

International Conference & Tradeshow

World Sustainable Energy Days 2019

27 February – 1 March 2019
Wels, Austria

Conferences:

- European Energy Efficiency Conference
- European Pellet Conference
- Young Energy Researchers Conference
- Tradeshow
- Site Visits

www.wsed.at



World Sustainable Energy Days 2019

Programme overview



European Pellet Conference

The world's largest annual conference on pellets with a focus on technologies, markets, policies and financing



Technical site visits

- Pellets and wood chips (26 February)
- Energy efficiency (1 March)



Poster Presentation

An opportunity to display successful energy projects and products as well as results of EU projects to international experts



Tradeshow (Energiesparmesse)

Leading tradeshow on renewable energy and energy efficiency with 100,000 visitors



European Energy Conference













The Clean Energy Package is changing Europe's energy markets. The conference presents how the "energy efficiency first" concept is being implemented and what it brings. Includes the conferences: Energy Policy, Industrial Energy Efficiency, Smart E-Mobility and Innovation Workshops Energy and Buildings



Young Energy Researchers Conference

A conference presenting the work of young energy researchers; Best Young Energy Researcher Awards

Timetable World Sustainable Energy Days

	Tuesday 26 February	Wednesday 27 February	Thursday 28 February	Friday 1 March
 Technical site visits: Pellets and wood chips				
 European Pellet Conference				
 European Energy Efficiency Conference				
 Energy Efficiency Policy Conference				
 Industrial Energy Efficiency Conference				
 Innovation Workshops Energy and Buildings				
 Young Energy Efficiency Researchers Conference				
 Young Biomass Researchers Conference				
 Smart E-Mobility Conference				
 Technical site visits: Energy efficiency				
 Tradeshow				
 Poster Presentation				

What are the World Sustainable Energy Days (WSED)?

The new Clean Energy Package is changing Europe's energy markets. "Energy efficiency first" and "global leadership in renewables" are at the core of Europe's commitment to a clean energy transition. This requires strong policies, competitive businesses, technology innovation and investments. The WSED conference addresses policies, innovation and business in specialised conferences and interactive events. It connects people from business, the public sector and research and empowers them to embrace the change.

In 3 days, the event offers delegates:

- 6 dedicated **conferences**, including the European Energy Efficiency Policy Conference, the European Pellet Conference, the Industrial Energy Efficiency Conference and the Smart E-Mobility Conference
- **technical visits** to innovative energy projects
- a major **tradeshow** on building efficiency and renewable energy with 1,600 exhibiting companies

Who attends the event?

- A wide range of business actors engaged in the energy transition: technology and equipment companies, energy companies, service providers, planners, developers, financing sector etc.
- the sustainable energy research community
- representatives from public bodies (e.g. EU institutions, national, regional and local governments, energy agencies)

Over 600 experts each year from more than 60 countries!

When does it take place?

27 February – 1 March 2019

Where does it happen?

Wels/Austria. The region of Upper Austria is an ideal location for this conference: Through significant increases in energy efficiency and renewable energy, greenhouse gas emissions from buildings have been reduced by 43 % in 10 years. Over 60 % of all space heating and 31 % of the primary energy in Upper Austria already come from renewables.

How to join?

Mark your calendar, register today (www.wsed.at), book your hotel, finalise your travel details and come join us at the WSED in Wels!

Value for your time!

In just 3 days, you can profit from a comprehensive package:

- up-to-date information on markets, policies, technologies, financing, business models, research and case studies
- hands-on experience through technical site visits
- a tradeshow with 1,600 exhibiting companies
- new business opportunities
- valuable networking possibilities
- Austrian hospitality!

Clean. Competitive. Connected.

The WSED:

- 600 experts
- 60 countries
- 6 conferences
- 1 major tradeshow

Our mission: the energy transition!



European Pellet Conference 2019

27 - 28 February 2019

27 February | 09.00

What's next for pellets?

With the Clean Energy Package, Europe is entering a new era in the energy transition: the new regulatory framework is changing Europe's energy markets. We show what this means for pellets and where we currently stand.

- **Opening and welcome**
Gerhard Dell, OÖ Energiesparverband, Austria
- **The "Clean Energy Package": What's new for bioenergy?**
Robert Kaukewitsch, European Commission, DG Energy
- **Pellets in Europe - market update**
Gilles Gauthier, Bioenergy Europe / European Pellet Council
- **Sustainable bioenergy around the globe**
Maria Michela Morese, United Nations (FAO) / Global Bioenergy Partnership
- **Other renewables and energy efficiency - friends or competitors of pellets?**
Lukas Kranzl, Technische Universität Vienna, Austria



27 February | 11.00

Leadership panel: Securing the role of pellets in the energy transition

Without biomass, the energy transition will not be possible! Decision-makers from along the pellet supply chain discuss how we can jointly strengthen the role of pellets in this global transformation process.

