14th International Congress for Battery Recycling

16 – 18 September 2009

Geneva, Switzerland

MEET YOUR CLIENTS

Patronage:

Federal Office for the Environment (FOEN)
European Battery Recycling Association (EBRA)
Rechargeable Battery Recycling Corporation (RBRC)
The Rechargeable Battery Association (PRBA)

Sponsored by:

Foreword of ICBR 2009

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

We are facing a very exciting period for the battery market. While the "conventional" battery types, i.e. the zinc-based alkaline batteries, are continuously sold by billions as power sources for a variety of house applications, new systems are aggressively conquering new markets. The most impressive is the consumer electronic market that is constantly increasing with massive production of popular portable devices, such as lap top computers, cellular phones and Mp3s having high operational sophistication. These devices require a level of power and energy density that can be only provided by new chemistries involving exotic electrode and electrolyte materials. The key example is the lithium battery that has an energy density five times higher than that of conventional systems. The new portable devices are very appealing products and all them are now powered by lithium batteries that, in their different versions, i.e. lithium-ion, polymer lithium-ion and lithium polymer, are now produced at the impressive rate of several billions units per year. There is no sign of an inversion of tendency, to the point that some concern on the world availability of lithium is now growing.

The need of new batteries is not limited to the consumer electronics. It is now clear that an efficient use of clean, alternative energy sources requires proper storage systems. Sun does not shine all day long and wind does not blow on command. Lithium batteries, due to their high energy efficiency, are ideal in this respect. The new energy scenario also considers the shift from polluting, combustion engine cars ideally to no-emission or at least to controlled-emission vehicles. The latter, namely new hybrid cars are now established commercially products with many hundred thousand units on the road. The electric engine of this vehicle is presently powered by a nickel-metal hydride battery module. However, it is now demonstrated that consisting improvement may be achieved by passing to lithium-ion battery powered systems. Accordingly, many top car manufacturers in Europe, United States and Asia are budgeting great investments for producing car-grade lithium batteries. However, the ultimate goal is to develop a commercially valid no-emission, electric car. Also in this case, impressive efforts are in progress, mainly by joint ventures between car and battery companies. The key role of batteries in our future energy economy is also confirmed by the large investment in their development fixed in the stimulus plan of the present US administration.

The life of all of batteries, regardless whether they are primary or rechargeable, conventional or advanced, inevitably comes to an end. Since their chemistries may represent a hazard for the human health, a separate collection and a proper recycling is mandatory. 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 state. Nevertheless, it is still unclear which will be their fate.

There is the need of urgent actions to reach higher recycling levels coping with new directives which are coming from the European and Government institutions. Examples are the EU Directive which calls for a 45% target within the next few years and the CE regulation 1907/2006 which goes under the REACH acronym. This important goal can be only achieved 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 2009 edition and I am sure that you will not be disappointed by having decided to be part of this unique event.

Let's power a clean world! Welcome to ICBR 2009, welcome to Genève!

Opening Speaker

Daniel CHAMBAZ
Republic and Canton of Geneva
Head Office of the Environment
Chief Executive Officer of the Environment
Switzerland

"Welcome to Geneva"

Keynote Speakers

Ruska KELEVSKA
European Commission
DG Environment
Unit Sustainable Production
and Consumption
Administrator
Belgium

"Progress in the implementation of the Batteries Directive 2006/66/EC"

Katharina KUMMER PEIRY
Secretariat of the Basel Convention (SBC)
Executive Secretary
Switzerland

"Future challenges for the Basel Convention"

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

Manfred 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

Toshio Matsuoka
Matsuoka Tech. Consultant
Ltd.
Consultant
Japan

Mike Takao
Sanyo Electric Co., Ltd.
Mobile Energy Company
Senior Manager
Japan

Mark Tomaszewski
Inmetco Inc.
President and General
Manager
Finance and Administration
USA

Johan van Peperzeel
Van Peperzeel B.V.
President
Netherlands

Location of the Congress

The 14th International Congress for Battery Recycling will be held **from 16 – 18 September 2009** in the Hotel InterContinental in charming Geneva.

Hotel InterContinental***
7–9, chemin du Petit-Saconnex
1209 Geneva
Switzerland

Phone + 41 22 919 39 39
Fax + 41 22 919 38 38
www.intercontinental.com/geneva

Charming Geneva

Geneva is situated between the Alps and the Jura Mountains at the very south-west part of Switzerland.

The Canton with its 282 square km, the lake "Leman" and the river Rhone, presents a marvellous surrounding to its visitors who can enjoy the alpine mountains in the background of the environing green countryside.

Geneva is Switzerland's most international city, as it is where the European seat of the UNO is based. Even the International Red Cross directs its humanitarian campaigns from here.

