

ANNUAL REPORT 2015

GREEN ECONOMY REPORT GREENTIRE



Green
economy
report





The Green Economy Report® is the tool that has been chosen by the Consortium Greentire in order to report and communicate its performances in sustainability and engagement towards the environment. The document, drawn up according to the main international standards, has been prepared by following the original method of assessment and reporting that was set up by the Foundation for the sustainable development to meet the needs of the organizations actives in the green economy.

The document, realized by the Foundation for the sustainable development on Greentire's behalf, can be downloaded from this website: www.greentire.it/ and www.fondazionevilupposostenibile.it

October 2016

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Chairman's Letter

Our no-profit-making consortium, operating in the field of ELTs management, has been set up with a precise business mission whose pursuit represents Greentire's distinctive element in the national landscape.

The Large Responsibility of the Producer has to aim, by our point of view, not only at granting a correct ELTs collection and management, but also at assuring that the responsibilities resulting from such kind of activities, performed with the right tools, do not burden financially on the community.

We are absolutely convinced, indeed, that the management of a waste should have as goal, according to the most modern sustainability and circular economy criteria, the recovery of the material and that this aim should be the main driver of the consortium activities.

In this perspective the investments in research and innovation on the employments and on the production technologies of the recovered material should be designed; activities that don't end in themselves, but geared to support the industry in the research of new markets. The achieved results are represented in an absolutely objective way - that is to say without any personalized interpretations – in this report, realized by the Foundation for the sustainable development, organization chosen by Greentire for its authority and for the undeniable competences in environmental field and Green Economy. As you will read, our consortium achieved important environmental performances. Since years, indeed, our "goal: 100% recovery of material" has been essentially reaching and that allowed us to set further challenging targets.

So, we have decided to tell about us with full transparency, reporting our activities and trying to make it clear a reality that is ignored beyond our sights: the market of the recovery of material, except being one of the few markets to have, in the difficult current upswing, a continuously rising, is, with the right incentives and attentions, potentially able to absorb such quantities of derivatives from ELTs rubber to withhold the even too large use of energy recovery. We wish that all our stakeholders, subjects that we periodically meet as part of a regular dialogue, want to contribute with their suggestions, but also with their complaints, supporting us in the achievement of the even more ambitious expectations that all of us have.

Enjoy your reading.

Andrea FAVILLI



Introduction

This first Report of Sustainability is born of Greentire's will to create a round in the spirit of a clear and organized accounting, in which it's possible to quantify and qualify its activities in terms of contribution to the national Green Economy and to read the results of ELTs collecting and recovery in terms of environmental costs and advantages for the Country. The document has been drawn up according to the methodological approach of the Green Economy Report, developed by the Foundation for the sustainable development. Such an approach estimates the impacts generated by an organization in an accounting perimeter that is larger than the one adopted by the traditional reports of sustainability, involving not only the whole chain of value of the organization, but also the impacts that the services and goods produced by the organization have on the environment, on the economy and on the society. In this way the Green Economy Report can be seen as an evolution of the traditional socio-environmental budgets, an innovative tool that takes the impulses and the needs of an international contest in constant and growing development towards an economic model more and more careful about the aspects related to the environmental protection and to the social inclusion. In the last years, the topic of the fight against the climatic change has been, indeed, one of the most debated topic worldwide and the 2015, in particular, was a decisive year not only for the historical agreement reached in Paris with COP21¹, but also for the other crucial signs of a progressive understanding of the problem's importance and of an engagement to face it concretely by citizens and actors of the economic system. In order to reach the challenging targets set out in Paris it's necessary to speed up as far as possible the transition, already under way in some sectors but still too slow, towards a green economy. Among the features of this new economic sustainable paradigm it's more and more important the one of circularity², without which it would be not possible to pursue routes of decarbonisation indicated by the global climate scenarios. In this situation, the Greentire's Green Economy Report, with its indicators and especially thanks to the processes and systems that it's necessary to create for its realization, represents a useful and efficient tool of tracking, monitoring and communication of the socio-environmental performances of the organization outwards; as well as a strategic tool for the evaluation of the obtained results and the individuation of the areas for improvement. This document is based on 5 sections: the first one describes the organizational structure, the aims and Greentire's industry; the second one indicates the performances of ELTs collecting and recovery; the third one focusses on the environmental impacts of ELTs recovery, through the use of carbon and water footprint indicators determined by using the model created in 2014 by the society Lca-Lab; the fourth one presents the socio-economic advantages generated by ELTs recovery, illustrated according to the approach suggested by the international standard GRI-G4 and by an estimation of the economic benefit generated for the Country in terms of imports of avoided raw material; the fifth one focused on the activities of training and communication developed by Greentire consortium.

1 Agreement signed in Paris on 2nd December 2015 at the end of the International Convention on the climate changes (COP 21-21st annual session of the Coton of the of Framework Convention of United Nations on climate changes – UNFCCC), by 195 Countries included the European Union. The heart of the agreement is the aim, at long term, to maintain the global warming “below the 2 degrees compared to the pre-industrial levels” with the engagement to make some efforts to limit the temperature increase at 1,5 degrees.”

2 The most influential definition of circular economy has been given by the Ellen MacArthur Foundation: “an industrial conceptually regenerative economy that reproduces the nature in improving and optimizing in an active way the systems through which it works.” According to the European Environmental Agency, the circular economy cover three of the five spheres of influence of a green economy: the management, the waste prevention and the efficiency in the use of resources. But as an integral part of the wide project of transition towards the sustainability, the circular economy indirectly contributes to the promotion of the other two dimensions of green economy: the individual well-being and the resilience of the ecosystems.

Numbers in evidence

22.811 t

**of collected and recovered ELTs
of which:**

17.739 t (78%) from the exchange market
(90% of the input to the market of last year)
4.454 t (19%) from the car dismantling trade
618 t (3%) from the historical stock
management

22.671 t

of treated ELTs:

18.490t (82%) at material recovery
86 t (0,5%) of textile fibres
4.571 t (24,7%) of steel
13.832t (74,8%) of rubber granules and powders

4.181 t (18%) at energy recovery
3.829 t (92%) of textile fibres
352 t (8%) of ELTs

46.022 tCO₂eq

of avoided emissions

equal to the emissions generated in
Italy by 14 thousand cars in order to
covered an average of 20.000 km in
one year

299.077 m³

of saved water

equal to the water contained in
20 Olympic pools

21 millions of €

of imports

of avoided raw material

5,4 millions of €

**of
Economic Spread Value**



1- Greentire's System

GOVERNANCE, ORGANIZATIONAL STRUCTURE AND TARGETS

Founded in 2011, Greentire Srl is a consortium with limited liability delegated by its own associates to fulfil the law obligations for ELTs management according to the current regulatory framework. Greentire's founding partners are Pneus In srl, SIRIO Pneus srl and TBAVILLI, tires distributors in Italy, to which also Magri gomme SpA, as distributor as well, and two producers, Toyo Tire SpA and Yokohama Italia SpA were added later.

REFERENCE REGULATORY FRAMEWORK

End-of-Life Tires (ELTs) appear in the Italian law with legislative decree nr. 209 dated 24th June 2003, in the transposition of the European Directive 2000/53/CE related to out-of-use vehicles, preventing the separate collecting during the step of car dismantling. It's with the legislative decree nr. 152/2006 that becomes possible to give the responsibility of ELTs management to tires producers and importers, in the face of a collection of an environmental contribution, for a quantity equal to the new tires placed on the market. In particular, the article 228 of the Decree requires the producers and importers to provide the management of ELTs quantity equal to the quantity of tires placed on the national market, calculated comparing the previous year, introducing this way the criterium of Producer's Extended Responsibility. The Decree instructs, furthermore, the Minister of the Environment to draw up a specific Decree in this field, that was drafted in 2011 (Ministerial Decree nr. 82 dated 11th April 2011) and that defines in details roles and responsibilities. Given that the contribution in dump is forbidden, the ministerial decree nr. 82 dated 11th April 2011 "Regulation for the management of End-of-Life Tires (ELTs), according to the article 228 of the legislative decree nr. 152 dated 3rd April 2006 and further changes and integrations, laying down provisions in environmental field", regulated the management of ELTs in order to optimize their recovery, prevent their creation and protect the environment. The Ministerial Decree provides, on article 3(1), that producers and importers of tires have to collect and manage every year quantity of ELTs (of all brands) at least equal to the quantities of tires that they placed on the national market of recovery in the previous year, deducted the minority interest of used tires transferred abroad in order to be re-used or carcasses transferred abroad in order to be rebuild, calculated on the basis of ISTAT data and in proportion to the respective immission quota on the national market. Furthermore, considered that a quantity of new tires equal in weight to hundred is equivalent to a quantity of ELTs in weight of ninety, in relation to the less weight of an ELT, a quota on the average equal to ten percent compared to a same brand new tire has to be cut. Further to ELTs coming from the end-of-life car dismantling, however, the Decree 82/2011 establishes the tools that currently allow a correct management: the Fund, the Committee and the environmental contribution that finances the whole System. The Decree stipulates that the Committee would be constituted at ACI and made up by representatives of associations involved in all the industry of tires (immissions on the market, purchase, collection and recovery of ELTs). The Committee has the task of defining every year the amount of the contribution and the method of collection and use in order to grant the start of the correct recovery of ELTs. Every year the Department of Environment, on the basis of what has defined by the Committee, publishes a Directorial Decree that states the amount of the contribution in force for the following year.

Nevertheless, further to the article nr. 7(8) of the Decree "the targets of recovery and recycle of ELTs coming from end-of-life vehicles remain inside the targets of responsibility of the end-of-life vehicles industry". So, they are not counted for the purpose of the targets calculation laid down in Ministerial Decree nr. 82/2011, but only for the purpose of the targets of which on the article 7(2) of Legislative Decree nr. 209 dated 24th June 2003 "within 1st January 2015, for all the end-of-life vehicles the percentage of reuse and recovery is equal at least to 95% of the average weight per vehicle and per year and the percentage of reuse and recycle is equal at least to 85% of the average weight per vehicle and per year."