- **Stefan Ortner**
ÖkoFEN, Austria
- **Marco Palazzetti**
Gruppo Palazzetti, Italy
- **Johan Granath**
Ekman & Co, Sweden
- **Helmut Schellinger**
Schellinger KG, Germany
- **Adam Sherman**
Biomass Energy Resource Center, USA
- **Volker Lenz**
DBFZ (German Biomass Research Centre), Germany
- **Gilles Gauthier**
Bioenergy Europe/European Pellet Council
- **Christiane Egger**
OÖ Energiesparverband, Austria

Chairperson:

Gordon Murray, Wood Pellet Association of Canada

Lunch break

27 February | 14.30

Pellet Innovation Panorama

The energy transition offers many opportunities for new solutions, products and services – also in the pellet sector. In this session, a variety of examples demonstrate the wide range of possibilities.

- **Pellet innovations from Upper Austria applied worldwide**
Werner Emhofer, Fröling, Austria
Gottfried Baumann-Leitner, Windhager, Austria
- **A strategic approach to fibre supply**
Shawn Bells, Operations for Pacific BioEnergy, Canada
- **Mobilising wood for bioenergy**
Richard Sikkema, Wageningen University & Research Centre, The Netherlands
- **Pea starch as an additive in pellet production**
Magnus Ståhl, Karlstad University, Sweden
- **Combined production of second generation ethanol and lignin pellets**
Xavier Duret, Résolve Énergie, Canada
- **Wood pellet breakage during pneumatic delivery processes**
Julian Jägers, Ruhr University Bochum, Germany
- **The new safety and storage standard**
Hans Martin Behr, Deutsches Pelletinstitut, Germany
- **Microscale CHP with a fluidised bed stirling engine**
Tanja Schneider, Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany
- **Silometric - a sensor system for pellet silos**
Alexandre Llusera Paredes, MC Systems, Spain
- **Mobile pellet heating systems**
Ivo Bucher, Pellet-Mobil, Switzerland
- **A “pellet torch”**
Tobias Mücke, Mücke Ambiente, Germany
- **Bioflex: combustion of challenging biomass fuels**
Ingwald Obernberger, BIOS Bioenergiesysteme, Austria
- **Refawood: ash reduction in waste wood combustion**
Sarah Janhäll, RISE Research Institute of Sweden

19.00 Evening programme



28 February | 09.30

What's new on European and global pellet markets

- **Opening**
Gordon Murray, on behalf of the European Pellet Council
- **Baltic countries: update from the North**
Didzis Palejs, Latvian Biomass Association / Bioenergy Europe
- **Canada: "Vision Biomasse Québec"**
John W. Arsenaault, Québec Wood Export Bureau / Wood Pellet Association of Canada
- **UK: insights into the future pellet market**
Neil Harrison, reheat/Wood Heat Association, UK
- **Spain: increasing opportunities**
Pablo Rodero, AVEBIOM, Spain
- **China: pellet production and consumption**
Dou Kejun, China National Renewable Energy Center
- **Germany: consumer satisfaction from 20 years of pellet use**
Martin Bentele, DEPV, Germany
- **Switzerland: new pellet projects**
Martina Caminada, proPellets.ch, Switzerland
- **Austria: update on the pellet market**
Christian Rakos, proPellets Austria
- **Italy: the world's largest residential pellet user**
Matteo Favero, AIEL, Italy
- **Turkey: a market for pellets?**
Tanay Sidki Uyar, World Bioenergy Association, Turkey
- **India: pellets from different raw materials**
Tanmay Kotasthane, Trimurti Womens College of Science, India

Chairperson:

Gordon Murray, Wood Pellet Association of Canada

12.30 End of the session



28 February | 09.30

Solutions for the combustion of challenging biomass fuels

- **Introduction to the ERA-NET project "BIOFLEX"**
Ingwald Obernberger, BIOS Bioenergiesysteme, Austria
- **Fuel design concepts to reduce ash related problems and emissions**
Experiences from single pellet combustion tests
Christoffer Boman, Umeå University, Sweden
- **Combustion tests with kaolin additivated fuels in residential boilers**
Robert Mack, Technology and Support Centre (TFZ), Germany
- **Modeling fixed-bed pellet combustion of fuels of varying ash contents**
Henrik Ström, Chalmers University of Technology, Sweden
- **Use of non-wood pellets in adapted small-scale boilers**
Thomas Brunner, BIOS Bioenergiesysteme, Austria
- **Burner design for difficult pulverised biomass fuels**
Pawel Bocian, Institute of Power Engineering, Poland
- **Guidelines for fuel design**
Christoffer Boman, Umeå University, Sweden
- **Guidelines for advanced furnace/boiler design**
Thomas Brunner, BIOS Bioenergiesysteme, Austria
- **Discussion, conclusions and outlook**
Ingwald Obernberger, BIOS Bioenergiesysteme, Austria

