

## Wednesday, 1 June

11:05-12:40	<p><b>EEDAL Plenary - Session chair: Paolo Bertoldi, EC JRC, IT</b></p> <p>Solid State Lighting - a Transformation Still in Progress, <b>J. Norman Bardsley, PhD, CEO Bardsley Consulting, USA</b></p> <p>Dynamics of the smart home market: Opportunity or challenge for 2022?, <b>Peter Bennich, The Swedish Energy Agency</b></p> <p>Energy efficiency and the consumer technology industry: Three lessons and a strategy, <b>Doug Johnson, Consumer Technology Association (CTA), USA</b></p> <p>Impact of new EU energy label: Market overhaul and a new reality of opportunities, <b>Norbert Herzog, Global Strategic Insight, GfK SE</b></p>	
12:40-14:00	<b>Lunch break</b>	
14:00-15:40	<p><b>Session 1.a Policy 1 – Session chair: Douglas Johnson, Consumer Technology Association, USA</b></p> <p>88. U.S. Consumer Electronics in 2020: Ownership, Usage, and Energy Consumption Amid COVID-19, <b>Bryan Urban, Fraunhofer USA Center for Manufacturing Innovation, United States</b></p> <p>100. Introducing Mepsy: The Appliance &amp; Equipment Climate Impact Calculator, <b>Angellah Wekongo, CLASP, Nairobi, Kenya</b></p> <p>26. Evaluation of Television Efficiency Policy and Market Transformation in India, <b>*Pravatanalini Samal, Director, Bureau of Energy Efficiency, India</b></p> <p>30. Impact mechanisms of rebate programmes for appliances: case studies in Switzerland, <b>Eric Bush, Topten, Switzerland</b></p>	<p><b>Session 1.b HVAC 1 – Session chair: Matthias Haase, ZHAW Zurich University of Applied Sciences, CH</b></p> <p>6. Beyond the combi boiler: exploring the role of compact hybrids in domestic heating, <b>*George Bennett, Department for Business Energy and Industrial Strategy (BEIS), United Kingdom</b></p> <p>95. Final impact assessment of the novel highly efficient and fuel flexible medium-scale HiEff-BioPower CHP technology using a solid oxide fuel cell (SOFC), <b>*Thomas Götz, Wuppertal Institute for Climate, Environment and Energy, Germany</b></p> <p>24. Heating with Air Conditioners – fast and affordable transition towards carbon neutrality?, <b>Andrea Roscetti, Politecnico di Milano, Energy Department, end-use efficiency research group, Italy</b></p> <p>65. Smart Economizer, <b>*Robert Mowris, Verified Inc., United States</b></p>
15:40-16:05	<b>Coffee break</b>	

<p>16:05-18:10</p>	<p><b>Session 2.a Policy 2 – Session chair: Paolo Falcioni, Applia, BE</b></p> <p>58. 5. Standards and Labels: Benefits of Energy Efficiency Appliance and Equipment Standards and Labelling Programs: a 2021 update, <i>*Paul Waide, Waide Strategic Efficiency, United Kingdom</i></p> <p>29. The first energy labels for professional cooling appliances – lessons learnt and comparison with energy regulation for household appliances, <i>Maïke Hepp, Steffen Hepp, Topten, Switzerland</i></p> <p>72. New Method for Updating Measure Lifetimes: Fast, Reliable, Affordable – and Demonstrated, <i>*Lisa Skumatz, *Dana D'Souza, Skumatz Economic Research Associates (SERA), United States</i></p> <p>91. A review of the current legislative landscape and refrigeration market for introducing an energy efficiency standards and labelling program for refrigeration appliances in Uganda, <i>*Shreya Agarwal, Lawrence Berkeley National Lab, United States</i></p> <p>70. Advances in NEBs / NEIs: New Results, Measure Attribution, Health Effects, and the Downward-Bias in Current US NEB Adders, <i>*Lisa Skumatz, *Ann Gibbs Vandervliet, Skumatz Economic Research Associates (SERA), United States</i></p>	<p><b>Session 2.b HVAC and Buildings – Session chair: Madeleine Edl, UNEP, FR</b></p> <p>67. Energy Efficiency Measures to Improve Indoor Air Quality and Energy Efficiency in Buildings and Reduce the Spread of the SARS-CoV-2 Virus, <i>*Robert Mowris, Verified Inc., United States</i></p> <p>13. Technology Campaigns: Adapting Commercial Building Strategies to the Residential Sector, <i>*Christian Valoria, *Allegra Steenson, Pacific Northwest National Laboratory, United States</i></p> <p>11. A baseline assessment of residential utility rates and compensation mechanisms that influence the value proposition of grid-interactive efficient buildings, <i>*Danielle Preziuso, Stevens Institute of Technology, United States</i></p> <p>90. Increasing cooling affordability in the ASEAN member states, a case study from Indonesia, <i>*Virginie Letschert, Lawrence Berkeley National Laboratory, United States</i></p> <p>77. Meeting the Challenge of Retrofitting Homes – The City of Windsor Deep Energy Efficiency Retrofit Plan, <i>*Peter Garforth, Garforth International LLC, United States, *Michelle Moxley-Peltier, City of Windsor, Canada</i></p>
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## Thursday, 2 June