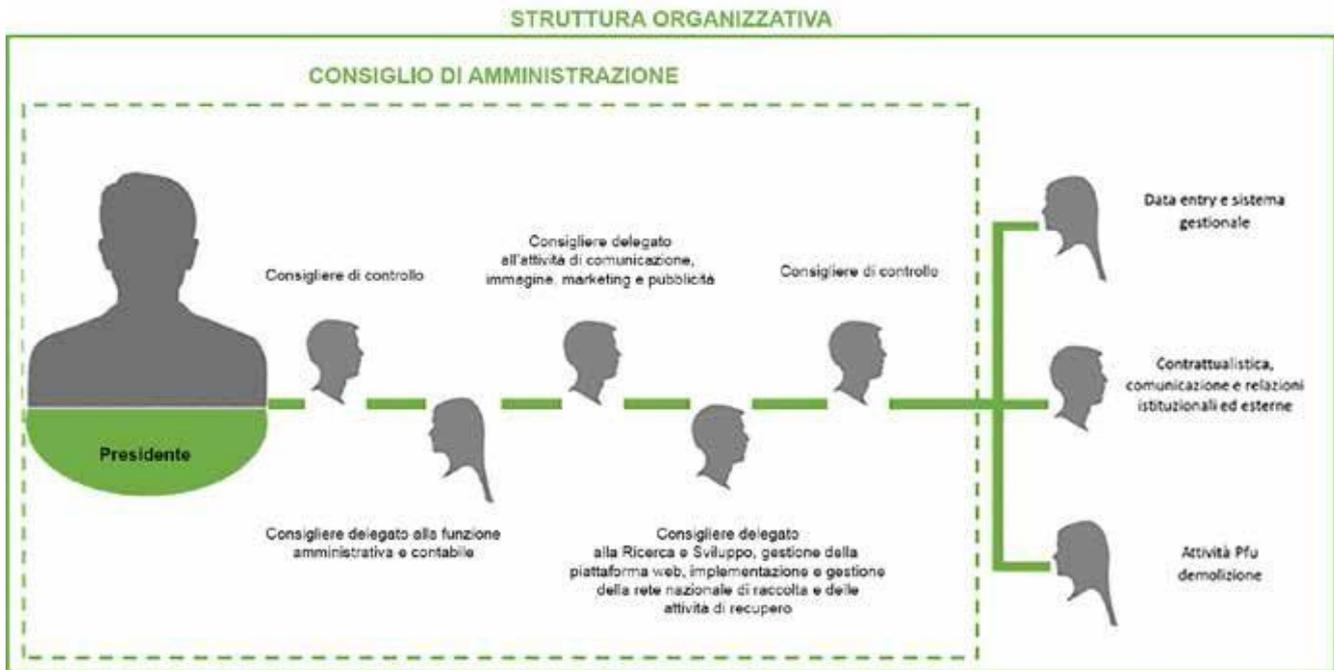
The governance system and the methods of the management of the consortium activities are covered by the Statute that attributes to the Management Board “the largest powers of ordinary and extraordinary management of the society, for the achievement of the social object, the powers except the competences definitively reserved to the associates that is to say the limitations decided by the assembly during the nomination meeting.” Always according to the Statute, the general, substantial and procedural representation of the consortium, it’s up to the Chairman of the Management Board, as well as to the counselors, within the limits of the powers conferred. The Management Board has, also, the right to appoint directors, proprietors and special prosecutor, for specific act categories (for instance administration and accounts, communication, research and development etc.) and, in this case, the representation has to be given also to these subjects within the limits of the powers conferred. The Management Board, with the agreement of the associates assembly, can also delegate, in whole or in part, its own powers to one or more counselors, by defining powers, limits and methods of exercise of the delegation. Consortium’s associates are called to deliberate on the decisions related to: the changes of the constituent act and of the Statute; the handling of operations that cause a substantial change of the social object determined in the constituent actor a relevant change in the associates rights; further questions, for which more administrators or associates who represent at least one third of the capital request. They can be associates of the society only the entrepreneurs conducting the production activity or tires import, obliged to ELTs management pursuant to Ministerial Decree nr. 82 dated 11th April 2011, and every associate can appoint a member of the Management Board.

Society’s organizational structure counts two direct employee, in charge of the ELTs demolition activity and the data entry and supervision of management system; and one external consultant, responsible for contracts management, institutional and external relations.

As indicated above in relation to the Statute, some Counselors, in charge of activities of: communication, imagine, marketing and advertisement; administration and accounts, reaserach and development, web platform management, management and implementation of the national network of recovery and recycle activities, are involved.



Organizational Structure



The Statute refers also the object of the exercise of Greentire’s activities in relation to the duties laid down in the regulation, among these ones:

- ELTs management coming from the exchange, market, meaning the activities of collection, recovery, deposit, separation for dimension, temporary stockage, transport, selection, treatment. Including the crushing, the re-use, the recovery, the treatment, the disposal and the exploitation deriving from the use of ELTs as combustible, in favor of the associates and third parties.
- The collection and management of ELTs coming from end-of-life vehicles dismantling;
- The organization of training, meeting and conferences;
- The exercise of every instrumental, ancillary and/or predefined activity related to the ELTs management: the use of tools and computer facilities aimed to trace the ELTs flows; compliance with the duties of communication, reporting and other requirements laid down in norms; information about ELTs management, even towards users; advertisement promotion of consortium activities;
- The promotion of information campaigns, the research of synergies, the realization of coordination measures, agreements and program contracts with public or private parties on the topic of the correct ELTs management;
- The realization of studies and reseaches related to: the development possibility of new products coming from ELTs; the possibilities of evolution and change of the current recovery and recycle processes; the possibilities to support the development of new and existing companies;
- Promoting exchanges among partner companies about ELTs management.

Actors and functioning of the industry

Referred to the Ministerial Decree nr. 82 of 2011, Greentire handles the management of both end-of-tires generated from the exchange market and the ones generated from the end-of-life vehicles. The consortium is present in the whole industry of ELTs management: from the identification of the production points of the waste, to the management and optimization of the collections; from the most modern treatment in the recycle plants, to the promotion of the applications that use derivated products.

Regarding ELTs coming from the exchange market, in 2015 Greentire managed in total 2.339 generation points, mainly tire shops and engineering workshops, distributed throughout the country with a particular concentration, 2.045 points (87,4%), in North of Italy. In South and in Central Italy 9,6% (224) and 3% (70) of generation points managed by Greentire are present.

The region with the largest number of managed generation points is Lombardy (52,9%), followed by Piemonte (26%) and by Veneto (3,8%).

EXCHANGE MARKET

ELTs generation points for geographical location

REGION	NUMBER OF MANAGED GENERATION POINTS	PERCENTAGE DISTRIBUTION
Lombardy	1.237	52,9%
Piemonte	607	26,0%
Veneto	90	3,8%
Calabria	81	3,5%
Puglia	62	2,7%
Sardegna	60	2,6%
Marche	59	2,5%
Valle d'Aosta	53	2,3%
Emilia-Romagna	49	2,1%
Basilicata	17	0,7%
Liguria	6	0,3%
Campania	4	0,2%
Lazio	4	0,2%
Toscana	4	0,2%
Molise	3	0,1%
Trentino-Alto Adige	2	0,1%
Friuli-Venezia Giulia	1	0,0%
TOTAL	2.339	100%

[Source: Greentire]

In the market of car dismantling there were 276 generation points managed by Greentire in 2015, 61,6% (170 generation points) located in North Italy, while in the South and in Middle Italy there are 31,9% (88 generation points) and 6,5% (18 generation points) of car dismantlers managed by Greentire. Also in this case, the region with the more concentration of generation points is Lombardy, 38,8% (107 generation points), followed by a region of the South, Puglia, with a concentration of 18,1% (50 generation points). In third place there is Veneto region, 9,1% (25 generation points).

CAR DISMANTLING MARKET

ELTs generation points for geographical location

REGION	NUMBERS OF MANAGED GENERATION POINTS	PERCENTAGE COLLOCATION
Lombardy	107	38,8%
Puglia	50	18,1%
Veneto	25	9,1%
Sardegna	17	6,2%
Emilia-Romagna	16	5,8%
Calabria	14	5,1%
Piemonte	11	4,0%
Toscana	10	3,6%
Friuli-Venezia Giulia	5	1,8%
Sicily	4	1,4%
Marche	4	1,4%
Campania	3	1,1%
Liguria	3	1,1%
Trentino-Alto Adige	3	1,1%
Abruzzo	2	0,7%
Lazio	1	0,4%
Molise	1	0,4%
TOTAL	276	100%
[Source: Greentire]		

For the collection of ELTs in these two area of management and for their transportation to the recovery plants, Greentire relies on a network of 56 transport societies, for a total of 174 means of transport, and of 38 ELTs temporary and permanent storage points. The approved drivers have all the authorisations indicated in the legislative norms for the exercise of this activity and they are selected according to criteria of competence, proficiency and experience. The ELTs collection only regards tires for mopeds and motorcycles, tires for cars and relative trailers, tires for trucks and buses, tires for tractors, public works and industrial ones, because only these typologies are laid down in the current legislation. When the temporary deposit areas at ELTs generation points, of exchange and car dismantling market, are nearly saturated, the collection has been required through a computer system.

The collected ELTs can be delivered directly to the recovery plants of the industry, or addressed to an intermediate storage center, that is to say an authorized and equipped area at collectors, where all the operations to optimize the ELTs subsequent submission to the processing plants are performed. Once all these operations are carried out, ELTs are delivered to the recovery plants by transport companies.

On average, the collectors feedback to the calls of the operators of the exchange market is 2,3 working days, widely below the 7 days laid down in the contract. On the contrary, the feedback of the collecting companies of Greentire industry to the calls of the operators of car dismantling sector is of 6,2 days, in any case below the 15 days laid down in the contract.

GREENTIRE'S MANAGEMENT SYSTEM "ELTs COLLECTION"

With tracking we mean the ability, of a part who is in charge of the ELTs management, to know in detail every movement of the waste from the moment when it is collected at generation points to the moment when it is treated and changed for the recycle and recovery. The ELTs tracking managed by Greentire is granted by an Enterprise Resource Planning (ERP) "ELTs collection", an online platform specially designed and developed, that allows to check every ELTs movement from generation points to treatment centers. The system, updated in 2015, is daily fed with the collection and treatment data that are provided by the companies, allowing to prepare management reports, used by Greentire for different needs of contro and accounts.