This session is organised as part of the ERA-NET Bioenergy project "BIOFLEX" in cooperation with BIOS: www.bioflex-eranet.eu

12.30 End of the session

28 February | 09.30

Ash reduction in waste wood combustion

- **REFAWOOD project overview**
Susanne Paulrud, RISE Research Institute of Sweden
- **Elemental approaches to additives: mechanisms and dosage**
Nils Skoglund, Umeå University, Sweden
- **Impact of additives in small-scale combustion of pelletised low quality wood**
Thomas Zeng, Deutsches Biomasseforschungszentrum (DBFZ), Germany
- **Reducing downtime with additives in large-scale biomass combustion**
Peter Sommersacher, BIOENERGY 2020+, Austria
- **The effect of additives on boiler corrosion**
Martin de Jong, Dekra Solutions, The Netherlands
- **Forest residues and additives in a medium scale CHP-plant - legal framework**
Magdalena Sajdak/Wojciech Cichy, Wood Technology Institute, Poland
- **Waste wood combustion: environmental consequences of using low-cost additives**
Blanca Corona, Utrecht University, The Netherlands
- **Economic consequences of low cost additives**
Alwin Hoogendoorn, Avans University of Applied Sciences, The Netherlands

Chairperson:

Sara Janhäll, RISE Research Institute of Sweden

This session is organised as part of the ERA-NET Bioenergy project "REFAWOOD":
<http://refawood.com>

12.30 End of the session



Energy Efficiency Policy Conference

28 February 2019

28 February | 09.00

What's next for energy efficiency?

With the Clean Energy Package, Europe is entering a new era in energy efficiency. The new regulatory framework is changing Europe's energy markets. We present up-to-date information on how the "energy efficiency first" concept is being implemented and what it brings.

- **Welcome and opening**
Markus Achleitner, Regional Minister for Economy and Energy, Upper Austria
- **The Clean Energy Package: What's in for energy efficiency?**
Karlis Goldstein, European Commission, DG Energy
- **The EU energy consumption - recent trends and drivers**
Samuel Thomas, Energy and Climate Economics Consultant, France
- **The new electricity market design and the energy transition**
Wolfgang Urbantschitsch, e-control, Austria
- **Energy efficiency - India vs Europe**
Nanda Kumar Janardhanan, Jawaharlal Nehru University, India
- **Quantifying multiple benefits of energy efficiency**
Dora Fazekas, Cambridge Econometrics, Hungary



28 February | 11.00

Efficiency Expert Forum: Investing in the energy transition

The energy transition is key for climate protection and a thriving economy. How does this connection work in practice? Find out in this session.

- **The business case of energy efficiency**
Anette Jahn, European Commission, EASME
- **The energy transition - the largest growth market of the 21st century**
Theodor Zillner, Federal Ministry for Transport, Innovation & Technology, Austria
- **Innovation and investment: the energy transition in Upper Austria**
Gerhard Dell, OÖ Energiesparverband, Austria
- **Entrepreneurship and education - cornerstones of the energy transition**
Dirk Bessau, KIC InnoEnergy

28 February | 12.00

Energy Efficiency Lab: Tomorrow's solutions

The energy transition offers many opportunities for new products and services. In this session, we present a variety of examples of the direction this can take.

- **Higher energy efficiency and lower business risks**
Ander Romero Amorrortu, Tecnalia, Spain
- **Energy efficiency for urban regeneration**
Roberto Fedrizzi, EURAC, Italy
- **EU projects supporting EPBD implementation**
Johann Zirngibl, CSTB, France
- **Energy efficient buildings with reused materials**
Barbora Blaškovičová, FENIX TNT, Czech Republic
- **Thermal energy storage: save today, use tomorrow!**
Gabriela Urbanová, FENIX TNT, Czech Republic
- **Combining building efficiency and heat pumps**
Wim Boydens, Boydens Engineering, Belgium



Industrial Energy Efficiency Conference

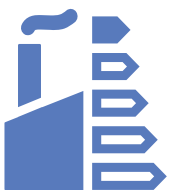
28 February 2019

28 February | 14.00

Innovation for the energy transition in industry

The energy transition in industry is here! We show how it can succeed, what technologies and innovations are needed and which policies they support.

- **Industrial transformation 2050**
Simon Wolf, European Climate Foundation
- **Leading the industrial energy transition**
Christiane Egger, OÖ Energiesparverband, Austria
- **Innovation for energy-intensive industries**
Mikael Larsson, Swerim, Sweden
- **Industrial energy efficiency - what is economic today**
Peter Radgen, University of Stuttgart, Germany
- **Supporting EU policy making: technology pathways for decarbonisation**
Alessia De Vita, E3Modelling, Greece
- **The Industry Energy Efficiency Barometer**
Stefan Büttner, Fraunhofer IPA / University of Stuttgart, Germany
- **Decision making for energy efficiency in industries**
Werner König, Reutlingen University, Germany



Financing and implementing energy efficiency in industry

We show with real-life examples how investments in the industrial energy transition are possible and economically viable.

