



SUSTAINABLE PLACES 2018



June 27-29, 2018

Aix-les-Bains, France

www.sustainableplaces.eu

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Welcome from the Organizers

CEA, the French Alternative Energies and Atomic Energy Commission, has positioned itself as a leading key player in building the European research area (ERA) through its involvement in more than 400 European projects running in 2016 (194 FP7 projects and 228 H2020 projects). Low carbon energies (CEA Tech LITEN Institute) and technological innovation in digital systems (CEA Tech LIST Institute) are among its key research and innovation activities. Together with INES, the leading solar-energy research institute, CEA is both the organizer (and co-host with Savoie Mont Blanc University) of this 2018 edition of Sustainable Places. We look forward to welcoming you and to developing long-term partnerships through the multiple working sessions and networking opportunities offered by the conference.

Sincerely,

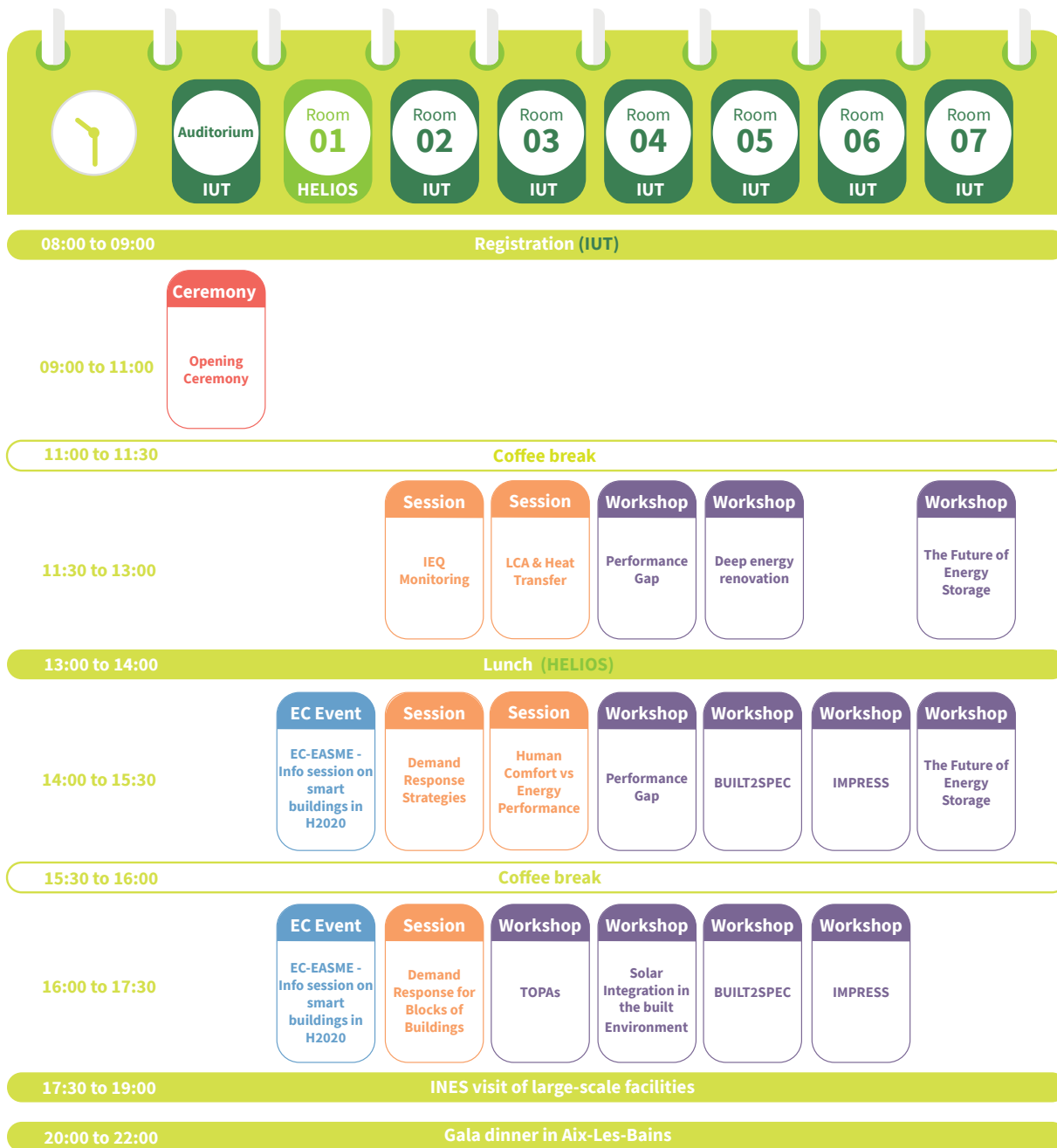
Carole Sentein, CEA LIST
Etienne Wurtz, INES – CEA LITEN