ELTs recovery takes place in 10 treatment plants, of which 5 are located in Lombardy and the others in Piemonte, Marche, Calabria, Puglia and Sicily. It's about multi-waste treatment plants, that is to say plants that beyond the treatment of ELTs handle also the recovery of other types of waste, for instance packagings and RAEE. Of these plants, 4 (3 in Lombardy and 1 in Puglia) have an environmental certification ISO 14001 and a quality certification ISO 9001, while of the other 6 plants only the one in Calabria has an environmental certification ISO 14001.

In the treatment plants, after sorting for dimensions, the collected ELTs are processed through mechanical shredding aimed to separate the components: granules and powders of rubber polymer, steel and textile fibers. These materials are subsequently placed on recycle or recovery in the respective industries. In particular granules and powders are commercialized on the recycle market as secondary raw materials for industrial productions of different type, while the steel is recycled as scrap iron, mainly in steel plants. On the contrary, the textile fiber, except a small part that is recycled in the production of modified bitumen and in rubber industry, is quite completely placed on an energetic recovery in cement factory. Provided that, according to the European waste hierarchy, from an environmental point of view, the material recovery is the best option for the management of products deriving from ELTs and that, instead, the waste disposal in dump represents the option to avoid, the use of materials coming from the treatment of ELTs as fuel for the energy production in authorized plants (among them the cement plants), allows to avoid the use of other fossil fuels, and in particular of petcoke and coal, contributing positively to the reduction of life-cycle emissions.

DISTRIBUTION OF THE TREATMENT PLANTS

REGION	NUMBER
Lombardy	5
Marche	1
Piemonte	1
Sicily	1
Puglia	1
Calabria	1
TOTAL	10
[Source: Greentire]	

2- Performance of ELTs management in Greentire's system

ELTs collection

As indicated in the Ministerial Decree 82/2011, the management target of the ELTs collecting systems in Italy (for the exchange market) is defined according to the quantity of tires released for consumption by the respective associates in the previous year, net of the weight loss due to the tread wear (fixed by the law at 10% of the weight of the new tread) and of the quantity of export of used tires for the re-use and reconstruction market.

In 2015 Greentire hit its target, by collecting 17.739 tons of ELTs from the exchange market, equal to the 90% of tires released for consumption by its own associates in 2014.

To ELTs collected at tires shops and truck stops it's necessary to add 4.454 tons of ELTs coming from the end-of-life vehicle dismantling, and other 618 tons of historical stocks collected in the project "PFUrecycle" and through an extraordinary operation of clean-up in the town council of Santo Stefano di Magra in the province of La Spezia.

In total it's about 22.811 tons of collected ELTs, 20% more than in 2014, thanks to an increase of 19% of collected ELTs in the field of exchange and an increase of 8% of the collection in the field of car dismantling, as well as of the additional quantities collected by historical stock during the year. To the sector of spares is attributable a share equal to 78% of the total ELTs collection, to the one of car dismantling a share of 19% and, finally, the historical stock management represents the 3% of the total collection in 2015.



GREENTIRE'S ELTs COLLECTION ACCORDING TO THEIR ORIGIN IN 2015



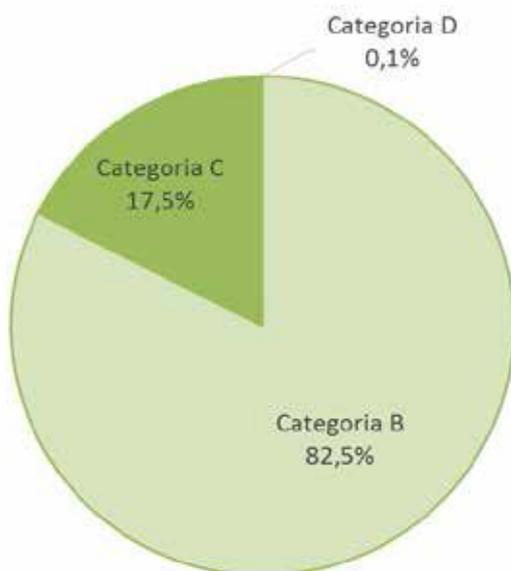
[Source: Greentire]

PROJECT PFURECYCLE

It was born from the Memorandum of Understanding signed by Anci and Greentire, with the support of the Environment Department of, PFUrecycle project was presented on 24th February 2015 in Rome at the headoffice of the National Association of Italian Councils, in presence of the Ministry of Environment and it was entirely financed by Greentire. Beyond the aim of increasing awareness the citizenship and the local administrations on the problems related to ELTs abandonment, the project allowed the involved Councils (more than 5.000 in 12 Italian Regions) to ask for Greentire intervention for operations of extraordinary collection of tires abandoned on the territory, identified as historical stocks. Active since 01st March to 30th June 2015, the campaign ended with 579 tons of collected ELTs, of which the most ones in the councils of South Regions (434 tons) and the rest quantity in North Regions and in particular in Lombardy.

Concerning the different ELTs categories, it is noted that 82,5% (18.812 tons) of ELTs collected by Greentire are tires of vehicles and trailers (Category B), of which 73% comes from the spare market and 24% from the car dismantling market and 3% from the historical stocks collection. 17,5% (3.985 tons) is represented by used tires of trucks and buses (category C) and 0,1% (14 tons) by tractors and industrial machines (category C), both collected in the field of spare market.

DISTRIBUTION OF ELTs COLLECTED AND PLACED ON RECOVERY ACCORDING TO CATEGORY IN 2015



- Category B – Car vehicles and relative trailers B-kg(6→18)
- Category C- Trucks and Buses C1-kg(20→40)
C2-kg(41→70)
- Category D – Tractors, public works and industrial ones D5-kg(131→159,99)kg(160→200,99)
D6kg-(201→299,99)kg(300→499,99)kg(500→749,99)kg(>750)

[Source: Greentire]

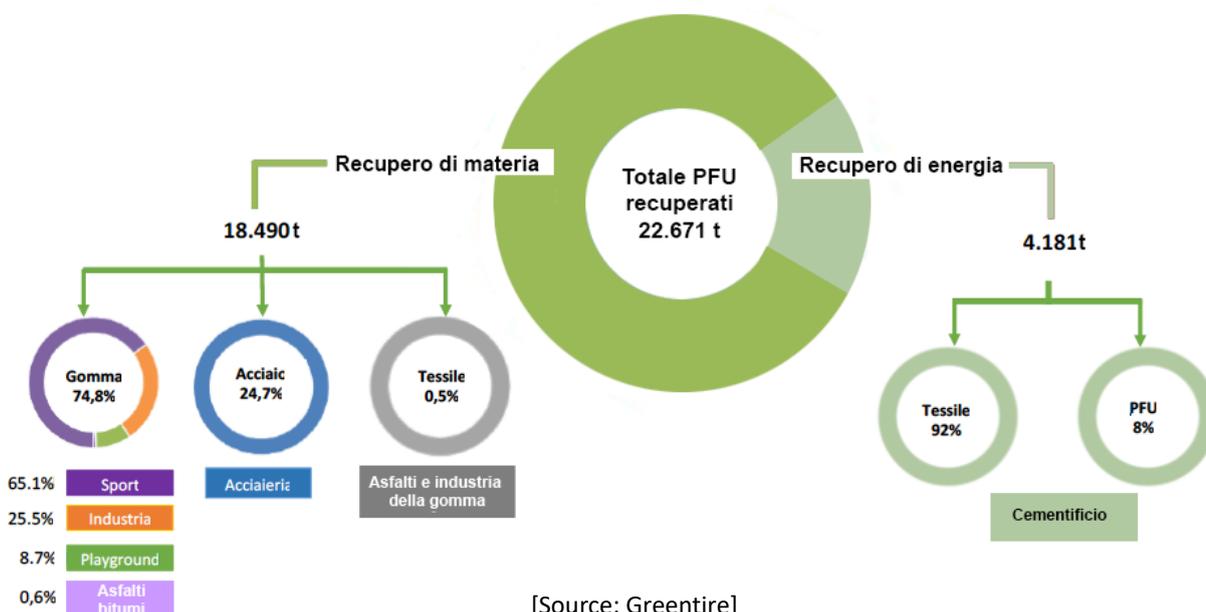
ELTs Recovery

Compared to the 22.811 tons completely managed (collected and switch to treatment) in 2015, the quantity submitted to the process of granulation and actually recovered amount to 22.671 tons (140 tons of difference with the collected quantity are due to ELTs stocks that are not treated yet, or still under treatment, at the date of accounting, 31st December 2015) of which the 81,6% has been submitted to an effective material recovery (18.490 tons), while the 18,4% has been submitted to an effective energy recovery (4.181 tons).

In particular, the 18.490 tons of materials that have been submitted to recovery, that is to say re-used as secondary raw material concern: 13.832 tons of rubber granules (74,8%), submitted to recovery in different production industries that use them as secondary raw material in the production of several applications; 4.571 tons of steel (24,7%) that have been submitted to recycle in steel plant; and 86 tons of textile fibers (0,5%) that have been used in the experimental production of modified bitumen and rubber industry. On the contrary, the 4.181 tons of materials recovered as energy concern: 3.892 tons of textile fibers (92%) and 352 tons of full ELTs coming from the historical stock collection (that have not been treated because of their bad state of preservation), that have been recovered as fuel in the production process of concrete in place of fossil fuels, particularly pet-coke.

Concerning the secondary raw material, the main destinations of granules and polymer rubber powders use, the largest part 65,1% of the total, has been destined to the industries that produce sports applications and in particular for the production of background for synthetic football fields, performance infills for these ones, athletic tracks and so on. The 25,5% has been addressed to the moulding industry for the (with different techniques) of various manufactured goods, among which, for instance, acoustic mats, curbs, bumps and road blockers for urban furniture, anti-shock playtiles and other safety elements as well as mats for the zootechnics). The 8,7% has been addressed to the realization of anti-shock surfaces certified according to norm EN 1177. The 0,6% has been addressed to the experimental production, with different techniques, of bitumen and bituminous conglomerates for the realization of road surface, as well as the production of isolant pipes.

