



# World Sustainable Energy Days 2024

**ENERGY TRANSITION NOW – FAST, SMART, RESILIENT!**

**5 – 8 March 2024, Wels, Austria**

**Conferences:**

- Energy Efficiency Policy Conference
- European Pellet Conference
- Young Energy Researchers Conference
- Industrial Energy Efficiency Conference
- Smart E-Mobility Conference
- Workshop "Cities and regions"

**[www.wsed.at](http://www.wsed.at)**



# World Sustainable Energy Days 2024

## Energy transition now – fast, smart, resilient!

### Programme overview

**European Pellet Conference**

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

**Smart E-Mobility Conference**

Technology, policy and market updates • Bi-directional & fast charging • Battery innovations • Case studies

**European Energy Policy Conference**

New Energy Efficiency Directive • REPower EU & Green Deal • EE Markets & Finance • Energy Communities • Energy Efficiency Watch

**Young Energy Researchers Conference**

Presenting the work of young energy researchers • Best Young Energy Researcher Awards

**Industrial Energy Efficiency Conference**

Pathways to net-zero industries • Policy updates • Clean energy technologies & flexibility • Green hydrogen • Case studies

**Poster Presentation**










Displaying energy projects, products and EU project results to international experts

**Workshop "Cities and regions – drivers for climate neutrality"**

Best practice examples of a wide range of energy transition investments with different financing solutions

**Tradeshow**

Leading tradeshow (Energiesparmesse – Webuild) on energy and buildings • Austrian & international companies present product innovations • 2023: 78,000 visitors

Timetable World Sustainable Energy Days	Tuesday 5 March	Wednesday 6 March	Thursday 7 March	Friday 8 March
 European Pellet Conference				
 European Energy Efficiency Conference				
 Energy Efficiency Policy Conference				
 Industrial Energy Efficiency Conference				
 Workshop "Cities and regions"				
 Young Energy Researchers Conference				
 Smart E-Mobility Conference				
 Tradeshow				
 Poster Presentation				

## WHAT are the World Sustainable Energy Days (WSED)?

### Energy transition now – fast, smart, resilient!

No time like now for the energy transition! Price fluctuations, geopolitical instabilities and the climate crisis make the importance of the energy transition evident. New EU targets require a strong push for energy efficiency and renewable energy in all sectors.

The 2024 World Sustainable Energy Days will show how to realise the high policy ambitions and how to strengthen the clean energy markets.

In 4 days, the leading conference on the energy transition and climate neutrality 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.

## WHO attends the event?

**Over 650 experts from more than 60 countries each year!**

- 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)

## WHEN does it take place?

5 – 8 March 2024

## HOW to join?

Mark your calendar and register today!  
([www.wsed.at](http://www.wsed.at))

## WHERE does it happen?

In Wels/Austria. The region of Upper Austria is an ideal location for this conference: Through significant increases in energy efficiency and renewable energy, GHG emissions from buildings were reduced by 39 %. 60 % of all space heating and 33 % of the primary energy in Upper Austria already come from renewables.

With the World Sustainable Energy Days, Upper Austria – a leader in the energy transition – is the meeting place for sustainable energy.

Europe has set itself the ambitious target of becoming the first climate-neutral continent. We present and discuss solutions to practically implement the energy transition quickly. With energy efficiency and renewable energy, we will ensure competitiveness and decrease energy costs!

Markus Achleitner, Regional Minister for Economy and Energy, Upper Austria



# NEW 2024

- New EU Directives
- Towards net-zero
- Local and regional energy transition
- New funding programmes

# European Pellet Conference 2024

6 March 2024



6 March | 09.00

## Strategy Session: Pellets – smart and sustainable!

The last year has been challenging for the pellets industry: the sustainability discussions at European level and in some Member States, market fluctuations and supply chain issues were some of the topics. The session will provide updates on policies and markets and an outlook for the next year.

