

WE ARE PART OF A  
**BETTER**  
WORLD



**REPORT 2017**

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**BETTER**  
WORLD



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This year we celebrate the fifth anniversary of the signing of the Memorandum of Understanding with the Ministry of the Environment and of the Protection of the Territory and the Sea, the Prefectures of the cities of Naples and Caserta and the Prefect Appointed by the Government for the waste fires in Campania. This Memorandum of Understanding was set up for the carrying out of interventions of collection and management of abandoned ELTs in the Provinces of Naples and Caserta.

From the first emptying intervention in the area of Scisciano, to the latest one carried out in Villa Literno, this Agreement has allowed us to recover over 21 thousand tonnes of abandoned ELTs. This is a "mountain of tyres" equivalent to over two Eiffel Towers in weight and that, put one next to the other, add up to 1,200 km – almost the length of Italy. Moreover, the project was accompanied by an awareness-raising and education campaign, which has also allowed us to open a "listening" channel of the local community. The project has also been accompanied by interventions of urban requalification – such as the one of the football pitch renovation of the Neapolitan neighbourhood of Scampia. This pitch was made with recycled rubber coming from the locally recovered End-of-Life Tyres. This has allowed to leave a tangible example of circular economy and of the benefits of legality on the territory.

These amounts of recovered ELTs in the "Terra dei Fuochi" (the "Land of Fires") are added to the ones deriving from the recovery from historical stocks all over Italy – 77 thousand tonnes from the beginning of our activity to today – and to the ordinary ELT collection from tens of thousands of waste generation points on all national territory. We have collected over 2 million tonnes from the beginning of our activity in 2011. These amount have been carefully traced and managed, paying particular attention to minimizing their environmental impact and to the maximisation of efficiency. Moreover, more than half of these amounts of ELTs have been recovered as granules, powder and steel. The remaining part has been recovered as energy. This activity has allowed the reduction of carbon footprint, resources, and water consumption. We do our part for a better world and we are proud of it.

Giovanni Corbetta  
General Manager of Ecopneus



"A better world" is a world that recycles its resources instead of wasting them. Our activities have allowed to close half of the ELT recovery loop. The other half still to be closed is, on the one hand, represented by those tyres that fall outside of the legal flows and that constitute "extra" amounts compared to the defined targets set on the official input on the market. On the other hand, it is represented by those volumes of ELTs that are still not recoverable as materials because of lack of end markets (this option is always to be preferred to the one of energy recovery). Thus, we have two main directions where to carry on with our work today and tomorrow: contrasting the irregular flows of ELTs, so that all of them can be collected and recycled; and consolidating and further developing the end markets of ELT granules and powders in the already-known sectors of sports applications, roads, and building as well as in those new sectors that will open up with research and partnerships with third party subjects. This second option is also made possible thanks to the important recognition of ELTs as material and not as waste anymore. Reaching these two objectives will allow Italy to eliminate the phenomenon of illegal ELT dumping and the progressive reduction of energy recovery in favour of material recycling.

The circular economy is a cultural revolution, but not only: as all revolutions, it uses words, gestures, and tools. Our words are the ones we choose to communicate our results with. Our gestures are the many initiatives and experimentations we promote. Our tools are the ones we need more and more to increment the material recycling amounts, such as the recognition of granules and powders as non-waste material, the widespread and convinced application of the Green Public Procurement – a brave and modern approach of companies in proposing new products and applications made with recycled rubber to the market.

Alessandro De Martino  
President of Ecopneus





\*In the course of time, a calculation model of the recovered material quantities has been developed and perfected, taking into consideration not the conferral "at gate" of the plants, but the effective recovery to the aims of the working and separation processes; thus, the two values can be compared only partially.

## THE RESULTS OF ECOPNEUS

### AT WORK FOR ITALY'S CIRCULAR ECONOMY

The management of End-of-Life Tyres (ELTs) in Italy represents a case of excellence at international level. Indeed, our Country has been able to bring to speed a management system that covers all national territory extensively and that has guaranteed the collection and recovery of 100% of ELTs that have been legally placed on the spare parts market since 2011.

Ecopneus is the main protagonist of this national system, managing about 70% of the overall amount of ELTs throughout all national territory every year.

#### BUT THE CHALLENGE DOES NOT END HERE.

Today, the main objective for both the present and the future of our Country is to set up a circular economy. It is a lynchpin for the protection of the natural environment and for an economy that looks to the future, making sustainability a fundamental element of development and new qualified jobs, thanks to research and innovation. Ecopneus has always known that its main objective is the following: on top of waste management, its commitment has always focused on the **promotion of the uses of recycled rubber**, the market of its applications, and the qualification of the companies of the chain, basing its work on **ethics and legality**.

### THE WORK OF ECOPNEUS

Towards a **CIRCULAR ECONOMY** that is more and more based on market dynamics.



### THE VALUES OF ECOPNEUS





# HOW THE SYSTEM WORKS

Every year about 350,000 tonnes of End-of-Life Tyres are managed in Italy - this is equal to the weight of over 38 million automobile tyres - recovered from motor vehicles, two-wheeled vehicles, lorries and even from large motor vehicles used in quarries and agriculture.

Ecopneus is responsible for tracking, collecting and recovering about 70% of the total, equal to about 250,000 tonnes/year as an average.

To guarantee this, Ecopneus coordinates and supervises a chain of over 100 companies all over Italy. A network of qualified companies, selected in a transparent way by the means of e-tendering, that guarantees the correct recovery of all ELTs under the responsibility of Ecopneus.

**250,000 tonnes/year**  
of ELTs managed by Ecopneus

**AUTHORISED ELT GENERATION POINTS RECORDED ALL OVER ITALY**  
Tyre dealers, workshops, service stations, large corporate fleets

26,149

**COLLECTION**  
Carried out by authorised companies

**STORAGE**  
In specialised centres

**SHREDDING PLANTS**  
For the working of ELTs

**GRANULES**

Football pitches, sports floorings and playgrounds, acoustic insulation

**POWDERS**

Asphalt, Sealants, Items in rubbera

**SHREDS**

Electrical Power, Cement, Major Civil Engineering Projects

## REGULATORY SCENARIO

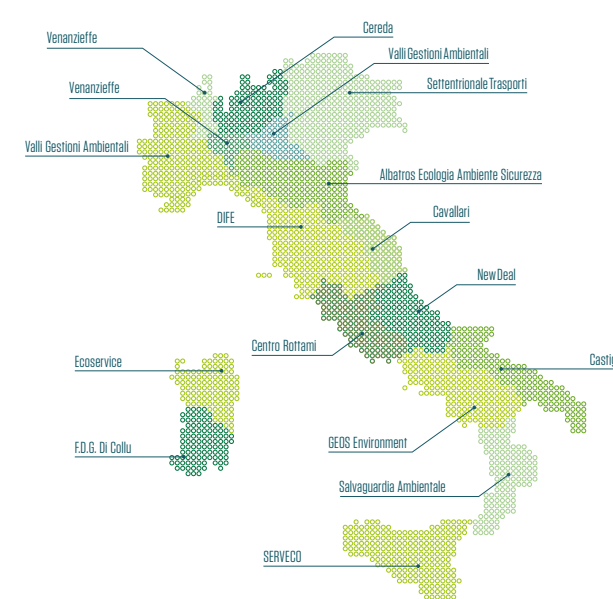
**Art. 228 of the Decree Law 152/2006:** tyre producers and importers are obliged to provide for the management of an amount of ELTs equal to the one placed on the spare parts market during the previous solar year, thus applying the Extended Producer Responsibility. This is an organizational model recommended by the European Commission and adopted by the majority of the Member states.