MATERIALS AND ENERGY DISTRIBUTION OF ELTs MANAGED BY GREENTIRE



THE QUALITY OF RUBBER GRANULATE

The norm UNI 11610-1:2015 “End-of-Life Tires (ELTs) – Materials in vulcanized rubber obtained by ELTs recovery” indicates the requirements of granules obtained through the operations of recovery carried out on end-of-life tires, determining a unique class for each type of granulated material that the industry uses for the production of materials and/or manufactured goods, in the forms usually commercialized, or for other purposes. Regarding this norm, Greentire asks to the treatment plants of the system that granules and powders aimed to be re-used in the sports and recreational field would respond to the following specifications:

Category of ELTs according to granules origin: B (cars and relative trailers) or C (trucks and buses)

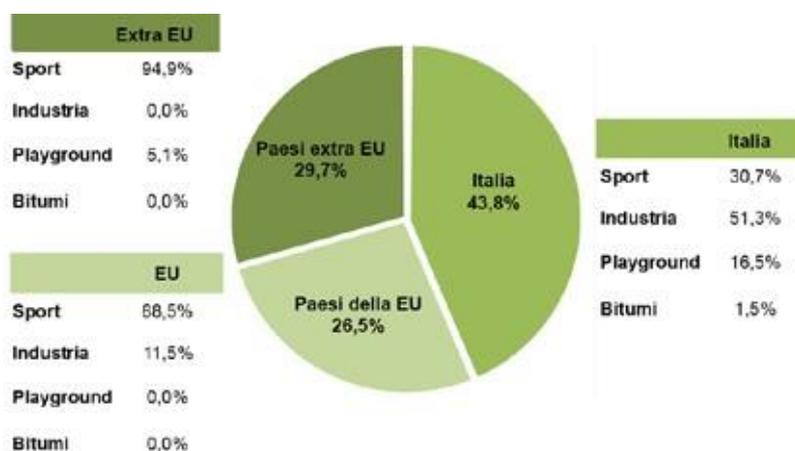
Mechanical manufacture only;

- Free steel assessed in accordance with the norm UNI 14243: Class 1 ($\leq 0,05\%$);
- Free textile fibers assessed in accordance with the norm UNI 14243: Class 1 ($\leq 0,01\%$);
- Other impurities assessed in accordance with the norm UNI 14243: Class 1 ($\leq 0,25\%$);
- Sieve Conformity Index (ICG): Class 1 ($\geq 75\%$).

In order to grant the effective compliance with the requirements, Greentire entrust a third society with the task of check “on the field”, that is conducted with regular visits at the treatment plants. The taken rubber samples, are subsequently analysed in specialized laboratories and the results are communicated whether to Greentire and to the responsible of the rendering plant. The last one, when selling the granule, can decide to self-certify to his customer the match on the parameters indicated above, or, also on the customer’s request, give the test results.

Looking at the distribution of polymer rubber granules and powders recycle according to geographical areas of destination market, it is noted that 70% is commercialized in European Union (43,8% in Italy and 26,5% in other Country members), while 39,7% is commercialized in Extra-European Countries. For thwe percentage commercialized in Italy the recycle in the industry field preveals and covers the 51,3% of the market, against the 30,7% of sports applications, the 16,5% of playgrounds and the 1,5% of modified bitumen. On the contrary, on international markets, both inside and outside European Union, sports applications cover almost all recycle destinations.

DESTINATION OF THE RECYCLE OF RUBBER POLYMER ACCORDING TO GEOGRAPHICAL AREAS AND APPLICATIONS CATEGORIES



[Source: Greentire]

** except the historical stocks collected quantities*

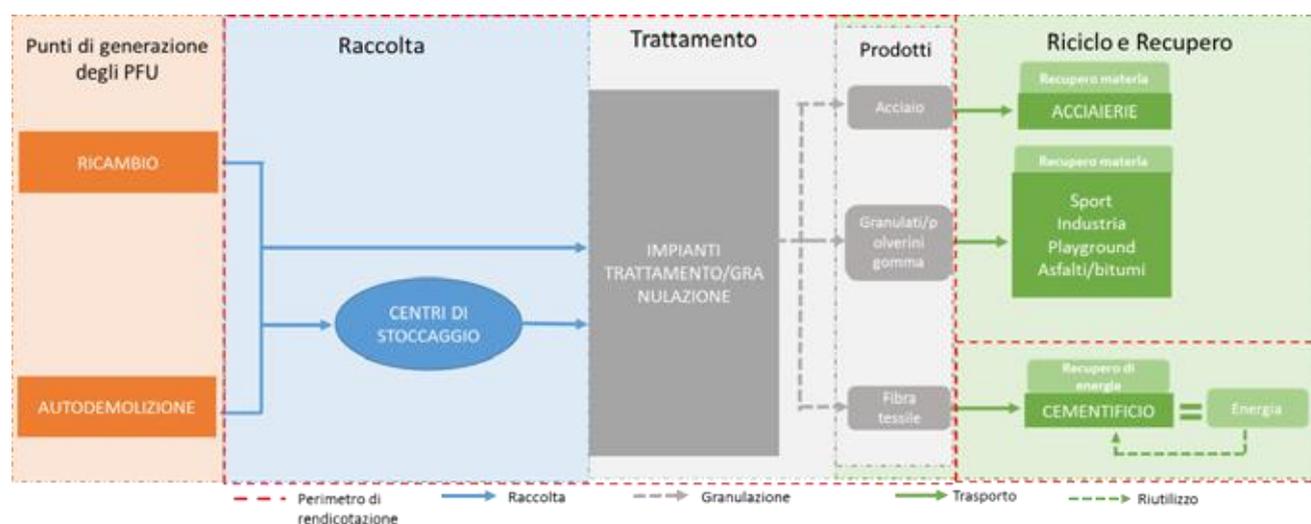
3- Environmental benefits of Greentire's ELTs recovery

Accounting perimeter

In order to estimate and quantify the environmental impact linked to the collecting and treatment system of ELTs managed by Greentire in 2015, a specific analysis was conducted to indicate the environmental performances of the system, for the whole cycle of life, giving an objective measure that allows to identify the most virtuous steps.

The accounting perimeter of the environmental performances of Greentire system includes: the impacts deriving from the ELTs collection and transport logistics from generations points to treatment plants and, only for the recovered textile fraction, also the ones deriving from the delivery to a cement plant; the energy consumptions related to the treatment for ELTs recovery and the effects of the burning for the fraction that is not recycled and submitted to an energy recovery.

On the contrary, the impacts related to the logistics after the treatment and to the subsequent treatments to which they are subjected the materials submitted to a recycle (granules and rubber powders and steel) have not been considered. Furthermore, from the bounds of the accounting perimeter of the system, all the steps of production and use of tires before they become waste, as well as the impacts linked to the construction of plants and factories facilities, including the steps of maintenance, are excluded. The performances of the system can be obtained as a result of the balance between the impacts generated from the management of ELTs for collection, transport and treatment (represented by the consumptions of fuels of collection and transport logistics and by the energy ones of treatment plants) and the avoided impacts thanks to the lack of use of virgin raw material, replaced by the secondary raw material obtained by ELTs recovery.



The analysis of the potential impacts on the system's whole life cycle was conducted using the LCA methodology - Life Cycle Assessment pursuant the norms ISO 14040-44:2006. The indicators of the selected impacts for the evaluation concern the Carbon Footprint and the Water Footprint.

For the analysis it is necessary to consider the quantity of ELTs collected and treated during the year 2015, except for a quantity (356 tons) of ELTs collected during some interventions of clean-up of historical stocks conducted by Greentire, that due to their bad condition they have not been treated for the recycle and have been submitted to an energy recovery as full ELTs.

THE LOGICS OF THE AVOIDED PRODUCT IN THE LIFE CYCLE ANALYSIS

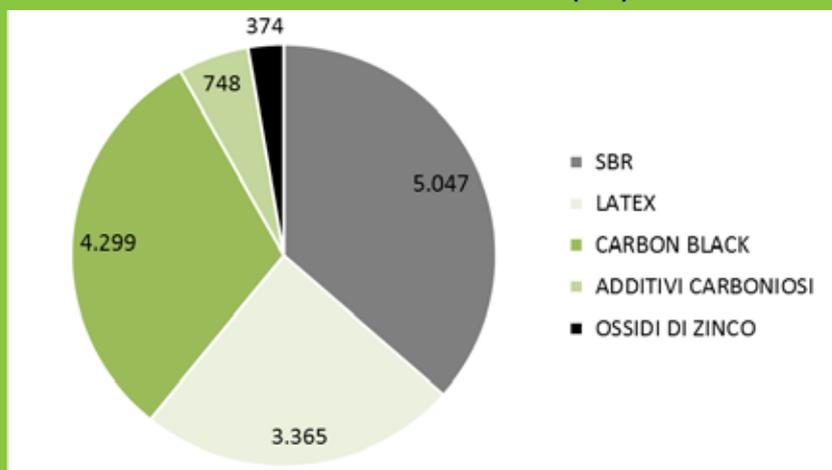
The energy recycle or recovery of materials during the production processes of goods and services, allows to avoid the use of vergin raw material. From this point of view the life cycle analysis, developed for the determination of the environmental balance of Greentire ELTs management, considers what are the avoided impacts, the pacts linked to the avoided production of vergin raw material equivalent to the three recovered materials. In particular:

- The recovery/recycle of ELTs rubber granules allows to avoid the production of polymer vulcanized rubber components: natural rubber, synthetic rubber, carbon black, metal oxides and other additives.
- The recycle of steel as scrap iron in steel plant allows to avoid the production of steel from ironstone.
- The recovery of textile fibers as fuel in baking ovens for the production of concrete allows to avoid the use of other fossil fuels and in particular pet-coke and coal.

In 2015 Greentire allowed to avoid the production of rubber and primary steel for a quantity equal to the rubber and steel that was recovered during the same year, and to avoid the use of 3.735 tons of pet-coke, as fuel in cement plant, thanks to the use in energy evaluation of the textile fraction recovered from ELTs, without considering the quantity of ELTs collected by historical stocks, this one submitted to energy recovery as well considered the bad condition of tires.

However, concerning the composition of the rubber included n tires, it is possible to observe that the recovery of ELTs rubber allows to avoid the production of: 5 thousand tons (36% of the recovered rubber) of SBR; 4 thousand tons (31%) of carbon black; 3 thousand tons (24%) of latex; 748 tons (5%) of carbon additives and 374 tons (3%) of zinc oxide.

AVOIDED PRODUCTION AFTER RUBBER RECOVERY (tons)



[Source: elaborated by the Fondation on data about Greentire]

Carbon footprint

The balance of greenhouse gases emissions

Carbon Footprint represents the total quantity of greenhouse gas that is emitted directly or indirectly during the life cycle of a product: from the extraction and manufacture of raw materials, to the creation of products, up to the management of the relative wastes for the recovery and disposal (only the consumption impacts are excluded, for instance the electric energy during the use). It is the benchmark for the evaluations of environmental impact of products at International and European level (among them the guidelines of European Commission for PEF - Product Environmental Footprint). It is expressed in kg per equivalent carbon dioxide (CO₂eq) and it is calculated by adding the inputs of the emissions in the air of different greenhouse gases during all the steps of life cycle every one with its specific climate-change factor.

