Energy and Environment Knowledge Week
Toledo, Spain
30th-31st October
FINAL PROGRAM

Energy and Environment Knowledge Week (E2KW)
## Energy and Environment Knowledge Week (E2KW)

### 29th October

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>19:00 - 20:30</td>
<td>Reception of participants - Sala de Música (San Pedro Mártir)</td>
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### 30th October

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>8:30</td>
<td>Reception of participants</td>
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<tr>
<td>9:00</td>
<td>Opening Ceremony</td>
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<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>9:30-10:30</td>
<td>PLENARY LECTURE (Aula Magna) “Sustainability assessment of energy options: Integrating environmental, economic and social aspects”, Adisa Azapagic (University of Manchester)</td>
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<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>10:30-11:00</td>
<td>Coffee Break.</td>
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### Parallel Sessions 1

#### Parallel Session 1A - Solar Energy / Chair: Fernando Langa (UCLM)

- Fullerene-based materials for the preparation of photovoltaic devices
  Delgado, J.L. and Martín, N.
- New co-oligomers for solution processed bulk heterojunction solar cells
  Domínguez, R.; Schulz, G.; Bauerle, P. and Langa, F.
- High open circuit voltage, fill factor and photocurrent in thienylenevinylene-based small molecule solution processed organic solar cells
  Moncada, N.; Domínguez, R.; Pelado, B.; de la Cruz, P.; Langa, F. and Palomares, E.

#### Parallel Session 1B - Air Pollution and Climate Change / Chair: José Albaladejo (UCLM)

- Modelling the H2O2-Detoxifying pathway in plants under light-dark conditions
  Valero, E.; Marcià, H. and González, J.
- Dispersion and deposition fo exhaled droplets in a classroom: experiments at full-scale
  Da, G.; Géhin, E.; Zambrelli, A.; Delaby, S.; Ritoux, S.; Ha, T-L. and Robine, E.
- ANuClA, a new free software for automatic classification of atmospheric nucleation events
  Baeza-Romero, M.T.; Pérez, F.; Baeza, P.M.; Malagon, D.M.; Martínez, E.; Moreno, J. and Romero, F.P.
### Parallel Session 2A - Solar Energy / Chair: Juan Luis Delgado (Imdea Nanociencia)

- “New porphyrin systems for small molecule organic solar cells”
  Arrechea, S.; Molina-Ontoria, A.; Aljarilla, A.; de la Cruz, P.; Langa, F. and Echegoyen, L.
- “High efficient assymetric porphyrins for dye sensitized solar cells”
  Cabau, L.; Moncho, A. and Palomares, E.
- “New deep blue emitting copolymers for PLEDs”.
  Santos, J.; Cook, J.H.; Al-Attar, H.A.; Bryce, M.R. and Monkman, A.P.
- “Solar irradiation forecasting based on dynamic harmonic regresion”.
  Martín, A.; Trapero, J.R. and Kourentzes, N.

### Parallel Session 2B - Air Pollution and Climate Change / Chair: Evelyne Géhin (UPEC)

- “Analysis of quercus long-term pollen season trends in the southwest of the Iberian Peninsula”
- “The cumulative effect of energy innovation on air pollution quality”
  Álvarez-Herránz, A.; Balsalobre, D. and Cantos, J.M.
- “Advances in high water modelling to improve climate change adaptation, flood risk reduction and stormwater management”.
  Florín, M.; Gosálvez, R.U.; Chicote, A.; Laguna, C. and Muñoz, E.M.
- “The olr river pollution monitoring using spatial analysis and analytic hierarchy process method”
  Borza, S. and Petrescu, V.

### Parallel Session 2C - Renewable Energies / Chair: Gilles Lefebvre (UPEC)

- “Effect of the feeding mode on the performance of a microbial fuel cell”
  Mateo, S.; Cañizares, P.; Rodrigo, M.A. and Fernández, F.J.
- “A novel study of life cycle cost model of ice in blades condition monitoring systems for a wind turbine”
  Pinar, J.M.; Gómez, C.Q.; Segura, E. and García, F.P.
- “Wind turbines maintaenance management based on fault detection and diagnosis”.
  Ruiz de la Hermosa. R. and García F.P.
- “Anodic/catodic reactions as controlling stages in microbial fuel cells”
  Mateo, S.; Cañizares, P.; Rodrigo, M.A. and Fernández, F.J.