08:30-10:10	<p><b>Session 3.a Policy 3 – Session chair:</b> <i>Sriram Gopal, Association of Home Appliance Manufacturers, USA</i></p> <p>42. Energy efficient and climate friendly cooling in Southern and Eastern Africa, <i>Madeleine Edl, UNEP, France</i></p> <p>31. Efficient Coffee Machines – European energy label for residential and commercial use, <i>*Nadja Gross, Tipten, Switzerland</i></p> <p>51. Ecodesign for electric kettles: A hot product for policy makers?, <i>Antoine Durand, Fraunhofer Institute for Systems and Innovation Research ISI, Germany</i></p> <p>27. Laws Matter - the Dyson vs. Commission Cases and their Consequences to EU Energy Efficiency Law, <i>Vesa A Lappalainen, University of Vaasa, Finland</i></p>	<p><b>Session 3.b Energy Services and Smart Buildings – Session chair:</b> <i>Francesca Pagliaro, ENEA</i></p> <p>64. Strategizing energy efficiency policies based on monitoring the market for energy efficiency services, <i>Stela Ivanova, Federal Energy Efficiency Center (BfEE), Germany</i></p> <p>98. Energy Service Companies (ESCOs) in the residential sector: review of current trends and policies to foster their expansion in the EU member states, <i>Paolo Bertoldi, European Commission - Joint Research Centre, Italy</i></p> <p>99. Dynamics of the smart home market: Opportunity or challenge for 2022, <i>Jan Lorbach, GfK, Germany</i></p> <p>32. Data collection to support energy efficiency finance in the building sector, <i>Eddie Streng, Joule Assets Europe, Belgium</i></p>
10:10-10:45	Coffee break	

10:45-12:25	<p><b>Session 4.a Policy 4 – Session chair: Ina Rüdenauer, OEKO Institute, DE</b></p> <p>50. Exploring the integration of energy sufficiency in climate and energy strategies of "catching-up" economies: examples from the building sector in Hungary and Lithuania , <i>Inga Konstantinaviciute, Lithuanian Energy Institute (LEI), Lithuania</i></p> <p>19. Burnt Toast - Practical and Legal Justification of EU Ecodesign and Energy Labels, <i>Vesa A Lappalainen, University of Vaasa, Finland, Finland</i></p> <p>5. Circumvention – Avoiding losses of energy savings caused by possible circumvention of EU Ecodesign and Energy labelling regulation and standards, <i>Rainer Stamminger, Bonn University, Germany</i></p> <p>61. Examining the Turkish Residential Refrigeration Electricity Use by Stock Modelling and Decomposition Analysis, 2010-2020 , <i>*Bilal Düzgün, Gazi University, Turkey</i></p>	<p><b>Session 4.b Buildings – Session chair: Sriraj Gokarakonda, Wuppertal Institute, DE</b></p> <p>15. Let the Sun Shine In, or Not: Automated Shades Improve Comfort and Energy Savings in Smart Homes, <i>*Katherine Cort, Pacific Northwest National Laboratory, United States</i></p> <p>38. Eight years measurement data of a deep renovated residential building , <i>Matthias Haase, ZHAW, Switzerland</i></p> <p>20. How can residential demand in low electricity access countries be 100% met by 2030? A case study of Burkina Faso, <i>*Mounirah Bissiri, University of Coimbra, INESC Coimbra, Portugal</i></p> <p>7. Energy Performance Certificate registers as a policy tool to monitor the Italian Technical Building System stock and evaluate the application of the energy regulation framework., <i>Francesca Pagliaro, ENEA, Italy</i></p>
12:25-14:00	<b>Lunch break</b>	
14:00-15:40	<p><b>Session 5.a Policy 5 – Session chair: Eva Geilinger, Swiss Federal Office of Energy, CH</b></p> <p>36. Guidelines for Anti-circumvention in standards supporting EU Ecodesign and Energy labelling Regulations, <i>Rainer Stamminger, University of Bonn, Germany</i></p> <p>41. Product Registration Systems (PRS) as a tool to transform markets in ASEAN to energy-efficiency, <i>Madeleine Edl, UNEP, France</i></p> <p>56. Role of Product Registration Systems in supporting compliance of energy efficiency policies, <i>Neha Dhingra, CLASP, India</i></p> <p>60. When less is more: How technology can streamline and scale up the MVE process. The EEPLIANT3 'CybPort' tool for data collection and mass data migration of product cases to European Commission's ICSMS, <i>*Kyriakos Papazoglou, PROSAFE, Belgium</i></p>	<p><b>Session 5.b Appliances – Session chair: Katriana Dubytz, CLASP, USA</b></p> <p>34. Dishwashing Efficiently—What is Next?, <i>Sriram Gopal, AHAM, United States</i></p> <p>39. Environmental Dumping of comfort fans in Europe, <i>*Hélène Rochat, Topten, Switzerland</i></p> <p>74. Innovations for Sustainable Off-Grid Solar E-Waste in Sub-Saharan Africa, <i>Hannah Blair and Monica Wambui, CLASP, Kenya and Rebecca Rhodes, GOGLA, Netherlands.</i></p> <p>1. Multiplexed Power Conversion improves efficiency, <i>Adrian Lefedjiev, Power Integrations, United Kingdom</i></p>
15:40-16:05	<b>Coffee break</b>	

