

ACCUMULATOR ALTERNATIVE MANAGEMENT SYSTEM – EPR SCHEME



June 2016

4 years of operation
103 Producers - 55 Collectors - 3 Recycling Plants
38.460 Tonnes recorded waste



1. Re-Battery EPR Scheme

The Hellenic Company of Alternative Management of Accumulators is a registered Alternative Management System or an EPR scheme/system that operates as a non-profitable organization under the distinctive name “**Re – Battery S.A.**” The main role of the system is to record, monitor and supervise the proper application of the legislation in the whole chain of the alternative management of the battery hazardous waste. Re-Battery SA is never involved in any commercial transaction.

1.1 Managed waste stream

Re-Battery SA manages lead acid batteries that are classified by use and capacity. The Lead acid battery waste, according to the European Waste Catalogue, bears the code 16 06 01* (* hazardous or potentially hazardous waste). The used batteries are classified under the number UN 2794.

1.2 Members and associates

All the Producers/Importers, the Collectors, the car-dismantling companies and the used battery storage companies are obliged according to the legislation to sign cooperation contracts with an EPR Scheme. These contracts specify the terms and conditions of the cooperation of each member with the EPR Scheme the Re-Battery registered members are:

Registered importers 103 members (annual report 2015)

Battery Producers and Importers, the financial supporters of the Scheme, are obliged to submit to Re-Battery the environmental fee as their contribution to the cost of the alternative alteration. The environmental fee is proportional to the type and size of the battery and it is added to the selling price.

Registered collectors 55 members (annual report 2015)

Registered collectors are fully licensed and can collect battery waste from all the legal collection points. They record their commercial transactions in the official documents (hazardous waste identification form **HWIF**), a copy of which is submitted to Re-Battery. All the information and data included in the form are processed by the Re-Battery software.

Registered car dismantling companies (ELV) 46 members and used battery-storage facilities 30 members (annual report 2015)

All the companies that store used batteries either as a result of their main activity (storage of hazardous waste) or as an indirect result (car dismantling companies ELV) in order to fulfill the terms and conditions set in their license, they have to sign cooperation contracts with an EPR scheme.

Lead-acid batteries recycling plants 3 members

The final recipients of the battery waste are the Lead-acid batteries recycling plants as such, in order to fulfill the terms of the License conditions, should join an EPR Scheme. According to the cooperation agreements, they have to report annually all the quantities of waste they have processed through their facilities.

1.3 Geographical Coverage - Scope

The extent of the geographical scope of Re-Battery SA is nationwide. Figure 1 is the map of Greece showing all the administrative districts, a geographical base that is used in evaluating all the data and the results of the management of the waste.

