13th International Congress for Battery Recycling
17 – 19 September 2008
Düsseldorf, Germany

Patronage:
European Battery Recycling Association (EBRA)
Rechargeable Battery Recycling Corporation (RBRC)

Sponsored by:
Foreword of ICBR 2008

Batteries are currently being developed at a constantly increasing rate to power a wide range of applications. The most common types, such as the so-called dry cells, are widely used to power a variety of house commodities. However, new markets which involve massive use of exotic batteries are also booming. These include various sectors of the consumer electronics. Popular portable devices, such as laptop computers, cellular phones and MP3s, now diffused by millions, are powered by lithium batteries. The continuously rising concern on the oil reserves and on the environment conditions, has largely increased the interest in renewable energy sources and in low emission vehicles. Sun does not shine all day long and wind does not blow on command. Thus, storage systems are needed to make an efficient use of these intermittent sources and batteries are ideal in this respect. The hybrid car, which only few years ago was a motor show curiosity, is now an establish product with many hundreds thousands unities in the road. The electric engine of this vehicle is presently powered by a nickel-metal hydride battery module which in prospect can be replaced by a lithium-ion battery systems.

The life of all these different types of batteries, regardless whether they are primary or rechargeable, inevitably comes to an end. Since their chemistries may represent an hazard for the human health, the batteries cannot be simply discarded in the urban waste but all require separate collection and a proper recycling. This is not yet an established process. While the recycling of conventional systems, such as lead-acid, nickel-cadmium and alkaline batteries is at a satisfactory level, that of the emerging systems, such as nickel-metal hydride and lithium, is still at a preliminary stage. It is expected that these new types of batteries, which are produced at a rate of several billions per year, will soon reach the exhaust stage. Nevertheless, it is still unclear which will be their fate.

Although recycling is a growing concern in the European countries, the number of batteries which reach the recycling plants is a minor fraction of those entering the market. At the present the recycling rate is still lower than the target set by the current EU Directive, and this refers only to conventional portable batteries such as primary alkaline-manganese, zinc-carbon, zinc-air and secondary nickel-cadmium.

There is the need of urgent actions to reach higher recycling levels, also in view of the new Directive which calls for a 45% target within the next 10 years. It is then of paramount importance to develop a common policy to achieve collection procedures which prove to be more efficient than the present ones and to design appropriate recycling plans, especially considering new types of batteries, e.g., lithium and nickel-metal hydride that will soon invade the waste stream. This important goal can be reached only by promoting technical and environmental discussions among experts who can jointly define the present and future strategies of the collection policy, such as to identify the most acceptable and profitable compromise between cost and efficiency of recycling the various batteries types.

This Congress is unique in this respect since it is the only internationally recognized event where attendees may benefit by high level technical presentations, as well as by informative debates on the current environmental legislations. Thus, ICBR cannot be missed by anyone involved in the field. Beside the informative and exciting programs, ICBRs are well known for the high standard of the social activities and for the choice of elegant and beautiful sites. This tradition is maintained also for this 2008 edition and I am sure that you will not be disappointed by having decided to be part of this unique event.

Welcome to ICBR 2008, welcome to Düsseldorf, the bustling Rhine metropolis!

Professor Bruno Scrosati
Chairman of the Steering Committee
International Congress for Battery Recycling

Keynote Speakers

Johannes BLOKLAND
Member of the European Parliament
Vice-Chairman of the Committee on the Environment, Public Health and Food Safety
Netherlands


Orsolya CSORBA
European Commission
DG Environment
Unit Sustainable Production and Consumption
Administrator
Belgium

“Current status of the implementation of the Batteries Directive”
The 13th International Congress for Battery Recycling (ICBR) will be held in charming Düsseldorf in the Hotel Intercontinental from 17 – 19 September 2008.

**Intercontinental Hotel *****
Königsallee 59
40215 Düsseldorf, Germany
Phone: +49 211 8285 0
Fax: +49 211 8285 1111
www.intercontinental.com/dusseldorf

**International Steering Committee**

- **Prof. Bruno Scrosati**, Chairman
  University La Sapienza (Rome)
  Department of Chemistry
  Italy

- **Dr Jean-Pol Wiaux**, Chairman of the Scientific Committee
  RECHARGE
  Manager
  Belgium

- **Jan Bartels**
  STIBAT
  Managing Director
  Netherlands

- **Mantfred Beck**
  Recycling International Magazine
  Editor
  Netherlands

- **Greg Broe**
  Rechargeable Battery Recycling Corp. (RBRC)
  Vice President Finance & Administration
  USA