**The Ministerial Decree (MD) of 11<sup>th</sup> April 2011 n.82,** implements art. 228. It was published on the Official Gazette on 8th June 2011. This MD started the ELT recovery national system in Italy, establishing the operative and managerial modalities of the new system: who the subjects **responsible** are, how the

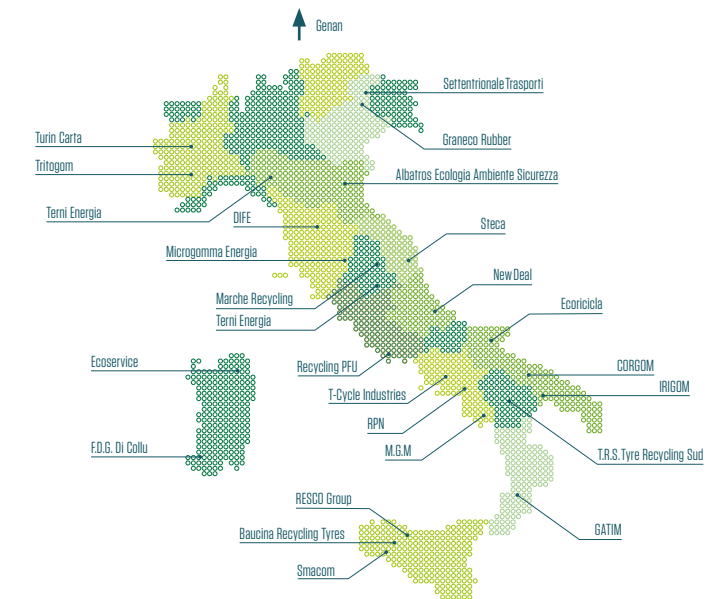
ELT amounts are to be **managed** and their related **eco-fees**; who the **control bodies** are and what the sanctions are in case of non-compliance.

On behalf of its partners, Ecopneus carries out all legal obligations, there included the traceability and accountability towards the Authorities, with an appropriate IT system, in order to certify the flows of ELT amounts, from their generation to their collection and use, as well as the economic accountability and the reporting of the amount placed on the market every year. In case they were not to meet their target, producers and importers shall be subject to sanctions.

## PARTNERS' NETWORK. UPDATE ON 31<sup>ST</sup> JULY 2018



Collection



Shredding and Granulation



# ELT COLLECTION REGION BY REGION



\*An extra amount of 3,623 tonnes is to be added to the ordinary collection as a consequence of the extraordinary collection carried out with 30% of the operating surplus with reference to the Protocol of the Terra dei Fuochi.



Values expressed in tonnes

## Abruzzo 6,580

Chieti	2,237
L'Aquila	1,390
Pescara	1,329
Teramo	1,624

## Basilicata 3,537

Matera	1,247
Potenza	2,290

## Calabria 10,637

Catanzaro	1,547
Cosenza	4,142
Crotone	1,044
Reggio di Calabria	3,160
Vibo Valentia	7,44

## Campania 19,219

Avellino	1,999
Benevento	1,416
Caserta	3,407
Napoli	8,279
Salerno	4,118

## Emilia-Romagna 22,766

Bologna	3,745
Ferrara	1,646
Forlì-Cesena	1,364
Modena	4,329
Parma	3,009
Piacenza	2,130
Ravenna	1,628
Reggio nell'Emilia	3,568
Rimini	1,348

## Friuli-Venezia Giulia 4,028

Gorizia	504
Pordenone	889
Trieste	837
Udine	1,798

## Lazio 21,175

Frosinone	2,820
Latina	2,831
Rieti	854
Roma	13,658
Viterbo	1,012

## Liguria 2,986

Genova	1,811
Imperia	130
La Spezia	865
Savona	180

## Lombardia 29,765

Bergamo	3,520
Brescia	3,913
Como	1,557
Cremona	1,033
Lecco	1,055
Lodi	856
Mantova	862
Milano	7,946
Monza e della Brianza	2,347
Pavia	1,579
Sondrio	992
Varese	4,106

## Marche 7,670

Ancona	2,121
Ascoli Piceno	1,194
Fermo	1,022
Macerata	1,632
Pesaro e Urbino	1,701

## Molise 1,572

Campobasso	1,053
Isernia	519

## Piemonte 7,448

Alessandria	1,746
Asti	409
Biella	51
Cuneo	1,643
Novara	765
Torino	2,319
Verbano-Cusio-Ossola	455
Vercelli	60

## Puglia 22,911

Bari	9,214
Barletta-Andria-Trani	1,972
Brindisi	2,021
Foggia	3,302
Lecce	3,566
Taranto	2,837

## Sardegna 11,484

Cagliari	4,054
Carbonia-Iglesias	632
Medio Campidano	714
Nuoro	1,470
Ogliastra	625
Olbia-Tempio	1,581
Oristano	1,109
Sassari	1,300

## Sicilia 18,191

Agrigento	829
Caltanissetta	1,026
Catania	5,283
Enna	764
Messina	2,901
Palermo	3,133
Ragusa	1,419
Siracusa	1,565
Trapani	1,271

## Toscana 13,851

Arezzo	1,642
Firenze	3,671
Grosseto	1,087
Livorno	1,005
Lucca	989
Massa-Carrara	996
Pisa	663
Pistoia	1,452
Prato	757
Siena	1,589

## Trentino-Alto Adige 9,626

Bolzano	3,321
Trento	6,306

## Umbria 4,716

Perugia	3,633
Terni	1,083

## Valle d'Aosta 94

Aosta	94
-------	----

## Veneto 23,228

Belluno	823
Padova	4,241
Rovigo	1,114
Treviso	3,665
Venezia	3,494
Verona	5,575
Vicenza	4,316

## ELT COLLECTION BY MACRO AREAS

**NORTH**  
**99.942 t**  
41%

**CENTRE**  
**47.411 t**  
20%

**SOUTH AND  
ISLANDS**  
**94.131 t**  
39%

**26,149**

ELT Generation Points  
served: tyre dealers,  
workshops, service  
stations, body shops,  
farms.

**65,361**

requests of collection  
satisfied by collection  
companies.

**HIGHLIGHTS  
2017**

**+3 %**  
extra Target  
collection.

**241,484 t**  
ordinary collection.

**2,983 t**

emptying of  
historical stocks.

**640 t**

intervention in the  
Terra dei Fuochi.

**142 M€**

saved on national  
imports of raw materials.

**1,668,894**  
m<sup>3</sup>

Saved  
Water.

**364,793**  
t CO<sub>2</sub> eq

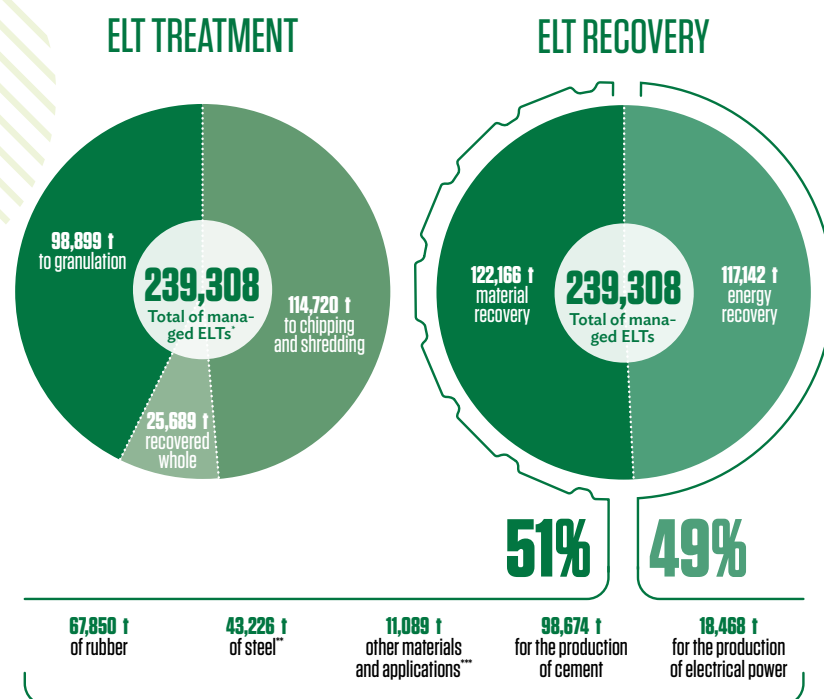
avoided  
CO<sub>2</sub> emissions.