**13:30-15:30 Lunch.**
### Parallel Session 3A - Biofuels and Biomass / Chair: Juan José Hernández (UCLM)

- "Desulfurization of pyrolysis fuel produced from waste lube oils, tyres and plastics"

- "Thermodynamic diagnosis of diesel combustion process with synthetic paraffinic fuels in a vehicle tested under NEDC"
  Ramos, A.; García, M.R. and Armas, O.

- "Biogas upgrading and CO2 capture by adsorption technologies"
  Silva, J.A.C. and Rodrigues, A.E.

### Parallel Session 3B - Sustainability and Waste / Chair: Juan Francisco Rodríguez (UCLM)

- "Glycolysis process for flexible polyurethane foam scraps with polymeric polyols"
  Simón, D.; Borreguero, A.M.; de Lucas, A. and Rodríguez, J.F.

- "Application of the red mud in hydrocracking reaction"
  Juzsakova, T.; Redey, A.; Frater, T. and Diossy, L.

- "Mercury contents in a wastewater treatment plant. Variations during the last decade"
  García, E.M.; García, C.; Higueras, P. and Reyes, L.

- "Bioethanol from organic wastes. Influence of the acid pre-treatment"
  Mateo, S.; González, F.V.; Cañizares, P. and Fernández, F.J.

### Parallel Session 3C - Economics of Energy and Environmental Legislation / Chair: Luis A. López (UCLM)

- "Carbon footprint of European rural policy"
  Monsalve, F.; Zafrilla, J.E. and Cadarso, M.A.

- "Mapping knowledge in local governance and eco-innovation"
  de Miguel, M.; de Miguel, B.; Segarra, M. and Peiró, A.
<table>
<thead>
<tr>
<th>Parallel Session 4A - Biofuels and Biomass / Chair: Juan José Hernández (UCLM)</th>
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<tbody>
<tr>
<td>• “Synergistic effects in the formulation of paraffinic diesel fuels”</td>
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<tr>
<td>Hernández, J.J.; Lapuerta, M. and Rodríguez, J.</td>
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<tr>
<td>• “New biocoating for corrosion inhibition in metal surfaces”</td>
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<tr>
<td>Barros, R.; Blas, E. and Guedella, E.</td>
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<tr>
<td>• “Comparative study of sooting tendency of GTL, HVO and biodiesel fuel blends”</td>
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<tr>
<td>Gómez, A.; Armas, O. and Soriano, J.A.</td>
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<tr>
<td>• “Enhanced lipid production in Neochloris oleoabundans cultivated under outdoor conditions and pH control”</td>
</tr>
<tr>
<td>Olguín, E.J.; Castillo, O.S.; Mendoza, A.; Tapia, K. and González-Portela, R.E.</td>
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<thead>
<tr>
<th>Parallel Session 4B - Sustainability and Waste / Chair: Tatjana Juzsakova (University of Pannonia)</th>
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<tbody>
<tr>
<td>• “Reduction of the carbon footprint through polystyrene recycling”</td>
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<tr>
<td>Gutiérrez, C.; Rodríguez, J.F.; Gracia, I.; de Lucas, A. and García, M.T.</td>
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<tr>
<td>• “Factors influencing waste management policies: empirical evidence from european consumer preferences”</td>
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<tr>
<td>Triguero, A.; Cuerva, M.C. and Álvarez, C.</td>
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<tr>
<td>• “Remediation of soils, dredged sediments and wastewater by electro-fenton-like technology”</td>
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<tr>
<td>Sanromán, M.A.; Bocos, E.; Alfaya, E.; Longo, M.A. and Pazos, M.</td>
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<tr>
<td>• &quot;Environmentally friendly bituminous mix as noise mitigation measure for the actions plans of Málaga&quot;</td>
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<td>Fernández, V.; Terán, F.; Hidalgo, M.E.; Cabrero, A. and Paje, S.E.</td>
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<tr>
<th>Parallel Session 4C- Invited Lecture</th>
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<tbody>
<tr>
<td>“The Earth’s Water and Energy Budgets in Changing Climate”</td>
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<tr>
<td>Chris Kummerow (Colorado State University)</td>
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18:00 *El Greco: Painter & Master*
# Energy and Environment Knowledge Week (E2KW)