- **Jacques David**
  SCRELEC
  Managing Director
  France

- **Dr Jürgen Fricke**
  Foundation GRS Batterien
  Chairman of the Board
  Germany

- **Andreas Krebs**
  Batrec Industrie AG
  Managing Director
  Switzerland
  Representative of EBRA

- **Jill Ledger**
  SAFT
  Corporate Communication and Investor Relations
  Director
  France

- **Ernst Locher**
  Fernwärme Wien
  Manager
  Austria

- **Toshio Matsuoka**
  Matsuoka Tech. Consultant Ltd.
  Consultant
  Japan

- **Mark Tomaszewski**
  Inmetco Inc.
  General Manager
  Finance and Administration
  USA

- **Johan van Peperzeel**
  Van Peperzeel B.V.
  President
  Netherlands
### Congress Program ICBR 2008

#### Wednesday, 17th September 2008

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Chairman</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>09.30 – 09.45</td>
<td>1</td>
<td>Prof. Bruno Scrosati, University of Rome, Italy</td>
<td>&quot;Welcome and Introduction&quot;</td>
</tr>
<tr>
<td>09.45 – 11.00</td>
<td>1</td>
<td></td>
<td><strong>KEYNOTE SPEAKERS:</strong></td>
</tr>
<tr>
<td>09.45 – 11.00</td>
<td>1</td>
<td></td>
<td>Welcome and Opening Speech</td>
</tr>
<tr>
<td>11.00 – 11.30</td>
<td>2</td>
<td>Dr Jean-Pol Wiaux, RECHARGE aisbl, Belgium</td>
<td>&quot;A review of critical issues before the implementation date of the New Batteries Directive: The view of the battery industry&quot;</td>
</tr>
<tr>
<td>11.30 – 12.00</td>
<td>2</td>
<td></td>
<td>Efficiency of the battery recycling industry: Technical challenges for a better environment</td>
</tr>
<tr>
<td>12.00 – 13.30</td>
<td>3</td>
<td></td>
<td>Lunch</td>
</tr>
<tr>
<td>13.30 – 14.00</td>
<td>3</td>
<td>Andreas Krebs, Batrec Industrie AG, Switzerland</td>
<td>&quot;Prepared for the future: GRS Batterien – the common collection system in Germany&quot;</td>
</tr>
<tr>
<td>14.00 – 14.30</td>
<td>3</td>
<td>Dr Jürgen Fricke &amp; Nicole Knudsen, Foundation GRS Batterien, Germany</td>
<td>&quot;Management of used batteries and accumulators in Portugal&quot;</td>
</tr>
<tr>
<td>14.30 – 15.00</td>
<td>3</td>
<td>Ana Cristina Caldeira, Portuguese Environment Agency, Portugal</td>
<td>&quot;Regulation on used batteries in Turkey&quot;</td>
</tr>
<tr>
<td>15.00 – 15.30</td>
<td>3</td>
<td>Halime Sezer, Ministry of the Environment and Forestry, Turkey</td>
<td>&quot;Poland: A very special case for the transposition of the Batteries Directive&quot;</td>
</tr>
<tr>
<td>15.30 – 16.00</td>
<td>3</td>
<td>Michal Korkozowicz, REBA Recovery Organization S.A., Poland</td>
<td>Coffee break</td>
</tr>
<tr>
<td>16.00 – 16.30</td>
<td>4</td>
<td>Dr Jürgen Fricke, Foundation GRS Batterien, Germany</td>
<td>&quot;Join the weight watchers...&quot;</td>
</tr>
<tr>
<td>16.30 – 17.00</td>
<td>4</td>
<td>Jan Bartels, STIBAT, Netherlands</td>
<td>&quot;The need for a harmonized EU registration system&quot;</td>
</tr>
<tr>
<td>16.30 – 17.00</td>
<td>4</td>
<td>Pascal Van der Auwera, BEBAT, Belgium</td>
<td>&quot;Joint registration to the WEEE and to the Batteries Directive&quot;</td>
</tr>
<tr>
<td>17.00 – 17.30</td>
<td>4</td>
<td>Colin Thirlaway, The Black &amp; Decker Corporation, United Kingdom</td>
<td>Networking dinner</td>
</tr>
</tbody>
</table>