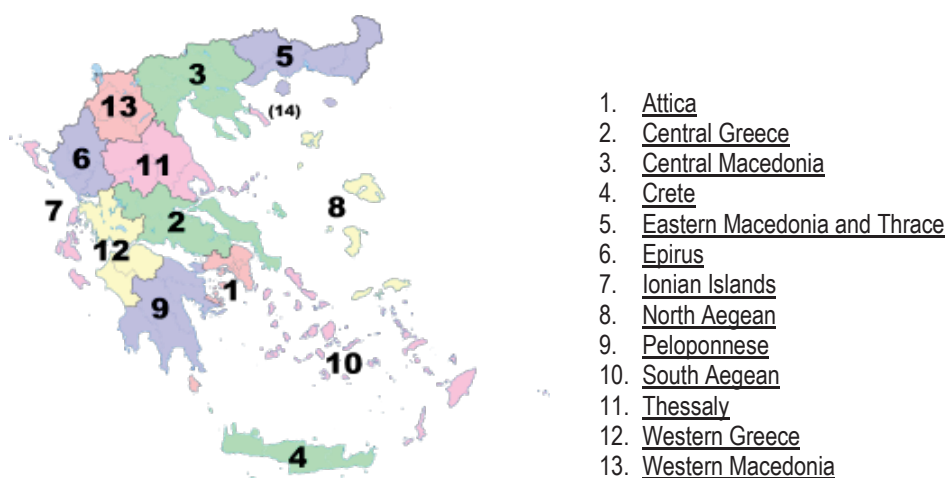
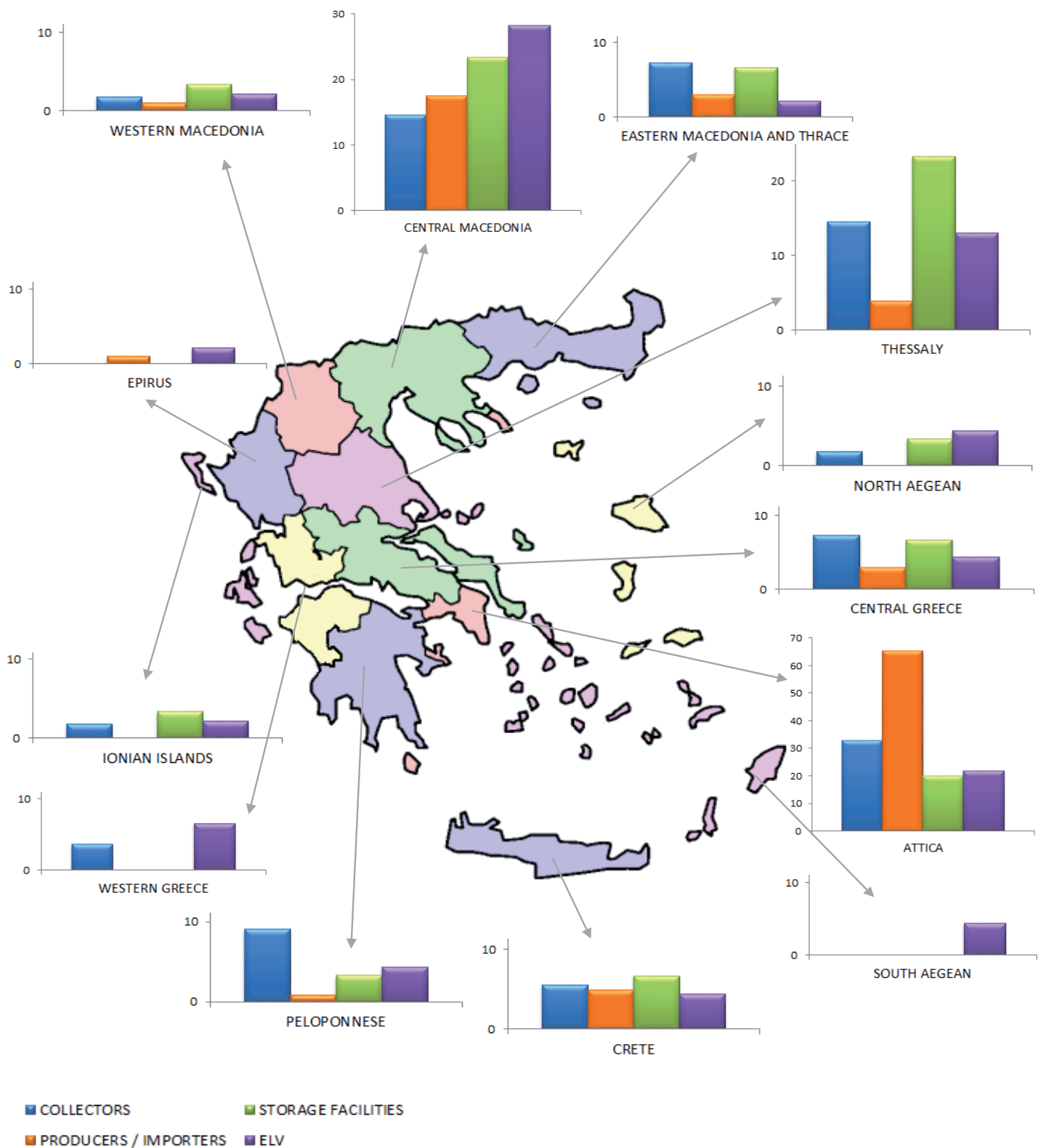


Figure 1. Map of Regions of Greece

The nationwide character of the system is apparent from the distribution/origin of its members (Table 1 and Fig. 2) as well as the waste origin (Fig. 3) that is recorded by the Re-Battery monitoring software.