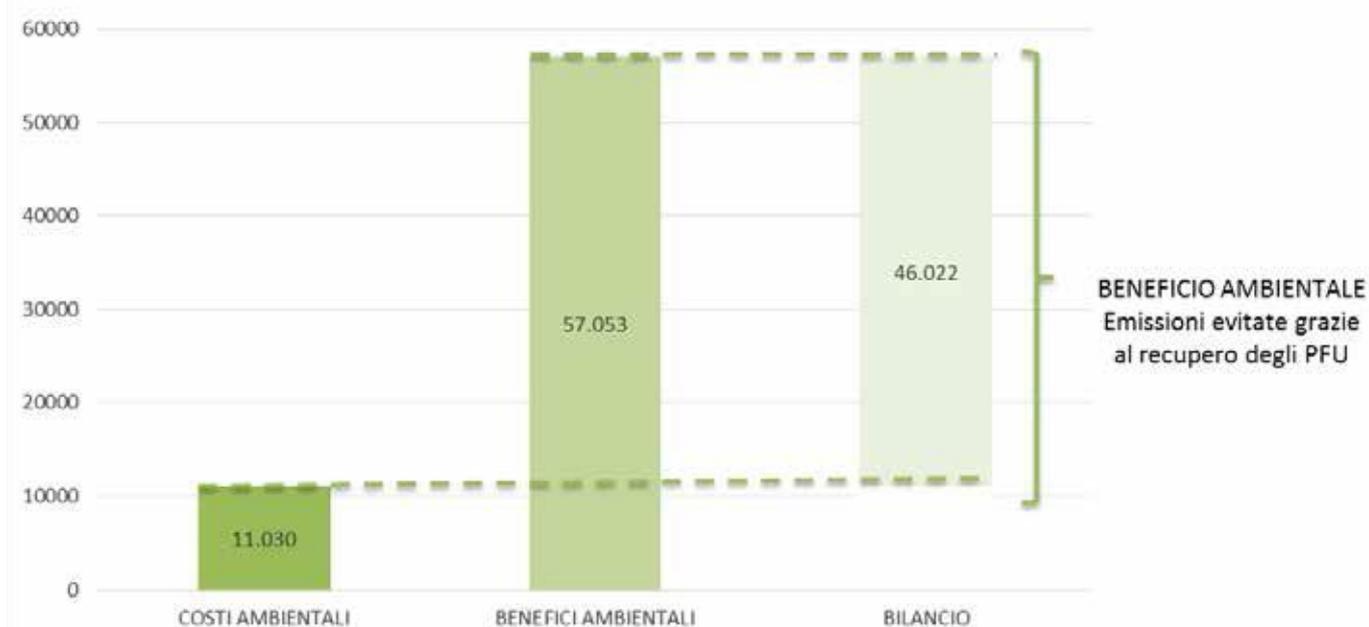
In this report according to the Green Economy report approach, the result of this benchmark comes from the balance between the emissions that are generated (negative impacts/environmental costs) and the avoided ones (positive impacts/environmental benefits – for the avoided use to new productions from virgin raw material) after the activity of material or energy recovery during goods cycle of life.

Used method: IPCC2013 GWP 100° v1.0

Considering the total quantity of managed ELTs (whether the ones coming from the spare market and the ones coming from the end-of-life vehicles), all the activities carried out in Greentire's industry in 2015 created 11.030 tons of CO₂ emissions (negative impacts) and, at the same time, allowed to avoid the emission of 57.053 tons of CO₂ (positive impacts). The balance of Greentire Carbon footprint, indeed, is equal to 46.022 tons of avoided CO₂ emissions: a net, positive environmental balance compared to the quantity of emissions generated in Italy by 14 thousand vehicles to go an average of 20.000 km in an year. That means that the quantity of emissions generated by the activities of ELTs recovery (collection logistics, transport and energies for the treatment, transport and combustion of the textile component at cement plants), is completely less than the quantity of CO₂ that has been avoided thanks to the recovery of materials coming from ELTs, that is to say of emissions that would be generated for their production from the virgin raw material.

It is possible to notice an improvement of environmental performances: 7.031 (+18%) are the avoided tons of CO₂ emissions more than the carbon footprint balance of 2014, mainly due to the ELTs greater quantities submitted to recovery.

AVOIDED EMISSIONS THANKS TO THE RECOVERY ACTIVITIES OF GREENTIRE IN 2015 ELTs (tCO₂eq)



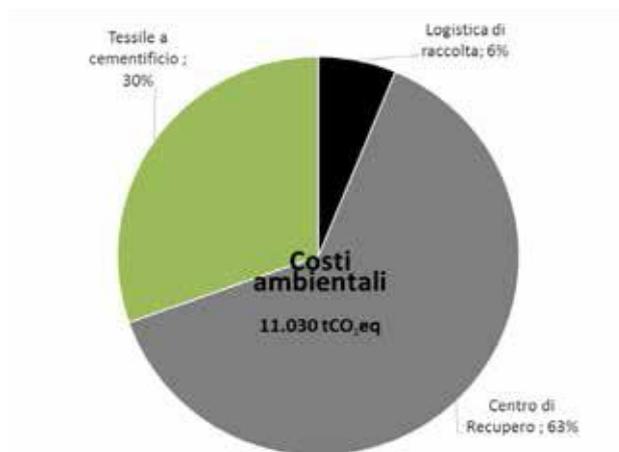
[Source: elaboration of the data Foundation about Greentire]

Looking at the details of environmental costs (negative impacts), the treatment for shredding at “Recovery Centers” (in relation to the energy consumptions of the plants) is an activity that creates the largest impacts in terms of produced emissions (63% of the total emissions generated by the recovery activity), followed by the one linked to the combustion for the thermic energy production of the textile fraction at cement plants (30% of the total emissions generated by the recovery activity). The activity of “Collection Logistics” and transports offers a relatively low input, even if important, on the total environmental costs (6% of the total emissions generated by the recovery activity).

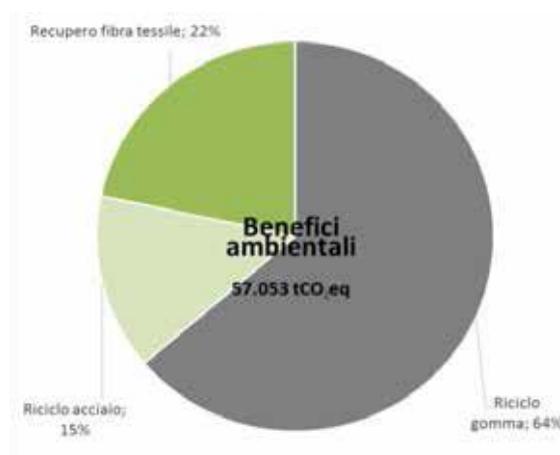
The environmental benefits, as indicated before, come from the chance to use materials recovered by wastes as secondary raw material instead of virgin raw material, avoiding this way the impacts coming from their production.

In 2015, the main input to the avoided CO₂eq emission in the air has to be related to the rubber recovery, representative of 64% of environmental benefits generated by the ELTs recovery. It occurs because the production process of the rubber results to be the one with the larger environmental impacts in terms of produced emissions. The 22% of the benefits is, on the contrary, due to the recovery of the textile fiber at cement plants as fuel in AVOIDED EMISSIONS THANKS TO THE ACTIVITY OF GREENTIRE ELTs RECOVERY in 2015 (tCO₂eq) pet-coke replacement and the 15% to the steel recovery at steel plants.

DISTRIBUTION FOR ENVIRONMENTAL COSTS ACTIVITY COMING FROM ELTs RECOVERY IN 2015



DISTRIBUTION OF ENVIRONMENTAL BENEFITS FOR MATERIAL RECOVERED BY ELTs IN 2015



[Source: elaboration of the data Foundation about Greentire]



Water footprint

The water balance

The Water Footprint analyses the effects on the scarcity of water related to the net collection of water resources and to their contamination (degradation, eutrophication, toxicity and acidification) connected to the production of specific goods or service along its life cycle: from the extraction and treatment of raw materials, to the realization of products, up to the management of their relative wastes for the recovery or the disposal.

It is one of the benchmark in the field of the implementation of the community process PEF - Product Environmental Footprint. It is expressed in cubic meters of water (m³) and it is calculated by adding the contributes resulted from all the processes of a life cycle product. In this report, according to the approach of the Green economy report, the result of this benchmark is given by the balance between the quantity of used and polluted water (negative impacts/environmental costs) and the quantity of saved and not polluted water (positive impacts/environmental benefits – thanks to the avoided use of new productions from virgin raw material) after the activity of recovery of material or energy along the life cycle of some goods.

