

# 2<sup>nd</sup> International Conference

# ECO-

Sustainable Recycling Management &  
Recycling Network Centre



organised by



RECYCLING  
NETWORK  
CENTRE



**KERP**  
Center of Excellence  
Electronics & Environment

supported by

**Raiffeisenlandesbank  
Niederösterreich-Wien** 

in cooperation with

**derStandard.at** **economy**  
DER STANDARD Challenger - Führung für Innovation, Technologie & Wirtschaft

# Sustainable Recycling Management

in Electronics and Automotive



## International research, field reports, strategies

During 18 sessions, round table discussions and workshops, leading experts from the EU, Asia and the US will deliver speeches and discuss the following urgent issues: äge zu folgenden Themen:

- Implementation of the WEEE Directive
- Innovative recycling technologies
- Reuse, repair, recovery
- Supply chain management
- Life cycle-oriented product development
- Implementation of extended producer responsibility

## Key topic: Recycling Network Centrope

The "Centrope Sessions" will deal with the collection and recycling of waste electrical devices and vehicles in Central Europe and the activities of the transnational recycling network.

- Business delegates, particularly from the SME sector, will learn about cross-border cooperation, projects that break new ground and funding opportunities.
- A round table discussion with delegates from Austrian, Slovak, Czech and Hungarian environmental authorities will complete the Centrope focus.

## ECO-X – why should I be there?

- The ECO-X will be the ultimate platform to meet international experts and company representatives to discuss the latest methods, technologies and practical approaches to sustainable recycling.
- Get first-hand information on the latest developments in EU legislation (WEEE, RoHS, EuP, ELV) and the member state implementation of these rules.
- The Recycling Network Centrope will help you develop joint projects across neighboring borders. Experts will advise you on adequate sources of funding.
- Get to know the speakers in person and forge links with important contacts at the cocktail reception at the Vienna City Hall or during conference dinner at the Tech Gate Vienna.

## ECO-X – who else will be there?

Researchers from all of Europe, Asia and the US  
International producers of electrical and electronic products  
Automotive manufacturers and suppliers  
Product designers and developers  
Waste recovery, treatment and disposal facilities  
Recycling networks

From the Centrope countries Austria, Hungary, Slovakia and the Czech Republic:

Small and medium-sized recycling companies  
Public sector policy-makers  
Research institutes  
Funding agencies  
Collection and recovery systems

### Conference fee

Attendance fee for 3 days € 350,--

Attendance fee per day € 120,--

Prices quoted exclusive of VAT

## Fax registration: +43 1 939 60 30 79

Title, Name & Surname:

Company:  Department:

Street:

Zip code, City:  Country:

Phone:  E-mail:

Fax:  Signature:

- Conference (9. - 11. May 2007)
- Day 1 (9. May 2007)
- Day 2 (10. May 2007)
- Day 3 (11. May 2007)