- **Successful industrial energy transition**
Matthias Schimmel, Navigant
- **Innovative financing examples and business models**
Dario Di Santo, Fire, Italy
- **International cooperation for industrial energy efficiency**
Oleg Dzioubinski, United Nations Economic Commission for Europe (UNECE)
- **Increasing productivity and profits in manufacturing companies with energy efficiency**
Francisco Puente, ESCAN, Spain

Voices for industrial energy efficiency

Dedicated to energy efficiency and renewable energy in industry

- **Decarbonisation of the steel industry: visions and challenges**
Johann Prammer, voestalpine AG, Austria
- **Achieving energy efficiency in the cement industry**
Erich Frommwald, Kirchdorfer Zementwerk Hofmann, Austria
- **Renewable energy in industry**
Biomass: Siegfried Aigner, Aigner Energie Contracting, Austria
Heat pumps: Thomas Nowak, European Heat Pump Association (EHPA)
- **Energy efficiency in South-East Asia**
Dina Azhgaliyeva, National University of Singapore
- **A global network to support industrial energy efficiency**
Rod Janssen, Energy Efficiency in Industrial Processes (EEIP)

Chairperson: Nils Borg, eceee



Innovation Workshops Energy & Buildings

28 February 2019

6 parallel sessions

28 February | 14.00

Higher energy efficiency and lower business risks

Reducing the energy performance gap in buildings

Organised in the context of the H2020 project MOEEBIUS

- **Modelling energy in buildings for urban sustainability**
Ander Romero Amorrortu, Tecnalia, Spain
- **Novel business models and new energy market roles**
Ricardo Rato, ISQ, Portugal
- **Improving energy simulation tools**
Pablo de Agustín, Tecnalia, Spain
- **Open and semantically enhanced user software**
Jakub Malanik, Honeywell, Czech Republic
- **Innovative sensing and control devices**
Brendan O'Flynn, Tyndall, Ireland
- **Integrated applications for energy performance optimisation**
Georg Ferdinand Schneider, THN, Germany
- **A replicable and easily transferable framework**
Mircea Bucur, KiWi, UK
- **Panel discussion**

Chairpersons: Ander Romero Amorrortu, Tecnalia, Spain / Remigiusz Mielczarek, ASM, Poland

Energy efficiency for urban regeneration

Organised in the context of the H2020 project BuildHeat

- **BuildHeat: innovation and approach**
Roberto Fedrizzi, EURAC, Italy
- **Integrating heat pump, ventilation and multi-control inverter technologies**
Giacomo Feltrin, Clivet, Italy
- **Combining water storage and decentralised mechanical ventilation**
Werner Pink, Pink, Austria
- **Financing renovations**
Sergio Olivero, SITI, Italy
- **Round table discussion**

Chairperson: Roberto Fedrizzi, EURAC, Italy



EU projects supporting EPBD implementation

Organised in the context of the H2020 projects ALDREN, CEN-CE and EPB Center

- **Results of EU projects facilitating the implementation of the revised EPBD**
Johann Zirngibl, CSTB, France
 - **Supporting EPB standards at national level**
Jaap Hogeling, EPB Center, The Netherlands
 - **Towards a common EU energy performance certificate**
Jana Bendžalová, ENBEE, Slovakia
 - **Closing the gap between calculated and measured energy demand**
Laurent Socal, SLR, Italy
 - **The ALDREN building renovation passport**
Graziano Salvalai, Politecnico di Milano, Italy
- Chairperson:** Johann Zirngibl, CSTB, France

Energy-efficient buildings with reused materials

Organised in the context of the H2020 projects RE4, VEEP, INNOWEE, GREENINSTRUCT and FISSAC

- **Welcome**
Barbora Blaškovičová, FENIX TNT, Czech Republic
- **RE4: CDW materials in energy-efficient prefabricated elements**
Alessandro Largo, CETMA, Italy
- **VEEP: CDW in prefabricated concrete components**
Anna Paraboschi, RINA Consulting, Italy
- **GREENINSTRUCT: modular refurbishment with a universal building block**
Xiangming Zhou / Gediminas Kastiukas, Brunel University London, UK
- **INNOWEE: economically viable, flexible and modular solutions for CDW**
Adriana Bernardi, CNR-ISAC, Italy
- **FISSAC: sustainability in resource-intensive industry**
Blanca Juez Sanchez, ACCIONA Construcción, Spain
- **Interactive poster session and panel discussion**
Chairperson: Barbora Blaškovičová, FENIX TNT, Czech Republic

Thermal energy storage: save today, use tomorrow!