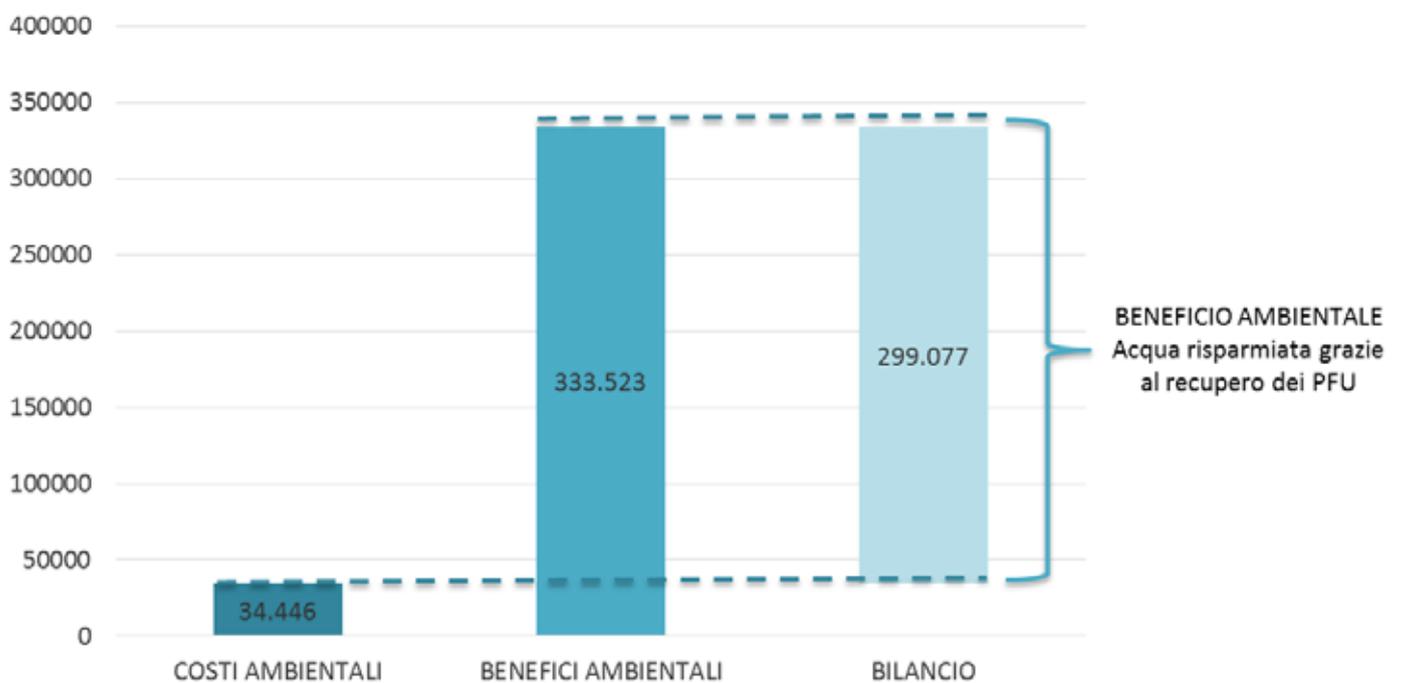
Used method: Water Scarcity – Hoekstra et al. 2012 v1.02.

All the activities carried out by Greentire in 2015 determined a consumption of 34.466 m³ of water (negative impacts) and, at the same time, allowed to save 333.523 m³ of water (positive impacts). The balance of Water footprint results equal to 299.077 m³ of saved water, a positive net environmental balance equivalent to the water contained in 120 olympic swimming pools.

It means that the water quantity used to carry out ELTs recovery activity (collection logistics, transport and energies for the treatment; transport and combustion of the textile component at cement plants), is completely less than the quantity of the water quantity saved thanks to the material's recovery, that is to say the water that would be used for their production starting from virgin raw material.

Also in this case, it is possible to notice an improvement of the environmental performances related to the avoided water consumptions: 50.380 (+20%) are the m³ of saved water more than the water footprint balance in 2014, mainly due to the increase of ELTs quantity submitted to recovery.

AVOIDED WATER CONSUMPTION THANKS TO THE RECOVERY ACTIVITY OF GREENTIRE ELTs IN 2015 (m3)



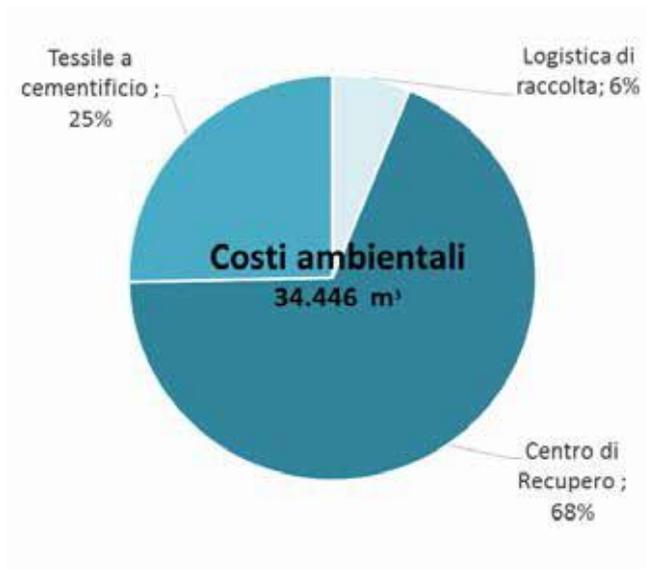
[Source: elaboration of data Foundation about Greentire]

Looking at the detail of environmental costs (negative impacts), it is possible to notice that the treatment for the shredding at “Recovery Centers” is the activity that creates the largest impacts in terms of saved water (68% of the total water used during recovery activities), followed by the one related to the combustion for the thermic energy production from the textile fraction at cement plants (25% of the total used water for recovery activity). La fase di “Logistica di Raccolta” e trasporti offre un contributo relativamente basso, per quanto significativo, sull’impatto totale (6% del totale dell’acqua consumata per attività di recupero).

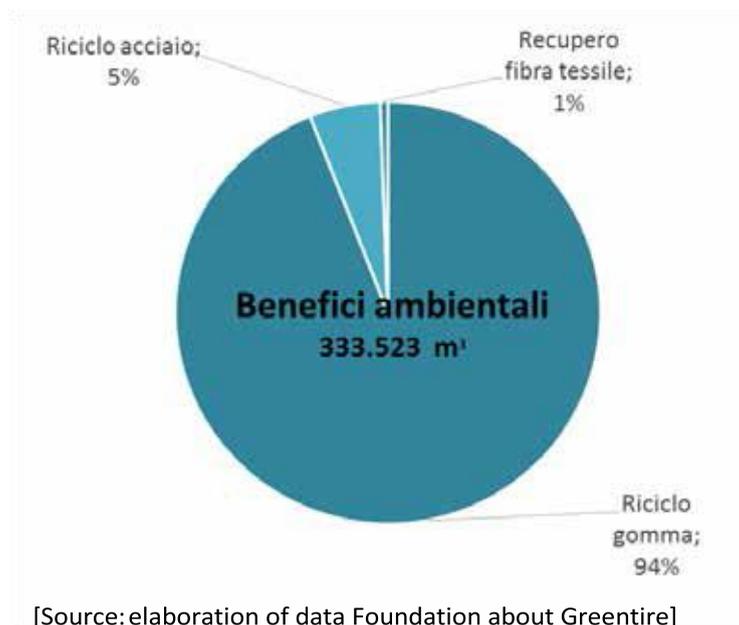
Concerning the environmental benefits, the main input to the avoided water conception is, as for the carbon footprint, related to the rubber recovery, with a percentage of 94% of the whole benefit, more than the proportion of rubber polymer quantity recovered in the ELTs mass balance. A result that shows how the rubber production process determines the greatest impacts in terms of used water during the process.

The steel recovery is on the contrary at the second place and it influences for the 5% the water saving, while the recovery of textile fibers as fuel at cement plants instead of pet-coke influences for about 1% of the total benefits.

DISTRIBUTION FOR ENVIRONMENTAL COSTS ACTIVITIES COMING FROM ELTs RECOVERY IN 2015



DISTRIBUTION OF ENVIRONMENTAL BENEFITS FOR THE MATERIAL RECOVERED BY ELTs IN 2015





4- Economic and social advantages of the ELTs recovery

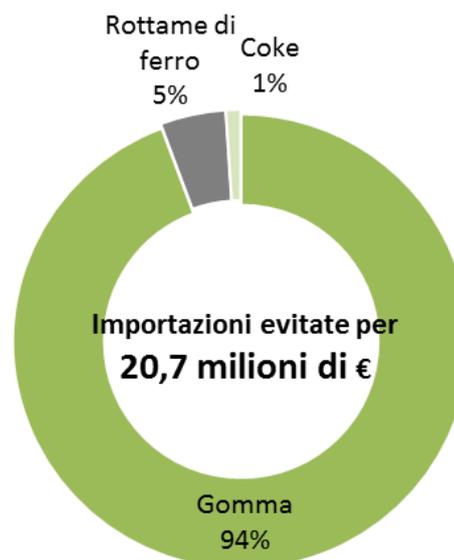
Economic saving for the avoided imports

ELTs recovery activities, beyond the environmental benefits, present also some positive important relapses for the economy of the whole Country. In particular, the recovery of rubber, steel and textile fibers from ELTs allows to reduce the dependence on abroad for the imprt of vergin raw material. That allows, indeed, to maintain inside the Country economic resources that would be, otherwise, spent for the supply from abroad, generating a positive knock-on effect on employment.

The recycle of the ELTs rubber polymer as secondary raw material for the goods production, allows to avoid the import of vergin rubber, whose average value on the commodity market registred in 2015 is more than 1.400 €/t. The same for the recycle as steel as scrap iron, whose average value in 2015 was more than 200 €/t. The use of the textile fraction coming from ELTs as fuel at cement plants, allows to avoid he use of fossil fuels such as coak, whose average market value is around 51 €/t (about four times less than the one of scrap iron).



SAVINGS ON THE IMPORTS OF RAW MATERIAL THANKS TO ELTs RECOVERY IN 2015*

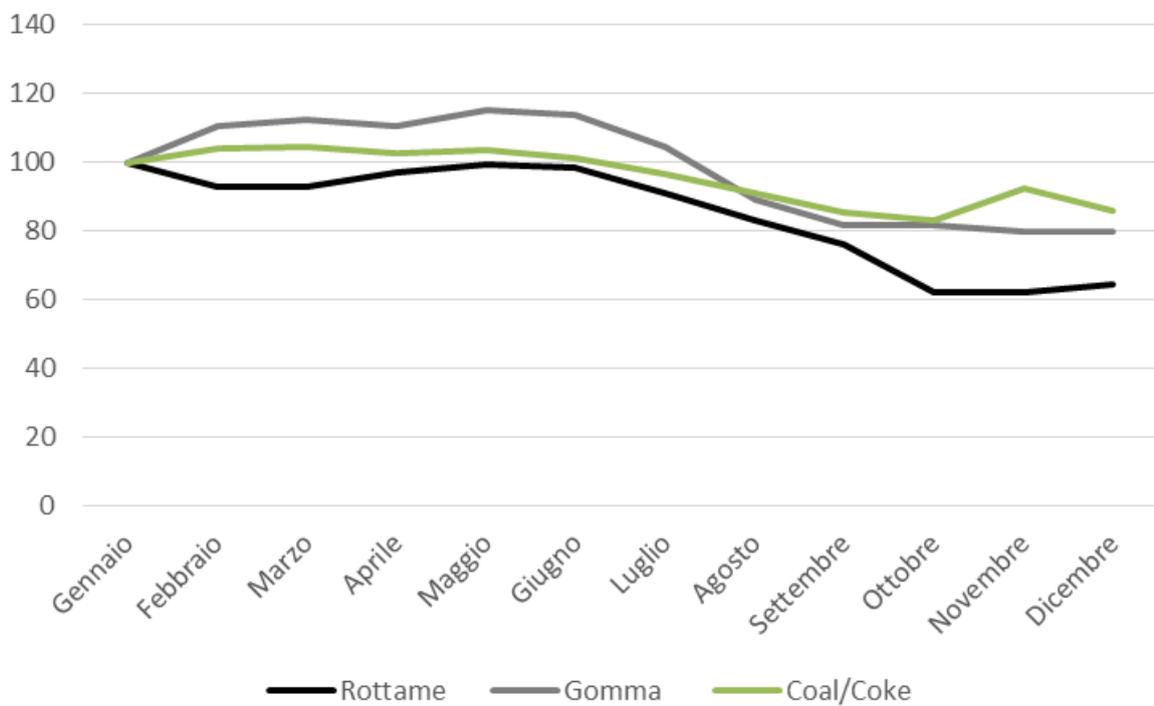


[Source: elaboration of data Fondation about Greentire, Indexmundi and World Bank]
* from the estimate of economic saving for avoided imports the 86 tons of textile fibers used as material for asphalts and in rubber industry are excluded.