With its over 30 museums, its numerous art galleries as well as its theatres and its opera where famous international artists perform, Geneva is also an important cultural centre.

www.geneve-tourisme.ch

Congress Program ICBR 2009

Wednesday, 16th September 2009

09.30 – 09.45	"Welcome and Introduction" **Prof. Bruno Scrosati, Chairman of the Steering Committee**
09.45 – 11.00	**KEYNOTE SPEAKERS** "Opening Speech" **Daniel CHAMBAZ, Republic and Canton of Geneva, Switzerland** "Progress in the implementation of the Batteries Directive 2006/66/EC" **Ruska KELEVSKA, European Commission, Belgium** "Future challenges for the Basel Convention" **Katharina KUMMER PEIRY, Secretariat of the Basel Convention, Switzerland**
Session 1: **Session Chairman:**	**Battery & Metal Market** **Jill Ledger, SAFT, France**
11.00 – 11.30	"The rechargeable battery market 2008-2020" **Christophe Pillot, Avicenne Développement, France**
11.30 – 12.00	"Overview of the battery metal markets" **Scott F. Sibley, U.S. Geological Survey, USA**
12.00 – 12.30	"Integrating battery recycling in the electric vehicle market development" **Cécile Fournier, Renault SA, France**
12.30 – 14.00	**Lunch**
Session 2: **Session Chairman:**	**Battery Recycling Processes & Recycling Efficiency** **Mark Tomaszewski, Inmetco Inc., USA**
14.00 – 14.30	"New challenges for the Battery Collection and Recycling Industry" **Bertrand Schutz, European Battery Recycling Association**
14.30 – 15.00	"Frame conditions for the calculation of the recycling efficiency of the battery recycling process" **Alexander Potrykus, BiPRO GmbH, Germany**
15.00 – 15.30	"Recycling efficiency of battery recycling processes: A joint industry approach" **Andreas Krebs, European Battery Recycling Association & RECHARGE**
15.30 – 16.00	**Coffee break**
16.00 – 16.30	"Collection and recycling of rechargeable batteries in Europe: Can we meet 25% collection and 50% recycling efficiency target set by the Battery Directive for 2012?" **Ghislain van Damme, Umicore Recycling Solutions, Belgium**
16.30 – 17.00	"Keep it safe" **Dr Jean-Pol Wiaux, RECHARGE, Belgium**
19.30	**Networking dinner**

Thursday, 17th September 2009

Session 3: **Session Chairman:**	**Battery & Metal Sorting** **Johan van Peperzeel, Van Peperzeel B.V., Netherlands**
09.00 – 09.30	"Automatic sorting of button cell to D by X-Ray – Current technical status report" **Jörg Schunicht, TiTech GmbH, Germany**
09.30 – 10.00	"Battery compliance overview; lessons learned from WEEE?" **Marcel Kaal, Pincvision, Netherlands**
10.00 – 10.30	"Sorting of spent batteries, still necessary? Experience of 8 years and 50'000 tons" **Dr Klaus Nowak, UNI-CYC GmbH, Germany**
10.30 – 11.00	**Coffee break**
Session 4: **Session Chairman:**	**International Battery Legislation & Transboundary Movements** **Dr Jean-Pol Wiaux, RECHARGE, Belgium**
11.00 – 11.30	"Assuming responsibility for E-waste through recycling: Emerging issues with product stewardship" **Carl E. Smith, Rechargeable Battery Recycling Corp. (RBRC), USA**
11.30 – 12.00	"Transboundary shipment of second-hand electric and electronic equipment/e-waste and batteries – Perspectives for an optimization of material flows" **Knut Sander, Ökopol GmbH, Germany**
12.00 – 13.30	**Lunch**
Session 5: **Session Chairman:**	**Collection Schemes** **Dr Jürgen Fricke, Foundation GRS Batterien, Germany**
13.30 – 14.00	"Battery collection in Switzerland" **Alexander Brun, INOBAT, Switzerland**
14.00 – 14.30	"Waste batteries – How to make an uninteresting product thrilling" **Nicole Knudsen, Foundation GRS Batterien, Germany**
14.30 – 15.00	"ECOPILAS: A new model to manage batteries in Europe" **José Pérez, ECOPILAS, Spain**
15.00 – 15.30	"Battery schemes: International lessons applied to local markets" **Christina Brandmann, 1WEEE Services GmbH, Germany**
15.30 – 16.00	**Coffee break**
16.00 – 17.00	**Round Table Discussion:** **"Spent battery collection schemes: Bright or dark future?"** **Moderator: Patrick de Metz, SAFT, France** **Participants:** **Jan Bartels, Stibat, Netherlands** **Jan-Olof Eriksson, El-Kretsen AB, Sweden** **Dr Jürgen Fricke, Foundation GRS Batterien, Germany** **Carl E. Smith, RBRC, USA**
From 17.00	**Cocktail reception and poster presentations in the exhibition hall**

Friday, 18th September 2009

Plant tours leaving from the Hotel InterContinental

AFE Valdi, Feurs (France)

08.00	Departure by bus to AFE
11.00	Arrival at AFE
11.00 – 13.00	Plant tour of the battery recycling plant
17.00 *	Arrival at the airport of Geneva
17.30	Arrival at the Hotel InterContinental

AFE Valdi was founded in 1997 resulting from the excellent and promising results of the European program EUREKA EU902, Life Environment. It was also gratified with the Lillehammer award in 1999. Certified ISO 14001, AFE Valdi is focused on valorisation of metallic and mineral by-products. Its activities are based on hydro and pyro metallurgical processes within 2 French plants.

