

ICBR 2017

22nd International Congress for Battery Recycling ICBR 2017

September 20 – 22, 2017, Lisbon, Portugal



Patronage:

- Association of European Automotive and Industrial Battery Manufacturers (EUROBAT)
- Call2Recycle, Inc.
- EUCOBAT
- European Battery Recycling Association (EBRA)
- European Electronics Recyclers Association (EERA)
- European Portable Battery Association (EPBA)
- Federal Ministry of Environment, Portugal
- Portuguese Environment Agency (APA)
- The Advanced Rechargeable & Lithium Batteries Association (RECHARGE)
- The Rechargeable Battery Association (PRBA)
- WEEE Forum





FOREWORD

DR JEAN-POL WIAUX

Chairman of the Steering Committee International Congress for Battery Recycling

Driven by 20 years of development of the electronic equipment market, modern battery technologies are now impacted by large demand in many new application fields: the area of robots is a typical example of such a development.

The presence of emission-free cars in cities and of autonomous mobility technology also requires more batteries on board vehicles. The air transport industry is also considering electrical energy as a reliable source of power for small airplanes.

The EU 2030 Energy Strategy supports the growing role of renewable energy that will develop together with the storage of electricity to optimize the supply and demand of electrical energy.

Progress in technology also means concerns in raw materials supply. The EU circular economy policy requires waste reduction

and longer service life of equipment together with re-use and recycling as a rule for tomorrow's society. 2017 is the year of the evaluation of both the success and difficulty encountered by the implementation of the Batteries Directive 2006/66/EC. Therefore ICBR 2017 is a unique opportunity to outline the potential improvements. Nine years after its implementation in all EU Member States (2008), many questions are raised either by the legislator or by industry and by all actors of the end of life chain of waste batteries including end-users.

- Where are the batteries that are not collected for recycling and not processed by recycling plants?
- Are we collecting efficiently waste batteries or batteries that are part of another waste stream (e.g. WEEE)?

- Are the collected batteries processed efficiently with the objective of extracting valuable materials at a competitive cost for a given quality?
- Are Member States offering an even playing field for battery producers to fulfil their obligations?
- Do the new battery chemistries and their applications require new provisions for the implementation of the producer responsibility principle?
- Is the re-use or the second life of batteries a realistic option to optimize resource management?
- Is the Waste Directive under review going to harmonize critical provisions for all daughter directives without disturbing the currently adopted good practice?
- Let's consider the new circular economy strategy. Where is the guarantee that an EU-based industry able to deal commercially and technically with recovered materials, will be operational?

These questions will be in the minds of the participants of the International Congress for Battery Recycling and more issues will also be leading the debate, such as...

- Do we need to improve the capture of batteries embedded in equipment?

All participants will be meeting in Lisbon at ICBR 2017 to collect information, exchange opinions and formulate personal answers to these questions.

For 22 years, ICBR has been offering the best forum to professionals to meet with legislators, academics and economic actors of the battery and battery recycling industries.

The Organizers of ICBR 2017 are pleased to present a programme that will cover the many aspects of the Battery Recycling activity in Europe and from all around the world. Welcome to Lisbon, the city of great discoverers.



OPENING & KEYNOTE SPEAKERS



CARLOS MARTINS

Secretary of State of Environment
Portugal

“Welcome Message”

PROF. VERA SUSANNE ROTTER

Technical University Berlin
Professor for Circular Economy and
Recycling Technology
Germany

“Materials in a Circular Economy”



NUNO LACASTA

Portuguese Environment Agency
President
Portugal

“Waste Policy in the 21st Century:
Challenges and Opportunities”

CHRISTOPHE PILLOT

AVICENNE ENERGY
Director
France

“The Rechargeable Battery Market and
Main Trends 2016–2026”



INTERNATIONAL STEERING COMMITTEE



DR JEAN-POL WIAUX
Chairman
Consultant
Switzerland



JACQUES DAVID
Consultant
France



DR DIETER OFFENTHALER
Batrec Industrie AG
Managing Director
Switzerland



DR ALAIN VASSART
EBRA
General Secretary
Belgium



GEORGIOS CHRYSOS
Chairman of the Lecture
Group
Stiftung GRS Batterien
Managing Director
Germany



PATRICK DE METZ
SAFT
Corporate Environmental
and Governmental Affairs
Director
France



CARL E. SMITH
Call2Recycle, Inc.
CEO / President
USA



JAN BARTELS
STIBAT
Managing Director
Netherlands



MICHAEL GREEN
Independent Waste
Battery Consultant
United Kingdom



MARK R. TOMASZEWSKI
INMETCO
President
USA



HANS GRAEN
European Portable Battery
Association (EPBA)
Secretary General
Belgium



SHINYA NAKAJIMA
Consultant
Japan



JOHAN VAN PEPERZEEL
Van Peperzeel B.V.
Managing Director
Netherlands

LOCATION & ACCOMMODATION

Please book your room at your earliest convenience as the number of rooms at the reduced rate is limited. If you wish, you may also extend your stay at the same rate.