8:00-9:00	REGISTRATION		
9:00-9:30	OPENING SESSIONS, Adress of Welcome Christoph HERRMANN KERP, TU Braunschweig, Chairman of the ECO-X, Thomas LEITNER KERP Managing Director		
9:30-10:30	<b>KEYNOTE</b> Maximilian SCHEPPACH, Chairman Recycling Network AG <b>„Recycling Network Europe - the outsourcing solution for producers – being compliant with WEEE“</b> Jonghwan EUN, CEO Ecosian, Korea <b>„Integration of environmental information for sustainability management“</b>		
10:30-11:00	BREAK		
11:00-13:00	<b>SESSION 1</b> <b>Extended producer responsibility – targets, barriers and drivers</b>  Chair: Carsten EICHERT KERP Center of Excellence (office Germany)  „Recycling insurance – a unique solution to secure the individual producer responsibility“ Anders SVERKMAN Länsförsäkringar Alliance (Sweden)  „Virtual recycling center Centrope“ Stefan DULLY, Markus HORNBERGER, Klaus SCHMITZ Fraunhofer-IPA, TU Vienna (Austria)  „Collective, collaborative or competitive? An analysis of EPR approaches using material recovery certificates for the recycling of cooling and freezing appliances in Austria“ Philipp BOHR MIT Massachusetts Institute of Technology (USA)  „Identifying success factors for reverse logistic activities“ Giannis TSOUFAS, University of Piraeus, Department of Industrial Management (Greece)	<b>SESSION 2</b> <b>How to implement the WEEE directive?</b>  Chair: Gottfried WANDERER KERP Center of Excellence (Austria)  „Complexity vs. efficiency as decisive factors for pan-European customers within the Recycling Network Europe“ Thomas PÖTSCHKE RENE (Germany)  „Practical implementation of WEEE in Lithuania“ Egle VASKELYTE EMP (Lithuania)  „Barriers to market entry for foreign producers caused by WEEE“ Nadine MICHAEL, Hellmann Process Management (Germany)  „The VDI 2343 guideline gives recommendations for the concerned parties“ Ralf BRÜNING, Dr. Brüning Engineering (Germany)	<b>SESSION 3</b> <b>WEEE management in CENTROPE</b>  Chair: Markus SPITZBART KERP Center of Excellence (Austria)  „Implementation of WEEE in Hungary“ Roland DAJKA RE-Elektro (Hungary)  „Implementation of WEEE in Austria“ Astrid GILGE KERP Center of Excellence (Austria)  „Implementation of WEEE in the Czech Republic“ Milos POLAK REMA System (Czech Republic)  „Implementation of WEEE in Slovakia“ Sylvia CHMELINOVA SAZP Slovak Environmental Agency (Slovakia)
13:00-14:30	LUNCH		
14:30-17:30	<b>SESSION 4</b> <b>Waste management and plastics recycling in Europe</b>  Chair: Helmut RECHBERGER TU Vienna (Austria)  „New systems for economic electronic waste recycling“ Axel KLUCKE, Peter KERSCHHAGGL EVK (Austria)  „Improving resource recovery form electronic scrap recycling – a holistic approach“ Christian HAGELÜKEN Umicore Precious Metals Refining (Belgium)  „Strategies to maximise resource substitution by recycling and recovery of plastics“ Harald PILZ Denkstatt (Austria)  „Nonferrous metals at the recycling of electronic scrap - treatment and metallurgical processing“ Helmut ANTREKOWITSCH, University of Leoben, Department of Nonferrous Metallurgy and Recycling (Austria)  „Waste management and plastics recycling in Europe“ Ingo SARTORIUS, Plastics Europe (Germany)  „Plastics recycling in Tanzania and China“ Jürgen ERTEL, Brandenburg University of Technology, Industrial Sustainability (Germany)	<b>SESSION 5</b> <b>Legal framework – today and tomorrow</b>  Chair: Andreas SCHIFFLEITNER KERP Center of Excellence (Austria)  „The RoHS directive in Europe and beyond“ Ernst LUCKNER KERP Center of Excellence (Austria)  „State of RoHS (non-)compliance in small and medium size enterprises – technical, economic and environmental evaluation of the transition process“ Ran LIU TU Berlin (Germany)  „The EuP directive: implementation, legislation, time frame“ Reinhard DITTLER Federal Ministry of Economics and Labour – BMWA (Austria)  „Determination and calculation of treatment results of WEEE“ Renate GABRIEL International WEEE-Forum  „Determining factors for the planning of an electronic waste takeback and recycling network in China“ Kejing ZHANG DongHua University (China) and University of Karlsruhe, Institute for Industrial Production (Germany)	<b>SESSION 6</b> <b>Supply chain management in recycling networks</b>  Chair: Stefan SALHOFER BOKU Vienna (Austria)  „Next generation take back systems. Challenges and responses“ Ulf HALLMANN CCR Logistics Systems (Germany)  „Multi-agent systems for decisions making the reverse logistics networks“ Thomas SPENGLER TU Braunschweig, Department of Business Administration, Production Management  „Facilitating remanufacturing trough life cycle oriented Management“ Tobias LUGER, Christoph HERRMANN TU Braunschweig (Germany)  „The role of SME in recycling networks“ Dirk SCHÖPS, Detlef LOBAS ELPRO (Germany)  „Electronics recycling“ Gerry KILLEN E Scrap Division, One51 Group (Ireland)
19:30	COCKTAIL RECEPTION IN THE VIENNA CITY HALL		

9:00-10:00	<p><b>KEYNOTE</b>                  Hideki KOBAYASHI                  Senior research scientist and vice head of the Environmental Technology Laboratory, Toshiba Corporation, Japan  <b>„A digital approach for less consumption in daily life“</b></p> <p style="text-align: right;">Timothy G. GUTOWSKI                  Professor, MIT Massachusetts Institute of Technology, USA  <b>„Mathematical representation of recycling phenomina“</b></p>	
------------	---	--