- **Opening and welcome**  
Gerhard Dell, ÖÖ Energiesparverband, Austria
- **The new Renewable Energy Directive**  
Biljana Kulišić, European Commission, DG Energy
- **Bioenergy market and policy update**  
Irene di Padua, Bioenergy Europe
- **Best Young Biomass Researcher Award**
- **UN initiatives for bioenergy**  
Tiziana Pirelli, Food and Agriculture Organization of the United Nations / Global Bioenergy Partnership



**6 March | 11.30**

## **How to create positive narratives and acceptance for sustainable bioenergy?**

This session focuses on how trust and acceptance for sustainable bioenergy can be restored through positive narratives and how pellets can be positioned as an important element of the energy transition.

- **Narratives as a powerful driver for changes**  
Tim Weitzel, University Bamberg, Germany
- **The missing why – narratives and counternarratives**  
Christiane Egger, ÖÖ Energiesparverband, Austria
- **Wood energy and sustainability – a "WinWinWinWin" situation**  
Hubert Röder, HSWT / Technical University Munich, Germany
- **About energy and exergy in bioenergy**  
Bengt-Erik Löfgren, ÅFAB, Sweden
- **Communicating bioenergy**  
Stefan Ortner, ÖkoFEN, Austria

**13.00 Lunch and networking**

**6 March | 14.15**

## **Pellet Innovation Session**

In this session, we present new results of R&D projects as well as the latest developments in the pellets and bioenergy sector: technological innovations along the value chain from pellet production, supply and distribution to successful showcases for an accelerated energy transition.

- **International projects with multiple benefits**
  - Werner Granig, Windhager Zentralheizung, Austria
  - Stefan Kopp, Hargassner, Austria
  - Werner Emhofer, Fröling, Austria
- **How raw material properties affect pellet quality**  
Michael Finell, Swedish University of Agricultural Sciences, Sweden
- **Shredding and formation of fines in pellet delivery vehicles**  
Phil Spatz, Ruhr University Bochum, Germany
- **Pellets in commercial and industrial applications – project examples**  
Aavo Isak, Pelltech, Estonia

- **Pellet vending machines**  
Luca Cenci, Dab Distributori & Matteo Favero, AIEL, Italy
- **Carbon capture for bioenergy plants**  
Ivan Derkink, Bright Renewables, Netherlands / Markus Schranzer, HoSt Bioenergy Solutions, Austria
- **Nova Scotia's Wood Heat Initiative**  
Rany Ibrahim, Nova Scotia Department of Natural Resources and Renewables, Canada

**6 March | 16.30**

## **World of Pellets Session**

Moving forward with pellets! Get up-to-date information on pellet markets around the globe from international experts.

- **Opening**  
Gordon Murray, on behalf of the European Pellet Council
- **Spain**  
Pablo Rodero Masdemont, AVEBIOM
- **Vietnam**  
Kenneth Tran, Ayo Biomass
- **Austria**  
Christian Rakos, proPellets Austria
- **Canada**  
Gordon Murray, Wood Pellet Association of Canada
- **Turkey**  
Özben Kutlu, Ege University
- **China**  
Guangqing Liu, Beijing University of Chemical Technology

### **Chairperson:**

Gordon Murray, Wood Pellet Association of Canada

**18.00 Conference end**

**19.00 Evening programme**

# Energy Efficiency Policy Conference

7 March 2024



7 March | 09.00

## Energy efficiency policies in choppy waters

No time like now for energy efficiency! Price fluctuations, geopolitical instabilities and the climate crisis make the role of energy efficiency in the energy transformation evident. This session presents the ambitious new European energy efficiency legislation and how we can deliver!

- **Opening and welcome**
- **The revised Energy Efficiency Directive**  
Claudia Canevari, European Commission, DG Energy
- **UN energy efficiency initiatives - opportunities to bridge the gap**  
Nadejda Khamrakulova, United Nations Economic Commission for Europe
- **Active efficiency - energy efficiency goes digital**  
Vincent Barnes, Alliance to Save Energy, USA
- **Best Young Energy Efficiency Researcher Award**
- **Energy efficiency policies in Austria**  
Jürgen Schneider, Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology, Austria
- **Results of the European Energy Efficiency Watch Survey**  
Christiane Egger, OÖ Energiesparverband, Austria



**7 March | 11.15**

## **How the energy transition can work - examples from different sectors**

A strong push for energy efficiency in all sectors is critical. This session highlights different initiatives which empower energy consumers and support key policy areas on their shift to sustainable energy.