The 22nd International Congress for Battery Recycling will be held from **September 20 – 22, 2017** in the Sheraton Lisboa Hotel & Spa. Meet Lisbon from its highest view at one of the most recognized hotel icons in Lisbon. Ideally located in the city center, minutes from Lisbon airport and downtown, the Sheraton Lisboa Hotel & Spa provides the perfect starting point for exploring and connecting with the city's many business and leisure experiences.

With over 40 years of service experience, the Sheraton Lisboa Hotel offers a warm welcome with spacious guest rooms, free Wi-Fi in the public areas, 24-hour access to Sheraton Fitness, 1,500 m² of pure wellness at the Spirito Spa, outdoor pool and the acclaimed rooftop Panorama Restaurant & Bar, offering stunning panoramic views of Lisbon and the Tagus River.

Sheraton Lisboa Hotel & Spa*****

Rua Latino Coelho, 1
1069 Lisboa
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Phone + 351 213 12 00 00
www.sheratonlisboa.com/en

IMPORTANT NOTICE:

We have been alerted that unofficial housing providers are trying to contact ICBR delegates and exhibitors claiming to be associated to ICM and can secure hotel & Spa. at the Sheraton Lisboa Hotel & Spa. These companies are not authorized to represent ICM nor ICBR. Please note that we have no affiliation with any housing coordinator. If you have any concerns, contact us at info@icm.ch.



BEAUTIFUL LISBON

Come and discover Lisbon, a historical city full of stories to tell, where the sun shines 290 days a year and the temperature rarely drops below 15°C. A city where you feel safe wandering around day or night, where the cuisine is dedicated to creating over a thousand ways to cook the beloved bacalhau (salted cod), and where you'll find hotels and restaurants to suit every taste, budget and requirement.

Discover Lisbon, a city full of authenticity where old customs and ancient history intermix with cultural entertainment and hi-tech innovation. Lisbon is ageless, but it loves company, as you'll find out if you meet someone and ask them

to explain, with lots of gestures and repetition, where the best place is to listen to Fado. After all, Lisbon is famous for its hospitality and the family-like way it welcomes visitors.



www.visitlisboa.com



Working together towards a circular economy for batteries and accumulators

Stibat facilitates all actors in the circular economy of batteries in realizing reuse of products and materials and ensuring a safe, sound and environmentally friendly treatment of batteries and accumulators. We offer sustainable services and solutions ensuring compliance with national and European law and regulations with regard to batteries and accumulators.


Safe and responsible,
ISO certified.


In depth knowledge,
over 20 years of experience.


Offering both collective and customized services and solutions.



WHO SHOULD ATTEND?

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



**[EXCLUSIVE TEST DRIVE
OF BMW i3 AND i8]**

CONGRESS PROGRAM ICBR 2017

TUESDAY, SEPTEMBER 19, 2017

17.00 – 19.00 Pre-Registration

WEDNESDAY, SEPTEMBER 20, 2017

08.00 – 09.00 Registration and welcome coffee in the exhibition area

OPENING AND KEYNOTE SPEAKERS

09.00 – 11.00 "Welcome and Introduction"

Dr Jean-Pol Wiaux, Chairman of the Steering Committee

"Welcome Message"

Carlos Martins, Secretary of State of Environment, Portugal

"Waste Policy in the 21st Century: Challenges and Opportunities"

Nuno Lacasta, Portuguese Environment Agency, Portugal

"Materials in a Circular Economy"

Prof. Vera Susanne Rotter, Technical University Berlin, Germany

"The Rechargeable Battery Market and Main Trends 2016–2026"

Christophe Pillot, AVICENNE ENERGY, France

11.00 – 11.30 Coffee break in the exhibition area

11.30 – 13.00 Panel Discussion: Review of the Batteries Directive (Producers)

Moderator: Otmar Frey, ZVEI, Germany

Participants:

Hans Craen, EPBA, Belgium

Patrick de Metz, RECHARGE, Belgium

Stefan Gielis, EUROBAT, Belgium

José Rizo Martin, European Commission, Belgium

13.00 – 14.30 Lunch in the exhibition area

Session 1: EU Collection Schemes

Session Chairman: Georgios Chryssos, Stiftung GRS Batterien, Germany

14.30 – 15.00 "Battery Collection in Portugal"
Eurico Cordeiro, Ecopilhas, Portugal

15.00 – 15.30 "Key Factors of Successful Collection"
Dr Petr Kratochvíl, Ecobat s.r.o., Czech Republic

15.30 – 16.00 "The Benefit of the Social Impact to Improve the Collection Rate of Waste Batteries", **Yann Caillant, SCRELEC, France**

Session 2: Circular Economy

Session Chairman: Hans Craen, EPBA, Belgium

"Lithium Recovery from Primary and Secondary Resources"
Dr Carlos Nogueira, LNEG, Portugal

"Producer Responsibility & Compliance Schemes in a Circular Economy"
Colin Thirlaway, Stanley Black & Decker, United Kingdom

"Second Use of Traction Batteries"
Silvia Bobba, European Commission, Joint Research Centre – Politecnico di Torino, Italy

16.00 – 16.30 Coffee break in the exhibition area

Session 3: Take Back Schemes

Session Chairman: Patrick de Metz, SAFT, France

16.30 – 17.00 "From E-mobility to Recycling, the Virtuous Loop of Electric Vehicles"
Adrien Bouteille & Yasmine Assef, RENAULT, France

17.00 – 17.30 "Take-back of Industrial Batteries from Mobility and Storage Applications"
Willy Tomboy, RECHARGE, Belgium

17.30 – 18.00 "Product Responsibility and European Wide Take Back of Industrial Li-Batteries – Legal and Logistic Challenges and Possible Solutions"
Tobias Schulze Wettendorf, Stiftung GRS Batterien, Germany

Session 4: Life Cycle Analysis

Session Chairman: Dr Jean-Pol Wiaux, Consultant, Switzerland

"How Battery Life Cycle Influences the Collection Rate of Battery Collection Schemes"
Dr Jeroen Colin, Möbius, Belgium

"LCA of New Innovative Recycling Processes"
Jürgen Sutter, Öko-Institut e.V., Germany

"Assessing Batteries for the European Commission: From Flows of Critical Raw Materials to Product Environmental Footprint", **Dr Perrine Chancerel, Technische Universität Berlin, Germany & Dr Claude Chanson, RECHARGE, Belgium**

19.30 Departure by bus

20.00 Networking dinner at the romantic Palácio do Conde D'Óbidos

**[EXCLUSIVE TEST DRIVE
OF BMW i3 AND i8]**

CONGRESS PROGRAM ICBR 2017

THURSDAY, SEPTEMBER 21, 2017

08.00 – 09.00 Welcome coffee in the exhibition area

Session 5: Recycling Processes

Session Chairman: Dr Dieter Offenthaler, Batrec Industrie AG, Switzerland

09.00 – 09.30 "Processing of Spent Li-ion Batteries: Environmental Challenges"
Dr Reiner Weyhe & Marek Bartosinski, ACCUREC Recycling GmbH, Germany

09.30 – 10.00 "Material Database for Li-Batteries / Study to Compare Recycling Technologies for Li-Batteries"
Holger Schnaas & Peter Straub, BERODE GmbH, Germany

10.00 – 10.30 "Status and Trends of Industrialized Li-ion Battery Recycling Processes with Qualitative Comparison of Economic and Environmental Impacts"
Prof. Bernd Friedrich, RWTH Aachen University, Germany

10.30 – 11.00 Coffee break in the exhibition area

11.00 – 12.30 **Panel Discussion: Review of the Batteries Directive (End of Life)**

Moderator: Dr Alain Vassart, EBRA, Belgium

Participants:

Peter Binnemans, EUCOBAT, Belgium

Stefanie Enders, 1cc GmbH, Germany

Frédéricq Peigneux, Febelauto, Belgium

José Rizo Martin, European Commission, Belgium

12.30 – 14.00 Lunch in the exhibition area

Session 6: Safety & Sorting **Session Chairman: Michael Green, Independent Waste Battery Consultant, United Kingdom**

14.00 – 14.20 "Fire Extinguisher Solutions for Lithium and Li-ion Battery Fires"
Johan van Peperzeel, Van Peperzeel B.V., Netherlands

14.20 – 14.40 "Sorting, a Profession in its Own Right"
Peter Coonen & Geert Allard, Sortbat, Belgium

