

Battery newsletter

November 2012

Current events, background information, positions

New challenges

Safe collection and disposal of lithium batteries: GRS is transforming the environmental safety of the joint collection system

Dear reader,

New high-performance battery systems are being used more and more in all areas of life today. In addition to their traditional application in devices such as telecommunications equipment, consumer electronics and power tools, durable and powerful lithium systems can be found increasingly in the fields of security technology, power generation and transportation systems. Especially in the areas of renewable energy and electric mobility, such systems represent an important keytechnology. However, these battery systems are also placing increasing requirements on the collection and recycling of used batteries in terms of environmental protection and safety. Lithium systems, in particular, can pose safety risks if not handled correctly. The joint collection system already ensures the safe and proper disposal of all battery systems – even high-performance cells. Nevertheless, due to the expected growing number and diversity of new battery systems in the coming years, GRS must remain in a position to safely collect and dispose of these batteries.

As part of a major research project with the bifa environmental institute based in Augsburg, GRS Batterien has now developed the basis for a future-oriented safety concept that sets new benchmarks. We aim

to introduce this concept step by step starting from next year across the board. The most important part of the concept is the future collection of so-called high-energy batteries, including lithium batteries, at 'qualified return points'.

A particularly taxing challenge for the joint collection system in the years ahead will be the introduction of the new collection structures required in this context as well as further development of new, efficient recycling technology. Unfortunately, the necessary investments will inevitably impact the future disposal costs for lithium batteries. However, we are confident that we can make an important contribution to the development of modern energy storage systems and sustainable environmental technology with highly qualified coverage of the collection chain. We look forward to the challenges that lie ahead.

Best regards,



Georgios Chryssos



Georgios Chryssos
Managing Director
Stiftung Gemeinsames
Rücknahmesystem
Batterien

GRS reorganizes battery collection: a new safety concept for high-energy batteries

A short time ago, the bifa environmental institute completed a research project commissioned by GRS Batterien. The study was followed by an advisory committee consisting of manufacturers, representatives from the Federal Institute for Materials Research and Testing (BAM), experts in hazardous materials and others.

The aims of the investigation were to analyse in detail projected volume flows and future disposal methods and to carry out a risk and safety assessment of the

entire collection chain. Based on the results of the project report, GRS Batterien has now designed a safety concept for high-energy batteries. The following measures emerged as central to the system:

+ Spent batteries need to be classified into three different safety categories when they are collected. This does not change anything for consumers, who can still continue to return their batteries in the same way as before.

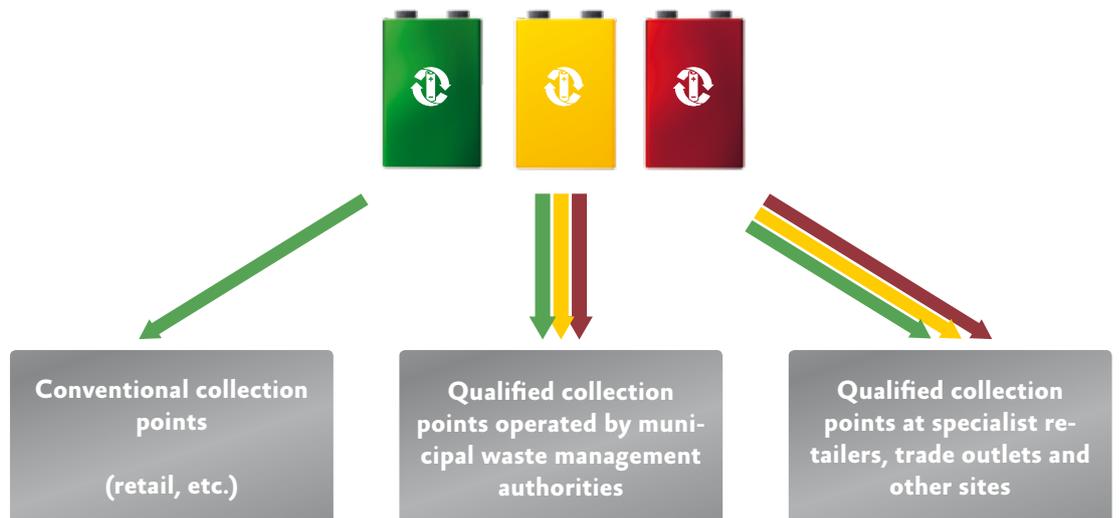
Collection and recycling of old batteries in three safety categories:



+ High-energy batteries should be returned in a controlled environment. This requires the installation of qualified collection points, where high-energy batteries, such as those containing lithium cells, are to be taken back in future.

+ It is also important to initiate sensitive communication with consumers and stakeholders to ensure that

material flows become intuitive and that no unnecessary anxiety is generated. Consumers should be aware that high-energy batteries are important technology for the future when it comes to issues of sustainability: they are both especially powerful and, when handled correctly, a very safe solution.