#### Thursday, 18th September 2008

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Chairman</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>09.00 – 09.30</td>
<td>4</td>
<td>Dr Jean-Pol Wiaux, RECHARGE aisbl, Belgium</td>
<td>&quot;Battery sorting and battery separation from WEEE&quot;</td>
</tr>
<tr>
<td>09.30 – 10.00</td>
<td>4</td>
<td>Jacques David, SCRELE, France</td>
<td>&quot;The challenge for raising the spent batteries collection rate in France&quot;</td>
</tr>
<tr>
<td>10.00 – 10.30</td>
<td>4</td>
<td>Michael Green, G&amp;P Batteries Ltd., United Kingdom</td>
<td>&quot;UK portable battery research – Brand analysis, metals content &amp; public awareness of batteries&quot;</td>
</tr>
<tr>
<td>10.30 – 11.00</td>
<td>5</td>
<td>Andreas Kröniger, CCR Logistics Systems AG, Germany</td>
<td>&quot;Joint WEEE and battery collection schemes&quot;</td>
</tr>
<tr>
<td>11.00 – 11.30</td>
<td>5</td>
<td>Dirk Martens-Bimberg, TITECH GmbH, Germany</td>
<td>&quot;Prospects for automatic sorting lines for spent batteries by X-Ray transmission&quot;</td>
</tr>
<tr>
<td>11.30 – 12.00</td>
<td>5</td>
<td>Liz Richmond, Sustainability Victoria, Australia</td>
<td>&quot;Battery Product Stewardship: The Australian experience&quot;</td>
</tr>
<tr>
<td>12.00 – 13.30</td>
<td>6</td>
<td>Lunch</td>
<td></td>
</tr>
<tr>
<td>14.00 – 14.30</td>
<td>6</td>
<td>Prof. Bruno Scrosati, University of Rome, Italy</td>
<td>&quot;New chemistries in lithium batteries&quot;</td>
</tr>
<tr>
<td>14.30 – 15.00</td>
<td>6</td>
<td>Prof. Farouk Tedjar, Recupyl SA, France</td>
<td>&quot;Extension of the Recupyl process: From portable batteries to HEV &amp; EV batteries&quot;</td>
</tr>
<tr>
<td>15.00 – 15.30</td>
<td>6</td>
<td>Patrick Henrion, Xstrata Nickel, Belgium</td>
<td>&quot;Recycling Li-ion batteries at Xstrata Nickel&quot;</td>
</tr>
<tr>
<td>15.30 – 16.00</td>
<td>6</td>
<td>Coffee break</td>
<td></td>
</tr>
<tr>
<td>16.00 – 16.30</td>
<td>6</td>
<td>Clémence Siret, SAFT, France</td>
<td>&quot;Recycling or direct metal production? A comprehensive life cycle analysis from metals to batteries&quot;</td>
</tr>
<tr>
<td>16.30 – 17.00</td>
<td>6</td>
<td>Prof. Liu Lei, Southeast University, China</td>
<td>&quot;The cyclic production of secondary batteries&quot;</td>
</tr>
<tr>
<td>17.00 – 17.30</td>
<td>6</td>
<td>Dr Steven E. Sloop, OnTo Technology LLC, USA</td>
<td>&quot;Recycling Advanced Batteries&quot;</td>
</tr>
<tr>
<td>17.30 – 18.00</td>
<td>6</td>
<td>Dr Beate Kummer, Kummer: Umweltkommunikation, Germany</td>
<td>&quot;REACH and its major impact on recycling companies&quot;</td>
</tr>
</tbody>
</table>

**From 18.00**

Cocktail reception and poster presentations in the exhibition area sponsored by...
DK Recycling und Roheisen GmbH, Duisburg

09.00  Departure by bus to DK Recycling und Roheisen GmbH
10.00  Arrival at DK Recycling und Roheisen GmbH
10.00 – 12.00  Plant tour of the battery recycling plant
13.00*  Arrival at the airport of Düsseldorf
13.30  Arrival at the Hotel Intercontinental

DK Recycling und Roheisen GmbH was founded in 1876 to recycle metal containing residues arising in industrial processes. Today it is focused on processing iron containing dusts and sludges from the European steel industry into high quality pig iron for the foundry industry. The company does this in a sinter plant and a blast furnace. With about 270 employees the company produces approximately 280,000 t of pig iron from about 400,000 t of secondary raw materials. Apart from steel mill residues DK offers its highly sophisticated services for the recycling of other iron containing dusts/sludges and especially batteries.