10:00-10:30 BREAK

10:30-13:00	<p><b>SESSION 1</b>  <b>From waste to value – new ways to recycle WEEE polymers</b></p> <p>Chair: Thomas LEITNER                  KERP Center of Excellence (Austria)</p> <p>„Thermodynamic costs and benefits of recycling“                  Stefan GÖBLING–REISEMANN                  University of Bremen, Division of Technological Design and Development (Germany)</p> <p>„Electronic equipment: plastics recycling – material recovery vs. energy recovery“                  Chris SLIJKHUIS                  MBA Polymers (Austria)</p> <p>„Commercial scale processing options for separation brominated retardants from WEEE polymers – a mayor practical investigation“                  Roger MORTON                  Axion Recycling (UK)</p> <p>„Recycling of polymers from WEEE“                  Andreas MÄURER, Martin SCHLUMMER,                  Fraunhofer-IVV (Germany)</p> <p>„Value-adding activities and qualities in recycling processes - potentials for innovative sorting systems“                  Jörg SCHUHNICHT,                  CommoDas (Germany)</p>	<p><b>SESSION 2</b>  <b>Recycling strategies and recycling-oriented product design</b></p> <p>Chair: Jürgen ERTEL                  TU Cottbus (Germany)</p> <p>„Recycling oriented characterisation of WEEE“                  Perinne CHANCEREL                  TU Berlin, Department of solid Waste Management (Germany)</p> <p>„ProdTect automotive – integrating DfR in the automotive development cycle“                  Hannes RABITSCH, Ioan REVNIC                  Magna Steyr, KERP Center of Excellence (Austria)</p> <p>„Quantification an characterisation procedures for the valorisation of ‘car fluff’“                  Luciano MORSELLI                  University of Bologna (Italy)</p> <p>„Scientific basics for goal-oriented treatment of cooling appliances“                  David LANER                  TU Vienna, Institute for Water Quality, Resources and Waste Management (Austria)</p> <p>„RAL quality assurance association for the demanufacture of refrigeration equipment“                  Christoph BECKER, RAL (Germany)</p>	<p><b>SESSION 3</b>  <b>WEEE legislation and harmonization in CENTROPE</b></p> <p>Chair: Ernst LUCKNER                  KERP Center of Excellence (Austria)</p> <p>Round Table featuring the representatives of the ministries from Hungary, Slovakia, Czech Republic and Austria                  Christian KERI                  Head of Department, Ministry of Agriculture, Forestry, Environment and Water Management of Austria</p> <p>Anna DOBRÓCSYOVÁ                  Ministry of the Environment of the Slovak Republic</p> <p>Markéta GRÜNEROVÁ                  Ministry of the Environment of the Czech Republic</p> <p>Judit NAGYNÉ RÉDEI                  North-Transdanubian Environmental, Nature and Water Protection Inspectorate Waste management department</p>
-------------	--	--	--