During 2015 a reduction in the market prices of the three materials occurred, in particular: the price of scrap iron decreased from 246 €/t of January to 159 €/t of December (-35%); the rubber price decreased from 1.433 €/t of January to 1.146 €/t of December (-20%); the price of fuel decreased from 54 €/t of January to 46€/t of December (-14%).

Starting from the average market prices of the three main materials that compose a tire, Greentire input on the import saving for the Country is estimated around 20,7 millions of euro, whose 94% is related to the recycle of the rubber polymer in granules and powders, 5% to the recycle of the steel at cement plant and the 1% to the use of the textile fraction for the energy production in cement plant instead of coak.

TREND OF THE MARKET PRICES OF RUBBER, STEEL AND COKE IN 2015 (JANUARY =100)



[Source: Indexmundi and Eurofer]

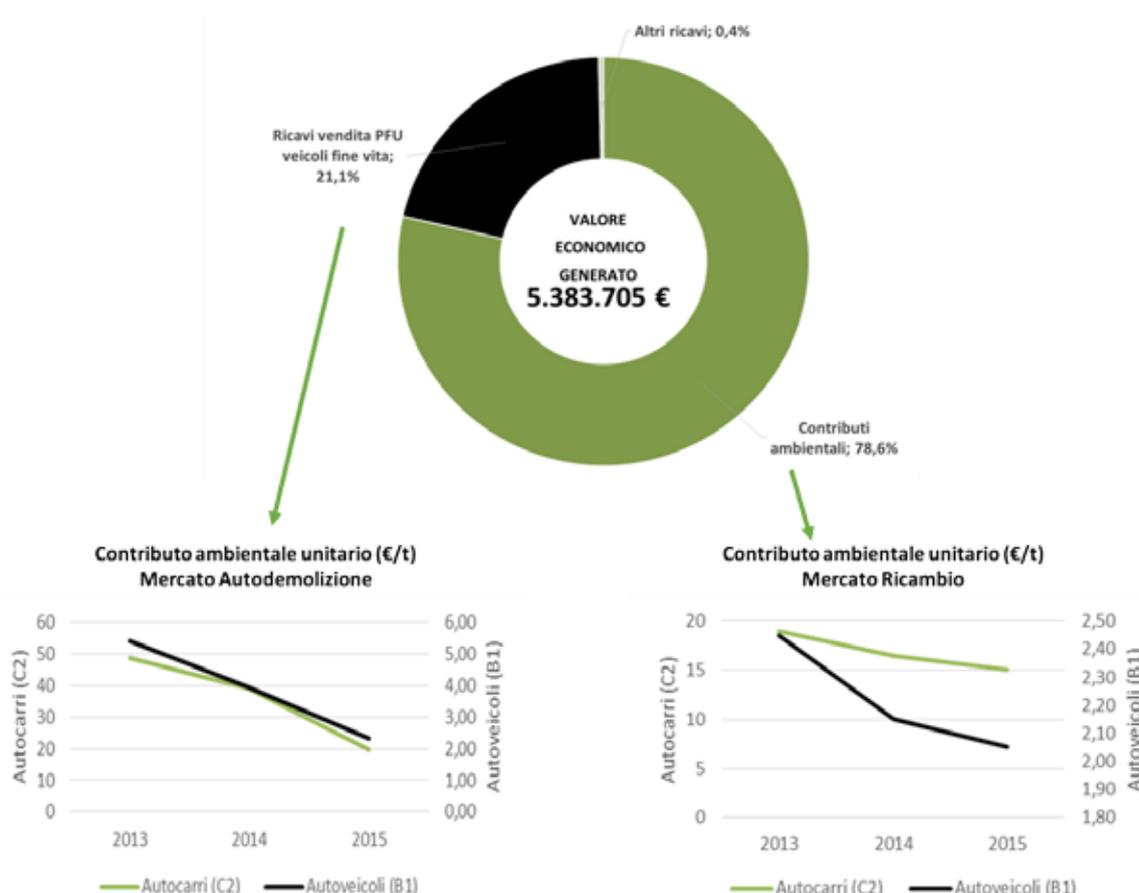
Economic value generated by Greentire's system

According to the model of reclassification of Income Statement of International standard GRI-G4, in 2015 Greentire generated an economic value (operating revenues) equal to 5.383.705 euro. The 78,6% of these revenues refer to the spare market and it is represented by the compulsory environmental contributions paid by the partners for ELTs collection and the treatment according to the Ministerial Decree 82/2011.; the 21,1% derives from the management of ELTs coming from end-of-life vehicles in the context of Greentire participation to the Management Committee of ELTs and the 0,4% from other incomes, mainly coming from overtime and interest incomes. These incomes covered the management costs for a value equal to 5.377.844 euro (Distributed Economic Value).

It is interesting, furthermore, to observe the trend of the unit environmental input in the last three years for the two most representative types of tires, the one of cars (A1) and the one of trucks (C2). Whether for the car dismantling sector and for the spare market, the paid contributions present a reducing trend, synonymous of a more and more efficient ELTs management ability by the system.

In detail, the 66% of the distributed economic value has been used in support of the costs for the collection and treatment activity of ELTs coming from the spare market and the 17,8% in support of the ones related to ELTs coming from the end-of-life vehicles market while the 0,6% covered the charges for the extraordinary collection of ELTs from historical stocks.

DISTRIBUTION OF ECONOMIC VALUE GENERATED BY GREENTIRE IN 2015



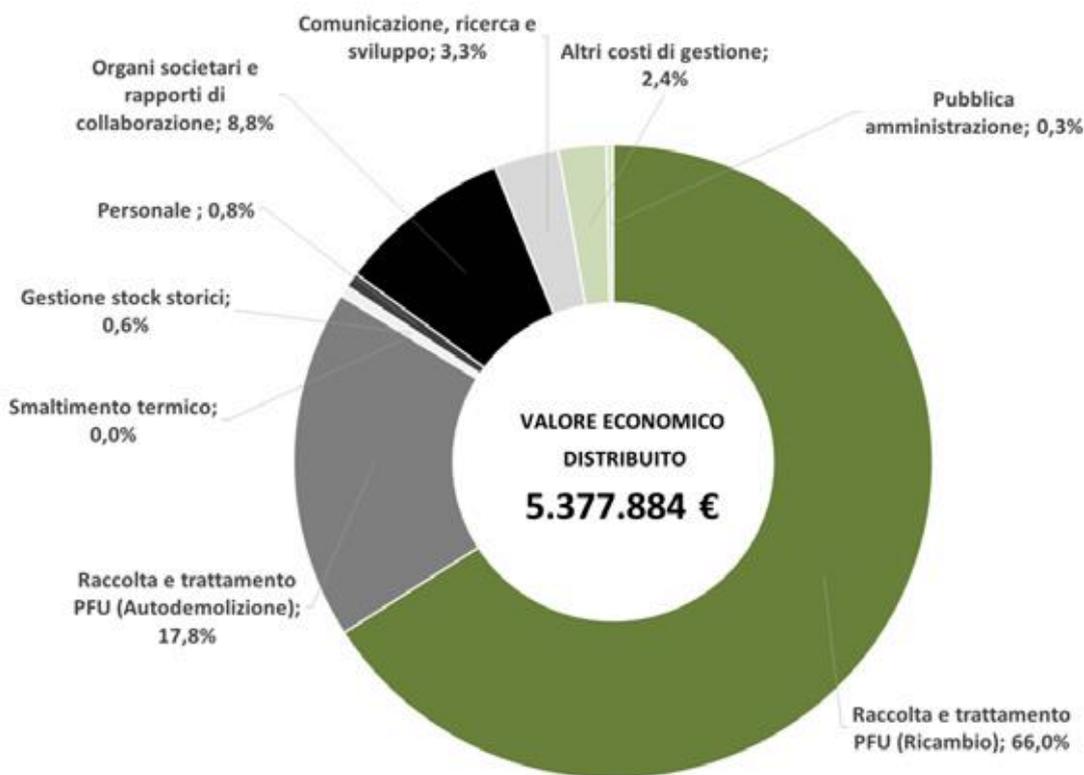
[Source: elaboration of data Foundation about Greentire and ELTs Committee Report]

The 8,8% was needed to pay the company boards and the cooperations, of which a significant part for the cost coverage of chief councilors who, beyond the role of members of the Management Board, are engaged in activities linked to the daily management and operation of the Consortium (communication and marketing activity, administrative and accounts activity, activity of research and development, web platform management, management of the collection network and recovery activities). To these costs, the 0,8% of charges for the incomes of the employees with an open-ended contract is added.

For the rest of the amount, Greentire used around 177 thousand euro, a value that is equal to the 3,3% of the economic value distributed in 2015, in communication activities and research and development; a percentage of 2,4% in other management costs and the 0,3% in public administration (taxes).

Of around 30 thousand euro destined to the management of historical stock, the 76% are related to the conduct of PFUrecycle project, while the 24% was used for the save-up of an historic stock in S. Stefano di Magra, pursuant to the article n. 3(5) of the Ministerial Decree 82/2011, that provides for the ELTs management Consortia that 30% of operating surplus of every business, if any, would be used for ELTs collection from historic stocks.