AFE Valdi's by-products are divided into several groups such as: alkaline, saline and NiMH batteries, catalysts from petro chemistry, and wastes from foundries, steel-works, chemical or mechanical factories.

From the treatment of AFE Valdi's by-products, composite ferroalloys are produced. Metal specifications are defined for each product in collaboration with customers. Therefore the expectations of each consumer are fulfilled and further AFE Valdi develops its capabilities.

With more than 100 employees and a turnover of EUR 25 M. in 2008, AFE Valdi achieved an outstanding growth owing to its mastered processes and relevant knowledge. AFE Valdi provides a top-quality service as illustrated by the satisfaction of its customers.

More information at: www.afegroup.com

MTB Recycling, Trept (France)

09.00	Departure by bus to MTB
11.00	Arrival at MTB
11.00 – 13.00	Plant tour of the cable, electronics & lamp recycling plant
16.00 *	Arrival at the airport of Geneva
16.30	Arrival at the Hotel InterContinental

Located in the middle of Europe, MTB Recycling has been developping grinding, sorting and recovery technics for all types of waste over the past 30 years.
With its three production lines, MTB Recycling's cable division collects around 40'000 tons of waste each year, from which energy is recovered.

Thanks to this process, approximately 20'000 tons of granules start a new sustainable life cycle each year.

The main advantage of the high-performance process that MTB uses on its site in Trept results from its multi-functionality. It can be used to process cables, wood, tarpaulin, electronic wastes, aluminium profiles, ect... and also enables the company to carry out custom works for many other types of applications.

At the cutting edge of shredder design and manufacturing, MTB Recycling is also specialised in the manufacture of granulators, rotary shears as well as screening and density separation techniques.

A large number of plants in Europe and across the globe are equipped to process used tyres, electric cables, non-ferrous metals, car shredder residues, common industrial waste and WEEE. Each year, many customers call upon MTB Recycling for turnkey recycling solutions.

MTB Recycling's experience and know-how has also allowed it to create processing plants for very specific types of waste such as oil filters, catalytic converters, asbestos waste, wind-screen wipers and bumpers, to name only a few.
Today, MTB Recycling offers the widest range of equipments available on the market, in terms of both diversity and size.

More information at: www.mtb-recycling.fr

S.N.A.M., St. Quentin-Fallavier (France)

09.00	Departure by bus to S.N.A.M.
11.00	Arrival at S.N.A.M.
11.00 – 13.00	Plant tour of the battery recycling plant
16.00 *	Arrival at the airport of Geneva
16.30	Arrival at the Hotel InterContinental

Founded in 1977 in Lyon, S.N.A.M. is now a French eco-citizen company, aware of the environmental issue of its activities and seeks to enroll in a developmental perspective that respects the Environment. With its experience and 80 people who compose, S.N.A.M. is now the European leader for the recycling of batteries.

Its 2 main activities are:
– sorting of batteries and accumulators for the account to collection companies
– recycling of End-of-Life rechargeable batteries of all sizes and industrial waste.

Our mastered recycling technologies are Nickel-Cadmium, Nickel Metal Hydride, and Lithium-Ion.

Overall, 1'400 tons of batteries and accumulators are sorted and more than 5'600 tons of wastes per year are recycled.

Our final products are:
– pure Cadmium metal (99.995% purity)
– Nickel-Iron products
– Cobalt products

More information at: www.snam.com

* No guarantee on arrival time due to traffice conditions.

Registration Fees

Registration for the congress should be made by means of the registration form. Participants registering and paying **before July 31, 2009** will benefit from a reduced registration fee. The registration fee includes congress, entrance to the exhibition, proceedings and luncheons.

Congress Fee	**before July 31, 2009**	**after July 31, 2009**
Fee for participants	€ 1'290.–	€ 1'390.–
Fee for speakers	€ 690.–	€ 790.–
Fee for students	€ 490.–	€ 590.–
Networking dinner (Sept. 16, 2009)	€ 90.–	€ 100.–
Plant tours (Sept. 18, 2009):		
– AFE Valdi, Feurs	€ 30.–	€ 50.–
– MTB Recycling, Trept	€ 30.–	€ 50.–
– S.N.A.M., St. Quentin-Fallavier	€ 30.–	€ 50.–
Accompanying Person (spouse)		
Networking dinner (Sept. 16, 2009)	€ 100.–	€ 110.–

All prices excl. 7.6% 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.