- **Clean energy transition projects supporting key policy areas**  
Anette Jahn, European Commission, CINEA
- **Our planet is not renewable, but energy is**  
Leonhard Schitter, Energie AG, Austria
- **Decarbonising district heating**  
Pauline Lucas, Euroheat & Power
- **Energy Communities - next level**  
Gerhard Dell, OÖ Energiesparverband, Austria
- **Tackling energy and mobility poverty for an inclusive green transition**  
João Pedro Gouveia, NOVA School of Science and Technology, Portugal
- **The impacts of energy labels and ecodesign - latest results**  
Leo Wierda, VHK, The Netherlands

**Chairperson:** Jan Geiss, Eufores

**13.00 Lunch break**

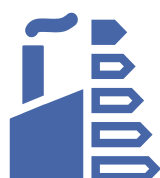


This conference is organised in the context of the LIFE project "Energy Efficiency Watch 5": [www.energy-efficiency-watch.org](http://www.energy-efficiency-watch.org)



# Industrial Energy Efficiency Conference

7 March 2024



7 March | 14.00

## Policies and programmes to transform industry

Decarbonising industry is one of the main challenges in the energy transition. This session features the key topics of this transformation from competitiveness to digitalisation and innovation.

- **Opening and welcome**
- **European energy transition policies for competitiveness, digitalisation and innovation**  
Vincent Berrutto, European Commission, DG Energy
- **Innovative renewable solutions for industry**  
Roland Roesch, International Renewable Energy Agency
- **The new "transformation of industry" initiative**  
Arno Gattinger, Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology, Austria





**7 March | 15.30**

## **Pathways to net-zero industries**

Fast-tracking the industrial decarbonisation is key! This session presents innovations to accelerate and upscale energy efficient and sustainable transformation pathways.

- **Energy systems of the "ultra-efficient factory"**  
Alexander Sauer, University of Stuttgart/Fraunhofer IPA, Germany
- **Upscaling hydrogen systems manufacturing**  
Ulrike Beyer, Fraunhofer IWU, Germany
- **Hydrogen supply solutions for industrial sites**  
Thomas Kienberger, Montanuniversität Leoben, Austria
- **From energy data to successful CO<sub>2</sub> management**  
Jens Strüker, University of Bayreuth/Fraunhofer Blockchain Lab, Germany

**7 March | 17.00**

## **Best practice examples**

Inspiring examples from Austria and other countries show how decarbonising industrial sites can be successfully tackled.

- **Large-scale heat pumps and PV instead of natural gas**  
Jörg Theis, B&R Industrial Automation
- **A fossil-free industrial site**  
Katrin Helmberger, Fronius International
- **Solutions for industry from the innovation network NEFI**  
Wolfgang Hribernik, Austrian Institute of Technology
- **Energy efficient compressed air solutions for industry**  
Francisco Puente, ESCAN, Spain
- **The "Solarise at work" employee programme**  
Brian Keane, SmartPower, USA

**18.00 Conference end**

**19.00 Evening programme**



# Smart E-Mobility Conference

8 March 2024



8 March | 08.45

## E-Mobility – next level!

The major role of e-mobility in achieving climate targets is obvious. This session presents policies and innovation that drive e-mobility to the next level.