**354.249**  
t

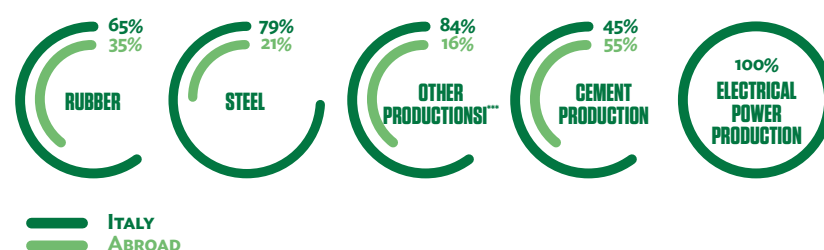
non-consumed  
resources.

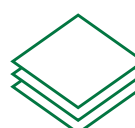


# ELT COLLECTION AND EFFECTIVE RECOVERY IN 2017



## THE END MARKETS



 **MATERIAL RECOVERY:**  
of it is carried out in Italy  
**70%**

 **ENERGY RECOVERY:**  
of it is carried out in Italy  
**54%**

\* TTotal of ELT managed for recovery on 31/12/2017. This figure does not coincide with the overall total of the collection due to the ELT stocks conferred to the plants but not treated for recovery yet.

\*\* Total of steel deriving from ELT treatment and combustion residues of the products sent for energy recovery.

\*\*\* Combustion ashes recovered in the cement production cycle, as well as whole and shredded ELTs used in civil engineering works and in landfill covering.







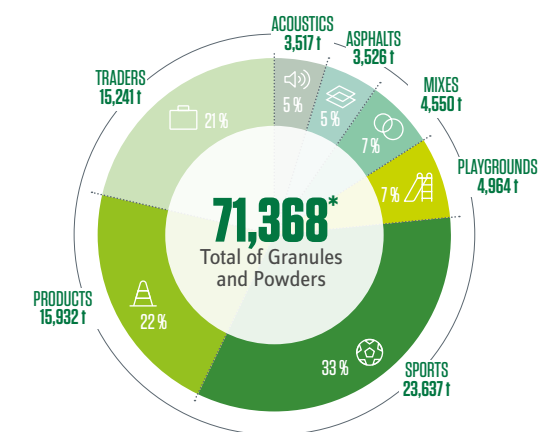
## RECYCLED RUBBER FROM ELTs

The recycled rubber from ELTs that leaves the working plants has the same exceptional characteristics of elasticity, resistance and ductility that transform tyres into objects with exceptional performances.

Nowadays several modalities of use valorise the excellent characteristics of this material all over the world. There are many already available and widely experimented applications, which in Italy, however, are still not widely spread and, as such, cannot absorb all the recycled rubber available on the national market.

In the following graph, it is possible to see an overview of the markets of use of granules and powders produced by the companies of the Ecopneus system in 2017.

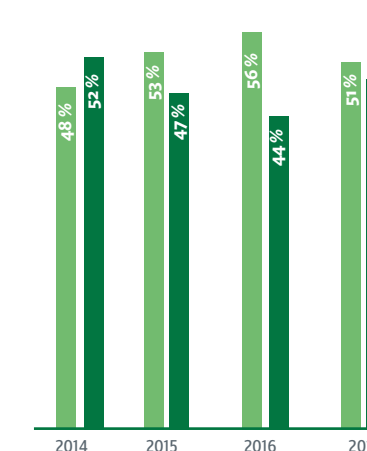
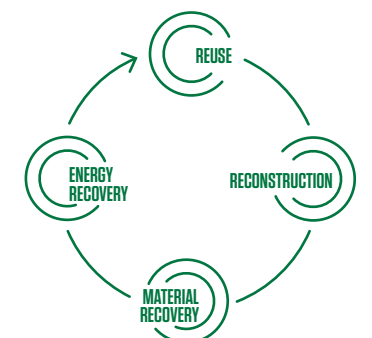
### THE RECYCLED RUBBER MARKET



\* In view of the production of 67,850 t of granules and powders of rubber polymer, the companies of the Ecopneus system overall marketed 71,368 t of the same in 2017. The difference of about 3,500 tonnes between the production data and the use data is due to a normal dynamic of rotation of the material stored in producers' warehouses.

The commitment of Ecopneus for the valorisation of recycled rubber on the national market satisfies some basic assumptions:

- actuating the EU's **hierarchy** for waste management, preferring and prioritising material recovery and favouring the preparatory phases of reuse and reconstruction;
- accompanying and sustaining the consolidation and development of the companies of the sector for an ever better **quality of the material** leaving the plants;
- **promoting markets** for the available material, favouring the national horizon and keeping foreign markets as a second option.



All these actions are linked to positive effects that go beyond the correct waste management; they concern the stabilisation and promotion of new jobs, the creation of new markets for the companies, the creation of a segment of the circular economy that works. The latter, in perspective, shall feed itself on a single market logic. The incessant work of Ecopneus on these issues has contributed to the virtuous dynamic that, in the last years, has been possible to observe from the data on the relationship between material recovery and energy recovery of the recycled rubber from ELTs.



# THE MAIN FIELDS OF APPLICATION

## FOOTBALL

In synthetic turf sports surfaces, ELT granules are used as turf infill material and to make the layer under the playing surface. Moreover, ELT granules favour the levelling of the foundations, give elasticity to the surface, facilitate the energy restitution to the athletes and, at the same time, they drain rain water.



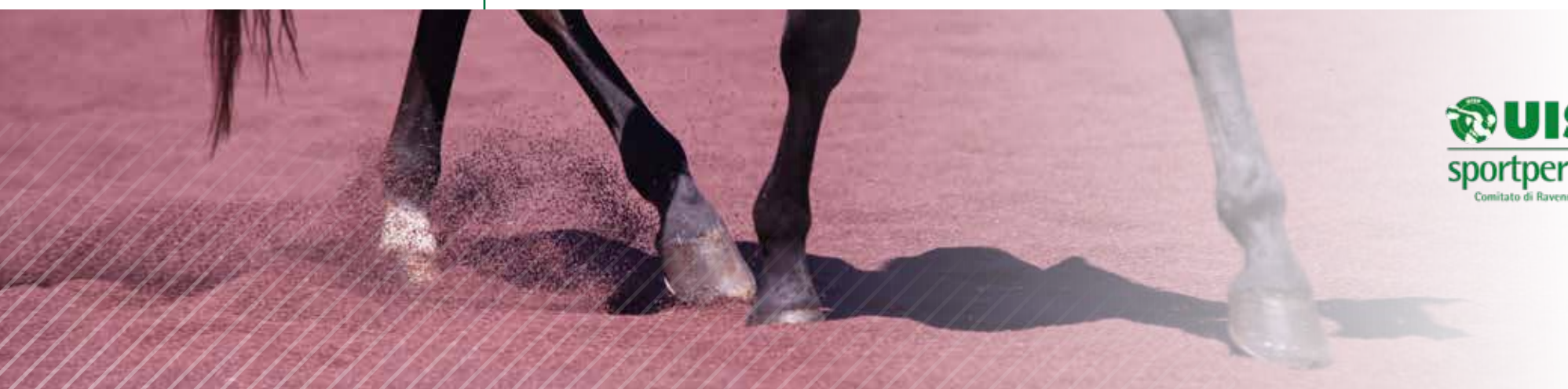
Tyrefield is the state-of-the-art sports surface made with recycled rubber from End-of-Life Tyres. It has excellent performances, it cares about the environment and it gives economic advantages.



