Council of the European Union

Brussels, 23 May 2018
(OR. en)

Interinstitutional File:
2018/0148 (COD)

9185/18
ADD 3

ENER 150
ENV 316
TRANS 218
CONSOM 150
CODEC 825

COVER NOTE

From:	Secretary-General of the European Commission, signed by Mr Jordi AYET PUIGARNAU, Director
date of receipt:	17 May 2018
To:	Mr Jeppe TRANHOLM-MIKKELSEN, Secretary-General of the Council of the European Union
No. Cion doc.:	SWD(2018) 189 final - PART 1/3
Subject:	COMMISSION STAFF WORKING DOCUMENT IMPACT ASSESSMENT Accompanying the document Proposal for a Regulation of the European Parliament and of the Council on the labelling of tyres with respect to fuel efficiency and other essential parameters and repealing Regulation (EC) No 1222/2009

Delegations will find attached document SWD(2018) 189 final - PART 1/3.

Encl.: SWD(2018) 189 final - PART 1/3

EUROPEAN
COMMISSION

Brussels, 17.5.2018
SWD(2018) 189 final

PART 1/3

COMMISSION STAFF WORKING DOCUMENT

IMPACT ASSESSMENT

Accompanying the document

Proposal for a Regulation of the European Parliament and of the Council

on the labelling of tyres with respect to fuel efficiency and other essential parameters and repealing Regulation (EC) No 1222/2009

{COM(2018) 296 final} - {SEC(2018) 234 final} - {SWD(2018) 188 final}

Table of Contents

1. Introduction

This impact assessment relates to the review of Regulation 1222/2009[1] on the labelling of tyres (hereafter the "**Tyre Labelling Regulation**" or **TLR**). It examines how the effectiveness of the European tyre labelling scheme could be improved to support cleaner, safer and quieter vehicles and to maximise its contribution to the decarbonisation of the transport sector.

1.1. Context

Lowering the demand for energy by **'putting energy efficiency first'** is one of the five main objectives of the Energy Union strategy. In 2015, Member States in the Council confirmed the imperative need to reach the 20% energy efficiency target for 2020. In November 2016, the Commission proposed to further strengthen this beyond 2020 with a 30% EU energy efficiency target for 2030[2].

In its Communication "*A European Strategy for Low-Emission Mobility*"[3] the Commission announced that by 2050 greenhouse gas (GHG) emissions from transport need to be at least 60% lower than in 1990 and be firmly on the path towards zero. Therefore, the "*Third Mobility Package*" will include initiatives to **reduce emissions** by cars and lorries, to **increase safety** of road transport and to **reduce pollution**. The EU 2030 framework for energy and climate includes a target of at least a 40% cut in domestic EU greenhouse gas emissions compared to 1990 levels.

The transport sector accounts for one third of European energy consumption. Road transport was responsible for about 22% of the EU's total greenhouse gas emissions in 2015 with a steady increase since 1990 when the share was 13%. Reducing these emissions is an acute challenge given that from 2010 to 2050 it is estimated that passenger transport will grow by 42% and freight transport by 60%[4]. Increasing the fuel efficiency of vehicles is thus a key element in decreasing transport emissions and also contributes to reducing the EU's dependence on energy imports.

The rolling resistance of tyres accounts for 5-10% of a vehicle's fuel consumption[5]. Decreasing rolling resistance is therefore important for increasing fuel efficiency and decreasing greenhouse gas emissions.

Furthermore, the Commission's Communication "*A European Strategy for Plastics in a Circular Economy*"[6] specifically mentions the need to study how to reduce unintentional release of microplastics from tyres, possibly through tyre design, minimum requirements for abrasion and information requirements.

---

1 Regulation (EC) No 1222/2009 of the European Parliament and of the Council of 25 November 2009 on the labelling of tyres with respect to fuel efficiency and other essential parameters, OJ L 342 of 22.12.2009, p.46

2 This target is currently under examination in the ordinary legislative procedure: there is no sign that final agreement will be on a level of ambition lower than that proposed by the Commission.

3 COM(2016) 501 final

4 Impact Assessment accompanying the Proposal for a Directive amending Directive 1999/62/EC on the charging of heavy goods vehicles for the use of certain infrastructures, COM(2017) 276 final, https://ec.europa.eu/transparency/regdoc/rep/1/2017/EN/COM-2017-276-F1-EN-MAIN-PART-1.PDF

5 Numbers are for highway driving, https://www.fueleconomy.gov/feg/atv.shtml. City driving results in 3-5% rolling resistance loss.