<p>16:05-18:10</p>	<p><b>Session 6.a Behaviour/HVAC – Session chair: Rainer Stamminger, Uni-Bonn, DE</b></p> <p>52. Market transformation for Heating &amp; Cooling equipment in Europe: using benchmark and advice to involve stakeholders, <i>Sophie Attali, Guide Topten, France</i></p> <p>89. Behavioural change as a domestic heat pump performance driver: insights from multiple case studies in the UK, <i>*Eleni Oikonomou, University College London, United Kingdom</i></p> <p>87. Evaluation of the environmental benefits of energy management systems using archetypes of French households - Application to heating management systems, <i>Alexis Wagner, Institut d'Electronique et des Technologies du numéRique (IETR), France</i></p> <p>96. Empowered Operators to provide direct advice on consumption habits to mitigate energy poverty with special reference to summer energy poverty (COOLTORISE project), <i>*Marina Varvesi, AISFOR, Italy</i></p> <p>92. Determining potential for energy savings in space cooling by analysing air-conditioner usage behaviour, <i>Sriraj Gokarakonda, Wuppertal Institute, Germany</i></p>	<p><b>Session 6.b Monitoring &amp; Evaluation – Session chair: Peter Bennich, Swedish Energy Agency, SE</b></p> <p>2. After 25 years of European Eco design and Energy Labelling Regulations: where do we stand today? In-depth scan of the French household electricity consumption, <i>Muriel Dupret, Ingénieur Conseil, France</i></p> <p>63. Evaluation of Lighting Efficiency Policy and Market Transformation in India, <i>*Kishore Kumar PNV, CLASP, India</i></p> <p>71. Taking the Bias Out of Likert Scales: Four Examples Using a Better Alternative, <i>*Lisa Skumatz, Skumatz Economic Research Associates (SERA), United States</i></p> <p>93. Design and Implementation of an Energy Metering System to Recognize the Household Electrical Energy Consumption Pattern Through an IoT Network, <i>*Johnny Arévalo-López, Escuela Colombiana de Ingeniería Julio Garavito, Colombia</i></p> <p>66. The usefulness of sales data to understand energy stakes for appliances, <i>Sophie Attali, Topten, France</i></p>
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## Friday, 3 June

08:30-10:10	<p><b>Session 7.a Behaviour – Session chair:</b> <i>Monica Wambui, CLASP, Kenya</i></p> <p>10. kWh versus Euro – What is the most effective way to inform about efficient products?, <i>Ina Rüdenauer, Öko-Institut e.V., Germany</i></p> <p>47. Can digital advertising raise consumer awareness of energy efficient domestic appliances? A case study of the #KenyaEnergyLabel campaign, <i>Hannah Blair, Angellah Wekongo CLASP, Kenya</i></p> <p>80. 'Why', 'how much' or both? Comparing social comparison and real-time feedback to promote resource conservation, <i>*Lukas Tomberg, RWI - Leibniz Institute for Economic Research, Germany</i></p> <p>73. Developments in the Study and Application of Behavioural Insights for Electricity Saving among Households, <i>*Xianli Zhu, Copenhagen Centre on Energy Efficiency, Denmark</i></p>	<p><b>Session 7.b ICT and MELs – Session chair:</b> <i>Paolo Bertoldi, EC JRC, IT</i></p> <p>94. Drivers of Blockchain energy consumption and countering measures, <i>*Vlad-Constantin Coroamă, Roegen Centre for Sustainability, Switzerland</i></p> <p>14. Environmental Footprint of Data Centers and Cloud-Services, <i>Jens Groeger, Oeko-Institut, Germany</i></p> <p>16. International Actions to Reduce Miscellaneous Electrical Loads Energy Consumption, <i>*Joshua Butzbaugh, Pacific Northwest National Laboratory, United States</i></p> <p>18. Advancing Plug Load Efficiency with Utility Incentive Programs, <i>*Katie Gladych and Joy Pixley, California Plug Load Research Center, University of California Irvine, United States</i></p>
10:10-10:45	Coffee break	