Photo credit : Aix-les-Bains Riviera des Alpes - G. Lansard

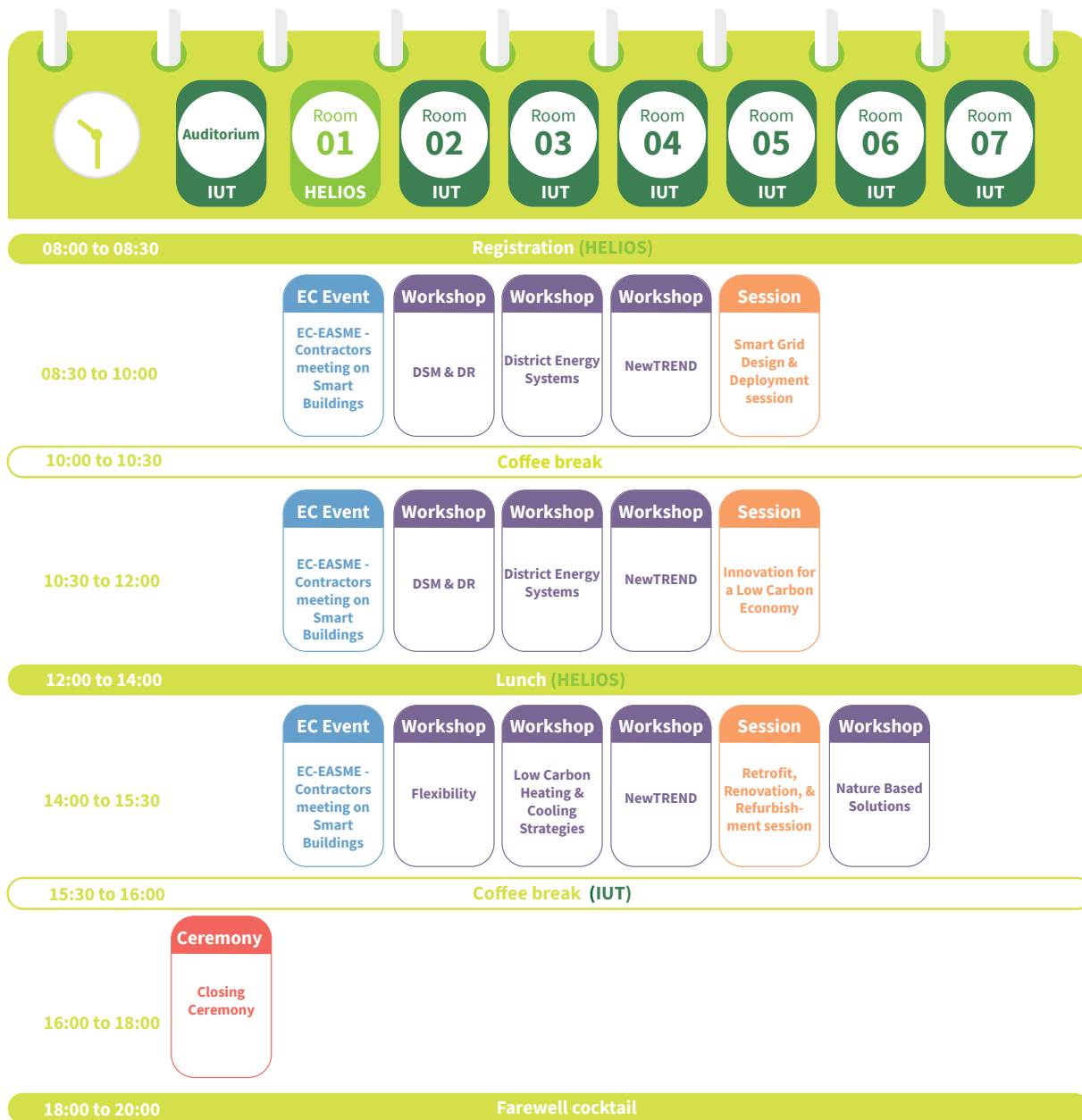
Day 1

27 June 2018



Day 2

28 June 2018



Day 1 :Detailed Agenda

27 June 2018



Delegate Registration



Opening Keynote Ceremony

Chaired by Thomas Messervey CEO of R2M Solution



IEQ Monitoring

“Assessing the energy efficiency & embodied energy of insulation materials in the UK” – Monjur Mourshed, Cardiff University

“New advanced aerogel-based insulation products for buildings” – Timea Béjat, Etienne Wurtz; CEA INES (Wall-ACE)

“An energy efficient ventilated façade retrofitting system. Presentation of the embedded energy storage system” – Paul Bonnamy, Nobatek/INEF4 (E2Vent)

“Cooling energy demand forecasting for dwellings in hot-arid climate: A monitoring study” – Monjur Mourshed, Fanlin Meng, Kui Weng, Balsam Shallal; Cardiff University



LCA & Heat Transfer

“Optimization of district heating production operations” – Gabriela Naves Maschietto, Veolia Research (E2District)

“Analysis of Heat Transfer for BIPV/Thermal Models” – Anthony Rey, Efstratios Rounis, and Andreas Athienitis; Concordia University

“Sustainable District Renovation via Scenario-based Life Cycle Analysis: Kartal Case” Gulfem Inaner, Ekodenge (R2CITIES)

“Impact of heat pumps flexibility in a French residential eco-district” – Benoit Delinchant, University of Grenoble Alpes – CNRS”



Performance Gap: Reducing the performance gap between predicted and actual energy performances at the level of buildings and blocks of buildings