6 COM(2018) 28 final

Finally, the European Union is committed to reducing noise pollution to WHO recommended levels. Given that at speeds over 35 km/h for passenger cars and 60km/h for heavy vehicles, tyre road noise is the dominant noise source[7], reducing noise from tyres is essential to tackle its health effects.

1.2. Legal framework

Recognising the importance of energy efficient tyres, the EU adopted in 2009 two sets of rules relating to tyres:

1. The TLR setting out Union requirements harmonising the information on tyre parameters to be provided to end-users allowing them to make informed purchasing choices.
2. The Regulation on type-approval requirements for the general safety of motor vehicles[8] (hereafter the "**General Safety Regulation**" or **GSR**) putting in place harmonised technical requirements that tyres must satisfy before they can be placed on the Union market.

The GSR puts in place minimum requirements for, amongst others, (i) the rolling resistance, (ii) external rolling noise and (iii) wet grip performance of tyres. These minimum requirements became applicable for all three parameters from 1 November 2012, with a second tier of more stringent requirements for the rolling resistance starting to apply on 1 November 2016 (with further requirements coming into application in 2018 and 2020).

In addition to the GSR, two other legal frameworks are particularly relevant to the TLR, relating to market surveillance and energy labelling.

As with any other product placed on the Union market, the compliance of tyres with the applicable requirements under the TLR must be checked by national market surveillance authorities. Regulation 765/2008[9] sets the framework for market surveillance by all the Member States and ensures efficient cross border market surveillance.

Although tyres are not covered under the energy labelling framework, it should be noted that this framework was updated in 2017 with the adoption of Regulation 2017/1369[10]. This introduced a number of new elements, such as a product registration database, and new rules on visual advertising and on distance and internet sales Where appropriate rules on tyre labelling should be aligned to this updated framework.

The TLR[11] relates to C1, C2 and C3 tyre types[12], as defined in article 8 of the GSR. The definition of tyre types is based on the vehicles they are primarily designed for, including

---

7 Conference of European Directors of Roads - pavements noise-reducing pavements Technical Report 2017-01

8 Regulation (EC) No 661/2009 of the European Parliament and of the Council of 13 July 2009 concerning type-approval requirements for the general safety of motor vehicles, their trailers and systems, components and separate technical units intended therefor, OJ L 200 of 31.7.2009, p.1

9 OJ L 218, 13.8.2008, p. 30–47. See Commission proposal COM(2017)795 for a Regulation laying down rules and procedures for compliance with and enforcement of Union harmonisation legislation on products which will replace Regulation 765/2008.

10 OJ L 198, 28.7.2017, p. 1–23

11 The Tyre Labelling Regulation was amended twice before it entered into application, first because industry had developed a more a new testing method for the wet grip of C1 tyres, and then to reflect the fact that a suitable international harmonised testing method of grip on wet roads had been developed also for C2 and C3 tyres: Commission Regulation (EU) No 228/2011 of 7 March 2011 amending Regulation

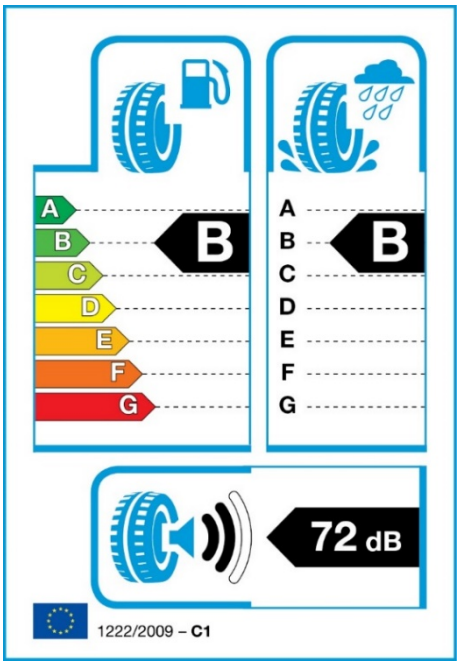
the weight and passenger capacity, and on the tyre load and speed indexes of the tyres, as shown in the table below. C1 tyres are used typically for passenger cars, C2 tyres for light commercial vehicles (LCVs) and C3 tyres for heavy commercial vehicles (HCVs).