13:00-14:30 LUNCH

14:30-17:30	<p><b>SESSION 4</b>  <b>Workshop with Austria’s collective take back systems</b></p> <p>Chair: Ernst LUCKNER                  KERP Center of Excellence (Austria)</p> <p>Helmut KOLBA, Umweltforum Haushalt                  Georg DOSTAL, Elektro Recycling Austria                  Ulf Hallmann, CCR (European Recycling Platform GC)                  Wilhelm KLEER, Erfassen und Verwerten von Altstoffen</p> <p>will discuss on current aspects regarding the implementation of the WEEE directive in Austria</p> <ul style="list-style-type: none"> <li>• „How can manufacturers and importers be encouraged to join Austria’s collective take back systems?“</li> <li>• „Is it wise to transport WEEE for treatment across national boundaries?“</li> <li>• „Austria’s collective take back systems aim/need to implement waste prevention initiatives.“</li> </ul>	<p><b>SESSION 5</b>  <b>Life cycle design – methods and tools to support product development</b></p> <p>Chair: Luciano MORSELLI                  University of Bologna (Italy)</p> <p>„Research, education and training in service for recycling society“                  Marek KOZŁOWSKI                  Wrocław University of Technology (Poland)</p> <p>„Using life cycle assessments for eco design – a case study“                  Felicitas SCHNEIDER, Stefan SALHOFER                  BOKU Vienna, Institute of Waste Management</p> <p>„Ecodesign Toolbox for the development of green product concepts – applied examples from industry“                  Maria HUBER, Rainer PAMMINGER, Wolfgang WIMMER                  TU Vienna, Ecodesign Research Group (Austria)</p> <p>„ProdTect Eco, a tool combining LCA, DfR and customer requirements for automotive engineering“                  Andreas SCHIFFLEITNER                  KERP Center of Excellence (Austria)</p> <p>„Computer aided eco-design“                  Ewa DOSTATNI, Anna KARWASZ                  Poznan University of Technology, Institute of Mechanical Technology (Poland)</p> <p>„Sustainable consumption - Selected aspects of research focusing electronics“                  Reinhard PAULESICH, WU Vienna, Department of Environmental Economics and Management</p>	<p><b>SESSION 6</b>  <b>Networking and funding in the CENTROPE region</b></p> <p>Chair: Dagmar TOMSCHITZ                  KERP Center of Excellence (Austria)</p> <p>„Austrian technology programmes and initiatives“                  Theresia VOGEL-LAHNER                  Director Division Structural Programmes, FFG – Austrian Research Promotion Agency (Austria)</p> <p>„Co-operation initiatives in the Centrope region“                  Monika UNTERHOLZNER                  Vienna Business Agency, CEO Vienna Region (Austria)</p> <p>„Eco-conscious financing models for Centrope“                  Karin HEILING                  Head of Department Grants, Subsidy Programmes Raiffeisenlandesbank NÖ-Wien (Austria)</p> <p>„EU programmes for research and innovation“                  Sabine HERLITSCHKA                  Director Division of European and International Programmes, FFG – Austrian Research Promotion Agency (Austria)</p> <p>Discussion</p>
-------------	---	---	---