**31st October**

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**Parallel Sessions 5**

**9:15 - 10:30**

**Aula Magna**

**Parallel Session 5A - Green Chemistry** / Chair: Rodrigo Lozano (Utrecht University)

- “Development of a halide-free aluminium-based catalyst for the synthesis of cyclic carbonates from epoxides and carbon dioxide”  
  Castro, J.A.
- “Non-conventional techniques for the synthesis of new graphene-based responsive hydrogels”  
  Martín, C.; Merino, S. and Vazquez, E.
- “Electrochemical reduction of CO2 using platinum as catalyst”.  
  García, J.; Jiménez, C.; Martínez, F.; Tostón, S.; Camarillo, R.; Asencio, I. and Rincón, J.
- “Optimal epoxidation of grape seed oil”  
  Izarra, I.; de Haro, J.C.; Pérez, A.; Rodríguez, J.F. and Carmona, M.

**Teatrillo**

**Parallel Session 5B - Sustainability and Water** / Chair: Bruno Tassin (UPEC)

- “Integrated approach for a sustainable development of the water sector in arid areas with special focus on the middle-east”  
  Werner, P. and Murad, A.
- “Wastewater flow-rate forecasting based on unobserved components model”  
  Trapero, J.R.; Fernández, F. J.
- “Benchmarking of energy and water use of cassava starch production systems”  
  Da, G.; Tran, T.; Moreno, M.; Velez, G.; Giraldo-Toro, A.; Piyachomkwam, K.; Siroth, K. and Dufour, D.
- “Routines in precision agriculture technology. An action research study”  
  Martín, I. and Herreno, J.A.

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**10:30-11:00 Coffee Break**
## Parallel Sessions 6 -

**11:00 - 12:15**

### Parallel Session 6A - Green Chemistry / Chair: Antonio de la Hoz (UCLM)

<table>
<thead>
<tr>
<th>Presentation Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>“High pressure synthesis of catalysts for the photocatalytic conversion of carbon dioxide”</td>
<td>Tostón, S.; Camarillo, R.; Martínez, F.; Jiménez, C.; Asencio, I.; García, J. and Rincón, J.</td>
</tr>
<tr>
<td>“Incorporation of azide groups into bio-polyols”</td>
<td>de Haro, J.C.; Palomo, J.L.; Garrido, I.; de Lucas, A.; Pérez, A.; Rodríguez, J.F. and Carmona, M.</td>
</tr>
<tr>
<td>“Critical reflections of the chemical leasing concept”.</td>
<td>Lozano, R.; Carpenter, A. and Lozano, F.J.</td>
</tr>
<tr>
<td>“Is it waste or energy? Conversion of melon rind waste into biofuel precursors”</td>
<td>Lucas-Torres, C.; Moreno, A. and Cabañas, B.</td>
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</tbody>
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### Parallel Session 6B - Sustainability and Water / Chair: Peter Werner (UAEU)

<table>
<thead>
<tr>
<th>Presentation Title</th>
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<tbody>
<tr>
<td>“Energy optimization and optimal configuration of photovoltaic systems in pressurized irrigation networks”</td>
<td>Carrillo, M.T.; Camacho, E.; Montesinos, P. and Rodríguez, J.A.</td>
</tr>
<tr>
<td>“Water quality transformation of treated sewage effluents in their receiving environment around the Tablas de Daimiel National Park (Spain)”</td>
<td>Sánchez, D.; Sánchez, G. and Florin, M.</td>
</tr>
<tr>
<td>“Use of regulating reservoirs to supply center pivots systems. Case of corn in Spain”</td>
<td>Izquier, A.; Tarjuelo, J.M. and Moreno, M.A.</td>
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### Parallel Session 6C - Economics of Energy and Environmental Legislation / Chair: Marival Segarra (UPV)

<table>
<thead>
<tr>
<th>Presentation Title</th>
<th>Authors</th>
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<tbody>
<tr>
<td>“Environmental dynamism, technological posture and corporate social responsibility: effects on sales growth”</td>
<td>González, M. I.; Donate, M.J. and Guadamillas, F.</td>
</tr>
<tr>
<td>Carbon footprint for the University of Castilla-La Mancha</td>
<td>Gómez, N.; Tobarra, M.A.; Córcoles, C. and Cadarso, M.A.</td>
</tr>
<tr>
<td>“Impact of automatic meetering infrastructure on multiutility business models”</td>
<td>Martin, I. and Florence, E.</td>
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13:30-15:30 POSTER PARTY: CAÑAS, TAPAS & POSTERS