- **Opening and welcome**  
Markus Achleitner, Regional Minister for Economy and Energy, Upper Austria
- **Update on EU e-mobility policies**  
Kai Tullius, European Commission, DG MOVE
- **More than 600,000 charging points in Europe - the electric future is here!**  
János Ungár, AVERE
- **E-mobility technology trends**  
Susanne Koblitz, Independent Expert EV Charging Technology, Germany
- **Increasing manufacturing capacity to electrify passenger vehicles**  
Daniel Wohl, Havard Business School, USA
- **Sustainable e-mobility solutions worldwide**  
Rohan Shailesh Modi, GIZ, Germany
- **Flexible energy systems for the integration of EVs**  
Roger Valdés, Catalonia Institute for Energy Research, Spain



**8 March | 11.15**

## Smart charging and more

This session provides an update on the latest R&D developments and solutions around smart charging – from bi-directional to automated – and battery integration.

- **Bi-directional charging - where are we?**  
Daniel Stetter, Fraunhofer IAO, Germany
- **Scaling-up smart charging and vehicle-to-grid**  
Marisca Zweistra, Elaad, The Netherlands
- **Matrix charging – a new standard for automated EV charging**  
Hermann Stockinger, Easelink, Austria
- **Battery integrated fast charging solutions**  
Christoph Ebersdorfer, XCharge, Germany
- **Advanced light weight materials for electric vehicles**  
Emre Elmas, Farplas, Turkey

**13.00 Conference end**



# Workshop "Cities and regions – drivers for climate neutrality"



**6 March 2024 | 14.00**

This workshop is targeted at regional and local energy agencies as well as representatives of cities and regions. It presents best practice examples of a wide range of energy transition investments with different financing solutions, and provides a platform for inspiration and exchange for this community.

- **Welcome and opening**
- **EU policies supporting the local and regional energy transition**  
Claudia Canevari, European Commission, DG Energy
- **Clean energy transition projects for the local and regional level**  
Anette Jahn, European Commission, CINEA
- **Local and regional energy agencies leading the energy transition**  
Seamus Hoyne, Technological University of the Shannon, Ireland
- **From learning to action in cities and regions**  
Giulia Pizzini, IEECP, The Netherlands

## **Best Practice Examples**

- **Boosting energy communities**  
Christiane Egger, OÖ Energiesparverband, Austria
- **Developing PV for a sunny future**  
Julije Domac, REGEA, Croatia
- **Financing public investments through ELENA and contracting**  
Vlasta Krmelj, Energap/Mayor of Selnica ob Dravi, Slovenia
- **Gearing up sustainable mobility**  
Alicia Villazan Cabero, Valladolid City Council, Spain



- **How intracting can work for your city or region**  
Sandrine Deterney, City of Albertville, France

- **Top Condomini: 40% less energy for 3,000 public and private homes**  
Claudia Carani, AESS, Italy

- **Boosting building renovation – an OSS success story**  
Raphaëlle Viénot, AREC-Occitanie, France

- **Cities and regions – catalysers for the industrial energy transition**  
Rickard Waern, West Sweden Energy Agency, Sweden

- **The Mazovian Renovation Wave project**  
Bartosz Dubiński, Mazovia Energy Agency, Poland

- **Revolving funds: reinvesting savings in new sustainable energy projects**  
Jaroslav Klusák, SEMMO, Czech Republic

## Networking for energy agencies and regional and local authorities

The workshop is held in the context of the ManagEnergy Initiative and the H2020 Project Prospect+.





# Young Energy Efficiency Researchers Conference

5 March 2024



5 March | 9.00

This conference presents the work and achievements of young energy efficiency researchers from all over the world.

- **Opening and welcome**  
Gerhard Dell / Christiane Egger, OÖ  
Energiesparverband
- **Climate change impacts on heating and cooling energy demands of buildings**  
Essam Elnagar, Building Performance Institute Europe, Belgium
- **Innovative approaches to thermal comfort and automated lighting**  
Christian Weiglein, Center for Applied Energy Research, Germany
- **A novel control method for energy-efficient, grid-interactive buildings**  
Rui Tang, University College London, UK
- **Why not net zero energy buildings?**  
László Zsolt Gergely, Budapest University of Technology, Hungary
- **A novel approach to energy efficiency in data centre cooling**  
Zhichu Wang / Cheng Zeng, University of Hull, UK
- **Energy-efficient indoor climate control with plants**  
Elias Wolfrath, Center for Applied Energy Research, Germany