Table 1: Definition of tyre types included in the TLR, based on the GSR

Tyre type	Designed primarily for vehicle categories	Seats in addition to driver's seat (based on vehicle category)	Vehicle weight (based on vehicle category)	Load capacity index	Speed category symbol
C1 tyres		≤8	≤3.5 t	Not applicable	Not applicable
C2 tyres		≥8	≥3.5 t	≤121	≥N
C3 tyres		≥8	≥3.5 t	≤121	≤M
				≥122	none

In the current TLR, three tyre performance parameters are specified and included on the label for C1 and C2 tyres: fuel efficiency, wet grip, and external rolling noise measured value (in dB). For C3 tyres there is no label, but information on the three performance parameters must be provided in technical promotional material.

Figure 1: Example of the tyre label for a tyre with fuel efficiency class B, wet grip class B, and external rolling noise of 72 dB (equivalent to two "soundwaves" on the scale)



The three performance parameters are interrelated. For example, improving rolling resistance can have an adverse impact on wet grip, thereby decreasing road safety. Similarly, the improvement of the wet grip might have an adverse impact on the external rolling noise, increasing noise pollution. This "contradiction" doesn't mean that the parameters of fuel efficiency, wet grip and external rolling noise cannot all be improved at the same time.

The TLR and the GSR on tyres can be seen as a "parallel" to the EU's ecodesign and energy labelling framework (which is not applicable to means of transport). Ecodesign regulations set minimum energy efficiency requirements that products must satisfy before they can be sold on the Union market, while energy labels inform the end-user of their energy consumption so that they can make informed purchasing decisions, resulting in a combined "push and pull" effect.

(EC) No 1222/2009 of the European Parliament and of the Council with regard to the wet grip testing method for C1 tyres and Commission Regulation (EU) No 1235/2011 of 29 November 2011 amending Regulation (EC) No 1222/2009 of the European Parliament and of the Council with regard to the wet grip grading of tyres, the measurement of rolling resistance and the verification procedure

[12] C1, C2, C3 tyres are legal terms defined in the Regulation (EC) No 661/2009 of the European Parliament and of the Council of 13 July 2009 concerning type-approval requirements for the general safety of motor vehicles, their trailers and systems, components and separate technical units intended therefor (OJ L 200, 31.7.2009, p. 1). They refer to tyres designed primarily for passenger cars, light commercial vehicles and heavy-duty vehicles

This same "push and pull" effect can also be seen in the EU mobility framework, where Regulations on emission performance standards set mandatory emission reduction targets for new passenger cars[13] and new light commercial vehicles[14], while the car labelling Directive helps consumers to buy or lease cars which use less fuel (and thereby emit less CO_2) and encourages car manufacturers to reduce the fuel consumption of new cars[15].

Article 14 of the TLR requires the Commission to assess its effectiveness, addressing *inter alia* the following issues:

- The effectiveness of the label in terms of end-user awareness, in particular whether the provisions of Article 4(1)(b) are as effective as those of Article 4(1)(a) in contributing to the objectives of this Regulation;
- Whether the labelling scheme should be extended to include retreaded tyres;
- Whether new tyre parameters, such as mileage, should be introduced;
- The information on tyre parameters provided by vehicle manufacturers and retailers to end-users.

To support this assessment, an independent review study was conducted in 2016[16]. The study was based on surveys and interviews targeting different actors in the tyre supply chain and market surveillance authorities with the aim to assess the effectiveness of the labelling scheme, the level of enforcement and the possibilities to improve the regulation. It included a consumer survey with 6051 car owners in six Member States[17].

Furthermore, in accordance with Article 11(b) of the TLR, the review study analysed the possibility of covering tyres designed to perform better in ice and snow conditions compared to normal tyres. An open public consultation (see Annex 2 for the results) and an evaluation (Annex 5) complemented the review study.

Based on the review study, the Commission published a Report to the European Parliament and the Council assessing the need to review Regulation (EC) 1222/2009[18]. This report concluded that certain aspects of the TLR could be strengthened or made more effective. Despite the increased tyre performance already achieved with the current Regulation, potential exists for further fuel savings as well as for increased road safety and reduced noise emissions.

2. Problem definition

Article 1 of the TLR provides that:

"*The aim of this Regulation is to increase the safety, and the economic and environmental efficiency of road transport by promoting fuel-efficient and safe tyres with low noise levels.*

13 Regulation (EC) No 443/2009
14 Regulation (EU) No 510/2011
15 https://ec.europa.eu/clima/policies/transport/vehicles/labelling_en
16 See https://ec.europa.eu/energy/sites/ener/files/documents/Study%20in%20support%20of%20the%20Review%20of%20the%20Tyre%20Labelling%20Regulation_final.pdf
17 Sweden, Finland, UK, Germany, France and Italy
18 COM (2017) 658 final

This Regulation establishes a framework for the provision of harmonised information on tyre parameters through labelling, allowing end-users to make an informed choice when purchasing tyres."