Organised in the context of the H2020 projects CREATE, HYBUILD, SCORES, TESSE2B, THERMOSS, SUNHORIZON

- **Welcome** Petra Colantonio, FENIX TNT, Czech Republic
- **CREATE: compact thermal energy storage for existing dwellings** Rebekka Koell, AEE, Austria
- **HYBUILD: compact hybrid storage for low energy buildings** Luisa F. Cabeza, Universitat de Lleida, Spain
- **SCORES: increasing self-consumption of renewables with hybrid storage systems**
Christophe Hoegaerts, TNO, The Netherlands
- **TESSE2B: thermal energy storage for energy efficient buildings**
Luís Coelho, Instituto Politecnico de Setubal, Portugal
- **THERMOSS: managing heat demand - from building to district heating level**
Federica Fuligni, Exergy, United Kingdom
- **SUNHORIZON: sun-coupled innovative heat pumps**
Stefano Barberis, RINA Consulting, Italy
- **Interactive poster session and panel discussion**
Chairperson: Petra Colantonio, FENIX TNT, Czech Republic

Geothermal heat pumps and thermally activated buildings

Organised in the context of the H2020 project HybridGeotabs

- **Introduction**
The heat pump market - responsibilities and challenges
Wim Boydens, EHPA/Boydens Engineering, Belgium
- **Decentralised storage: impact on renewable share in grids and buildings** Guy Vekemans, Vito, Belgium
- **Model predictive control for "HybridGeotabs"**
Lukas Ferkl, Energoklastr, Czech Republic
- **Geothermal applications** Hector Cano, Geoter, Spain
- **Heat pump design** Volker Loeffler, ait-deutschland, Germany
- **Designing a "HybridGeotabs" building**
Anne Caminade, Lemon Consult, Switzerland
- **Value propositions of "hybridGEOTABS" buildings**
Suleyman Dag, Uponor, Finland
- **Discussion: Challenges for market deployment and policy support**
Chairperson: Wim Boydens, Boydens Engineering, Belgium

19.00 Evening programme

Smart E-Mobility Conference

1 March 2019

1 March | 09.00

Towards e-mobility worldwide

E-mobility is on the rise worldwide. We offer insights into current developments and shed light on the economic impacts of these trends.

- **Opening and welcome**
Christiane Egger, OÖ Energiesparverband, Austria
- **How e-mobility strengthens the economy**
Abrial Gilbert-d'Halluin, European Climate Foundation
- **The world's leading e-mobility market**
Jian Liu, Energy Research Institute, China
- **Energy efficiency paving the way for e-mobility**
Harry Verhaar, Signify (the new name for Philips Lighting), The Netherlands

Innovation Session: batteries and charging

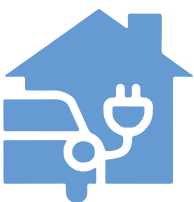
Batteries are at the heart of e-mobility's success. This session presents how far developments are and where we are heading.

- **Technology update from battery research**
Jens Tübke, Fraunhofer Battery Alliance / Fraunhofer ICT, Germany
- **Solid-state batteries - the next battery generation?**
Martin Finsterbusch, Forschungszentrum Jülich, Germany
- **Making vehicle to grid a reality**
Cristina Corchero, Catalonia Institute for Research, Spain
- **Direct solar high-speed charging - an R&D project**
Menno Kardolus, Power Research Electronics, The Netherlands

Rethinking e-mobility: creating new business

Examples from all over Europe showcase successful business models and projects and offer valuable insights from the user's perspective.

- **Showcasing cutting-edge e-mobility solutions**
Roel Swierenga, Hansa Green Tours, The Netherlands
- **E-mobility: the user's perspective**
Morten Edvardsen, The Norwegian Electric Vehicle Association
- **From R&D project to a leading e-mobility service company**
Franz Josef Gotzler, E-WALD, Germany