Understanding the remaining barriers and opportunities in reducing the energy performance gap, while examining the requirements of energy management business models and the roles of both citizens and data management. (TOPAs, MOEEBIUS, HOLISDER, HIT2GAP, E2District, INSITER, NOVICE, RECO2ST, and Exceed projects)



Deep Energy Renovation: Challenges, barriers, & opportunities

Presenting successful experiences and pointing out existing challenges with an integrative approach to improve the low renovation rate of existing buildings in Europe that is hindering the reaching of EU-wide targets and can't be solved with effective technologies alone. (P2ENDURE, 4RinEU, Pro-GET-OnE, and MORE-CONNECT projects)



The future of Energy Storage

Progress benchmarking and horizontal topics identification for establishing cooperation that will affect the entire electricity value chain as it uses storage to replace peaking plans, alter future T&D investments, reduce intermittency of renewables, restructure power markets, and digitize the electricity ecosystem. (HYBUILD, CREATE, SCORES, TESSE2B, STORY and E2VENT projects)



EC/EASME - Info Session on Smart Buildings in H2020 : policy framework, projects, and calls

Addressing the challenges of reducing energy consumption and GHG emissions from buildings, the digitalization and increasing flexibility in the energy system that all require the uptake of smarter buildings in the EU. Hosted by the European Commission DG Energy and Executive Agency for SME's (EASME), this public event will focus on the new policy framework, an overview of H2020 projects and future funding for smart buildings as well as a discussion on the related challenges, including interoperability and buildings (big) data.