The review study showed that, in addition to the GSR, the TLR has delivered fuel savings of about 1% annual fuel consumption resulting in 170 PJ/year (and in turn CO_2 emission reductions of 12 $MtCO_2$/year), and increased tyre safety performance (around 260 fatalities avoided per year) and a slight decrease of the external rolling noise[19]. However, it has become evident that it has not fully reached the above-stated aims. The causes for the reduced effectiveness and efficiency of the label are both external and linked to the label itself. On the one hand, the 'external' factors are the relatively low awareness among end-users of the existence of the label and the inadequate enforcement of the rules by Member States' market surveillance authorities (**MSAs**). On the other hand, the factors intrinsic to the label are outdated performance classes, and inaccurate and incomplete information.

In the absence of any action, the TLR might still be able to drive the market towards more efficient, safe and quiet tyres. Nevertheless, further improvements would allow the TLR to reach its aims in a more effective and efficient manner.

2.1. Problem 1: Low visibility and awareness of the tyre label

The problem: A consumer survey[20] showed that less than half of car owners were aware that the tyre label existed. Moreover, the review study found that in some Member States[21], up to 90% of shops inspected by MSAs did not have tyres on display, as they were all in stock elsewhere. This was confirmed by the open public consultation where only 20% of respondents indicated they saw the label before purchasing tyres.

The result is that in many cases the customer is unable to see the label before buying the tyres and that therefore the label cannot perform its key function, i.e. influencing purchasing decisions.

The drivers of the problem: The low awareness of the label is caused by several factors:

(1) In brick and mortar shops[22] only about 20-30% of customers see the tyres before purchasing them; therefore most customers also do not see the label in this setting.

(2) It is not a requirement for a retailer to show the label in online shops or in other distance selling environments. This is relevant since online sales of tyres are increasing[23].

(3) Some end-users of tyres do not purchase their tyres directly, but instead through leasing contracts or as part of a fleet solution, thus not seeing the tyres or the label when purchasing.

(4) End-users of C3 tyres are only provided with the information on the three performance parameters but are not required to be provided with the label itself. As

---

19 See the evaluation section in Annex 5

20 Review study, including the results of the consumer survey covering six Member States and 6051 respondents.

21 Review study (interviews with MSAs)

22 Review study (consumer survey), OPC results in Annex 2

23 According to GfK, 10-15% of tyres are sold online. The consumer survey undertaken in 2016 found that 12% of C1 tyre end users had bought them on the Internet, with 56% planning to do so in the future

a result they are provided with less easily understandable and comparable information.

(5) For tyres sold with a new vehicle (OEM tyres[24], which constitute 25% of tyre sales in the EU[25]), the TLR includes a requirement to provide information on the fuel efficiency, the wet grip and the external rolling noise classes only where end-users are offered a choice at the point of sale between different tyres to be fitted on the new vehicle they want to buy. However, in many situations end-users are not offered such a choice. In these cases, there is no obligation for the vehicle manufacturers and retailers to provide information on the key parameters of the label. This constitutes a missed opportunity for end-users to be made aware of the tyre label and to benefit from the information contained in it when purchasing tyres.

2.2. Problem 2: Compliance with the TLR

***The problem*:** Preliminary results of the MSTyr15 project on market surveillance for tyres, involving surveillance authorities from 14 Member States and Turkey[26], show that 4.2% of labels inspected were non-compliant, not visible or not available and that 15% of tyres tested for wet grip and rolling resistance were non-compliant. The 2016 Review study surveyed 14 market surveillance authorities (11 Member States and 3 from the German regions). Compliance levels varied from 25% to 100% but the numbers of inspections and tests undertaken varied greatly. Of those interviewed, only two Member States' authorities (Germany and Belgium) performed laboratory tests to check the values declared on the labels.

75% of those questioned in the consumer survey for the review study said that if their confidence in the label were higher, it would have a greater influence on their purchasing decisions.

This level of non-compliance is comparable to that found in the Commission's Evaluation of the Energy Labelling Directive[27], which estimated that 10-25% of products on the market are non-compliant with applicable requirements and that around 10% of envisaged energy savings are lost due to non-compliance[28].

