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PRESS RELEASE

2010: a year of contrasts: further growth in the primary sector but temporary decrease in the Li-lon recycling market.

Brussels (Belgium), 15 November 2011 – EBRA, the association of the European battery recycling industry has gathered statistics about the quantities of batteries and accumulators recycled by its members during 2010. These statistics cover all types of batteries and accumulators, primary or secondary, portable, industrial and automotive, with the exception of Lead-Acid batteries.

The quantities recycled are somewhat different from the collection figures of spent batteries and accumulators. Indeed, two factors need to be taken into account: the variation of inventories along the recycling supply chain (from collection to sorting before arriving to the recycling plants) and quantities not recycled by EBRA members. It should be noted however that EBRA represents more than 85% of the EU market. An estimation has been made for the few non EBRA recyclers in order to give a full picture of the EU battery recycling landscape.

The figures by type of battery or accumulator and by country are provided below.

In 2010, achieving the recycling efficiencies as indicated in the Battery Directive was not a requirement. Moreover, the guidance on how to calculate these recycling efficiencies was not fully adopted. As a consequence, there is no quarantee that the targets regarding recycling efficiencies have been met for some types of batteries or accumulators.

Compared to 2009, the recycling market for primary batteries suffered from the closure of one recycler (CITRON) and an increase of the recycling of alkaline batteries by non EBRA members. Citron did recycle some volume in 2010 but that quantity is not reflected in the EBRA statistics here under. Some EU Member States are still far away from achieving significant collection rates (the EU Battery Directive first collection target is 25% by 26 September 2012) resulting in a less than expected growth of the alkaline recycling market.

A sharp increase (+36%) of the collection and recycling of Li-primary batteries has also been noticed. This category represents today a challenge to achieve the recycling efficiency as foreseen in the Directive. There might be some lack of recycling capacities for those Li-primary batteries in the future if their market share continues to increase. Indeed, the quantity remains



small and the technology necessary to ensure safe recycling is costly, making any new capacity investment rather unattractive.

Regarding the secondary market, some inventories have been built up along the collection chain because of a lack of recycling capacities for some Li-lon batteries in 2010 (new capacities have recently been added on the market and are now fully operational. However, some shipments were not recycled in 2010 awaiting for the new capacity to come on stream), some "trading" effect (due to the Cobalt price) and also the fact that cross border transfers (mainly for NiCd) usually happen by batch of several trucks over a short period of time. This can greatly influence the in-between inventories. The "trading" effect on Ni from NiCd and NiMH should also not be underestimated. Finally, there were fewer imports from outside the EU for recycling.

As a result, the following trends compared to 2009 can be seen:

Alkaline and ZnC: +2%

• NiCd: + 18% (mainly portable)

NiMH: -3%

• Li-primary: + 36% (small quantity, partially recycled)

Li-secondary: - 27%

For the future, we forecast a further increase of the recycled tonnage as Member States implement the Battery Directive and reach the related collection and recycling targets.

In 2010, even with the closure of some capacity for spent alkaline batteries, the existing recycling capacity was more than enough to process all the batteries sent for recycling. In 2011, the market has become tighter since the temporarily shut down of some capacity (Valdi) and the limitation in the waelz furnace capacity to absorb black mass from spent batteries.

Further capacity increases will however be necessary in the coming decade to face the recycling needs linked to new battery technologies as well as the sharp increase expected from the E-mobility sector (Hybrid and full electric cars, e-bikes, etc.).

Per country the figures are related to the quantity of batteries originating from that country and recycled in Europe (wherever the recycling plant is located). They are not to be confused with collection figures. For example, for a particular type of battery, a French recycling plant could have recycle a higher tonnage than the one indicated in the column "France" if he recycled some quantities coming from other EU countries. The opposite is also true: e.g. for Germany: some quantities have been recycled by non EBRA members and are therefore not reported in the table.

In 2010, around 1300 tons of spent batteries were imported from outside the EU for recycling by EBRA members. This figure demonstrates the state of the art of the European battery recycling industry.



According to Alain Vassart, General Secretary of EBRA: "The battery recycling industry is facing some important challenges in the areas of capacity, health and safety, recycling efficiencies as well as other environmental or regulatory compliance when coping with the anticipated future increase in tonnage. To make the building of new recycling capacity attractive in the future, decent economic conditions should be granted to recyclers. Choice should not be limited to obtaining the cheapest recycling costs but instead must favor certified and compliant recycling plants. EBRA together with other partners is engaged in elaborating those certification criteria".

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EBRA Statistics: Comparison 2009-2010 (Tons)

	2009	2010	Var. %
Primary ZnC, Alkaline, Zn-Air	28031	28175	0,51%
Button cells	154	37	-75,96%
NiCd (consumer, sealed)	3081	3460	12,30%
NiCd (industrial)	2481	2472	-0,37%
NiMH (portable/consumer)		1176	
NiMH (industrial, non automotive)		20	
NiMH (industrial, automotive)		0	
Subtotal NiMH:	1234	1196	-3,09%
Li-primary	218	297	36,13%
Li-secondary (portable)		1289	
Li-secondary (industrial, non automotive)		0	
Li-secondary (industrial, automotive)		0	
Subtotal Li-ion:	1889	1289	-31,78%
Manufacturing waste	120	37	-68,81%
Consumer Pb-acid	na	85	
Total recycled:	37208	37047	-0,43%

Around 5000 t of spent batteries have been recycled by non EBRA members and are not included in the above mentioned figures.



Global European Landscape for Battery Recycling (2010, in Ton)												
	FR	DE	NL	СН	BeLux	UK	SP	AU	RoEU	Amer	Asia	RoW
Primary consumer batteries:	10689	5430	2016	2225	1840	172	79	835	4360	434	74	17
Button cells	0	0	3	24	0	0	9	0	1	0	0	0
NiCd (consumer, sealed)	694	950	383	205	203	198	72	140	534	24	60	2
NiCd (industrial)	336	553	159	35	61	201	138	162	732	2	46	47
NiMH (portable/consumer)	132	366	122	63	71	34	49	70	254	6	7	1
NiMH (ind., non E-mobility)	9	1	0	0	0	0	0	0	10	0	0	0
NiMH (ind., E-mobility)	0	0	0	0	0	0	0	0	0	0	0	0
Li-primary (excl. Button cells)	92	123	47	2	0	12	0	2	14	0	0	5
Li-secondary (portable)	64	384	102		5	16	10	17	69	612	9	0
Li-secondary (ind., non E-mob.)	0	0	0	0	0	0	0	0	0	0	0	0
Li-secondary (ind., E-mobility)	0	0	0	0	0	0	0	0	0	0	0	0
Consumer Pb-acid		11				3			72			1
Production/Operation waste	0	0	0	2	0	0	0	0	17	0	0	17
Total recycled (Ton):	12016	7818	2832	2556	2180	636	357	1226	6063	1078	196	90
	37048											

NB: Recycled tonnages are not the same as collected quantities due to some inventories along the collection/recycling chain, The figures for the column "France" indicate the quantity of spent batteries originated from France and recycled by EBRA members (whether located in France or elsewhere in Europe).