Demand Response Strategies

- “Algorithms and Optimization Strategies for Building Energy Management & Demand Response” – Fanlin Meng, Cardiff University
- “Demand Response: Provision of Frequency Containment Reserve through the adequate pooling of distributed loads” – Edouard Perroy, Pierre Guillain; Energy Pool
- “Smart energy management for unlocking demand response in residential applications” – Fanlin Meng, Cardiff University
- “Towards Integrating Behaviour Demand Response into Simulation Based Heat Production Optimisation” – Christian Beder, Martin Klepal; Cork Institute of Technology”



Human Comfort vs. Energy Performance

- “A hybrid simulation and optimization based approach to optimal window opening considering thermal comforts in buildings” – Monjur Mourshed, Balsam Shallal; Cardiff University
- “Assessment of Electrochromic glazing impact on Occupants Thermal Comfort and Building Energy Performance” – Eloise Sok, Sage Glass – Saint Gobain
- “Simulation model to evaluate human comfort factors for an office in a building” – R.T. Durai Prabhakaran, Bangor University
- “A sub-zonal PMV-based HVAC and façade control system for curtain wall buildings” – Marco Arnesano, Università Politecnica delle Marche



BUILT2SPEC: Tools for the 21st Century Construction Worksite

- Demonstrating new and innovative on-site quality assurance tools to meet EU energy efficiency targets for both new builds and retrofits. (Buit2Spec, INSITER, and Hit2Gap projects)



IMPRESS: Challenges and barriers to innovative retrofit

- Illustrating scenarios and technologies for renovation particularly relevant to buildings of the mid-20th century, including precast clad prefabricated buildings that became popular as educational, healthcare and residential buildings. (IMPRESS project)



Demand Response for Blocks of Buildings

- “Demand response potential of zero energy blocks of buildings: Modeling and testing results from a case study in Germany” – Ursula Eicker, Stuttgart Technology University of Applied Sciences
- “Demand response in a group of buildings based on Artificial Neural Network power predictions and Genetic Algorithm optimization” – Nikolaos Kampelis, Technical University of Crete
- “Organisational Readiness for demand response in blocks of buildings” – Tracey Crosbie
- “Towards an infrastructure to collect data and implement load shedding scenarios with BIM” – Alain Anfosso, CSTB (DR-BoB)



TOPAs: Tools and services for upscaling energy management from buildings to blocks of buildings

- Demonstrating an open IoT platform for an energy management system capable of adapting to near real-time environmental conditions and occupant behaviour while maximising the use of renewables and minimising energy demand within a district. (TOPAs project)



Solar Integration in the Built Environment: Ongoing experiences and needed tools to foster nZEBs implementation

- Consolidating experiences and knowledge sharing on the market integration of building-integrated photovoltaics, solar thermal, and advanced façades that contribute towards nearly zero-energy buildings (nZEBs). (PV-SITES, THERMOSS, and EnergyMatching projects)



Site visit of INES large-scale facilities



Gala dinner in Aix-Les-Bains at “La Rotonde”

Day 2 :Detailed Agenda

28 June 2018



Delegate Registration



EC/EASME - "Contractors meeting on Smart Buildings"

Facilitating knowledge transfer and the exchange of best practices between policymakers and the beneficiaries of Research & Innovation projects on smart buildings. (DR-BOB, SIM4BLOCKS, InteGRIDy, eDREAM, SIM4BLOCKS, RENNOVATES, FHP, NOVICE, HOLISDER, MOEEBIUS, 4RinEU, TABEDE, and ZERO-PLUS projects)



DSM & DR: innovative business modeling for demand-side management and demand response on the meso and micro levels