In partnership with Ecopneus, **Atalanta BC** has created a synthetic turf football pitch for its sports centre of Zingonia-Cesarano (Bergamo). It is a state-of-the-art synthetic turf football pitch.



**Il Bologna FC1909** has chosen a synthetic turf football pitch with recycled rubber and organic materials infill for its sports centre of Casteldebole, in the city of Bologna. It is used also for athletes' rehabilitation.



## HORSE RIDING

For what concerns horse riding sports, Ecopneus is currently experimenting new solutions for external training fields and for the passageways of horseboxes and stables in collaboration with the Department of Veterinary Studies of the Università degli Studi of the city of Perugia and Uisp (Unione Italiana Sport Per tutti - the Italian Union Sports for Everybody). The use of recycled rubber in training fields instead of sand avoids the dispersion of dust in the air and the related risks for horses' and horse riders' health. The rubber floorings for horseboxes of horse riding centres and stables guarantee, instead, comfort, insulation, and hygiene.



## BASKETBALL

The mixes used for the superficial layer of basketball sports surfaces are designed to obtain both an adequate shock absorption and an optimisation of the restitution of the elastic energy. This gives a perfect answer to the athlete's biomechanics needs; it also provides for a reduction in muscle fatigue, a reduction of micro traumas and an overall improvement of sports performances. The creation of a basketball court in Verona and the collaboration with the Italian Basketball Federation (Federazione Italiana Pallacanestro) follow this direction. Indeed, the Italian Basketball Federation aims at creating a federal basketball court where to test athletes' performances.



**Ecopneus** has started a collaboration with the Italian Basketball Federation for the testing of Tyrefield recycled rubber surfaces for high-level basketball matches.



# THE MAIN FIELDS OF APPLICATION

## TENNIS

By appropriately modulating the characteristics of the superficial layer with the thickness and the physical properties of the substratum in recycled rubber, it is possible to affect the surface response in tennis, thus satisfying the majority of athletes', managers' and most demanding coaches' requests.



## ATHLETICS

Powder and granules in recycled rubber from ELTs are used together with polyurethane resins for the creation of athletics tracks. Thanks to a special design, it is possible to obtain floorings with specific characteristics that have been developed to satisfy multiple needs: from a more rigid flooring - appropriate for those who are looking for the maximum sprint - to a more elastic basic package for the training and cooling down phases.



## PLAYGROUNDS

Recycled rubber is an excellent material for the creation of playgrounds and anti-shock floorings for children's play areas, thanks to its capacity of softening the consequences of accidental falls and its long lifetime. For example, this is well known by the little Peppa Pig's fans who can play on a safe surface also in the presence of water features in Leolandia's theme park. Also the young athletes of Rome's Sports Centre "Fulvio Bernardini" know this very well, as well as the visitors of Legambiente's National Centre for Sustainable Development, "Il Girasole" - an open air show-room of the many uses of recycled rubber from ELTs.





# ACOUSTIC INSULATION

End-of-Life Tyres and classical music: what is the possible link between two elements that are so distant, apparently poles apart? Their meeting point does really exist. It is in Parma, at the Music Production Centre "Arturo Toscanini", where the Foundation that bears the same name, Ecopneus, Genesis, the Architecture Firm A+C and the City of Parma have created an important acoustic intervention on the Sala Gavazzeni, the largest rehearsal room of the structure: 400 sqm by 5m in height. The acoustic insulation intervention was carried out by the means of the application of sound-absorbing panels made with recycled rubber from End-of-Life Tyres.

Indeed, thanks to its characteristics of elasticity, resistance, and sound-absorption, rubber from ELTs is an excellent material for the dampening of noise and vibrations in buildings.

It can be used for the acoustic insulation of lofts. This prevents the spreading of noise from different floors of a building - the so-called "footfall noise". It can also be used in the space between walls, thus avoiding the transmission of sound waves between adjacent rooms. Rubber from ELTs can also be found in anti-vibration bases for machinery and installations such as: lifts, air-conditioning units, boilers.

# "SILENT" AND LONG-LASTING MODIFIED ASPHALTS

As of today, in Italy there are over 440km of roads made with asphalts modified with recycled rubber. The interest in this application is constantly growing. The addition of rubber powder modifies the physical properties of bitumen, improving the overall performance of floorings. This allows:

- **a noise reduction up to 7 Db.** This corresponds to about the halving of the noise perceived by human beings;
- **surface duration up to 3 times** longer compared to traditional asphalt;
- **greater surface resistance** to cracks of all sorts, with a reduction of maintenance interventions and their related costs and inconvenience suffered;
- **greater safety** thanks to better water drainage, with greater grip, better visibility, and less potholes.

Ecopneus is participating in the project **LIFE Nereide** (acronym of: **Noise Efficiently Reduced by recycleD pavements**). It is a project co-financed by the European Union. It aims at optimising acoustics benefits, reducing air pollution and the overall environmental impacts by using road surfaces made with the addition of recycled rubber and asphalt millings. This is the material obtained from the recovery of old road surfaces and is used in substitution of the commonly used virgin raw materials.

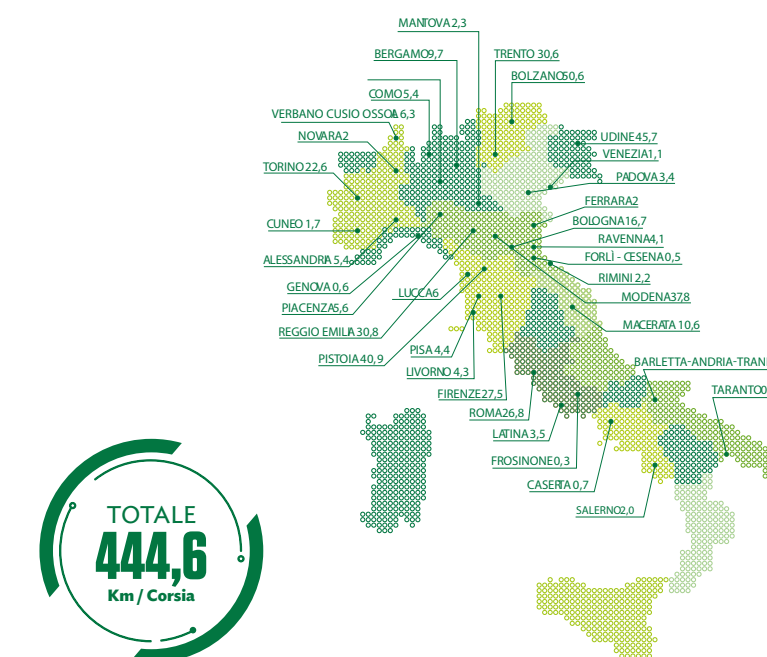
The project started in 2016. Its Lead Partner is the **Department of Civil and Industrial Engineering of the University of Pisa**, in collaboration with **ARPAT** (Agenzia Regionale per la Protezione Ambientale della Toscana - the Regional Agency for the Environmental Protection of Region Tuscany), the **Belgian Road Research Centre-BRRC**, the **Institute of Acoustics and Sensoristics "Orso Mario Corbino"** and **Region Tuscany**.

