:00 - 11:00	<b>Storage state of the art and future development</b> Ing.Micolano - <b>RSE</b>
11:00 - 11:30	<i>Break</i>
11:30 - 12:15	<b>Presentation of leading storage manufacturer: market view and expected trends</b> Ing.Lamperti - <b>NEC</b>
12:15 - 13:00	<b>Storage - Italian Pilot project - TSO view</b> Ing.Apicella - <b>TERNA</b>

**Q&A**

13:00- 14:30 *Lunch*

**Afternoon**

**Waste to energy**

14:30 - 16:00	<b>Electricity from non-conventional sources - thermal waste recovery plant</b> Ing.Maffeo - <b>gruppo IREN</b>
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**Q&A**

**Mon 24 Nov** *Turin, ASJA headquarter - Rivoli (TO)*

**Morning**

**Biogas**

07:30 - 10:00 *Transfer to ASJA headquarter - Rivoli (TO)*

10:00 - 10:45 **Welcome coffee and Company Presentation**

President dott. Re Rebaudengo - Asja

CEO dott.Casale - Asja

10:45 - 12:15 **Biogas basic principles and state of the art**

Prof.Genon - **PoliTO**

12:15 - 13:00 **Biogas from agricultural wastes**

Dott.ssa Erriquens - **ASJA**

13:00 - 14:00 Light Lunch

#### Afternoon

14:00 - 14:30 **Landfill biogas - introduction to the site visit**

Ing. Borello - **ASJA**

14:30 - 15:00 *Transfer to Pianezza landfill biogas plant*

15:00 - 16:30 **Guided tour of the Pianezza biogas plant including technical explanations**

Ing. Borello/Ing.Pace - **ASJA**

#### Q&A

**Tue 25 Nov** *PwC Headquarter - Milan*

#### Morning

#### Renewable energy investments and financing

08:30 - 09:30 Participant registration and welcome coffee

09:30 - 09:40 **Welcome key note**

Dott.Giovanni Poggio - **PwC**

09:40 - 11:00 **Project financing of renewable energy plants and infrastructures**

Dott.ssa Belisario - **PwC**

11:00 - 11:20 *Break*

11:20 - 12:10 **Competitive deployment of PV-CSP-Wind: the importance of multi-year pluritechnological plans**

Ing.Sciancalepore - **EGP**

12:10 - 13:00 **Strategic trends in the global renewable energy industry**

Prof.Marangoni - **Althesys**

#### Q&A

13:00 - 14:30 *Lunch*

**Afternoon****Renewable energy investments and financing**

14:30 - 15:00	<b>Innovative hybrid CSP-biomass plant</b> Ing. Pilenga <b>Falck Renewables</b> Ing. Di Persico <b>Falck Renewables</b> Ing. Scapolo <b>Falck Renewables</b>
15:00 - 15:30	<b>International investment case: Jordan</b> Dott. Appendino - <b>Solar Ventures</b>
15:30 - 16:00	<i>Coffee Break</i>
16:00 - 16:30	<b>The industrial approach in the management of PV plants</b> Dott. Aulisa - <b>Hfv</b>
16:30 - 17:00	<b>Renewable energy assets: Bank's view</b> Ing. Martorana - <b>UniCredit Leasing</b>
17:00 - 17:30	<b>Crowdfunding: an innovative tool to finance local RES projects</b> Dott.ssa Candelise - <b>Bocconi</b>

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**Q&A****Wed 26 Nov**Transfer by Bus *Milan - RSE headquarter***Morning****RSE headquarter Milan**

08:30 - 09:30	<i>Transfer to RSE laboratories in Milan and registration</i>
09:30 - 09:45	<b>Welcome key note</b> Ing. Cherbaucich – <b>RSE</b>
09:45 - 10:45	<b>A Snapshot of Smart Grids Achievements in Italy</b> Ing. de Nigris - <b>RSE</b>

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**Q&A**

10:45 - 11:15	<i>Break</i>
11:15 - 11:40	<b>GSE: a public tool for boosting sustainable energy development</b> Dott.ssa Pancaldi - <b>GSE</b>
11:40 - 12:25	<b>Italian experience in deploying Renewable Energy</b> Ing.Miraglia - <b>GSE</b>
12:25 - 13:00	<b>Other tools for RE from EU Climate Policy: EU Emission Trading Scheme</b>

Dott.ssa Pancaldi - **GSE**

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**Q&A**

13:00 - 14:30 *Lunch*

**Afternoon**

**Milan - RSE headquarter**

14:30 - 17:00 **Visit to RSE laboratories**  
Test Facility ( Ing. Verga)  
Photovoltaic field ( Ing. Guastella)  
Meteorological Forecast Lab (Dr. Ronzio).

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**Q&A**

*Milan - CESI headquarter*

**Thu 27 Nov**

**Morning**

9:15 - 10:00 *Transfer to CESI headquarter - Milan*

10:00 – 10:30 **Welcome coffee and Company presentation**

10:30 – 11:30 **Visit to CESI Laboratories**

11:30 – 12:30 **Multi-junction solar cell technology and its space and terrestrial applications**

12:30 - 13:30 *Lunch*

**Afternoon**

**Solutions to meet local needs**

13:30 – 14:30 *Transfer to Politecnico di Milano - Campus Bovisa - Building 25 - conference room*

15:00 – 16:00 **RES development for local communities: challenges and opportunities**

dott.ssa Mele - **Enel Foundation**

16:00 – 16:15 *Break*

16:15 – 17:00 **A Mediterranean electricity cooperation strategy: Vision and Rationale**

prof.Rubino - **RES4MED**

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**Q&A**

**Social Dinner at Edison Headquarter Foro Buonaparte**

Morning

International High Level Round Table

09:30 – 12:00 **"Rethinking the partnership between the two shores of the Mediterranean"**

***"Rethinking the partnership between the two shores of the Mediterranean"***

**Final Round Table**

Advanced Training Course

***"Integration of renewable energy solutions in the Mediterranean electricity market"***

**Closing ceremony**

November 28<sup>th</sup> 2014

Building 25, Conference Room, Bovisa Campus  
Politecnico di Milano

**09:30** Registration and welcome coffee

**10:00** **Opening session and welcome statements**

Chairman: **Roberto Vigotti**

**Giovanni Azzone** (Rector, Politecnico di Milano)

**Sudqi Omoush** (Energy Expert and Policy Advisor at Secretariat, Union for the Mediterranean)

**10:40** **RES development as game changer in the energy scenario**

Chairman: **Alessandro Rubino**

**Alicia Mignone** (Chair of the Committee on Energy Research and Technology, IEA)

**Marco Berti Palazzi** (International Relations Officer South Mediterranean and Maghreb countries, EU Commission)

**Felice Egidi** (Head of Regulatory Affairs, Enel Green Power)

**11:40** **Closing remarks and conclusion**

**Roberto Vigotti** (Secretary General, RES4MED)

**Ennio Macchi** (Professor, Politecnico di Milano)