Young Energy Researchers Conference

27. Februar 2019 | 14.00

Young Energy Efficiency Researchers Conference

- **14.00 Opening and welcome**
Gerhard Dell / Christiane Egger, OÖ Energiesparverband
- **Design, development and performance of triple vacuum glazing**
Saim Memon, London South Bank University, UK
- **Design and realisation of a mixed solar cooker**
Jean Materne Ango / Etienne Tchoffo Houdji, University of Maroua, Cameroon
- **Improved energy efficiency in the Iranian brick industry**
Nushin Shahri, Allplan, Austria
- **Evaluating energy efficiency measures for an educational building in Islamabad**
Rafia Akbar, National University of Sciences and Technology, Pakistan
- **Robust building design able to cope with variations in user-behaviour**
Lakshmishree Venu Gopal, Technical University of Munich, Germany
- **Mitigating CO₂ emissions in Finland with seasonal thermal energy storage**
Janne Hirvonen, Aalto University, Finland
- **Cost-effective investments in energy saving measures for residential buildings**
Mattia Baldini, Technical University of Denmark
- **Involving academia in energy efficiency networks**
Javier Sandoval / Ana Ortiz / Juliana Rodriguez, S2G, Mexico
- **Determinants of heat demand in the European residential sector**
Jens Ewald, University of Gothenburg, Sweden
- **Building management systems: case study of the Energy Centre Bračak**
Matija Hrumpački, North-West Croatia Regional Agency, Croatia
- **Collecting silences: The role of entrepreneurs in assetising energy efficiency and carbon emission reduction property rights**
Colin Nolden, University of Bristol, UK
- **Community microgrids for future cities: a foresight analysis**
Ariel Toh, SEE University Teknologi Malaysia
- **Cost-effectiveness of energy efficiency measures for systems with a large share of renewables**
Géremi Dranka, University of Minho, Portugal
- **Renewables and e-mobility: key synergy for energy efficiency**
Dražen Balić / Bruno Zidov / Tomislav Cop, Energy Institute Hrvoje Požar, Croatia
- **Stabilised renewable power supply through coupling of solar cells and double layer capacitors (EDLCs)**
Katrin Anneser, Bavarian Center for Applied Energy Research, Germany
- **Analysis of hydrogen fuel cell and battery efficiency**
Aristeidis Tsakiris, Copenhagen Centre on Energy Efficiency, Denmark
- **Mitigating degradation of field-aged PV-modules in India**
Kamlesh Yadav / Shradha Yadav, National Institute of Solar Energy / Banaras Hindu University, India
- **Investigation of two hybrid PV thermal collectors**
Bharat Chhugani / Nils Hupp, Bavarian Center for Applied Energy Research, Germany
- **Performance monitoring of high-efficiency Maxeon PV plant in India**
Rashmi Singh, National Institute of Solar Energy, India
- **Integrating indoor climate indicators in building legislation**
Paraskevi Vivian Dorizas / Jonathan Volt, BPIE

Chairperson: Reinhold Priewasser, Johannes Kepler University, Austria

19.00 Evening programme



28 February | 14.00

Young Biomass Researchers Conference

- **Opening and welcome**
Gerhard Dell / Christiane Egger,
OÖ Energiesparverband
- **Characterisation of wheat straw combustion**
Anna Strandberg, Umea University, Sweden
- **Utilising algae waste for biosynthetic petroleum in Indonesia** Rifai Mardanie Bajuri / Melinda Dwi Lestari / Mochamad Fatchur, Indonesia Defense University
- **The impact of lignin precipitation on its properties and use as an adhesive** Anton Lisý / Petra Strižincová / Zuzana Burčová / František Kreps, Slovak University of Technology Bratislava
- **One-pot fractionation of shrimp shells with deep eutectic solvents** Bojana Bradič, National Institute of Chemistry, Slovenia
- **Waste heat recovery from a micro gas turbine: thermodynamic analysis**
Adriana Santamaria Padilla, Universidad Autónoma Metropolitana Iztapalapa, Mexico
- **Biomethanation of tannery sludge: optimisation and evaluation of kinetics** Ashton Mpofo, Cape Peninsula University of Technology, South Africa
- **Recovery of valuable by-products from alkaline pulping** Hemanathan Kumar Kumar, University of Jyväskylä, Finland
- **Correlation between particulate matter and O₂ in a wood pellet stove**
Luigi Polonini, Università degli Studi di Brescia, Italy
- **Recovering biofuel resources from oilseed sewage sludge** Wighens Ngoie, Cape Peninsula University of Technology, South Africa
- **Biomass valorisation through waste to chemical conversion** Alessia Borgogna, University of Rome La Sapienza, Italy
- **Life cycle GHG and energy analyses of bio-coal production from various feedstocks**
Maryam Akbari, University of Alberta, Canada
- **Power grid balancing by biomass CHP in the Ukraine**
Oleksii Epik / Vitalii Zubenko, Institute of Engineering Thermophysics of NASU / Scientific Engineering Centre Biomass, Ukraine
- **Techno-economic assessment of an advanced biomass processing depot** Pierre-Olivier Lemire, Université du Québec à Trois-Rivières, Canada
- **Spruce needles extractives as protection against microbial attack** Petra Strižincová / Anton Lisý / Zuzana Burčová / František Kreps, Slovak University of Technology Bratislava
- **Processing groundnut biomass to high-value energy**
Sai Praneeth Thota, Sri Sathya Sai Institute for Higher Learning, India
- **Comparison of instrumental methods for biomass fuels analysis** Josef Farták, University of Chemistry and Technology Prague, Czech Republic
- **Mathematical optimisation of an integrated biogas and wastewater treatment system for palm oil mill effluent** Steve Z.Y. Foong, The University of Nottingham, Malaysia
- **Biomass-biogas hybrid energy systems for remote area agricultural applications**
Sonali Goel, Siksha 'O' Anusandhan, India
- **Real-life emissions of domestic wood heating appliances** Rita Sturmlechner, Bioenergy 2020+, Austria
- **Evaluation of various types of biomass for electricity generation in high altitudes**
Ashma Subedi, Kathmandu University, Nepal
- **The charcoal and wood biomass dilemma in Uganda: what can be done differently?** Dastan Bamwesigye, Mendel University Brno, Czech Republic