[www.nereideproject.eu/](http://www.nereideproject.eu/)



## Asphalts modified with rubber powder from ELTs in Italy

Data given in km/lane, per single Province





# ENERGY FROM ELTS

Ecopneus pays great attention to the “physical” recovery of rubber from ELTs. Equally, it pays great attention in preparing the recovery of those ELTs that the market of applications cannot absorb every year as derived fuel for the production of energy.

Although it is not a priority in the green strategy of Ecopneus, the energy recovery of ELT-derived fuel is mainly carried out in cement factories. This allows to better exploit the high calorific value of rubber, which can be compared to the one of pet-coke. Moreover, the use of this process allows to recover the combustion residues (ashes and steel) as materials. These are then mixed with the end product, thus avoiding the use of further virgin raw materials, with an **environmental and economic benefit** for both companies and society.

A smaller number of ELTs managed for energy recovery are sent to plants for the production of electrical power. In this case it is made sure that combustion residues are managed for the material recovery.

Even for energy recovery, thus, ELTs possess characteristics that make them a precious resource:

- **high calorific power**
- used in replacement of other fuels, with an **improvement of plants' emissions**
- presence of steel together with rubber: this is functional in the production of **cement**.

In 2017, **55%** of the recovery of ELTs for energy production (whole or shredded/ chipped ELTs, as well as textile fibres separated during their transformation into granules and powders) was carried out in Italy (in 4 cement factories and 2 electrical power plants). The remaining **45%** was recovered in foreign **cement factories**, mainly in Turkey (56.1%), Austria (13%) and Romania (10.9%). Smaller amounts were recovered in Morocco (8.7%), Hungary (5.2%), South Korea (3.8%), Slovenia (1%), India (0.9%) and Croatia (0.4%).





# THE ENVIRONMENTAL BENEFITS

## CARBON FOOTPRINT

It measures the overall amount of greenhouse gases directly and indirectly produced during the life cycle of a product or an activity. The negative value associated to the activities of Ecopneus shows that the avoided emissions (thanks to material or energy recovery), are greater than the ones produced by the analysed process.



Balance of EMISSIONS  
**-364,793**

tCO<sub>2</sub> equivalent

Equal to the emissions of almost 220 thousand automobiles travelling 10,000 km in 1 year  
(Rif. . ISPRA's Yearbook of Emissions, 2015)

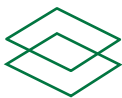
Balance of RESOURCES  
**-354,249**

t di materiali

Equal to the weight of 723 "Frecciarossa 1000" high-speed trains with 8 wagons plus locomotive  
(Rif. Producer's technical sheet)

## MATERIAL FOOTPRINT

It represents the overall flows of mineral and fossil resources that have been extracted for the production of a specific service or good along its life cycle. The negative value indicates that the positive impact connected to the resources that have not been extracted and used thanks to the material or energy recovery along a product life cycle is higher than the negative one linked to the consumption of the material necessary for the carrying out of the same activities.



## WATER FOOTPRINT

It evaluates the water consumption linked to the net use of water resources and their pollution caused by the production of a specific service or good during its life cycle. A negative value of this indicator states that the amounts of non-consumed and non-contaminated water thanks to material or energy recovery during a product life cycle, is higher than the one which, vice-versa, has been consumed to satisfy the various analysed activities.



Balance of WATER  
**-1.668,894**

m<sup>3</sup> of water

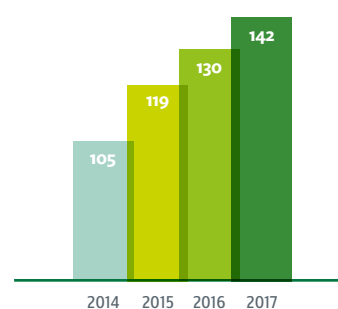
volume equivalent to the average daily consumption of 6.8 million Italians  
(Rif. Istat, 2015)



# ECONOMIC BENEFITS FOR THE COUNTRY

The benefits deriving from the activities of Ecopneus can be seen also from an economic point of view. First of all, there are **benefits in terms of savings on importation** of virgin raw materials. These are replaced with the materials recovered by the managed ELTs. In 2017 such savings amounted to **142 million Euros**. This confirms that, on top of its environmental advantages, material recovery from ELTs implies also important economic benefits.

SAVINGS ON IMPORTATIONS OF MATERIALS  
M of Euros

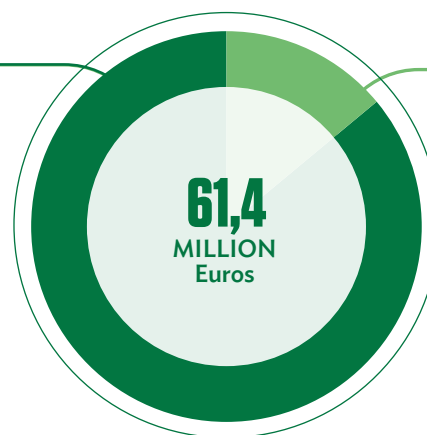


In 2017, the economic value generated by eco-fees amounted to **65.3 million Euros**. This amount generated over **2.6 million Euros** of surplus operating funds, net of the economic value distributed to cover all costs incurred for the running of the system. As provided for by the legislation in force, **30%** of this value (for a total of over 800 thousand Euros) has been saved to be spent in 2018 to cover the costs for the interventions of dismantling of ELT historical stocks present on the territory. This allows to carry on with the commitment that has always characterised the work of Ecopneus. The remaining amount has been saved to reduce the operating costs of the following year, whilst 227,383 Euros have been paid in taxes by Ecopneus.

## ECONOMIC VALUE DISTRIBUTED €

### € 87 % CHAIN COSTS

- 47% Collection
- 12% Transportatio
- 18% Shredding
- Granules / Powders
- 16% Shredding
- Shreds / Chips
- 5% Energy Recovery
- 2% Other Costs



### 13 % GENERAL COSTS

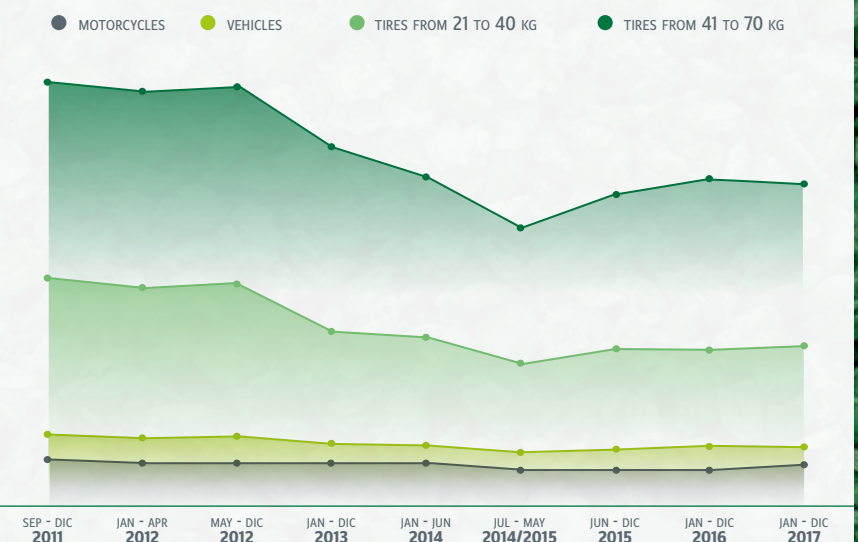
- 61% Quality, Research, Development and Promotion of Applications
- 12% Personnel
- 3% Taxes
- 1% Capital
- 23% Other Costs

**4,8 MILIONI** Euros  
for Research, Development and Innovation

The careful and **rigorous management of the financial resources** from the part of Ecopneus contributes to the stability of the companies of the chain. This is due to the fact that the same companies can rely on certain and regular payments, as well as on the guarantee of receiving constant flows of materials to be treated.