The drivers of the problem: Compliance with the TLR has four main drivers:

(1) The degree of, and approach to, market surveillance varies greatly between Member States, with very few MSAs conducting laboratory tests to verify the label values[29];

(2) Limited resources and low priority for market surveillance for tyres;

---

24 OEM tyres: Original Equipment Manufacturer tyres or tyres sold with new vehicles

25 Braungardt et al. (2014), "Impact of Ecodesign and Energy/Tyre Labelling on R&D and Technology Innovation", Link: http://www.ecofys.com/files/files/fraunhofer-ecofys-2014-impact-of-ecodesign-energy-labelling-on-innovation.pdf

26 BE, BG, DE, EE, ES, FI, HR, IE, LT, LU, LV, PL, RO, SE, TU. For more information, see http://www.mstyr15.eu/index.php/en/

27 SWD(2015) 143 final

28 Ecofys, Evaluation of the Energy Labelling Directive and specific aspects of the Ecodesign Directive, June 2014

29 The review study identified that among the MSAs of Belgium, Finland, Germany (3 Regions), Estonia, Malta, Netherlands, Sweden, United Kingdom, Hungary, Poland and Slovakia, only Germany and Belgium performed laboratory tests to verify the label values

(3) High cost and too few accredited test facilities are the main barriers for increased laboratory testing of tyres, according to MSAs;

(4) Some MSAs[30] had difficulty obtaining technical documentation in situations where the manufacturer was located in another Member State or outside the European Union.

2.3. Problem 3: Outdated, inaccurate and incomplete information on the tyre label

***The problem**:* The set-up of the label itself suffers from three distinct flaws:

a) Outdated performance classes: The current minimum requirements of the GSR mean that it is no longer possible to sell the lowest performing tyres on the Union market. As a result, classes G and F (and E for C3 tyres) for rolling resistance, class F for wet grip and the third soundwave class for noise are now empty because tyres with corresponding performances are no longer allowed on the EU market. Additionally, the current label scheme for C1 and C2 tyres has no D class for rolling resistance and wet grip. At the other end of the scale, the top classes were already populated in 2017. This was only at the level of 1% of the tyres made available on the market for the rolling resistance, but up to 26% for the wet grip and up to 18% for noise (of C1 tyres). Based on experience of energy labelling for other product groups it may be expected that the top classes of the tyre label will become increasingly populated over the next years. This would reduce the effectiveness of the label.

b) Inaccurate information: tyre tests conducted by some MSAs and consumer organisations showed deviating results compared to the declared label values for all three performance parameters, but in particular for wet grip[31].

c) Incomplete information: The tyre label only covers fuel efficiency, wet grip and external rolling noise in 'normal' conditions. There is no information on the performance of tyres in snow and ice conditions, which is particularly relevant in the Nordic countries and in mountainous areas. This is potentially misleading for end-users, as tyres with very good level of performance under ice conditions tend to have in general low wet grip rates[32]. Retreaded tyres[33] and studded tyres[34] are not covered by the label. The label also does not cover abrasion and mileage, although this information could raise end-users' awareness in the context of the circular economy and plastics strategies.

The drivers of the problem:

(1) Outdated performance classes: the outdated performance classes are mainly caused by the banning of tyres with lower performance through the GSR, and to a lesser extent by the expected increased population of the top classes on the label.

---

30 Sweden and German Regional MSAs

31 See Review study

32 The market share of these tyres at EU level is at the level of 30% of the annual C1 tyres sales for snow tyres and around 1% for ice tyres according to the review study.

33 See Review study. Tyre retreading is a process used to extend the life of used tyres, in particular for C3 tyres. The market share of retreaded C3 tyres is around 30-40 % in Europe, which corresponds to around 5 million tyres.

34 See Review study. Studded tyres are used primarily in the Finland, Sweden and Norway, where their average market share is 25 % of the C1 tyre market, and more than 50 % of car owners in Sweden and Finland have studded tyres for their car. At EU level, the estimated market share is around 0.25% of the annual sales according to the review study.

Therefore, the available scale is not fully used, reducing the impact of the label to incentivise purchasing of better performing tyres thereby making it less effective.

(2) Inaccurate information: the deviating test results are attributed by MSAs[35] to different test conditions, incorrect application of the test methods referred to in the TLR and a lack of transparency of testing conditions. The problem is most pronounced for the wet grip parameter. In addition, it is solely the responsibility of the manufacturers[36] to declare the classes on the label.