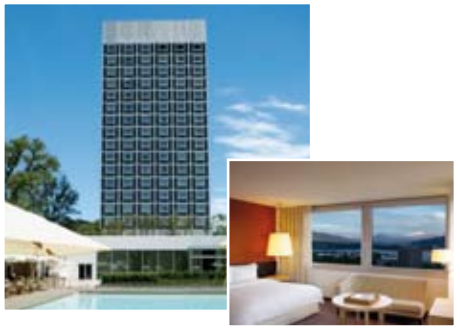
Payment

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

Hotel Accommodation

For the participants of the congress a number of rooms are held until **August 14, 2009** 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.



Hotel InterContinental***
7–9, chemin du Petit-Saconnex
1209 Geneva
Switzerland

Phone + 41 22 919 39 39
Fax + 41 22 919 38 38
www.intercontinental.com/geneva

(congress place)

Hotel Royal**
41-43, rue de Lausanne
1201 Geneva
Switzerland

Phone + 41 22 906 14 14
Fax + 41 22 906 14 99
www.manotel.com/en

(20 min. walk to the congress place)

Hotel International et Terminus*
20, rue des Alpes
1201 Geneva
Switzerland

Phone + 41 22 906 97 77
Fax + 41 22 906 97 78
www.international-terminus.ch

(25 min. walk to the congress place)

“Meet your clients” Networking Dinner

On Wednesday, September 16, a special networking dinner will be organized in charming Geneva.

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

MEET YOUR CLIENTS

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.– and for a poster presentation EUR 250.– for the full time of the conference.

Space is limited, so take the chance and book your exhibition stand or your poster presentation today!

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 7
5708 Birrwil, Switzerland

Phone +41 62 785 10 00
Fax +41 62 785 10 05

info@icm.ch
www.icm.ch

Jeanette Duttlinger
Congress Organizer

Claudia Gerstendörfer
Congress Assistant

Yvonne Steiner
Congress Assistant

Susann Schmid
Congress Assistant

Ying Liu
Congress Assistant

Sibylle Zimmerli
Congress Assistant

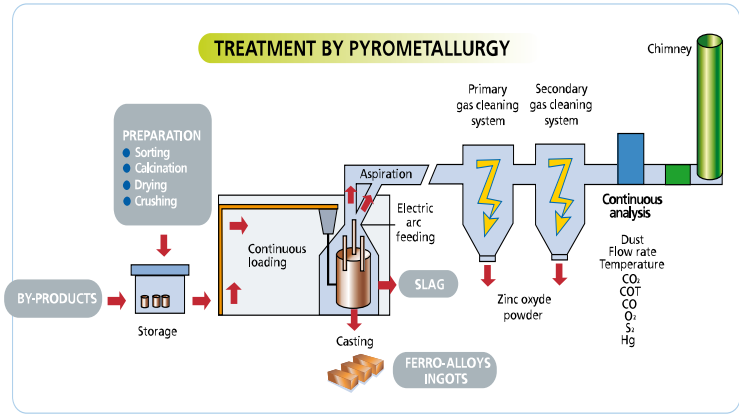
BATTERY RECYCLING BY PYROMETALLURGY

A process enabling the recovery of used batteries' metallic and mineral content :

For one ton of alkaline and zinc-carbon batteries loaded in the furnace, AFE VALDI recovers:

Carbon, graphite and active materials contained are also recovered in AFE VALDI's process (VFE plant), they are used to reduce metallic oxides into metal, and to produce energy.

HOW DOES IT WORK ?



Adapted tools to recycle your wastes

- *Analysis and recycling study*
- *Delivery and control*
- *Preparation and sorting*
- *Transformation : melting and refining*
- *Gas cleaning system and continuous monitoring*

AFE VALDI

TECHNOLOGY FOR
A SUSTAINABLE ENVIRONMENT

*Boulevard de la Boissonnette - **F 42110 Feurs** - Tél. (00 33) 4 77 27 40 92 - Fax. (00 33) 4 77 26 51 49*
e-mail : servicecommercial@valdi-feurs.fr

S.N.A.M.

SOCIÉTÉ NOUVELLE D'AFFINAGE DES MÉTAUX

European Leader of batteries recycling

Nickel Cadmium
Nickel Metal Hydride
Lithium Ion

Mixed batteries sorting

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Tel : +33 565 43 77 30 —Fax : +33 565 43 03 95—
info@snam.com
S.N.A.M. Rue de la Garenne - Z.I Chesnes Tharabie
FR-38207 St Quentin Fallavier