

## Supporting Tyre Recycling in Europe

### A call for action from European Tyre Recyclers

#### Executive summary

European Tyre recycling is essential to achieving a circular economy and sustainable economic growth. The European tyre recycling industry enables the recovery of rubber, a key material in which Europe is resource poor, as well as metal and textiles.

Recycled tyre materials (RTMs) can be used in a broad array of competitive materials, products and applications developed by a range of industries, e.g. artificial turf and sport surfaces, roofing and insulation for the construction industries, hoses, gaskets and moulded parts for the automotive industry, facilities and equipment for the leisure industries, rail/tram beds noise barriers, rubberised bitumen, exit ramps for civil engineering and to facilitate mobility, to name only a few.

RTMs provide massive environmental benefits in terms of resource efficiency, energy and emissions' savings. Each tonne of tyres materially recycled saves the equivalent of +/- 20.5 barrels of petroleum when compared with processing virgin materials. Each kilo of tyres recycled into products and materials such as hoses, flooring or roofing products, road surfaces, etc. avoids the emission of 2,7 kilos of CO<sup>2</sup> which represents a net CO<sub>2</sub> savings of 270%, or about four times more than the savings generated via energy recovery in steel mills or cement kilns<sup>1</sup>. At the minimum, tyre recycling is instrumental in avoiding the landfilling and uncontrolled dumping of end of life tyres. Finally, tyre recycling reduces reliance upon the import of natural rubber for which Europe is the second largest importer in the world after Asia.

Despite these major environmental and industrial benefits, tyre recycling in Europe deserves much stronger policy and regulatory support at European level to:

1. Increase the use of recycled tyre materials and applications through the implementation of revised GPP incentives focused on key industries including transport, automotive, mobility, construction, civil engineering, material development (including compounding), manufacturing.
2. Introduce a regulatory framework based upon the Waste Hierarchy that defines targets and limitations for each level with considerations of State priorities and preferences.
3. Further boost recycling rates by improving the accuracy of annual data on arisings, and the inclusion of uncounted tyres i.e., OTRs, which could expand the availability of tyres appropriate for material recycling;
4. Improve compliance with the Proximity Principle and the Waste Hierarchy when dealing with ELTs.

This call aims at outlining the most prominent actions to be taken in order to boost tyre recycling in Europe and thus create a more circular economy for tyres.

<sup>1</sup>[A study to examine the benefits of the End of Life Vehicles Directive and the costs and benefits of a revision of the 2015 targets for recycling, re-use and recovery under the ELV Directive. GHK in association with Bio Intelligence Service. Final Report to DG Environment, May 2006.](#)



## 1. Boosting tyre recycling (supply side)

Post-consumer tyres are valuable resources which are 100% recyclable. The implementation of EU's waste legislation and in particular of the waste hierarchy has contributed to an increase of recycling rates over the last 25 years.

By 2022 documentation, tyre arisings had reached  $\pm 4,400,000$  tonnes per year. Tyre recycling rates had stabilised at  $\pm 37\%$  of arisings for several years, with a total of 90% of identified tyres managed in a sustainable manner.

While  $\pm 40\%$  of tyres are incinerated, the remainder 14% is reused retreaded, with only 7% landfilled. By comparison, in 1992, 62% of tyres were landfilled and only 5% were recycled.

However, it has become apparent that more than 8% of annual tyres arising in the EU are not included in the official count. Off-road-tyres (OTRs) have long been ignored. Until 2017, their numbers were estimated at nominal quantities –from  $\pm 50,000$  – 60,000 tonnes, when in reality they account for  $\pm 350,000$  tonnes per year<sup>2</sup>. Official inclusion of these tyres in arisings data could provide a source for additional tyres available for recycling.

Despite tangible progress being made, increasing tyre recycling rates is an absolute imperative to take advantage of the substantial environmental and industrial benefits it brings and mitigating cross-media effects stemming from treatment or disposal options sitting lower in the waste hierarchy.

- ETRA calls for setting, at European level, mandatory recycling rates for tyres as for most other waste streams. An initial target of 40% by 2030 with an increase of 1% per year until 2040 could be a realistic threshold which could assure actors along the value-chain with adequate certainty that tyre recycling is growing and sustainable.<sup>3</sup> A mandatory EU recycling rate for tyre recycling, either in a specific Directive on post-consumer tyres (preferred option), or in existing European legislation, would contribute to harmonising the way data are reported and calculated across Europe, hence improving the quality and representativeness of the tyre recycling statistics.
- ETRA calls for measures to improve implementation of the **waste hierarchy** in the tyre recycling industry in order to reduce the amount of tyres which are incinerated (in incineration plants, steel mills or cement kilns) or exported to countries outside the EU with unrestricted burning, or as a last resort, landfilled.

## 2. A sound and predictable regulatory framework promoting fair competition within end-of-life tyre markets.

The European tyre recycling industry remains, as most of Europe's industries, driven by SMEs which developed over the years patented, innovative processes to use RTMs in multiple products and applications. As many RTMs and products are new and innovative without belonging to the traditional rubber industry sector, ETRA should be systematically involved in any regulatory development affecting the tyre recycling industry.

In order to develop tyre recycling further in Europe and hence reduce the EU's dependence on natural rubber imports, a sound and predictable regulatory framework is vital. ETRA calls in particular for a sound interface between waste and chemicals in the field of tyre recycling and for more harmonised producer responsibility schemes across Europe which do not distort, but promote fair competition.