14.40 – 15.00 "Sorting of Exhausted Batteries & Alkaline and Zinc-Carbon Battery Recycling", **Dr Alexandre Comino, Hellatron Recycling Division, Italy**

15.00 – 15.20 "How a Quality Management System May Help to Increase Safety during Storage, Sorting or Processing"
Eda Coskun, Redux Recycling GmbH, Germany

15.20 – 15.30 Q&A

15.30 – 16.00 Coffee break in the exhibition area

Session 8: Safety during Storage and Transport

Session Chairman: Johan van Peperzeel, Van Peperzeel B.V., Netherlands

16.00 – 16.30 "Waste Li-Batteries – A Struggle to Safety in Waste Management Systems?"
Thomas Nigl, Montanuniversität Leoben, Austria

16.30 – 17.00 "Update of ADR and UN Transport Regulation"
Dr Marco Ottaviani, ANIE-CSI, Italy

17.00 – 17.15 "Practical Solution to the Safe Storage and Transport of HV Damaged Li-ion Batteries"
Michael Knobloch, Genius Technologie GmbH, Germany

17.15 – 17.30 "How Remondis is Coping with the Waste Stream Li-ion Batteries"
Robert Sonnenschein, REMONDIS Industrie Service GmbH & Co. KG, Germany

from 17.30 Farewell cocktail in the exhibition area

Session 7: Recycling Processes International **Session Chairman: Carl E. Smith, Call2Recycle, Inc., USA**

"Li-ion Battery Processing in Korea"
W. Robert Kang, Blue Whale Materials, USA

"Development of a New Technology to Recycle Cobalt-Containing Cathode Materials from Spent Li-ion Batteries",
Norm Chow & Larry W. Reaugh, American Manganese Inc., Canada

"Profitable and Safe Solution to Recycle Spent Li-ion Batteries"
Ajay Kochhar, Li-Cycle Corp., Canada

"Battery Collection and Recycling in Russia: Challenges and Perspectives"
Vladimir Matsyuk, Megapolis Resource Group, Russia

Q&A

NETWORKING DINNER



Enjoy a typical Portuguese evening in the romantic Palácio do Conde D'Óbidos. Let yourself get inspired and join us on Wednesday, September 20, 2017 at a magnificent networking dinner.

Do not miss this perfect opportunity to socialize with your business partners and register for this evening!



Meet friends and business partners in a nice atmosphere!



SPONSORS

Call2Recycle, Inc.

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HELLATRON
Recycling Division

REDUX
Smart battery recycling.

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The Advanced Rechargeable & Lithium Batteries Association

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Swiss quality recycling solutions

GRS BATTERIEN
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RÜCKNAHME
SYSTEM

ACCUREC®
RECYCLING GMBH

EXHIBITION & POSTER PRESENTATION



The exhibition area provides your company with the perfect opportunity to reach key industry decision makers. Promote your products to all congress attendees. The fees are:

- Exhibition booth** (2 m x 3 m) **EUR 3'650.-**
- Poster presentation** (wall rental) **EUR 390.-**
- Display board** (1 m x 2 m) **EUR 690.-**

Space is limited, so take the chance and book today!



EXHIBITORS

As per May 29, 2017:



Battery Safety Solutions BV, Netherlands



BLUBOX Trading AG, Switzerland



BMW - Santogal L, Portugal



DOLAV, France



Glencore AG, Switzerland



Hellatron Recycling Division, Italy



Nickelhütte Aue GmbH, Germany

WORKSHOP

WHY THE CARRIAGE OF WASTE BATTERIES CAN BE DANGEROUS!

Moderator João Cezília
Dangerous Goods Specialist
Member of BADGP, APSEI & CNTMP

Company Tutorial, Lda., Lisboa – Portugal

Date Friday, September 22, 2017

Time 09.00 – 12.00

Location Sheraton Lisboa Hotel & Spa

Price EUR 90.00 (incl. coffee break)

Agenda

Why the Carriage of Waste Batteries Can Be Dangerous!

- Hazard and risk: examples in Dangerous Goods Transport
- The problem of classification of goods containing hazardous materials...
- Differences in modal regulations
- "Update" vs. "Compliance"
- Using "UN" packaging to transport waste batteries... is it a waste of time?
- The needs for labels, marks and placards
- Short Sea Shipping requirements

The presentations will make reference to ADR/RID/IMDG Code and air transport regulation.

The workshop will be held with a minimum of 10 participants.

Participants will receive a certificate of attendance.

To register, please contact ICM AG.