TABLE 1: REGIONAL DISTRIBUTION OF RE-BATTERY SA MEMBERS				
REGIONS	COLLECTORS	PRODUCERS/ IMPORTERS	STORAGE UNITS	ELV UNITS
ATTICA	18	67	6	10
CENTRAL GREECE	4	3	2	2
PELOPONNESE	5	1	1	2
THESSALY	8	4	7	6
CENTRAL MACEDONIA	8	18	7	13
WESTERN MACEDONIA	1	1	1	1
EASTERN MACEDONIA AND THRACE	4	3	2	1
EPIRUS	-	1		1
WESTERN GREECE	2			3
IONIAN ISLANDS	1		1	1
NORTH AEGEAN	1		1	2
SOUTH AEGEAN	-			2
CRETE	3	5	2	2
TOTAL	55	103	30	46

Figure 2: Geographical distribution of all associated members in %.



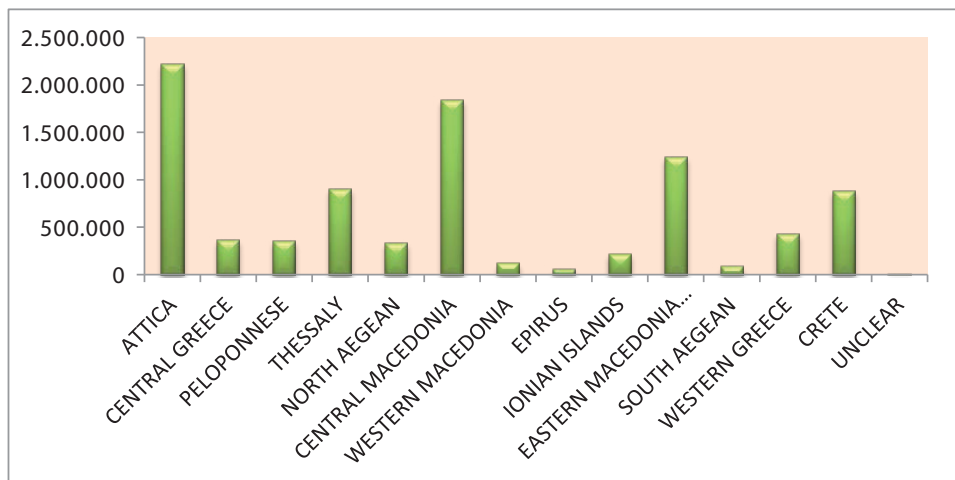


Figure 3. Regional origin of collected battery waste during 2015.

Information on the quantities of waste – expressed in weight and in percentage – from all the regions in relation to the region population, as it is recorded from the process of HWIF, is presented in Table 2. The number of HWIF documents that Re-Battery has processed during the year 2015 according to their origin is also presented along with the waste quantity per capita for each region. The average of waste per capita nationwide is 0.98 kg/capita.

Table 2. Recorded quantities of battery waste in 2015								
No	REGION	RECORDED WASTE QUANTITY		HAZARDOUS WASTE IDENTIFICATION FORMS		POPULATION CENSUS 2011		WASTE QUANTITY PER CAPITA
		%	kgr	%	number	%	number	
1	ATTICA	20,9	2.220.879	32,2	1.717	35	3.827.624	0,58
2	CENTRAL GREECE	3,4	366.171	4,4	235	5	547.390	0,67
3	PELOPONNESE	3,4	357.683	1,5	82	5	577.903	0,62
4	THESSALY	8,5	901.737	5,1	272	7	732.762	1,23
5	NORTH AEGEAN	3,1	330.650	4,0	211	2	199.231	1,66
6	CENTRAL MACEDONIA	17,3	1.843.521	15,3	817	17	1.881.869	0,98
7	WESTERN MACEDONIA	1,2	123.584	2,0	106	3	283.689	0,44
8	EPIRUS	0,6	60.542	0,5	27	3	336.856	0,18
9	IONIAN ISLANDS	2,1	223.017	1,3	71	2	207.855	1,07
10	EASTERN MACEDONIA AND THRACE	11,7	1.241.064	10,0	535	6	608.182	2,04
11	SOUTH AEGEAN	0,8	86.486	1,4	76	3	308.975	0,28
12	WESTERN GREECE	4,0	430.378	4,4	235	6	679.796	0,63
13	CRETE	8,3	886.797	16,3	869	6	623.065	1,40
14	IMPORTS	14,7	1.563.065	1,3	69	0		
15	UNSPECIFIED	0,1	11.753	0,2	11			Average: 0,98
	TOTAL	100,0	10.647.327	100,0	5.331	100	10.815.197	