<sup>2</sup>Astutus Research, UK 2018

<sup>3</sup>The tyre sector includes an interim step – 'retreading', which bridges the gap between re-use and material recycling.



i) Sound waste and chemical interface for tyre recycling

Tyre recyclers invest every day to ensure that applications using RTMs are safe, functional, sustainable, and recyclable, i.e. fit for the applications they have been designed for and meet all quality standards required by their end-use.

Recent unsubstantiated allegations that RTMs used in sports surfaces, which account for +39% of recycled tyre rubber, pose significant risks for human health and the environment, provide a perfect example of the need to streamline the interface between waste and chemicals. They finally lead to the adopt the ban the sales of recycled rubber granulate for infill material of artificial turf as from 2031.

ETRA calls in particular for an interface between waste and chemicals which should:

- Be risk-based and not simply based on an assessment of hazards in a narrow environment;
- Take into consideration the benefits stemming from the use of recycled materials in a range of products and applications;
- Avoid drawing conclusions before the entire assessment process is carried out by competent authorities (e.g. ECHA) which take into consideration, not simply estimations, but inputs from competent sectorial organizations (ETRA) based on reliable data and scientific conclusions is completed;
- Give the opportunity to all stakeholders to participate in the development and assessment of proposals made by competent authorities from the beginning of the assessment process

ii) Fair competition and improved transparency in end-of-life tyre markets

Extended producer responsibility schemes vary widely across Europe with a number of different models (competitive, monopolistic, profit or non-profit) which do not currently collect and report on alltyres placed on the domestic market etc.).

ETRA is in favor of the minimum requirements set at European level to better harmonise EPR systems across Europe. In tyre recycling, ETRA firmly calls for measures aimed at improving transparency and fair competition to avoid the creation of monopolies and mitigate the impacts of existing ones, since their market power is particularly detrimental to SMEs and disrupt the entire end-of-life tyre markets. ETRA also strongly supports non-discriminatory access to end-of-life tyres and fair distribution of revenues for recyclers.

It is particularly instrumental to ensure that, when EPR Schemes are set up or operate in the field of tyre recycling:

- They assume responsibility for 100% of the tyres generated in the territory for which they are licensed, to avoid cherry-picking whereby some EPR Schemes take responsibility only for densely populated areas where collection is profitable while de facto abandoning non-profitable areas whereby tyre collection can then be diverted into illegal circuits;
- That tender procedures for collected tyres are fair and non-discriminatory for tyre recyclers, be they SMEs or larger companies, and ensure a sufficient time and financial distribution enabling recyclers not only to make profits but equally to make long-term investments in material recovery processes;

iii) Sound definition of tyre recycling

Mechanical processing of tyres is a recycling treatment and must continue to be legally defined as such, as long as the output of this process results in the transformation into a marketable product or materials. Preliminary steps in the process which do not result in such a transformation could be considered as a recycling pre-treatment or interim step in the recycling process. In that respect, the definition of end-of-waste criteria for tyres at European level shall remain a priority.



### 3. Pulling demand and end-uses for RTMs

Recycled tyres can be used in a wide variety of products and applications. From whole end-of-life tyres which can be baled to serve different purposes in construction or civil engineering applications, to RTMs which can be used in multiple ways including new compounds, moulded products, in combination with other materials (e.g., TPEs), for transport, construction, manufactured products, automotive, mobility, the leisure industry, among others - the current and future potential of recycled tyres is endless.

Nonetheless, the industry lacks **incentives** to pull the demand and end-uses for RTMs. These incentives are vital in order to:

- Provide long-term certainty to operators which is a key pre-requisite to attracting new investments in tyre recycling development activities for processes, materials, products and applications;
- Reward tyre recycling's environmental benefits that the market fails to internalise in prices.

ETRA calls in particular for:

- i. Derogate the ban requested by RAC of ECHA of the recycled rubber infill material for artificial turf pitches, that will enter in force in 2031, conditional on technical Risk Management Measures being implemented to prevent releases into the environment
- ii. Green Public Procurement(GPP) criteria to ensure that public tenders support the circular economy in general and the use of RTMs in particular in numerous applications. The GPP includes new criteria for commercial buildings and roads for use by public authorities, which will stimulate these markets to meet their potentials.
- iii. Stimulate the use of recycled content in new products to replace the rubber for which Europe is heavily dependent on imports.
- iv. Keep financing research and innovation in tyre recycling and end-market applications for RTMs through EU-funded programmes such as Horizon Europe or Life projects

The tyre recycling industry represented by ETRA looks forward to continue working with European institutions and stakeholders in order to further contribute to the EU goal of a Circular Economy, with reduced reliance on virgin resources, energy inputs and CO2 emissions.

#### About ETRA

ETRA is an independent, member-driven European Association open to those involved in the diverse activities that contribute to the 'tyre recycling industry'. ETRA is the result of a project created in 1990 and funded in 1992, to bring together the disparate elements of tyre recycling in Europe. The association was conceived by 19 delegates to the first European Conference on Tyre Recycling, that was held in Brussels in January 1994 as a concluding activity for the year-long project. In September 1994, ETRA was registered as a European Association with the goal of providing a forum for discussion and exchange concerning the emerging issues of the industry. ETRA gathers today +250 tyre recycling professionals in 43 countries. ETRA is supported primarily through membership dues, research projects and programme sponsorship.

[www.etra-eu.org](http://www.etra-eu.org)



This Call for action of ETRA is part of the campaign to support tyre recycling carried on through the EU funded project LIFE20 GIE FR 282 RE-PLAN CITY LIFE