Examining business models for innovative demand side management (DSM) and demand response (DR) solutions that meet both the needs of adopters and behaviour-changing end-users who are actively or passively involved in delivering flexibility or demand reduction. (DR-BoB and MOBISTYLE projects)



District Energy Systems: a collaborative exchange of results on planning, operation, and modeling for energy efficiency

Increasing penetration and cost-effectiveness of district energy system technologies to enable a broader range of services for sustainability and economic growth in the EU energy sector. (INDIGO, E2District, Flexynets, PENTAGON, OPTi, Thermoss, CoolHeating, SDHp2m, PlanHeat, InDeal, and H-Disnet projects)



NewTREND : retrofit design towards a next generation of ENergy efficient and sustainable buildings and Districts

Improving the energy efficiency of the existing European building stock and the current renovation rate with a new participatory integrated design methodology targeted to the energy retrofit of buildings and neighborhoods, establishing energy performance as a key component of refurbishments. (NewTREND project)



Smart Grid Design & Deployment

“Design of independent renewable energy microgrids using linear programming” – Juan Manuel Espeche, R2M Solution

“Energy Management Systems in smart electrical & thermal grids: two case studies” – Giorgio Manganini, Marcello Torchio; United Technologies Research Centre (ELSA, E2District)

“Inverter for photovoltaic generator tied to the electrical grid” – Anthony Bier, INES (PV-SITES) “Monetary value of a district’s flexibility on the spot and reserve market” – Benjamin Rohrbach, Lucerne University of Applied Science and Arts



Innovation for a Low Carbon Economy

“Market potential for Holistic Innovative Solutions for Recycling of Raw Materials from C&DW” – Dawid Krysiński, ASM Market Research and Analysis Centre (HISER)

“Low carbon technologies for the built environment redevelopment” – Federico Orsini, Paola Marrone; University of Rome

“Generating models for model predictive control in Buildings” – Clément Fauvel, Suzanne Lesecq; CEA, Susan Rea, CIT (TOPAs)

“Connecting the know-how of design, production and construction professionals through Mixed Reality” – Rizal Sebastian, Demo Consultants (INSITER)



Flexibility: putting residential flexibility management into action with pilot sites and a public debate over the multi-year energy program in Europe

Certified by CNDP (French National Commission for Public Debate), a group of experts gathering for a public debate on the French energy program and exhibition of solutions that validate how the use of residential flexibility can be used to optimize European electricity consumption compared to production. (MAS²TERING, BEEST, and DRIVe projects)



Low Carbon Heating & Cooling Strategies: challenges faced and solutions available from a technical and business perspective when aiming for a decarbonized heating and cooling sector

Illustrating examples of replicable business cases that encourage a dialogue about strategies towards achieving a low-carbon heating and cooling future. (Heat Roadmap Europe project)



Retrofit, Renovation, & Refurbishment

“Plug-and-Play solutions for energy-efficiency & deep renovation of European building stock” Rizal Sebastian, DEMO Consultants (P2ENDURE)

“Sustainable business models for the deep renovation of buildings” – Karine Laffont-Eloire, DOWEL Management (STUNNING)

“Planning city refurbishment: a study at district scale with the CROCUS tool developed in the SINFONIA project” – Karine Laffont-Eloire, DOWEL Management (SINFONIA)

“Cost-effective enhanced geothermal systems for energy efficient building retrofiting” – Thomas Messervey, R2M Solution (GEOFIT)



Nature Based Solutions: why and how to implement Nature-Based Solutions?