Chairperson:

Walter Haslinger, Bioenergy 2020+, Austria

19.00 Evening programme



26 February | 08.30

**Technical site visits:
Pellets and wood chips**

- A full day of technical site visits on fuels, equipment and exemplary installations in Upper Austria
- An opportunity to gain first-hand information and to discuss specific questions on-site with the technology providers and project operators
- Learn more about the entire value chain of the pellet and wood chip sector!
- Bus tour from 8.30 - 19.00 hrs



1 March | 13.30

Technical site visits: Energy Efficiency

- An afternoon trip to energy efficiency projects in the surrounding area.
- An opportunity to gain first-hand information and discuss specific questions on-site with the technology providers, planners and operators
- Learn more about energy efficient technologies, buildings and projects in Upper Austria.
- Bus tour from 13.30 - 18.00 hrs



27 February – 3 March



Tradeshow

A leading European sustainable energy tradeshow

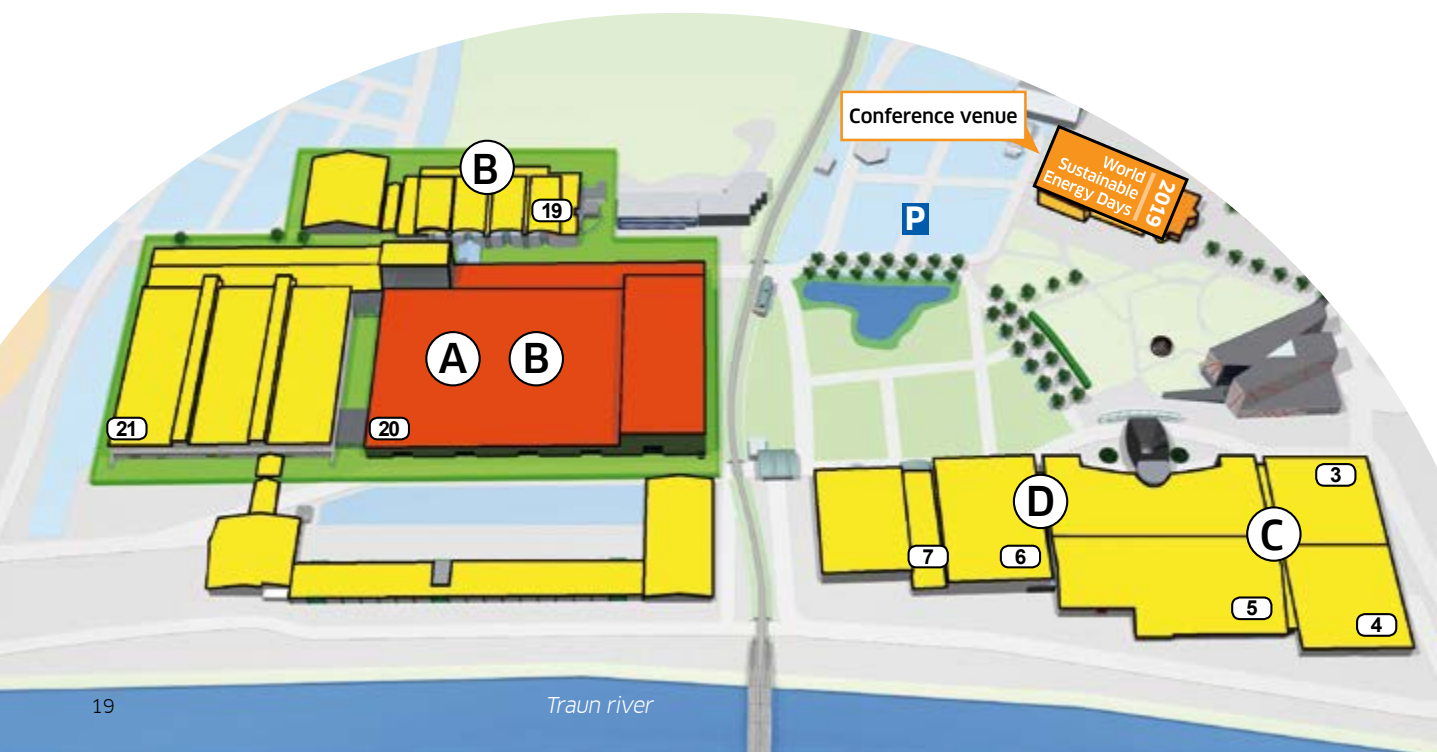
- 1,600 exhibiting companies
- 100,000 visitors, including over 30,000 professional visitors
- strong focus on innovative solutions for sustainable heating and efficient building construction and renovation
- Austrian companies present their latest product innovations

Practical information

- Wednesday, 27 February to Sunday, 3 March, opening hours: 9.00 - 18.00 hrs
- Conference participants can enter the fairgrounds for free with their name tag during the conference days.