(3) Incomplete information: the incompleteness of the label stems from the TLR itself which is silent on snow and ice indications, on retreaded or studded tyres and on mileage and abrasion. For these two last parameters, the problem relates to the lack of reliable, reproducible and accurate testing procedures.

2.4. Who is affected by the problems?

Society as a whole is affected through the increased environmental impact associated with energy consumption, increased fuel costs to end-users and businesses, and negative health and safety impacts. An estimate[37] of using only tyres in the top fuel efficiency class in the EU shows potential reductions in CO_2 emissions of 47 Mt per year (corresponding to fuel savings of EUR 11 billion), which is equal to nearly 5% of the total CO_2 emissions from road transport in the EU. It could reduce fuel consumption by up to 5%, corresponding to EUR 250 over the lifetime of a set of passenger cars tyres[38].

In addition, tyre wear particles generated from the friction between the tyre and the road are released to the environment as particles of different sizes and in different amounts. Smaller particles contribute to particulate air pollution and larger particles deposit on the road and run-off into streams and accumulate in the oceans, often referred to as microplastics. According to the Commission's Communication "*A European Strategy for Plastics in a Circular Economy*"[39], it is estimated that between **75 000 and 300 000 tonnes of microplastics** in total are released into the environment each year in the EU, of which around three quarters come from tyres[40].

End-users, manufacturers and retailers are also negatively impacted by a reduced efficiency of the TLR. For instance, the review study pointed out that the disparate enforcement of the label negatively affects end-users' confidence in the information on the label, and has given retailers the impression that tyre labelling has a low priority with surveillance authorities. This undermines the effectiveness of the label and constitutes a **barrier to innovation** and market transformation. It also prevents a level playing field by putting at disadvantage manufacturers and retailers who comply with the TLR requirements compared to those who do not.

Furthermore, considering the whole lifecycle of the tyre, choosing tyres with low fuel efficiency can potentially be costlier to end-users and businesses, due to higher fuel

35 Based on interviews undertaken during the review study

36 "Manufacturers" also includes importers and authorised representatives.

37 Review study, page 13

38 See tyres labelling calculator: https://ec.europa.eu/energy/en/topics/energy-efficiency/energy-efficient-products/tyres

39 COM(2018) 28 final, http://ec.europa.eu/environment/circular-economy/pdf/plastics-strategy.pdf

40 Source: Eunomia, http://www.eumicroplastics.com/

consumption in the use phase. An estimate of using only fuel efficiency class A tyres in the EU shows an annual fuel savings potential of close to 8,5 billion litres[41].

3. Why should the EU act?

3.1. Legal basis

The legal basis for the legislative proposal is Articles 114 and 194(2) of the Treaty on the Functioning of the European Union (TFEU) on the internal market and energy efficiency respectively.

3.2. Necessity of EU action?

Action at EU level provides end-users with the same, harmonised information, no matter in which Member State they choose to purchase their tyres. This is becoming all the more relevant as the online trade increases. With a tyre labelling scheme at EU level, energy efficient and safe tyres that reduce noise pollution are promoted in all Member States, creating a larger market for such tyres and hence greater incentives for the tyre industry to develop them.

It is essential to ensure a level playing field for manufacturers and retailers as regards the information supplied to customers for tyres for sale across the EU internal market. For this reason EU-wide legally binding rules are necessary.

Market surveillance is an activity carried out by Member States' authorities. To be effective, the market surveillance effort must be uniform across the European Union, thereby supporting the internal market and incentivising businesses to invest resources in designing, making and selling energy and fuel-efficient tyres.

3.3. Added value of EU action?

A harmonised regulatory framework at EU level provides added value compared to having regulations at Member State level, because it reduces costs for manufacturers by allowing them to enter the entire EU market with only one label. This strengthens competitiveness EU-wide and facilitates easier inter-European trade of tyres, which also benefits end-users in terms of lower prices and a wider range of products.

Fully achieving a level playing field and avoiding fragmentation of the internal market, requires maintaining and improving the harmonised labelling scheme at EU level.

Increased market take-up of fuel-efficient tyres, through optimisation of the TLR, will contribute to achieving the targets agreed under the EU 2030 framework for energy and climate including the energy efficiency target[42] and the reduction of at least 40% in domestic reduction in GHG emissions compared to 1990[43].