The **transparency** on the use of such resources guarantees the respect of the legislator's mandate and the strictest interpretation of its own role as a non-profit body. The value of eco-fees is constantly checked and, eventually, modified with reference to a better system management. The aim is **cost minimisation for the consumer**.

## THE TREND OF ECO-FEES: MINIMISATION AND STABILITY

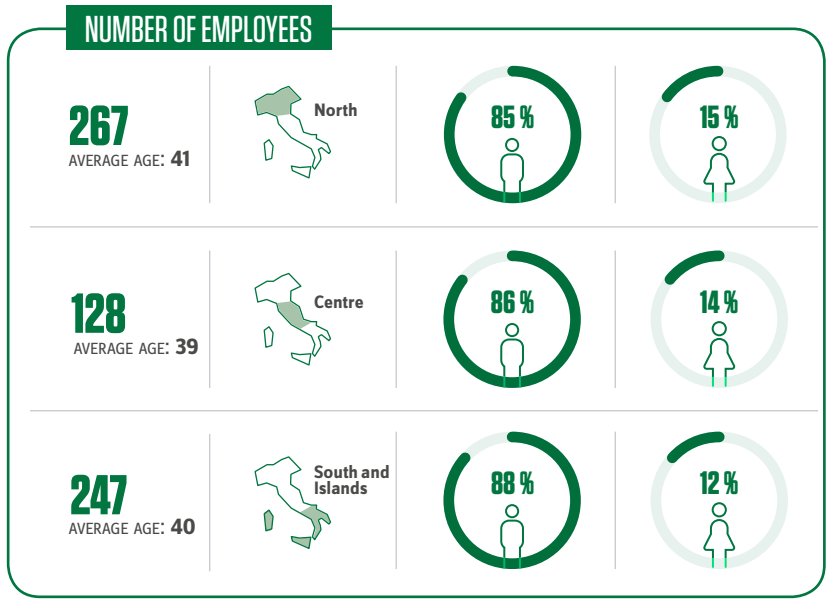




# EMPLOYMENT IN THE ECOPNEUS SYSTEM

## PEOPLE ENGAGED IN THE ELT SECTOR IN THE COMPANIES OF THE ECOPNEUS CHAIN

The analysis of the Ecopneus system carried out by Social Footprint in 2015 described an employment situation which can still be considered valid today, as no elements have substantially modified the framework of reference. The internal operative structure of Ecopneus is stable at n.10 employees. They directly co-ordinate the network of partner companies all over the national territory from their offices in Milan.

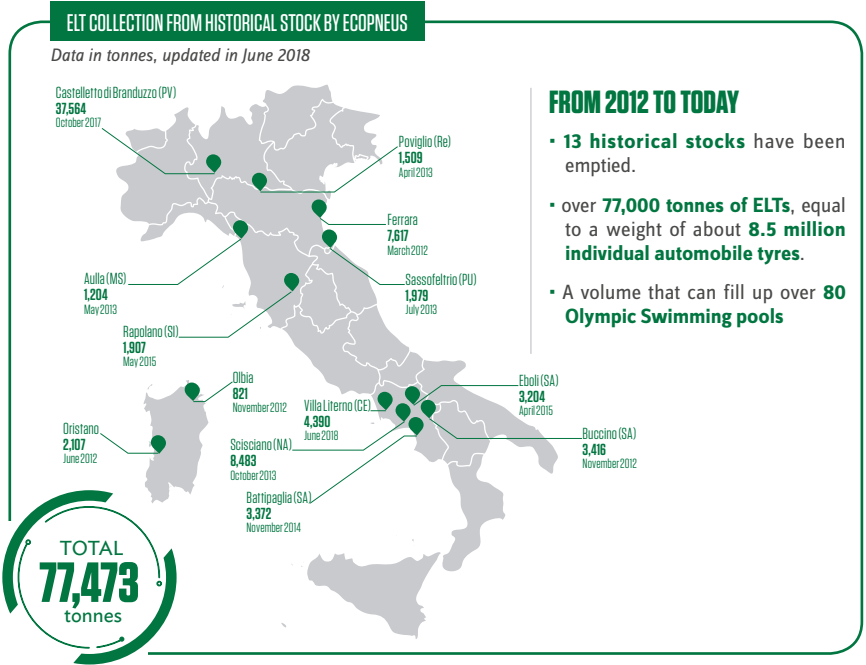


# SPECIAL PROJECTS

The objective of creating added value for the Country with environmental protection and towards the circular economy is well shown in the effort Ecopneus has made in certain projects they have followed in parallel - and in addition to - their ordinary collection activities. Examples may be: the interventions carried out on the historical stocks and the activities in the Terra dei Fuochi.

## THE EMPTYING OF 13 HISTORICAL STOCKS, FROM THE NORTH TO THE SOUTH OF ITALY

The MD82/2011 obliges the bodies responsible for the management of ELTs, such as Ecopneus, to allocate at least 30% of their end-of-year budget surplus for interventions of removal and emptying of the "historical stocks". These are piles of ELTs lying in companies that have gone bankrupt, industrial buildings, or in the natural environment and which were created due to the lack of a coordinated national system of collection and recovery of ELTs until 2011. Moreover, Ecopneus has mainly focused on Region Campania for the carrying out of these interventions. Indeed, 3 places have been emptied within the scope of the special project for the Terra dei Fuochi. Among the various bodies responsible for ELT management in Italy, Ecopneus has put great and relevant effort in this field. Thanks to it, all historical stocks of large dimension in Italy have been substantially emptied.



## EXEMPLARY CASE: CASTELLETTO DI BRANDUZZO, PROVINCE OF PAVIA

Over 37,000 tonnes of ELTs lay abandoned for 15 years in the industrial site of the ex-Ecogomma, close to a residential area, because of the bankruptcy of the company that was supposed to recycle them. It was the largest stock of ELTs in Italy and among the largest in Europe. A situation that seemed not to have a solution because of the huge amount of tyres and the costs necessary for going ahead with their removal. The intervention started in July 2013 thanks to the agreement signed by Pavia's Council, its Prefecture and Ecopneus. It ended in 2017 after about 1,100 working days, 1,600 vehicle journeys and thanks to 5 million Euros offered by Ecopneus.



# THE PROJECT FOR THE TERRA DEI FUOCHI



Since 2013, Ecopneus has operated within the scope of a Memorandum of Understanding signed with the Ministry of the Environment, the Prefectures and Councils of Naples and Caserta and the Prefect appointed by the Home Office for the Terra dei Fuochi. Ecopneus has put extraordinary resources at the disposal of this project. It has also carried out interventions of collection and management of End-of-Life Tyres abandoned on the territory of the Provinces of Naples and Caserta.

It is an extraordinary intervention aimed at contrasting the phenomenon of toxic fires by the means of the removal of the abandoned ELTs from the territory. Indeed, these ELTs are often used as igniter and fuel for fires.

It is a project that also has a strong component of information and education to legality to contrast the "off-the-books" sale of tyres, which is linked to the dumping of ELTs in the environment. Many things have been done: educational projects, open-air initiatives, contests open to citizens, school initiatives with the aim of making culture and transforming the recovered ELTs into a regular size football pitch made with recycled rubber where children and teens can train both their legs and their head to legality in the town of Scampia.