Tradeshow highlights

- Ⓐ Stand of the ÖÖ Energiesparverband with comprehensive information for homeowners, businesses and municipalities, the special exhibitions on “Innovative LED-lighting”, “building materials” and “E-Cars & smart home”
- Ⓑ Biomass boilers and stoves, PV, solar thermal, heat pumps, ventilation systems: Halls 19-20
- Ⓒ Insulation materials: Halls 3-5
- Ⓓ Windows: Halls 5-7



The World Sustainable Energy Days 2019

**600 experts,
60 countries,
6 thematic conferences,
1 mission:
the clean energy transition**

www.wsed.at



Upper Austria - a leader in the clean energy transition

The region of Upper Austria, one of Austria's nine regions, is a leader in the clean energy transition: 31 % of the primary energy come from renewables, half of this is clean and sustainable biomass. 35 % of all dwellings are heated with biomass. The region's strategic approach to the energy transition supported the growth of a vibrant industry which successfully exports worldwide.

The conference organiser OÖ Energiesparverband

The OÖ Energiesparverband (ESV) is the energy agency of Upper Austria. The agency, which was established by the regional government, drives the energy transition by promoting energy efficiency, renewable energy and innovative energy technologies. It provides comprehensive services to private households, businesses of all sizes and municipalities. It also supports energy technology companies in the context of the Cleantech-Cluster.

The audience - the whole sustainable energy sector!

Each year, the World Sustainable Energy Days attract over 600 experts from over 60 countries including:

- a wide range of business actors engaged in the energy transition: technology and equipment companies, energy companies, service providers, planners, developers, financing sector etc.
- the sustainable energy research community
- representatives from public bodies (e.g. EU institutions, national, regional and local governments, energy agencies)

Practical information

Conference fees

All fees include entrance to the tradeshow and conference documentation.

- 430 Euro for all WSED conferences and site visits (26 February - 1 March)
- 350 Euro for all WSED conferences (27 February - 1 March)
- 310 Euro for the European Pellet Conference and the site visits (26 - 28 February)
- 215 Euro for the European Pellet Conference (27 - 28 February)
- 320 Euro for the European Energy Efficiency Conference (27 February - 1 March)
- 105 Euro each for the conferences: Young Energy Researchers (27 - 28 February), Innovation Workshops (28 February), Industry (28 February), E-Mobility (1 March)
- for student fees see www.wsed.at

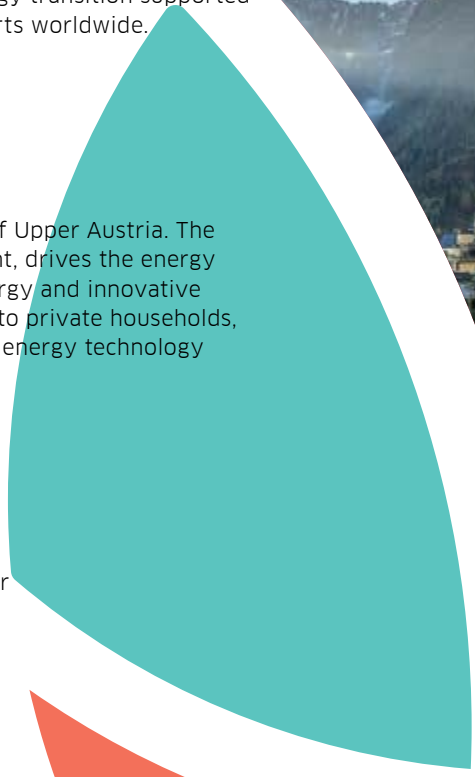
All fees plus 10 % VAT

Conference venue

Stadthalle Wels, Pollheimerstrasse 1, 4600 Wels, Austria

Conference languages

Simultaneous translation in English and German



World Sustainable Energy Days 2019

27 February – 1 March 2019
Wels, Austria



Conference office

OÖ Energiesparverband
Landstrasse 45, 4020 Linz, Austria
Tel. +43/732/7720-14386
office@esv.or.at, www.esv-en.at,
www.wsed.at

Registration

Online at www.wsed.at

How to reach Wels?

- by railway: direct connections from Vienna and Vienna airport, Linz, Salzburg, Munich, Paris, Brussels, etc.
- by road: A1 and A25 motorways
- by air: airports in Linz (17 km from Wels), Vienna (222 km), Salzburg (110 km), Munich (247 km)



    #WSED

WWW.WSED.AT



 Federal Ministry
Republic of Austria
Sustainability and Tourism

 Federal Ministry
Transport, Innovation
and Technology



ZVR171568947