DISTRIBUTION OF THE ECONOMIC VALUE SHARED BY GREENTIRE IN 2015



[Source: elaboration of data Foundation about Greentire]

Employment survey on the treatment companies

For the year 2015, Greentire conducted a survey on the employment in the 10 treatment companies involved in its own industry, calculating also the quantity of employees related to the ELTs management of the Consortium. The survey has been conducted by giving an employment survey, that has been filled up by 9 companies out of 10, from which results a number of employees of 119 units, of which 92% employed at full time with job contracts regulated by sectorial national trade-unions agreements. Among these employees the 87% are men and the 13% only are woman: a number that does not impress considering the job type, purely manual and historically carried out by male workers.

The 71% are workers devoted to the management and correct operation of the granulating plants, the 21% are employees in the office and the 8% are executives and managers. Concerning the education, it is possible to notice that the 51% has a middle school qualification, the 42% a secondary school diploma and the 7% a degree or a master.

Of the total of recorded employees, results that the 22% (27 units) is directly involved in activities of ELTs management on behalf of Greentire.

	N.	%
Nr. totale dipendenti	119	
- Nr. dipendenti a tempo pieno	110	92%
- Nr. dipendenti a tempo parziale	9	8%
- Nr. Uomini	103	87%
- Nr. Donne	16	13%
- Nr. Operai	85	71%
- Nr. Impiegati	25	21%
- Nr. Quadri	3	3%
- Nr. Dirigenti	6	5%
- Istruzione inferiore	61	51%
- Istruzione superiore	50	42%
- Laurea / Master	8	7%
numero dipendenti imputabile alla gestione degli PFU per Greentire	27	22%

Considered the number and the spraying of the companies involved in collection and transport of ELTs, it has been not possible to conduct for these ones a survey similar to the one carried out on the treatment companies. However, the one of the employment generated in the whole industry an important benchmark for a correct and full reporting of sustainability, and even more from the point of view of a Green Economy Report, Greentire will set up a tracking system that will involve all its companies, including also the transport companies, with the aim of bring it to speed for the publication of next sustainability report.



5-Training, communication and awareness

Training

VILAFRANCA AIR FORCE

Greentire organized and held at its headoffice the 6th Course of Specialty Logistics, to which Officers of the 3rd Regiment of Villafranca Air Force, for a training meeting dedicated to the topic of logistics. At the basis of the course, the premise that an efficient, economic and sustainable system of collection and recycle of wastes, has, from the logistics point of view, some aspects in common with the a Unity that set goals of utmost productivity in the field of transport, supply, security and monitoring.

Greentire responsables illustrated to the course participants the whole industryof ELTs management with the aim of presenting the know-how gained from the Consortium in its field: from the identification of the generation points of the waste to the management and optimization of the collection; from the most advanced treatment in the recycle plants to the promotion of applications. A particular focus concerned the management system called “RitiroPFU”, at release 4.0 by now, that allows a punctual mapping and reporting of every single lot.

Greentire and the Department of Villafranca Air Force have also planned a phase of testing whether for the use of products coming from the rubber granules (chosen for the features of resistant to weather conditions, sound absorption and elasticity), and for the research of new applications. The Consortium will be able in this way to test some rumble strips for big vehicles in some military bases or the rubber panels in shooting ranges.

GREENTIRE EDUCATIONAL

On the website Greentire.it is present the new section Educational, with topics regarding the theme of sustainability and environment. The aim is to provide a representation of the environmental sustainable behaviours - mainly on the topic of ELTs – and to promote the spreading of the ones, also through specific educational activities. This approach was born from the need to simplify a theme, maybe complicated and not surely immediate, as the one of the recycle and environmental sustainability activities, so it could be usable also for young people and students.

The website allows:

- Through the institutional homepage, to get more information about Greentire;
- Through the area DIDACTICAL EVENTS, to learn what are the support services to schools offered by the Consortium and to ask, as school headmaster or trainer, to be contacted to double check the meeting types with Greentire Educational teachers;
- Through the area ACTIVITY, to know the educational projects of Greentire destined to the trainers and to the members of ecological associations;
- Through the area NEWS, to be always updated about Greentire actions, foreseen or already completed, with wide reports of these last ones, accompanied by pictures;
- Through the area VIDEO CHANNEL, to access to all Greentire videos, whether institutional and educational.

Divulgation and public awareness

'KEEP CLEAN AND RUN'

"Keep Clean and Run - Pulisci e Corri", the run of 400 km along the Regions Valle d'Aosta and Liguria, represents the central Italian event of the second "European Clean Up Day", the European campaign against the littering, that took place in all Europe from 8th to 10th May 2015.

"Pulisci e Corri" is sponsored by the Italian National Commission for UNESCO, by the Ministry of Environment and Protection of Natural and Marine Resources, by the Senate of the Republic and Chamber of Deputies, with the aim of aware the citizens and media on the topic of littering, giving attention to the origin of wastes. The choice to concentrate the sport event in the mountain and maritime eco-systems, indeed, arises from the awareness that beyond the 70% of the sea pollution finds origin in the hinterland. Beyond the territory cleanliness strictly speaking, the virtuous management and wastes treatment industries have been highlighted. This action was supported by several personalities of sport, politics and show business, such as Ignazio Marino, Augusto Rollandin, Laura Morante, Giuseppe Cederna, Luca Mercalli, Andrea Segrè, Cristina Gabetti, Syusy Blady, Lucia Cuffaro, Mauro Berruto, l'HC Valpellice Bulldogs, Franco Collè, Marlene Kuntz, Lou Dalfin and many others.

Among the supporters of this action, Greentire together with Conai, Cial, Comieco, Corepla, Coreve, Ricrea, Rilegno, Coripet, Demap, Fise Assoambiente, Riccoboni Holding, Tetra Pak, E.R.I.C.A. soc. coop.

IPLA

Greentire joined the IPLA Decalogue to cooperate actively in the fight against the tiger mosquito. The sting of this tropical insect causes bumps and persistent and itchy irritations. Furthermore, the tiger mosquito can be involved in the transmission to human beings of viruses responsible for tropical diseases also serious. In order to complete its life cycle, the tiger mosquito uses every little water collection, like the ones present in end-of-life tires, to lay eggs and reproduce. For this reason some professional activities risk to facilitate unconsciously the diffusion on the territory. Greentire expands the prevention measures expected by the specialists as prevention for the fight against the tiger mosquito through its institutional website <http://www.greentire.it/news-zanzaratigre.html>

Participation to projects, meeting and public events

NIDO HOUSE

Greentire is partner of the project “Nido House”, the cardboard and off grid house, completely independent from the energy point of view thanks to a special system of solar panels with integrated battery. Designed by the Italian architect Francesca Fadalti, Nido House is an habitat modul of around 16 mq characterised by a structure whose modules are realized using ELTs rubber granules and powders. Safe from all the weather conditions as rain and humidity thanks to the rubber granule, produced by Greentire’s plants and chosen by the designers. The pitch, the window frames coating and the perimeter “hoof” are realized with products that come from end-of-life tires. Also the technology used for the industrial plant building kit (lighting, toilets, water recovery and recycle and heating) makes the house self-sufficient, able to use immediately the electrical energy produced by the sun and to preserve it in the batteries, in order to use it during the night or in case of the light absence.

ECOMONDO EXHIBITION

Since 2013 Greentire join the Ecomondo exhibition in Rimini and during the appointment in November 2015 Greentire organized the conference “One year with Greentire”. In this occasion the partnerships that promoted the industry and its environmental and economic performances were presented and it was also shared a video that tells the activities and the projects carried out by the Consortium giving attention to the subjects who support Greentire activity, from institutions to partners. During the meeting, great space was dedicated to #PFUrecycle: campaign of environmental awareness realized in cooperation with ANCI (National Association Italian Commons), with the sponsorship of the Ministry of Environmental and of Protection of Natural and Marine Resources. This action collected the interest of the dailies of the field and of national news agencies, with two television services of Rai news and Andkronos. The positive impacts on the information system involved ‘Striscia la notizia’, with the correspondent Max Laudadio, who gave visibility and support to the campaign #PFUrecycle and SuperQuark that followed and promoted the ELTs life cycle in Greentire industry. During the convention they also presented the results of the analysis of the life cycle of ELTs management of Greentire system that is performed in cooperation with the Foundation for sustainable development, Lca-lab, spin off of ENEA.

LCA ANALYSIS

In 2015 Greentire was nominated founder partner of the Foundation for sustainable development and made with it a deal of cooperation as partners for the diffusion of sustainability topics. The analysis of the life cycle of Greentire system ELTs management, carried out by LCA-lab ENEA, represents the first step in this direction.

For the analysis of the potential impacts on the whole life cycle of the system some tools recognized and shared at international level in academic field have been used: the method LCA - Life Cycle Assessment applied according to the standard ISO14040- 44; the database Ecoinvent v3.1 (as source of process data); the SimaPro v8 (as software computational processing). For the calculation of the environmental performances Carbon and Water Footprint benchmarks were used. They result from the balance between negative impacts (environmental costs) from ELTs management (collection activity, transport and treatment) and positive impacts/avoided (environmental benefits) thanks to the same ELTs management. The features of the two benchmarks, the structure of the analysis model and the results of this model are indicated in details on chapter 2 of this Report.

EXPO MILANO2015

Greentire joined the project of environmental awareness “Digital class environment 2.0” dedicated to the environmental sustainability, set up at EXPO in cooperation with Legambiente, inside the Parc of Biodiversity – Ministry of Environment. 5000 students joined the game of environmental education using the hi-tech tools like tablets and Eboard (the touchscreen electronic blackboard) made available to Samsung, EXPO Official Sponsor; every class followed the lessons “environment lessons 2.0” offered by the trainers of Legambiente. In occasion of Ecomondo exhibition, together with the under-secretary for the Ministry of Environmental Barbara Degani, the awards of the winners of the prize “Samsung Digital Class” took place.

By Greentire Consortium

Via delle industrie, 17, 20867 Caponago (MB)

Tel 02-95546633

info@greentire.it

www.greentire.it

With the technical-scientific support of the Foundation for the sustainable development. Working Team:

Andrea Barbabella (co-ordinator)

Alessia Albani

Massimiliano Bienati

Enrico Gerboni (LCA-Lab)

www.fondazionevilupposostenibile.org