2 EVOLUTION AND DEVELOPMENT OF RE-BATTERY SA.

The EPR Schemes are financed by the contribution of the Producers/Importers that they submit to the scheme the Environmental Fee that they have collected from the final user. The role of the Producers/Importers is vital for the evolution of the EPR Schemes as they provide the means for developing the appropriate “tools” for the correct and safe management of the waste. This is all based on the basic concept that “the polluter pays”.

Consequently, the legal obligation of the Producers/Importers should go further than the contribution, participation or foundation of an EPR Scheme or the payment of the financial contributions; it should proceed to the point of the control of the monetary contribution, as to the way it is spent by the Scheme and whether it is put at the proper use.

There is a paradox in Greece: a scheme can receive monetary contributions that correspond to a “X’ quantity of new batteries put on the market by its members and at the same time it can manage a “2X’ waste quantity (as in the case of Re-Battery SA) and vice versa.

The case of the disproportional quantities of waste and the received financial contribution are depicted at the following diagrams (Figures 4 and 5).



Figure 4. Quantities of recorded waste and the equivalent target quantity for the period 2012-2015

It is worth noting at this point the target set in the business plan was exceeded by 252%, as the target quantity was 15.282.tn and the recorded quantity was 38.460 tn. That was achieved using less than 60% of the required funds (Figure 5) that were calculated in the approved business plan of Re-Battery SA.

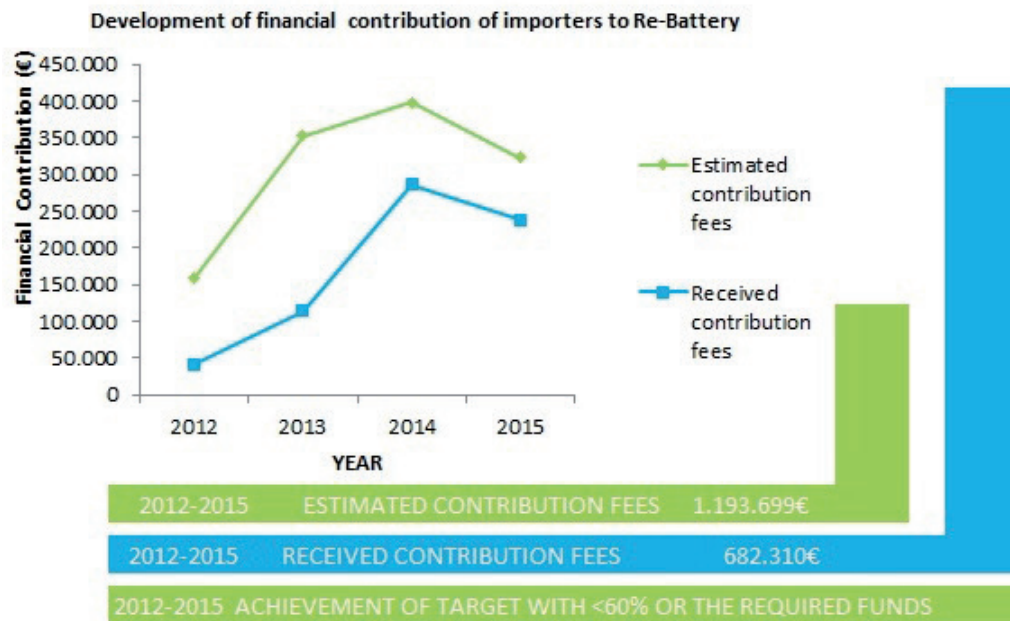


Figure 5. Received and estimated contribution fees.