- **41 Towns** involved in the Provinces of Naples and Caserta
- Over **21,000 tonnes** of collected ELTs
- **3 historical stocks emptied:** in Scisciano (NA), Naples "Gianturco", Villa Literno (CE)
- Over **1,000 students** involved in training and awareness-raising activities on "environment and legality" every year from 2013 to today
- Open-air initiatives and contests for citizens
- Creation of a regular size **football pitch** named after Antonio Landieri in the neighbourhood of **Scampia in Naples**
- **Playground and multi-purpose** surface in the Parco Verde neighbourhood in Caivano, (NA)





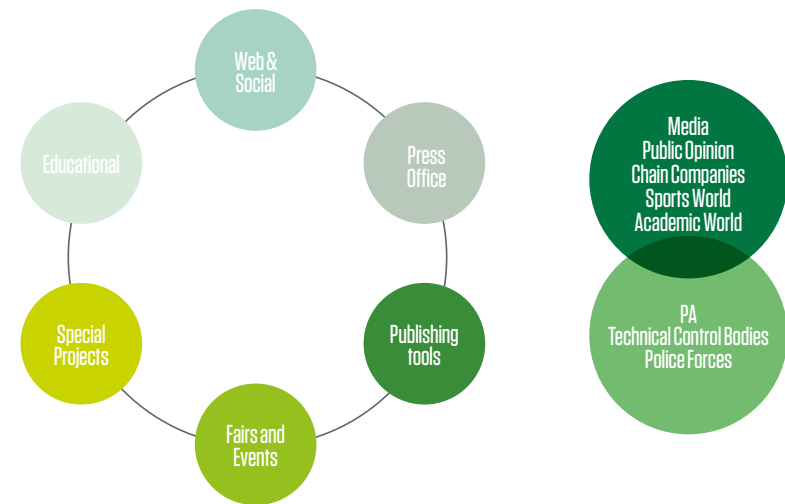
# THE COMMITMENT FOR COMMUNICATION

## SUPPORTING A CIRCULAR ECONOMY

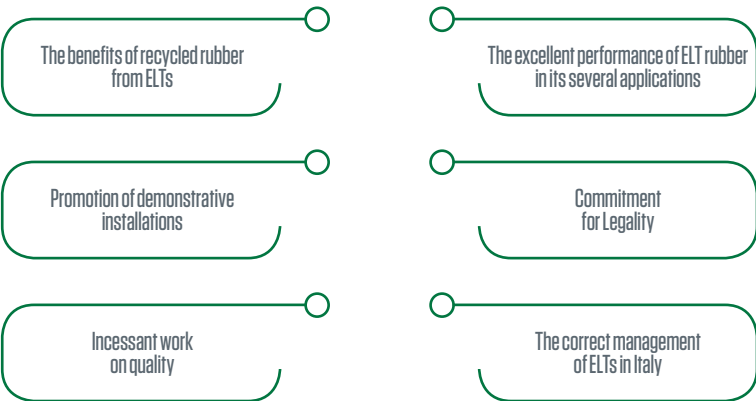
The work made by Ecopneus for informing and raising the awareness of all of its stakeholders was born from this responsibility, in particular for what concerns the promotion of the applications of recycled rubber.

It is a responsibility entrusted by the same legislator with the MD 82/2011 and Ecopneus seriously believes in it. The promotion of a culture of sustainability, of a correct waste management, of choices of legality and of the adoption of a more sustainable lifestyle are crucial for the future of our Country.

## TOOLS AND TARGETS



## TOPICS



# TRAINING AND EDUCATION

## SUSTAINING THE CULTURE OF LEGALITY AND OF THE CIRCULAR ECONOMY

Since the beginning of its activities, the commitment of Ecopneus has been strong, constant, and diversified in this field. It has met and discussed with all interlocutors responsible or interested in ELT management in Italy. Ecopneus has also made a great effort into contributing to the development of a circular economy culture in our country.

## ELT ACADEMY

A format of workshops on the regulatory background of ELT management, its legislative and administrative aspects with the contribution of experts of the sector and organised in collaboration with Legambiente and under ISPRA's support. Addressed to the technicians of Control Bodies, Police Forces, and Public Administration, the ELT Academy has seen over 1,600 participants with thousands of technical materials distributed.





# OBSERVATORY ON THE ILLEGAL FLOWS OF TYRES AND END-OF-LIFE TYRES IN ITALY

Ecopneus is the promotor of a round table for discussion and proposals on the topic of tyre illegal sale flows in Italy. It is a widespread phenomenon, from the North to the South of Italy, with very significant incidence data.

This phenomenon puts at risk the correct management of ELTs, because it places on the market tyres that have not been accounted for in the overall national total and, thus, they are out of the collection amounts allocated to the various operators.



**CAMBIOPULITO**

This initiative is now supported by the main interlocutors of tyre and ELT chains in Italy - a network of over 50,000 companies. Within the same network, "Cambio Pulito" ("Clean Change") was launched in May 2017. This is the first whistleblowing platform promoted by the private sector with such a wide potential participation, for the collection of anonymous reports on incorrect or illegal practices among companies, which generate unfair competition in the sector as well as the risk of ELT dumping.



# THE EDUCATIONAL PROJECT FOR SCHOOLS

## IL PROGETTO EDUCATIONAL PER LE SCUOLE

It is an educational project for the students of secondary schools that Ecopneus has been organising since 2013 in collaboration with Legambiente. This project has involved also the students of the Terra dei Fuochi: about **10,000 students** have been involved until now.

Every year this project focuses on a specific Italian region. It meets the students in their classrooms, it organises visits in factories that deal with ELTs, it prepares information materials, an event for an in-depth analysis on legality and sustainability and a contest.

The best videos that present a message linked to the best practices for the correct recovery of ELTs are selected by a jury of experts composed of representatives of **Legambiente, Ecopneus, the Ministry of Instruction, and the Ministry of the Environment** for the awarding of the prizes. The prizes are sports surfaces and items in recycled rubber for the schools of the winning classes. These presents are strong messages of legality and environmental protection in those places where the new generations are formed.

## THE DONATIONS OF ECOPNEUS TO THE SCHOOLS WITHIN THE SCOPE OF THE EDUCATIONAL PROJECT





# RESEARCH, QUALITY AND INNOVATION ARE AT THE CENTRE

For the development of its activities, Ecopneus avails itself of the collaboration of external subjects. These, from time to time, supply competences, resources, and those necessary skills which are not already available within the deliberately lean structure of Ecopneus.

Such approach allows the involvement of the best collaborators for the reaching of the set objectives, the strategic analysis, the direction of the green strategy with a wide and more and more qualified vision.

These subjects technically and scientifically support also the communication, collaborating on the spreading of the projects and information and on the awareness-raising within all sectors of society.