17:30 BREAK

18:30 CONFERENCE DINNER AT THECH GATE VIENNA

9:00-10:00	<p>KEYNOTE Klaus HIERONYMI Hewlett Packard „Better environmental legislation“</p> <p>Helmut KOLBA Chairman International WEEE Forum „WEEE Forum – an association of operative, collective WEEE take-back systems in Europe“</p>		
10:00-10:30	BREAK		
10:30-12:30	<p>SESSION 1 <b>Reuse, repair, remanufacturing – is product recycling possible?</b></p> <p>Chair: Thomas SPENGLER TU Braunschweig (Germany)</p> <p>„Selection of electrical and electronic equipment disposed as waste back into a reuse-cycle“ Markus SPITZBART, KERP Center of Excellence (Austria)</p> <p>„Is it wise to leave all the WEEE treatment to the market economy? Work integration social enterprises can do it better and sustainable!“ Sepp EISENRIEGLER, R.U.S.Z and D.R.Z. (Austria)</p> <p>„Developing a remanufacturing research agenda“ Sebastian KERNBAUM (TU Berlin), Andrew KING (TU Bristol)</p> <p>„Reuse of waste electrical and electronic appliances“ Felicitas SCHNEIDER, Stefan SALHOFER BOKU Vienna, Institute of Waste Management (Austria)</p> <p>„Value analysis PCs, notebooks and monitors for reuse, refurbishment and trade-in“ Lutz-Günther SCHEIDT, TU Vienna (Austria)</p>	<p>SESSION 2 <b>Eco design toolbox</b></p> <p>Chair: Wolfgang WIMMER TU Vienna (Austria)</p> <p>Workshop on the research project „ECODESIGN Toolbox for the development of green product concepts demonstration of applied examples from industry“</p> <ul style="list-style-type: none"> <li>• Introduction of developed method for sustainable product design</li> <li>• Presentation of innovative product concepts developed in cooperation with industry partners: ABATEC electronic systems, ENGEL Austria GmbH, Philips Speech Processing</li> <li>• Implementation of ECODESIGN Toolbox on three products: a golf swing analyzer, an injection moulding machine and a digital voice recorder.</li> </ul>	<p>SESSION 3 <b>CENTROPE – innovative technologies for WEEE &amp; ELV</b></p> <p>Chair: Kurt WOLETZ FH Technikum Vienna (Austria)</p> <p>„Innovative technologies/success story WEEE in Slovakia“ Jozef VASINA Elektro Recycling (Slovakia)</p> <p>„Criteria for building a high tech recycling centre for plastics form WEEE in Centrope“ Dagmar TOMSCHITZ KERP Center of Excellence (Austria)</p> <p>„Cathode ray tube recycling“ Stefan DULLY Fraunhofer-IPA (Germany)</p> <p>„REC-LAB electro-recycling competence laboratory“ Balint VASVARI INNONET (Hungary)</p>
12:30-13:30	LUNCH		
13:30-15:30	<p>SESSION 4 <b>Life cycle design – innovative technologies for innovative products</b></p> <p>Chair: Wolfgang WIMMER TU Vienna (Austria)</p> <p>„Greening the personal computer“ Paul MAHER, MicroPro , Project Heatsun (Ireland)</p> <p>„Increasing sustainability potentials of devices by means of embedded solutions“ Stefan GRÜNWALD, Campus 02, University of Applied Sciences, Automation Technology (Austria)</p> <p>„Improvement options for external power supplies and battery chargers – results of the EuP preparatory study“ Karsten SCHISCHKE, Fraunhofer-IZM (Germany)</p> <p>„Standardisation and intellectual property aspects of eco efficient production and waste management“ Clemens KNEZU, Austrian Patent Office, Patent Services of serv.ip (Austria)</p> <p>„Integrating real life customer needs into the eco-design process and generating improvement potential“ Marek STACHURA, KERP Center of Excellence (Austria)</p>	<p>SESSION 5 <b>Product information and material declaration as a key factor for sustainability?</b></p> <p>Chair: Christopf HERRMANN KERP Center of Excellence and TU Braunschweig (Ger.)</p> <p>„The complicated way to a RoHS compliance declaration“ Martin ENGLISCH, Magdalena WOJCIK ofi (Austria)</p> <p>„Environmental product declarations (EPD) of motors“ Andrea HEILMANN, Ute URBAN Hochschule Harz (Germany)</p> <p>„Material Declarations – comparisons of existing approaches and suggestions for a comprehensive system“ Albert RAFETSEDER, KERP Center of Excellence (Austria)</p> <p>„Recycling-Passport - producers passing on information to recyclers“ Carsten EICHERT, KERP Center of Excellence (Germany)</p>	<p>SESSION 6 <b>CENTROPE – ELV management in the CENTROPE region</b></p> <p>Chair: Ioan REVNIC KERP Center of Excellence (Austria)</p> <p>„ELV Recycling in Hungary“ Josef DOBO Chairman Association of Hungarian ELV Recyclers</p> <p>„Practical Experience in „reporting“ and „monitoring“ of the targets laid down in the ELV-Directive in Austria“ Christian KERI Head of Department, Ministry of Agriculture, Forestry, Environment and Water Management (Austria)</p> <p>„ELV recycling in Austria“ Erwin JANDA, Managing Director, ÖCAR Automobil-recycling (Austria)</p> <p>„Implementation of ELV in Sk“ Maria NOVAKOVA Director of the Slovak automotive industry</p>
15:30-16:00	FAREWELL		



## Directions

### By metro line from downtown Vienna

U1 metro line station Kaisermühlen - VIC  
(exit toward Schüttaustraße).

### By car via A22 motorway (coming from Stockerau)

Turn off at exit Donau-City (right after exit Brigittenauer Brücke). Enter the rotary and exit to the left, entering Leonard-Bernstein-Straße (a tunnel). Inside the tunnel, turn right after approx. 30m (traffic light) and enter Donau-City-Straße. Go straight and enter the next rotary. Follow the signs to find the Tech Gate Garage.

### By car via A22 motorway (coming from A23 Süd-Ost-Tangente)

Once inside the Kaisermühlen-tunnel, turn off at exit Vienna Int. Centre. Go straight, then follow exit Donau-City to the right. On the rotary, take the third exit to Donau-City-Straße. Once you reach the next rotary, follow the signs to find the Tech Gate Garage.

### By car from downtown Vienna via Reichsbrücke bridge

Cross the bridge, turn left toward Donau-City at the first traffic light. On the rotary, take the second exit to Donau-City-Straße. Once you reach the next rotary, follow the signs to find the Tech Gate Garage.



© by Tech Gate Vienna