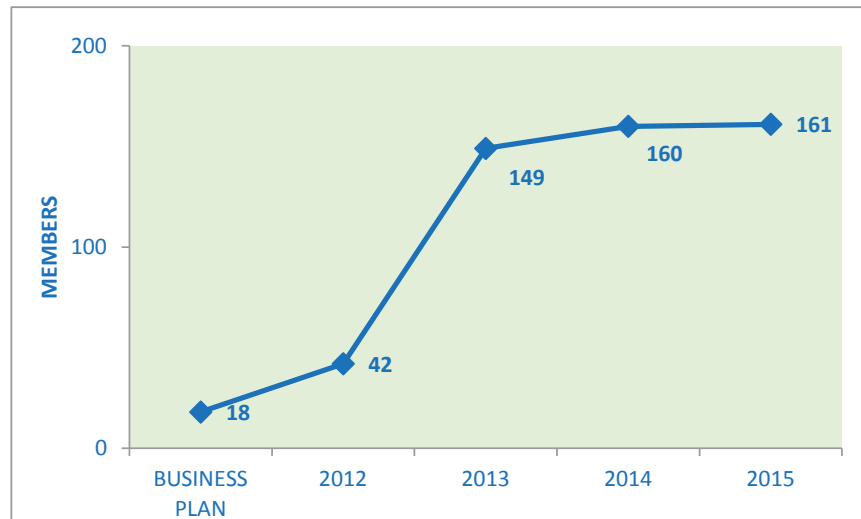


Figure 6. Evolution of Re-Battery members – Importers/Producers, Collectors and Recycling Plants.

The evolution of the Re-Battery Scheme is shown in the diagram of Fig. 6. At the beginning, the end of 2011, there were only 18 members. After a few months in operation, in 2012, there was an increase in the associated members, but in 2013 the number of the members had increased dramatically and reached 149 members. Since then there is a steady increase, considering that certain companies do not act as importers anymore and consequently are not members of Re-Battery SA.

3 COLLECTION AND STORAGE POINTS DATA

The zones of different waste quantity per capita are shown in the map in Fig.7 for year 2015. Green are the areas that have the highest collected waste quantity per capita, while at the other end of the scale the lowest quantity is shown in red colour. The green regions (North Aegean and Eastern Macedonia-Thrace) represent 8% of the population, while the red regions (Epirus, Western Macedonia and South Aegean) represent 9% of the population.

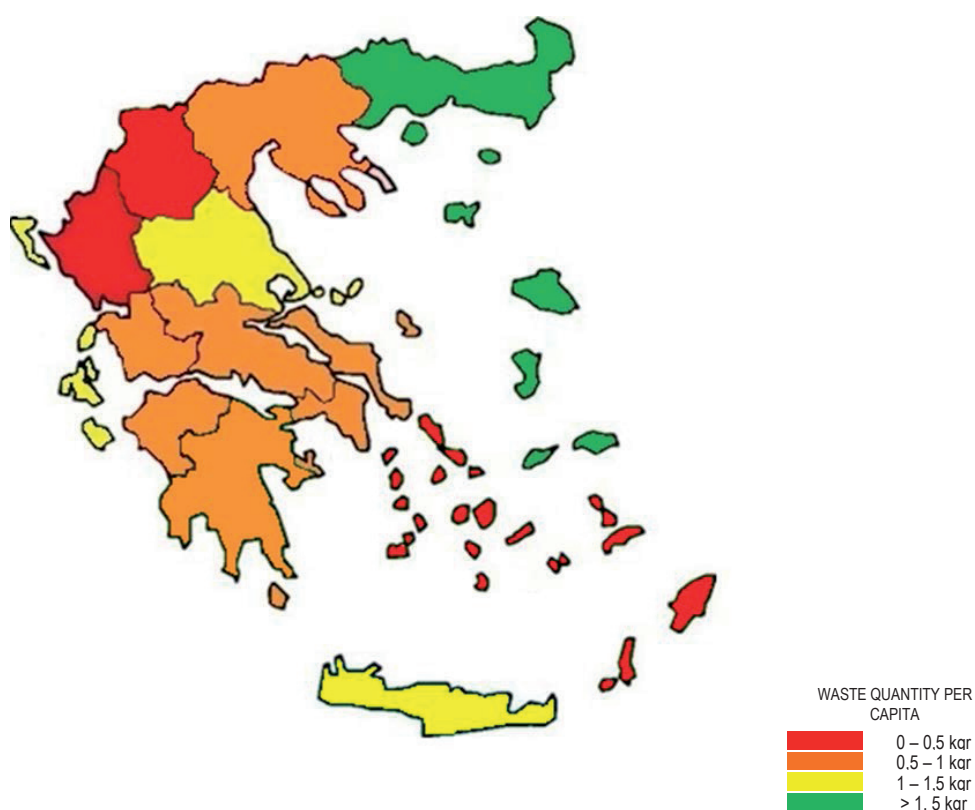


Figure 7. Production/collection waste zones 2015

3.1 Collection points

The collection points that have been recorded through the processing of 2015 HWIF can be classified in 16 categories in relation to their commercial activity. Table 5 presents all the collection point categories along with related information as to the number of each category, the number of HWIF documents and the waste quantity.