Identifying classifications, impacts, and replicable business models of Nature-Based Solutions while discussing financing mechanisms and exposing pioneer case studies needed for implementation. (Nature4Cities project)



Closing Keynote Ceremony

Chaired by Thomas Messervey CEO of R2M Solution



Farewell Cocktail Reception

Day 1 site visit

Visit of **INES** large-scale facilities **27th June 2018, 17h30 - 19h00**

The National Solar Energy Institute brings together research staff from the CEA, as well as from the Savoie Mont Blanc University, the CNRS and the CSTB. The institute's laboratories, clean rooms, pilot facilities and demonstrators allow its scientists and technicians to work on optimizing all aspects of solar photovoltaic energy, from cells to systems and from positive-energy buildings to solar mobility. In addition to carrying out research into solar photovoltaic energy, teams are being set up to study solar thermal energy for cooling and heating, and to investigate ways of optimizing passive energy through energy management in buildings and energy efficiency technologies.

INES's research teams investigate all aspects of solar photovoltaic energy – silicon materials, cells, modules, systems, electricity storage, demonstrations and tests. The institute's scientists are currently studying methods for producing solar-quality silicon metal, increasing the efficiency of solar cells and developing storage systems for innovative forms of energy.

In the field of solar thermal, R&D will be carried out to optimize existing products and to adapt these products according to their usage or the complementary energy used (wood, gas, etc.). Other research fields include the development of combined systems (hot water and heating) and solar climate control. Building-integrated solar energy and the active management of combined thermal and electrical sources are also major research streams for INES, whose objective is to develop “positive energy” technologies that produce more energy than they consume. INES is also carrying out important research into solar mobility.

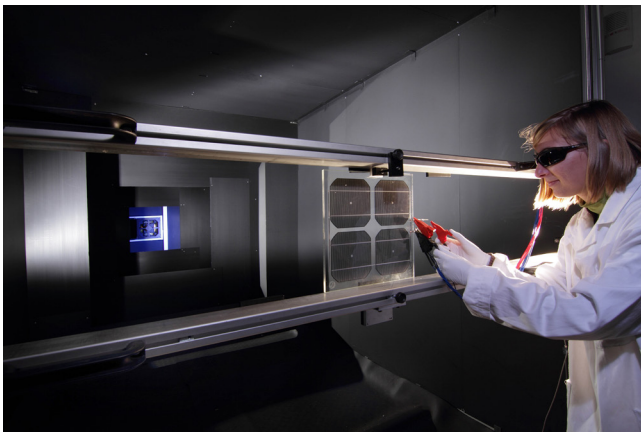


photo credit : P. Avavian



Day 3 site visit

Visit of **ENERGY POOL** in Bourget Du Lac, **29th June 2018, 08h30 - 10h00**

Distributed Energy Resources Management System (DERMS): The core of Energy Pool's operating center NOC-EP-1, Energy Pool's DERMS has been operational at energy pool's network operation center since 2012. Its features result from several years of practical know-how of Demand response management worldwide. To better cope with the specificities of each of our clients, our system is developed in an "AGILE" mode enabling rapid updates fitting most closely and quickly to clients' needs. Energy Pool's DERMS allows for real time frequency regulation to long term energy management planning, and for an optimal aggregation of flexibilities. Our automation solution (DR box) is the link between end-user's facilities and Energy Pool's network operation center. The DERMS technology is OpenADR 2.0 certified and complies with cybersecurity world's best standards (ISO/IEC 27001 standard).



Visit of **SCHNEIDER ELECTRIC** in Grenoble, **Day 3 (29th June 2018, 10h00 - 12h00)**

This campus includes energy-efficient buildings that are highly productive and flexible, ensuring the optimal well-being of occupants and low-energy usage due to ongoing installations of embedded technologies for applications such as room control and differentiated monitoring. The T11 building is a part of more global Green Ovalley project aiming to reduce the number of Schneider Electric buildings in Grenoble. T11 sits (Schneider Electric Industry / Energy Business research and Development) on 38TEC site located in Grenoble Peninsula. T11 has a target set to be a high efficiency building (45kWh/m²/y all end uses) with some PV production and a high level of comfort for occupants (responsive building rather than a smart building).