-Parallel Sessions 7-

15:30 - 17:00

Parallel Session 7A - Contaminated Sites / Chair: Teresa Valente (Universidad de Huelva)

- "Inoculation with Hg-resistant rhizobia enhances Hg tolerance and phytoremediation capacity of legumes"
- "Mercury transfer for soil to olive-tree. Comparison from three different substrates"
  Higueras, P.L; Amorós, J.A.; Esbri, J.M.; Pérez de los Reyes, C.; López, M.A. and García, F.J.
- "Heavy metals content in vegetables and fruits cultivated in Baia Mare mining area (Romania) and health risk assessment."
  Roba, C.; Rosu, C.; Pistea, I.; Ozunu, A. and Baciu, C.
- "Mercury contents and quality of ground water from urban wells in Almadén and surrounding localities"
- "Use of the computer Minteq model to waters affected by mining activities from the Sierra Minera of Cartagena La Unión"
  García, M.L.; Martínez, M.J.; Pérez, C. and Navarro, C.

Parallel Session 7B - Miscellaneous / Chair: Sorin Borza (University “Lucian Blaga” of Sibiu)

- “Personal exposition to electromagnetic fields pollution in the city of Albacete”.
  Nájera, A.; González, J. and Arribas, E.
- "Octane upgrading of gasoline by adsorption process".
  Silva, J.A.C.; Bárcia, P.S. and Rodrigues, A.E.
- “LCA in construction works as a powerful decision making tool. Acciona infrastructure’s expertise”
  Fernández, R. and Quedella, E.
- “Gypsum composites for improving passive energy storage in buildings”.
  Serrano, A.; Acevedo, A.; Borreguero, A.M.; Garrido, I.; Rodriguez, J.F. and Carmona, M.

17:00-17:30 Break
### Parallel Sessions 8

**17:30 - 19:00**

#### Aula Magna

**Parallel Session 8A - Contaminated Sites / Chair: Pablo Higuera (UCLM)**

- "Metals and arsenic enrichment processes in sulfide-rich waste dumps - The role of the clay size fraction"
  
  Valente, T.; Gomes, P.; Amália Sequeira, M.; Grande, J.A. and de la Torre, M.L.

- "Evaluation of dilution processes in streams affected by acid mine drainage in the iberian pyrite belt"
  
  Pérez-Ostalé, E.; Valente, T.; de la Torre, M.L; Grande, J.A.; Santisteban, M.; Gomes, P. and Rivera, M.J.

- "Spatial behavior of acid mine drainage in a peculiar stream: physical-chemical evolution from the source until the temporally reception in the iberian pyrite belt"
  
  Lobo, A.; Valente, T.; de la Torre, M.L.; Grande, J.A.; Santisteban, M.; Salmerón, I. and Sánchez, J.

- "Four abandoned mines, one acid mine drainage affected river and an unsolved issue for a water supply reservoir"
  
  Salmerón, I.; Valente, T.; Grande, J.A.; de la Torre, M.L.; Santisteban, M.; Lobo, A. and Sánchez, J.

- "Proposal of a model of the horizontal moving of pollutants in a water reservoir receiving acid mine drainage in the iberian pyrite belt (SW Spain)"
  
  Santisteban, M.; Valente, T.; Grande, J.A.; de la Torre, M.L.; Almeida, S.; Pérez-Ostalé, E. and García, M.

#### Teatrillo

**Parallel Session 8B - Tourism and Environment / Chair: Guido Ferrari (Renmin University of China)**

- “Influence of entrepreneurial orientation on performance in hotel establishments: the role of the environment"
  
  Hernández, F. and Yáñez, B.

- "A revealed taxonomy of sustainable tourists’ motivations and values: the tortuous trip from feelings to actions”.
  
  Gómez, M.A.; Lorenzo, C. and Blázquez, M.

- “Impact of ecotourism on travelers’ attitudes”
  
  Lorenzo, C. and del Chiappa, G.

- “Sustainable tourism: value creation through events”.
  
  Cordente, M.; Mondéjar, J.A.

- “Tourist dynamic: industrial tourism”.
  
  Cordente, M.; Mondéjar, J.A.

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**21:00** GALA DINNER and Congress Closure – Hotel San Juan de los Reyes