A/A	COLLECTION POINT CATEGORY	FREQUENCY OF DELIVERY	% OF DOCUMENTS	COLLECTION POINTS	WASTE WEIGHT	WASTE QUANTITY %
1	Unclear	14	0,26	13	11.751	0,11
2	Car dealers - maintenance	278	5,21	146	218.046	2,05
3	Heavy duty vehicles dealers - maintenance	28	0,53	21	23.883	0,22
4	Boat dealers - maintenance	16	0,30	9	13.151	0,12
5	General trade	123	2,31	56	700.330	6,58
6	Storage facilities	49	0,92	4	523.146	4,91
7	Civil services/organization	72	1,35	55	236.865	2,22
8	Car ELV dismantling units	384	7,20	67	2.076.624	19,50
9	Car accessories trade	954	17,90	384	1.394.758	13,10
10	Battery dealers	489	9,17	84	588.933	5,53
11	Scrap dealers	103	1,93	12	181.158	1,70
12	Waste handling companies	64	1,20	14	511.938	4,81
13	Car electrician	1.301	24,40	568	1.425.892	13,39
14	Private use - business fleet	389	7,30	270	357.706	3,36
15	Car mechanics	886	16,62	577	766.214	7,20
16	Motorcycle-motorbike maintenance	112	2,10	92	53.867	0,51
17	Imported battery scrap	69	1,29	2	1.563.065	14,68
	TOTAL	5.331	100	2.374	10.647.327	100

Table 5: Collection point categories, frequency and quantity of waste collected.

The categories that are the main contributors in the waste collection are the ELV dismantling units (for the 4th consequent year), car electricians and car accessories trade companies.

4 COMMUNICATION ACTIONS

Re-Battery SA considers the communication with all the members and the authorities a major priority, a fact that is emphasized in its business plan. The communication actions are divided in three sections:

- Actions to participants, members and associates of the Scheme

- Promotional and publicity actions regarding the importance of recycling, the participation in conferences, in educational programs and in environmental activities
- Cooperation actions for submitting memos to the competent authorities and participation in legislative initiatives.

5 EDUCATION / TRAINING / PARTICIPATION IN THE ERASMUS+ PROGRAMME

Re-Battery SA has completed successfully the first part of the Erasmus+ Work Programme for VET STAFF MOBILITY on the “Organizational and operational infrastructure for accumulator recycling systems/ Alternative Management Schemes”, in cooperation with Euromobilita srl.

The 14 participants (Re-Battery’s personnel, representatives of the Ministry of Infrastructure, Transport and Networks, representatives of environmental organizations, members of the Scheme) visited the CDCNPA Centro di Coordinamento Nazionale Pile e Accumulatori, hazardous waste collection companies (ROBI srl), EPR Schemes (Cobat, Ecopower, Sinab), battery producer and recycler (FIAMM) and they were educated on the alternative management of lead acid batteries in Italy, a leading country in the field.

The Program will be completed with the two-week training of 16 participants in Italy, in July 2016. Upon completion of the second part, all the information received will be processed and the conclusions will be published.



6 INFORMATION AND AWARENESS OF THE SCHOOL COMMUNITY

Re-Battery SA has decided to carry out an artistic competition among school students with the title “RECYCLING SAVES – AN ARTISTIC COMPETITION ON IDEAS REGARDING THE RECYCLING OF BATTERIES” WITH CASH PRIZE OF 3.000€. That was conceived as an effort to inform and sensitize the school students in the value of hazardous waste recycling and especially the recycling of lead acid batteries. An invitation letter was sent to 2,998 schools and there is a positive response. The competition will take place towards the end of 2016. The competition is approved and will be carried out under the auspices of the Ministry of Education and the Ministry of Environment and Energy.





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