Keynote presentations

Opening Ceremony (IUT Auditorium; 27th June, 09:00h – 11:00h)



Anis Jouini, CEO of INES Research & Development

Keynote: “Introduction to INES R&D and welcome to SP2018 delegates”



Margot Pinault, Policy Officer in charge of Horizon 2020 funding for Energy Efficiency (Societal Challenge 3), European Commission, Directorate General for Energy, Unit C.3., Buildings and Finance team; Brussels, Belgium

Keynote: “R&I priorities for energy under H2020 and their policy context”

Workshop (27th June): ‘Info session on smart homes/buildings’ (IoT call – ENER, CNECT; smart energy services- EASME/ENER; upgrading smartness of the existing buildings- EASME/ENER)



Stefan Nowak, Chair IEA PVPS Technology Collaboration Programme / CEO of NET Nowak Energy & Technology Ltd.; St. Ursen, Switzerland

Keynote: “Solar energy beyond power, an industry in transition – opportunities in the urban landscape”



Florian Kraus, Green4Cities GmbH / CEO and leading co-developer of GREENPASS® GmbH; Vienna, Austria

Keynote: “Enabling climate-resilient cities with the GREENPASS® technology and Nature-Based Solutions implementations”

Workshop (28th June): Nature-Based Solutions

Keynote presentations

Closing Ceremony (IUT Auditorium; 28th June, 16:00h – 18:00h)

Peter Opt’Veld, Senior consultant/senior advisor/H2020 coordinator, Huygen Engineers & Advisors; Maastricht, The Netherlands

Keynote: “Retrofit Europe (SBE2019) regional conference”

Workshop (27th June): Deep Energy Renovation



Anne-Sophie Chamoy, Head of Strategy, Legal and Public Affairs at Energy Pool; Chambéry, France

Keynote: Introduction to the Energy Pool visit on 29th June



Olivier Cottet, Marketing and Channels Director Energy Analytics, Schneider Electric Industries; Grenoble, France

Keynote: Introduction to the Schneider Electric visit on 29th June



Karen Amram, Director for Europe, CEA Tech

Closing speech and thank you to SP2018 delegates



Venue Map



SP2018 delegate shuttle buses

Shuttle bus stops in Aix-les-bains:

Stop 1 : Aix les Bains train station, Boulevard Wilson, 73100 Aix-les-Bains

Stop 2 : La Rotonde restaurant, 7 Square Jean Moulin, 73100 Aix-les-Bains

Day 1 - June 27th 2018

Departure: 07:45: **Stop 1** > **Stop 2** > **SP18** conference venue (IUT)

Return: 17:30 SP18 Conference venue (IUT + HELIOS) > **Stop 2**

Return: 19:00 SP18 Conference venue (Lynx 3) > **Stop 2** (Gala dinner)

Day 2 - June 28th 2018

Departure: 07:45: **Stop 1** > **Stop 2** > **SP18** conference venue (HELIOS building)

Return: 20:00: **SP18** Conference venue (IUT + HELIOS) > **Stop 2** > **Stop 1**

(for delegates returning earlier: Ondéa bus Line 1, stop “INES NORD” – Direction “Pont rouge”)

Day 3 - June 29th 2018

Departure: 07:45: **Stop 1** > **Stop 2** > Energy Pool (visit) > **SP18** conference venue (HELIOS building)

Transfer to 2nd visit: 10:00 Energy Pool (visit) > **SP18** conference venue (HELIOS) > Schneider Electric Grenoble (visit)

Return: 12:00 Schneider Electric Grenoble (visit) > **Stop 1** > **Stop 2**



LOOKING FORWARD TO SEEING YOU AT SP2019

The Comune di Cagliari, Citta Metropolitana di Cagliari and the University of Cagliari proudly welcome you to “the Green Island”
June 05-07,2019 Cagliari, Italy



CITTA' METROPOLITANA
DI CAGLIARI



COMUNE DI CAGLIARI