- **Optimised demand side management in networks of multi-energy prosumers**

Costanza Saletti, University of Parma, Italy

- **Enhancing PV efficiency through thin object shade analysis**

Matthew Axisa, University of Malta

- **Underwater performance of photovoltaic systems for aquatic applications**

Sally Raduk, University of Agriculture and Technology, Kenya

- **System efficiency factors for space-based solar radiofrequency microwave power beaming**

Anthony Peters, United States Navy, USA

- **Photoelectrochemical cells: solar water splitting and green hydrogen production**

Sofia Gonçalves / João Freitas, University of Porto, Portugal

- **Hydrogen-based microgrid solutions for a green energy future**

Mary Esther Ascheri, Fraunhofer IWU, Germany

- **A green hydrogen route for electromobility in Brazil**

Milena Marques, Federal University of Vicosa, Brazil

- **Management of electric vehicles for energy flexibility under uncertainty**

Antoni Bosch Pons, IREC, Spain

- **Improvements of LiFePO<sub>4</sub> batteries and supercapacitors**

Stefania Volante, University of Pisa, Italy

- **Enhancing energy efficiency in battery cell factories**

Jonas Finn Kutschmann, Fraunhofer FFB, Germany

- **Exploring the determinants of success in the renewable energy transition**

Mohamed Wael Ben Khaled, Université Côte-d'Azur, France

- **Strategic supply reduction in renewable energy**

Christoph Kretschmer, Universität Bayreuth, Germany

- **Legislative developments for disruptive technologies and storage in the EU**

Ella Jollands, e7, Austria / Silvia Cesa-Bianchi, Twenty Communications, France

- **Energy communities alleviating energy poverty in the Netherlands**

Jordan Young, Wageningen University & Research, The Netherlands

**Chairperson:** Gerald Steinmaurer, University of Applied Sciences Upper Austria

**13.00 Lunch break**



# Young Biomass Researchers Conference

5 March 2024



5 March | 14.00

This conference presents the work and achievements of young biomass researchers from all over the world.

- **Opening and welcome**  
Gerhard Dell / Christiane Egger, OÖ Energiesparverband
- **Evaluation of pellets produced from coffee and biomass residues**  
Michalis-Alexandros Kougioumtzis, CERTH / Vasileios Filippou, Energy Community of Karditsa, Greece
- **Catalytic hydropyrolysis of lignocellulosic biomass from Quebec's forests**  
Aravind Ganesan, University of Quebec in Trois-Rivières, Canada
- **Photocatalytic hydrogen evolution from biomass**  
Münevver Tuna Genç, Selçuk University, Turkey
- **Unlocking lignin's potential as a sustainable biofuel from black liquor**  
Matúš Majerčíak / Richard Nadányi, Slovak University of Technology, Slovakia
- **GIS-based biofuel potential from phytoremediation in the Aegean Region**  
Benginur Baştabak / Elif Gödekmerdan, Ege University, Turkey
- **Microbial chain elongation for chemical and fuel precursors**  
Fabíán Otálora / Andrés Suazo / Jimmy Martínez, Pontifical Catholic University of Valparaíso, Chile
- **Pre-treatment of waste cooking oils for alternative transport fuels**  
Ioanna Kosma, Center for Research & Technology Hellas, Greece
- **Improving the coefficient of friction of a biolubricant derived from waste cooking oil**  
Rafael Anelić / Mia Gotovuša / Ivan Pucko, University of Zagreb, Croatia
- **Energy productivity and net energy balance of biogas from tofu wastewater**  
Selly Ayu Janetasari, University of Miskolc, Hungary
- **Energy from solid household waste in Tashkent: composition, social and thermal aspects**  
Islom Karimov / Rakhimjon Kobilov / Alisher Davirov, TIAME, Uzbekistan