Organized by

Tutorial

Participants registering and paying **before July 31, 2017** will benefit from a reduced registration fee. The registration fee includes congress, entrance to the exhibition, proceedings and luncheons.

REGISTRATION FEES

	before July 31, 2017	after July 31, 2017
Congress fee		
Fee for participants	EUR 1'490.–	EUR 1'590.–
Fee for speakers	EUR 890.–	EUR 990.–
Fee for students*	EUR 590.–	EUR 690.–
*only with valid student card and age below 30		
Networking dinner (Sept. 20, 2017)	EUR 100.–	EUR 120.–
Networking dinner spouse (Sept. 20, 2017)	EUR 120.–	EUR 150.–
Plant tour (Sept. 22, 2017) Ambigroup Reciclagem SA	EUR 50.–	EUR 70.–
Workshop (Sept. 22, 2017) Why the Carriage of Waste Batteries Can Be Dangerous!	EUR 90.–	EUR 150.–

All Prices excl. 23% Portuguese VAT

Congress registration on site EUR 100.– surcharge

Online registration

You may also register online at: www.icm.ch/icbr-2017

Proceedings

If you cannot 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.

REGISTER BY
JULY 31, 2017
AND PROFIT FROM
DISCOUNTED RATES

PLANT TOUR ICBR 2017

FRIDAY, SEPTEMBER 22, 2017



AMBIGROUP RECICLAGEM SA, SEIXAL, PORTUGAL

- 08.30** Departure by bus to Ambigroup Reciclagem SA, Seixal
- 09.00** Arrival at Ambigroup Reciclagem SA, Seixal
- 09.00 – 13.00** **Visit of the recycling plant**
- 14.00*** Arrival at Lisbon International Airport
- 14.30*** Arrival at the Sheraton Lisboa Hotel & Spa

Seixal Recycling Park is located 20 km South of Lisbon. The Ambigroup Reciclagem SA is the main recycling operation. The park covers an area of 140,000 m². The visit will focus on several recycling operations:

WEEE recycling plant, with large and small electric, electronic appliance and refrigerator recycling. **Metal recycling operation**, ELV ferrous scrap shredder, Non-Fe shredders and the different metal recovery operations, such as the dense media plant, sensor sorting and fine metal recovery line. **Polymer recycling**, Ambigroup post-consumer polymer recycling operation.

AMBIGROUP – THE GROUP
www.ambigroup.com



* No guarantee on arrival due to traffic conditions. The tour will only take place with a minimum of 10 participants.

AMBIGROUP



Ambigroup is the holding of environmental service companies, active in processing and recycling of different waste streams.



AMBIGROUP RESÍDUOS

- Waste Management**
- 8 parks covering main Portugal industrial areas
- Industrial waste sorting
- Fe and Non-Fe metals sourcing
- Alternative/substitution fuels



AMBIGROUP DEMOLIÇÕES

- Large scale industrial dismantling and demolitions
- Metal recovery: Copper, aluminium, stainless steel, ferrous metals



AMBIGROUP RECICLAGEM

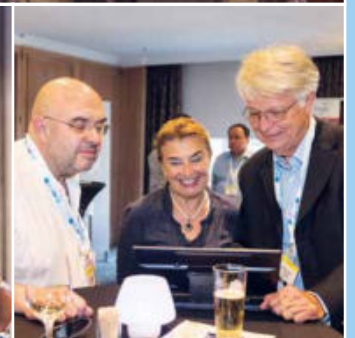
- Metals Recycling**
- Ferrous: Steel, stainless steel
- Non-Ferrous: Aluminium and its alloys
- Copper and its alloys



- Polymers**
- PP, PS, PE, LDPE, ABS, PVC

WEEE – LDA/SDA

Refrigerator Recycling



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ICMRECYCLING

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Electronics & Cars Recycling WRF 2017

WRF 2017



November 14 – 17, 2017
Macau, China
organized by World Recycling Forum



17th International Electronics Recycling Congress IERC 2018

IERC 2018



January 16 – 19, 2018
Salzburg, Austria



18th International Automobile Recycling Congress IARC 2018

IARC 2018



March 14 – 16, 2018
Vienna Austria





You and us:

Collection and recycling for portable and industrial batteries

GRS Batterien guarantees you professional collecting, sorting and recycling of spent batteries. Many years of experience in the handling of portable batteries has made it possible to implement the first nationwide collection system for industrial batteries, in particular industrial lithium accumulators from e-bikes.

We offer individual solutions for eco-friendly recycling to all producers and distributors in Germany.

www.grs-batterien.de