## THE MAIN DEVELOPMENT PARTNERS OF ECOPNEUS



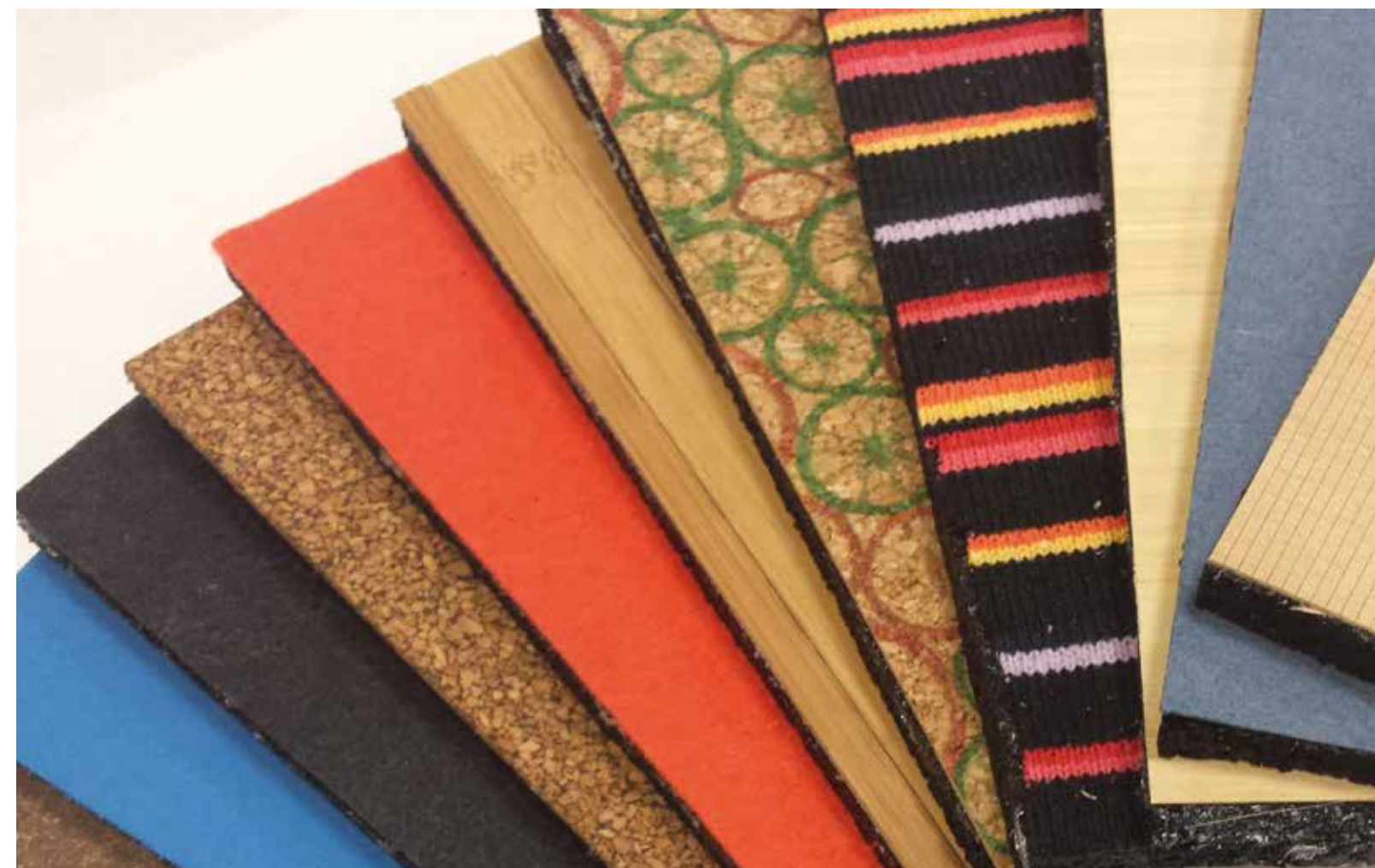
# THE NEW APPLICATIONS

## TYREPLAST: FROM RECYCLED RUBBER TO COMPOUND

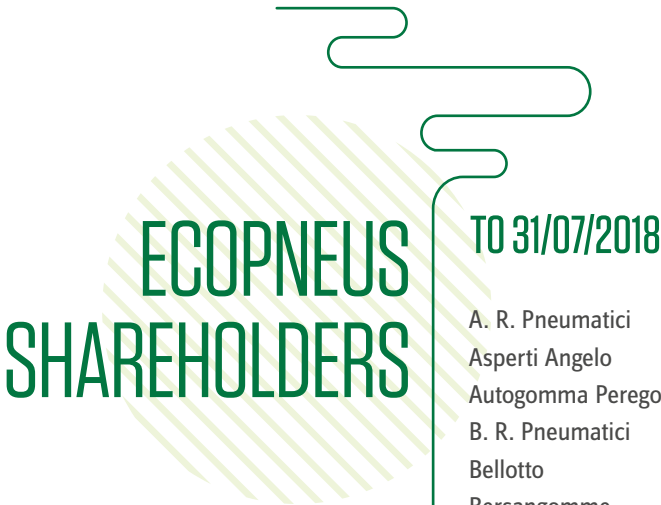
Ecopneus and Idea Plast have created the project Tyreplast, aimed at creating innovative thermoplastic materials at the service of industry. Mixes capable of combining performances, quality and environmental sustainability, valorising the sound-proofing and anti-vibrational characteristics of two resources that have countless advantages: powders from recycled rubber from End-of-Life Tyres and thermoplastic materials. With the support of the companies, new mixes with several plastic families have been created and the know-how has been made available to support their use along all productive chain - from the material to the product.

## THE COLLABORATION AND EXPERIMENTATION WITH MATREC ON POLYLAMINATE MATERIALS WITH RUBBER FROM ELTS

Beginning of research and experimentation of new polylaminate materials in which the recycled rubber from End-of-Life Tyres has been coupled with leather, cork, fabric, bamboo, paper, wood, felt. These materials are worlds apart; however, once they have been joint together, they give a new identity to the rubber from ELTs, thus widening its different commercial uses: furnishing, design, boating, building, accessories.





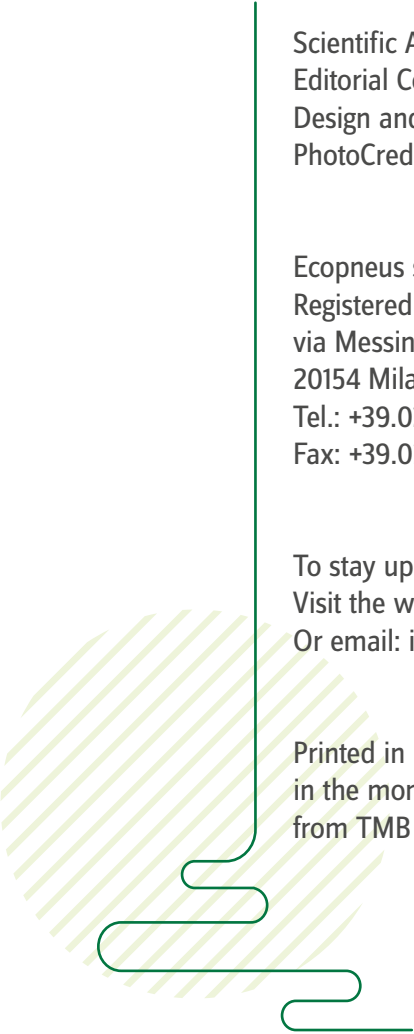


# ECOPNEUS SHAREHOLDERS

TO 31/07/2018

A. R. Pneumatici	GRG Pneumatici
Asperti Angelo	Harley-Davidson Italia
Autogomma Perego	Idio Ridolfi & Figli
B. R. Pneumatici	Marangoni
Bellotto	Marangoni Industrial Tyre
Bersangomme	Marangoni Tyre
BIS	Mazzon Leonardo
Bridgestone	Mercedes-Benz Italia
C. G. Service	Michelin
Camso Italy	Nuova Pneus Vignola
Catania Gomme	Outlet Gomme
Centro Europeo Ricambi	Parise Gomme
Centro Gomme	Perla Pneumatici Siena
Citroen Italia	Picone Pneumatici e cicli
Continental	Pirelli Tyre
D. P. Commercial Tyres	Pneus Service Italia
Devalle Gomme	Pneus sette
Driver Italia	Points Italia
Driver Servizi Retail	Prometeon Tyre Group
DST	R.G.S. Pneumatici
Eco-Ingea	Re-Ta Gomme
EFTD-La Genovese Gomme	River
Emmegieffe	Rossi Lamberto
Euroreifen MS	Satep
FCA Italy	Stilgomma
Fintyre	Top Ruote
Gexpo	Trelleborg Wheel Systems Italia
Goodyear Dunlop	Volkswagen Group
Gottardi	Zuin
Grassini Pneumatici	



A decorative green line starts vertically on the left, then curves into a series of horizontal and vertical loops, ending in a circular pattern of diagonal green lines.

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