Inspektor Energie and the FASZINATION ENERGIE competition are highly popular among children

3

With the aim of raising awareness of topics related to environmental protection and resource conservation among the next generation at an early age, Inspektor Energie (Inspector Energy) is currently visiting playgroups in all of Germany. It is often our youngest children attending day nurseries and primary schools who are most open to environmental issues. These days, society takes it for granted that energy will be available at any time and in any place. What we cannot take for granted, however, is that people will have considered the fact that, as a society, we have to be able to access all the resources we need, which is why it is necessary for us to recycle the valuable materials contained in the products we use. GRS Batterien Foundation has accepted responsibility in this area. With the support of Inspektor Energie, a touring educational initiative, and a competition called FASZINATION ENERGIE (Fascination Energy), we aim to change the way people think about waste management, in general.

Inspektor Energie has already enlisted the help of young children in his efforts to solve his most difficult cases more than 50 times, representing half of the total 100 day nurseries and primary schools GRS plans to visit. The foundation initiated this nationwide educational campaign, which focuses on playful elements and interactive learning. The high level of media interest in Inspektor Energie's school visits and the extensive reports on the topic not only prove that the concept has been well received by the children, but also that it is very relevant to society as a whole. Overwhelmed by demand, GRS Batterien is currently looking into ways of extending the campaign and even continuing it in 2013. This would enable us to accept some of the invitations from playgroups that we have unfortunately had to turn down on the current tour.

The Inspektor Energie initiative and the FASZINATION ENERGIE competition form part of the national campaign organised by GRS Batterien Foundation in line with the motto 'Batterien – da steckt mehr drin!' (Batteries – there's more inside!). Both school activities have received support from the Bavarian State Ministry of the Environment and Public Health and the Federal Environmental Agency.

While Inspektor Energie encourages young children to help uncover the secret of the lost batteries in an

entertaining puppet show, older pupils in years 7 to 9 are invited to take part in the FASZINATION ENERGIE competition, which is being held on a national level with the participation of all kinds of schools. Children are asked to think about issues related to the subject of energy and develop their own ideas and concepts for energy storage. This challenges the budding researchers to use their creativity and imagination, on the one hand, and to apply their scientific understanding, on the other hand, to carry out a project on energy or energy storage. The competition has also received the support of the German Teachers' Association and the Association of German Middle School Teachers.

Further information and images about these activities can be found at www.inspektor-energie.de and www.energie-fasziniert.de. And check out www.facebook.com/inspektor.energie to read Inspektor Energie's own reports about the exciting things he has got up to.



From left: Vice-president of the German Teachers' Association, Jürgen Böhm, GRS managing director, Georgios Chryssos, and Bavarian State Minister for the Environment and Health, Dr Marcel Huber, all help Inspektor Energie and a group of young pupils at Felsenelkenanger playgroup to uncover the secret of the missing batteries.

Collection needs for photovoltaic and other energy systems

GRS collects spent batteries from stationary energy storage units and power generation systems

Decentralised energy production is growing in importance every day, leading to the wider deployment of stationary energy storage systems. This technology is distributed by specialist retailers or manufacturing companies, and all suppliers are required by law to take back customer's spent batteries free of charge at the point of sale. According to the German Batteries Act, the producers of battery management systems, accumulators for solar panel installations and other energy-related systems are obliged to offer distributors a 'reasonably prac-

tical method of disposing of batteries free of charge'. GRS offers both manufacturers and system suppliers a way to meet their obligations when it comes to battery disposal, providing a collection, transport and recycling service for industrial batteries around the country. This return system complies with the latest safety requirements for the collection of lithium batteries. It is similar to the take back system for spent batteries from electric bicycles that was introduced a year ago – the first system of its kind in Europe.

New staff at GRS

Tobias Schulze Wettendorf heads up sales and marketing

Tobias Schulze Wettendorf joined the GRS team in August 2012 and will now be responsible for sales and marketing. Mr Schulze Wettendorf offers extensive experience in both sales and marketing in recycling and waste management. In his previous position, he worked for one of the world's leading providers of warehouse logistics services in Singapore, where he oversaw operations in South East Asia. We wish him a very warm welcome to GRS Batterien and every success in his new role.



Tobias Schulze Wettendorf,
*New head of sales and
marketing at GRS Batterien*

GRS is switching to electronic accounting

PDF invoices from 2013

Starting in January 2013, those who use GRS will receive their invoices in a simple and convenient electronic format. Each new invoice will be sent to customers by email, saving valuable resources while also

offering people the option to store and view previous invoices in the protected user area of the GRS platform – www.batterieregister.de.

Imprint

**Stiftung Gemeinsames
Rücknahmesystem Batterien**

Heidenkampsweg 44
20097 Hamburg
Phone: + 49 (0) 40 23 77 88
Fax: + 49 (0) 40 23 77 87
info@grs-batterien.de
www.grs-batterien.de

Responsible party under German media law
Georgios Chryssos, Managing Director