- **Hazelnut shell vs miscanthus giganteus: green Qdot efficiency comparison**

Fikret Müge Alptekin / Merve Uyan, Ege University, Turkey

- **Evaluation of groundnut shell biochar for the degradation of toluene**

Arpita Roy, Sharda University, India

- **Legislative perspective on the recovery of Ukraine's energy sector**

Anna Pastukh, Bioenergy Association of Ukraine

- **Decentralised biochar production - European technology survey**

Konstantin Moser, BEST, Austria

- **Thermochemical analysis of a novel form-stable PCM-biochar composite**

Dudul Das, University of Glasgow, UK

- **Comparative study of silicas from cornhusk for methane combustion**

Clement Owusu Prempeh, Deutsches Biomasse-forschungszentrum, Germany

- **CO<sub>2</sub> bioconversion into butyric acid and butanol in microbial electrosynthesis cells**

Meritxell Romans-Casas, University of Girona, Spain

- **Water hyacinth biomass as substrate in microbial fuel cells for electricity generation**

Kalpana Sharma / Ankit Kumar, Sharda University, India

- **Mathematical approach to rank biomass resource types for power generation**

Lala Rukh, University of Galway, Ireland

- **Excel-based tool for calculating CO<sub>2</sub> emissions from biogas**

Melanie Harrer / Alex Bergamo / Micha Gruber, Austrian Energy Agency

**Chairperson:**

Elisabeth Wopienka, BEST, Austria

**19.00 Evening programme**



## Upper Austria – a leader in the clean energy transition

Upper Austria, one of Austria's nine regions (population 1.5 million), is a leader in the clean energy transition. This makes it an ideal location for this conference. Through significant increases in energy efficiency and renewable energy, greenhouse gas emissions from buildings were reduced by 39 %.

60 % of all space heating and 33 % of the primary energy in Upper Austria already come from renewables.

- 33 % of the primary energy is supplied by renewables
- 39 % reduction of greenhouse gas emissions in the buildings sector
- 2.8 billion Euro invested annually in renewable energy and energy efficiency

## The audience – the whole energy transition sector!

Each year, the European Energy Efficiency Conference attracts over 650 experts from more than 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 community etc.
- the energy efficiency research community
- representatives from public bodies (e.g. EU institutions, national, regional and local governments, energy agencies)

**[www.energyleaders.eu](http://www.energyleaders.eu)**





## The tradeshow – energy sustainable product innovations in real life!

Visit a major tradeshow on renewable energy and energy efficiency ("Webuild-Energiesparmesse")! The tradeshow (78,000 visitors in 2023) is held in parallel to the conference.

Austrian and international companies present their latest product innovations. Seize the opportunity to network in-person, on the tradeshow floor!

## 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, renewables and e-mobility. It provides comprehensive services to households, businesses of all sizes and municipalities. It also supports energy technology companies in the context of the Cleantech-Cluster.

## Practical information

### Conference venue

Stadthalle Wels, Pollheimerstrasse 1, 4600 Wels, Austria

### Conference fees

All fees include entrance to the tradeshow, lunches / dinners and conference documentation. All fees plus 10 % VAT

- 390 Euro for all WSED events (5 – 8 March)
- 350 Euro for the European Energy Efficiency Conference (7 - 8 March)
- 230 Euro for the European Pellet Conference (6 March)
- 120 Euro for the conferences: Industry (7 March); E-Mobility (8 March)
- 60 Euro each for the conferences: Policy (7 March); Workshop "Cities and regions" (6 March), Young Energy Researchers Conference (5 March)
- for student fees see [www.wsed.at](http://www.wsed.at)

### Conference languages

Simultaneous translation in English and German



# World Sustainable Energy Days 2024

## Date

5 – 8 March 2024

## Venue

Stadthalle Wels, Pollheimerstrasse 1  
4600 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](http://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)



**650**  
participants

**80**  
speakers

**60**  
countries

  #WSED

**WWW.WSED.AT**



Funding by the region of Upper Austria

 Federal Ministry  
Republic of Austria  
Climate Action, Environment,  
Energy, Mobility,  
Innovation and Technology