10:45-12:25	<p><b>Session 8.a Policy 6 – Session chair:</b> <i>Vesa A. Lappalainen, FI</i></p> <p>86. Review and analysis of Ecodesign Directive Implementing Measures: product regulations shifting from energy efficiency towards circular economy, <i>*Robin Barkhausen, Fraunhofer Institute for Systems and Innovation Research ISI, Germany</i></p> <p>21. Opportunities and limits of regulating commercial kitchen appliances, <i>Eva Geilinger, Swiss Federal Office of Energy SFOE, Switzerland, *Peter Helm, MKN Maschinenfabrik Kurt Neubauer GmbH &amp; Co. KG, Germany, Andreas Helm, HKI Industrial Association of House, Heating and Kitchen Technology, Germany</i></p> <p>85. Online Energy Labeling: Regulation and Compliance in the Growing Online Market <i>Katriana Dubytz , Lina Kelpsaite, CLASP, United States</i></p> <p>9. Achievements in consumer relevant product testing, <i>Paul Richter, Midea Europe GmbH, Germany</i></p>	<p><b>Session 8.b Demand Response – Session chair: Paolo Bertoldi, EC JRC, IT</b></p> <p>79. Methodologies and Proposals to Facilitate the Integration of Residential Consumers in Electricity Markets and Smart Grids, <i>*Antonio Gabaldon, Universidad Politécnica de Cartagena, Spain</i></p> <p>82. Preliminary results of a combination of change of electricity tariff and nudge-based interventions to foster energy conservation and demand response behaviour in a Spanish energy cooperative, <i>Armando Aguayo, Cruz E. Borges, University of Deusto, Spain</i></p> <p>22. Signal oriented building energy management system utilizing genetic algorithms for optimized battery operation and load scheduling, <i>Stefan Dieckmann, University of Applied Sciences Biberach, Germany</i></p> <p>84. Verification of Demand Response: the customer baseline load in residential customers, <i>*Antonio Gabaldon, Universidad Politécnica de Cartagena, Spain</i></p>
12:25-14:00	Lunch break	

14:00-15:15	<p><b>Session 9.a Behaviour, Communities and Cities – Session chair: Stela Ivanova, Federal Energy Efficiency Center (BfEE), Germany</b></p> <p>97. Behavioural analysis of dishwasher consumers during coronavirus outbreak, <i>Önder Süneci &amp; Selin Buket Aydoğdu, ARÇELİK A.Ş., Turkey</i></p> <p>81. Energy Communities and Energy Conservation, <i>*Mark A. Andor, RWI - Leibniz-Institute for Economic Research, Germany</i></p> <p>83. Empowering Energy citizenship among the Energy vulnerable, <i>*Nives Della Valle, European Commission - Joint Research Centre, Italy</i></p>	<p><b>Session 9.b From Florence 1997 to Toulouse 2022: 25 Years of Energy efficiency in Appliances: what we have achieved?" - Session chair: Paolo Bertoldi, EC JRC, IT</b></p> <p>Steve Nadel, <i>ACEEE, USA</i></p> <p>Alan Meier, <i>LBNL, USA</i></p> <p>Hidetoshi Nakagami, <i>Jyukankyo Research Institute Inc., Japan</i></p> <p>David Nemtsov, <i>US DoE, USA</i></p> <p>Lloyd Harrington, <i>Energy Efficient Strategies, Australia</i></p> <p>Gilberto Jannuzzi, <i>University Campinas, Brazil</i></p> <p>Paul Waide, <i>Waide Strategic Efficiency, UK</i></p> <p>George Wilkenfeld, <i>George Wilkenfeld Associated, Australia</i></p> <p>Linda J. Sandahl, <i>PNNL, USA</i></p> <p>Benoit Lebot, <i>French Ministry Développement Durable, France</i></p> <p>Jim McMahon, <i>Better Climate Research and Policy Analysis, USA</i></p>
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