More information at: www.dk-duisburg.de

Van Peperzeel, Lelystad (Netherlands)

08.00  Departure by bus to Van Peperzeel
11.00  Arrival at Van Peperzeel
11.00 – 13.30  Plant tour of the battery sorting plant
17.30*  Arrival at the airport of Düsseldorf
18.00  Arrival at the Hotel Intercontinental

The family owned company Van Peperzeel was founded in 1978. Only six people were employed in 1993 and today with the new premises in Lelystad the number of employees has grown into about forty employees, inclusive charter drivers. Van Peperzeel is the national sorting centre of waste consumer batteries. Furthermore, it collects old lead acid batteries and makes them ready for recycling. Not only does Van Peperzeel work for Stibat (the Battery Foundation), it also works for nationally operating wholesalers in the automotive industry. The annual collecting amounts to 27,500 t of old lead acid batteries and 5,000 t of non ferrous metals and non ferrous residues. (You can think of old license plates, rims, car spent catalytic converters and a variety of industrial waste as skimmings and turnings).

More information at: www.peperzeel.nl

* No guarantee on arrival time due to traffic conditions.

Van Peperzeel has a video presentation of the Pyrometallurgical process combined with a Plasma Technology operated in Hofors Sweden as well as the on-site visit of the subsequent Hydrometallurgical process in Olen which allows to turn end-of-life rechargeable Li-Ion, Li-Polymer and NiMH batteries and battery production process scrap back to new high purity active cathode materials for the production of the same batteries. A unique Closed Loop.

More information at: www.batteryrecycling.umicore.com

Umicore, Olen (Belgium)

08.00  Departure by bus to Umicore
10.30  Arrival at Umicore
10.30 – 13.00  Plant tour of the battery recycling plant
16.30*  Arrival at the airport of Düsseldorf
17.00  Arrival at the Hotel Intercontinental

Umicore is a materials-technology group focusing on “clean” technologies: our platform of products and innovations help turn our society into a sustainable one. With more than 50 industrial locations and offices worldwide and more than 14,000 employees Umicore can really offer efficient support to its customers all over the planet. Umicore produces a multitude of products derived from more than 20 different metals and is also a world class leading manufacturer of active cathode materials for Li-Ion, Li-Polymer and NiMH batteries. Umicore offers an eco-sound recycling service for all aforementioned End-of-Life rechargeable batteries of all sizes.

The visit of the Umicore plant in Olen, world’s no. 1 plant for cobalt specialty materials, will offer you an insight of the Val’Eas process, an award winning technology. You will have a video presentation of the Pyrometallurgical process combined with a Plasma Technology operated in Hofors Sweden as well as the on-site visit of the subsequent Hydrometallurgical process in Olen which allows to turn end-of-life rechargeable Li-Ion, Li-Polymer and NiMH batteries and battery production process scrap back to new high purity active cathode materials for the production of the same batteries. A unique Closed Loop.

More information at: www.batteryrecycling.umicore.com

* No guarantee on arrival time due to traffic conditions.
Who should attend?

- Battery producers
- Recycling companies
- Waste management companies
- Battery collection companies
- Associations in the field of battery waste management
- Financing organization for battery recycling
- Environmental authorities
- Laboratories for material science
- Universities and research institutes
- Consultants

Organizer of the ICBR

ICM AG
International Congress & Marketing
Schwaderhof 524
5708 Birwil, Switzerland

Phone +41 62 785 10 00
Fax +41 62 785 10 05
info@icm.ch
www.icm.ch

Jeanette Duttlinger
Congress Organizer

Yvonne Steiner
Congress Assistant

Susann Schmid
Congress Assistant

Ying Liu
Congress Assistant

Claudia Gerstendörfer
Congress Assistant

Charming Düsseldorf

Art, business and Rhenish lifestyle – Düsseldorf is the bustling Rhine metropolis right in the heart of Europe and has a lot to offer:

Almost everyone has heard about it, the legendary Old Town of Düsseldorf. Its alleys, squares and the Rhine promenade with its many cafés and beer gardens transform into one large open-air terrace, especially in the summer. But the Old Town is more than just a pleasure spot: numerous churches, historical buildings and many museums all make a visit worthwhile!

The MedienHafen or Media Harbour is a successful example of modern city development and impresses with the imaginative architecture. The Rheinturm with its breathtaking view of the city is an ideal starting point for a trip around the harbour. Don't miss the chance and explore the variety of Düsseldorf!

www.duesseldorf.de
Hotel Accommodation

For the participants of the congress a number of rooms are held until July 25, 2008 at a special rate at the below-mentioned hotels. Reservation after this date will be subject to space and rate availability. If you wish, you may also extend your stay at the same rate.

InterCityHotel Düsseldorf ***
Graf-Adolf-Straße 81-87
40210 Düsseldorf
Germany
Phone:  +49 211 8285 0
Fax:  +49 211 8285 1111
www.intercityhotel.com/dusseldorf

(10 min. walk from the congress place)

Hotel Nikko Düsseldorf ****
Immermannstraße 41
40210 Düsseldorf
Germany
Phone:  +49 211 834 0
Fax:  +49 211 161216
www.nikko-hotel.de

(10 min. walk from the congress place)

Intercontinental Hotel *****
Königsallee 59
40215 Düsseldorf
Germany
Phone:  +49 211 8285 0
Fax:  +49 211 8285 1111
www.intercontinental.com/dusseldorf

(congress place)

Registration Fees

Registration for the congress should be made by means of the registration form. Participants registering and paying before July 25, 2008 will benefit from a reduced registration fee. The registration fee includes congress, entrance to the exhibition, proceedings and luncheons.

<table>
<thead>
<tr>
<th>Congress Fee</th>
<th>before July 25, 2008</th>
<th>after July 25, 2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fee for participants</td>
<td>€ 1'290.–</td>
<td>€ 1'390.–</td>
</tr>
<tr>
<td>Fee for speakers</td>
<td>€ 690.–</td>
<td>€ 790.–</td>
</tr>
<tr>
<td>Fee for students</td>
<td>€ 490.–</td>
<td>€ 590.–</td>
</tr>
<tr>
<td>Networking dinner (Sept. 17, 2008)</td>
<td>€ 90.–</td>
<td>€ 100.–</td>
</tr>
</tbody>
</table>

Plant tours (Sept. 19, 2008):
- DK-Recycling, Duisburg                           | € 30.–              | € 50.–              |
- Umicore, Olen (Belgium)                          | € 30.–              | € 50.–              |
- Van Peperzeel, Lelystad (Netherlands)            | € 30.–              | € 50.–              |

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Networking dinner (Sept. 17, 2008)</td>
<td>€ 100.–</td>
<td>€ 110.–</td>
</tr>
</tbody>
</table>

All prices excl. 19% German VAT

Registration on site € 100.– surcharge

Additional Proceedings

If it is not possible for you to attend the congress, you may purchase the complete proceedings at EUR 350.–. Participants will get the proceedings free of charge.

Payment

Payment should be made in EUR by bank transfer or by credit card.

Wire payment to:

Bank:  Neue Aargauer Bank, 5400 Baden, Switzerland
Beneficiary:  ICM AG
Account number:  447941-72
IBAN:  CH41 0588 1044 7941 7200 0
Clearing number:  5881
Swift code:  AHHBCH22XXX
Networking Dinner

On Wednesday, September 17, a special networking dinner will be organized in charming Düsseldorf.

Do not miss this perfect possibility to meet your business partners and register to this evening now!

Exhibition and Poster Presentations

A special exhibition will be organized for companies wishing to display their products or advertising materials.

The fee for an exhibition stand (2 m x 3 m) is EUR 2'500.– for the full time of the conference.

Space is limited, so take the chance and book your exhibition stand today!
130 years - a wealth of expertise and many years of recycling still to come

Certified Green Recycling

Battery to Battery
Lithium-Ion, Lithium-Polymer and Nickel Metal Hydride.

Thank you for conserving valuable natural resources and contributing to the preservation of our environment.
Van Peperzeel is market leader in the field of collecting, sorting, valuation and transportation of consumer and industrial batteries in the Netherlands. With years of experience and expertise in controlling and processing these difficult but valuable materials, Van Peperzeel is the expert and your reliable partner. We ensure a safe transport, storage and an environmental friendly recycling throughout Europe. Not only for batteries, but also for non-ferrous metals and residues.

To get you more information, call us now on +31 (0)320-401 400.

James Wattlaan 6
8218 MB Lelystad
+31 (0)320 - 401 400
+31 (0)320 - 401 409
info@peperzeel.nl
www.peperzeel.nl

ELECTRONICS & BATTERY RECYCLING '09
International Conference, Exhibition & Plant Tours
June 24–26, 2009, Toronto, Canada

www.icm.ch