The energy cost savings will accrue to end-users and offset the increased purchase price of higher performing tyres, leading to an overall decrease in Total Cost of Ownership

---

41 Based on calculation models developed by consultants from Viegand Maagøe

42 https://ec.europa.eu/energy/en/topics/energy-strategy-and-energy-union/2030-energy-strategy

43 COM/2015/080 final. Communication From The Commission To The European Parliament, The Council, The European Economic And Social Committee, The Committee Of The Regions And The European Investment Bank - A Framework Strategy for a Resilient Energy Union with a Forward-Looking Climate Change Policy

(TCO) for the end-user[44]. For society as a whole the TLR provides added value in terms of safer tyres (better wet grip), through the related decrease in the number of fatalities and severe injuries in traffic accidents.

Promotion of market transformation towards fuel efficient and safe tyres is in line with the EU's aim of land transport policy, which is to promote efficient, safe and environmentally friendly mobility. Extending the labelling provisions to C3 tyres is in line with the Commission's proposal for a Regulation on the monitoring and reporting of CO_2 emissions from and fuel consumption of new heavy-duty vehicles[45].

The TLR also supports the implementation of the Energy Efficiency Directive, which requires Member State to ensure that central governments only purchase tyres (and other energy-related products) with a high energy performance (i.e. in the highest fuel efficiency class) insofar as it is consistent with cost effectiveness, economic feasibility, wider sustainability technical suitability as well as sufficient competition.

The proposed changes to tyre labelling will also play an important part in the objective of "empowering consumers" formulated in the EU Consumer Policy Strategy 2007-2013[46] , "Consumer empowerment in the EU"[47] and a "New Deal for Consumers"[48], since it will enable consumers to make an informed and better choice when buying tyres. Finally, the General Product Safety Directive 2001/95/EC[49], and in particular the Rapid Alert System on dangerous products (RAPEX), may be relevant since inadequate or erroneous tyre labelling could lead to a safety risk for consumers and could be notified in RAPEX.

4. Objectives: What is to be achieved?

4.1. General objectives

A revised TLR should pursue the following general objectives:

1) Promote **fuel efficiency** to contribute to the EU's objective to reduce energy consumption by at least 30% and domestic GHG emissions by 40% by 2030;

2) Increase **road safety** to contribute to the target of halving the number of road deaths between 2010 and 2020, endorsed by the Council of the European Union in 2010[50] and reconfirmed by European Transport ministers in a meeting in Valletta on 29 March 2017[51];

3) Decrease **external rolling noise** to reach the target in the 7th Environmental Action Programme[52] of the European Union to significantly decrease noise pollution and move closer to the World Health Organisation (WHO) recommended levels[53];

4) Promote **competitiveness** of the EU tyre industry by ensuring free circulation of compliant tyres and encourage innovation within the internal market.

---

44 See the evaluation of the existing Tyre Label Regulation in Annex 5.
45 COM(2017) 279 final
46 COM(2007) 99)
47 SEC (2011) 469 final)
48 COM(2018) 183/3
49 OJ L011, 15/01/2002, p.4
50 Council conclusions on road safety, 2 December 2010, paragraph 21, ST 16951/10
51 https://www.eu2017.mt/en/Documents/Valletta_Declaration_on_Improving_Road_Safety.pdf
52 http://ec.europa.eu/environment/action-programme/
53 http://www.euro.who.int/en/health-topics/environment-and-health/noise/activities/development-of-who-environmental-noise-guidelines-for-the-european-region

There are synergies between these objectives. Reducing fuel consumption (e.g. by reducing rolling resistance of tyres) leads to lower CO_2 and other pollutants emissions. Tackling the problem at EU single market level safeguards and enhances the efficiency and effectiveness of the current EU measure while ensuring the free circulation of products within the internal market.

4.2. Specific objectives

The specific (sub) objectives that flow from the above-mentioned general objectives are:

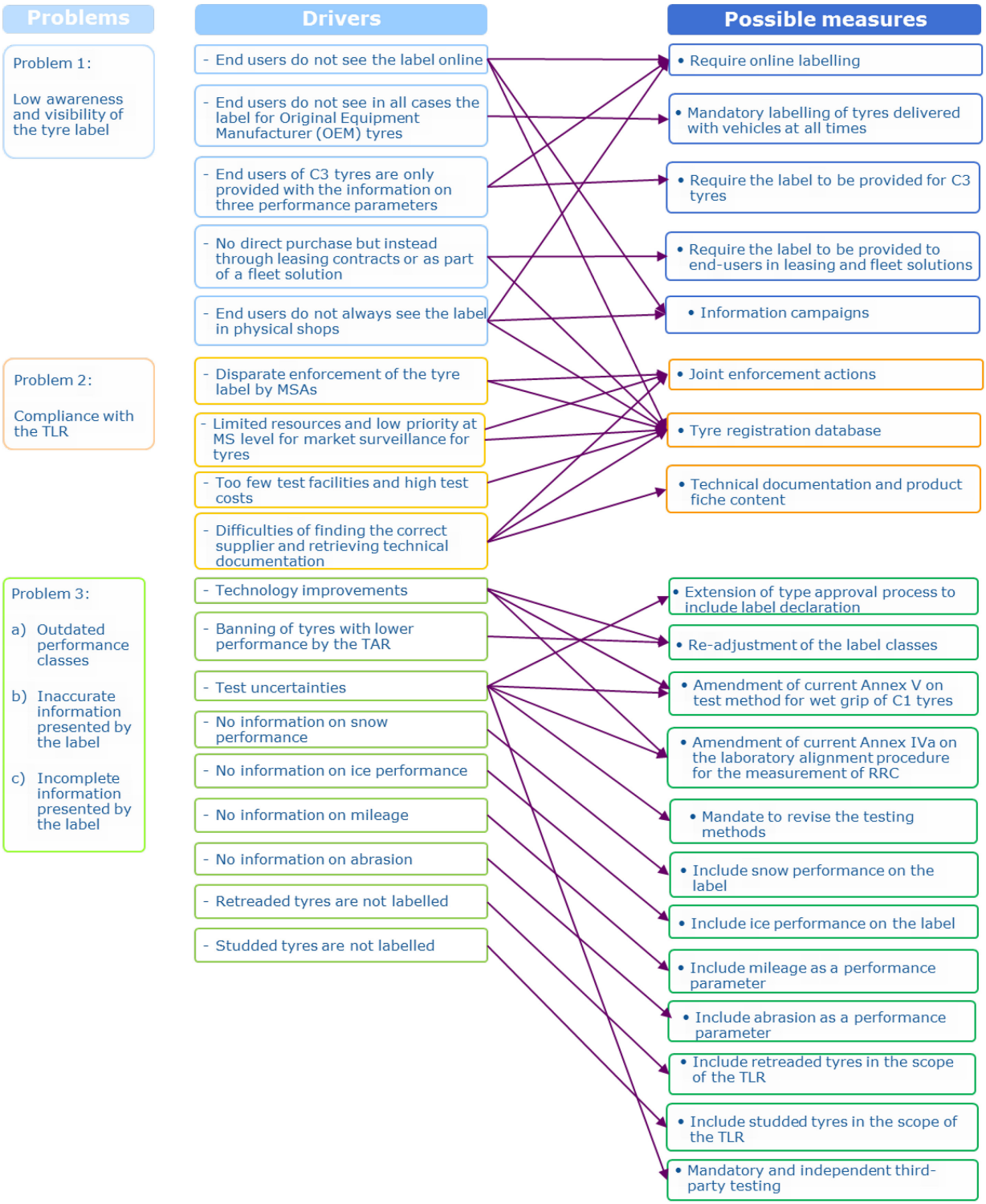
1) Raising the profile of the tyre label by *inter alia* (i) making sure that tyre label is shown at all times when tyres are sold; (ii) completing the tyre label to include snow and ice tyres; and (iii) aligning, where appropriate, with the energy labelling framework.

2) Improving end-user's trust in the tyre label by *inter alia* (i) ensuring that the tyre label is adequately enforced; and (ii) improving test standards.

The TLR can contribute to achieving the general and specific objectives mentioned above to a larger extent than it currently does (see Annex 5 on evaluation), by addressing the problems defined in Section 2.

The table below provides an overview of the relation between problems, drivers and possible measures. Section 5.2 explains the different measures in more detail.

Table 2: Overview of the relation between problems, drivers and measures



5. What are the available policy options?

The procedure for identifying policy options (POs) follows from the Better Regulation Toolbox methodology[54]. Specific measures in the POs are the result of a combination of initiatives mentioned in the Review study, the evaluation in Annex 5, the open public

[54] https://ec.europa.eu/info/sites/info/files/file_import/better-regulation-toolbox-17_en_0.pdf

consultation in Annex 2, the Inception Impact Assessment[55], and inspiration taken from the Ecodesign Directive[56] and the Energy Labelling Framework Regulation[57].

The measures have been linked to the policy options in the next table.

Table 3: Modelled options

Policy options and sub-options	**Description**
PO1 (BaU)	Baseline – Business as Usual. How the market would develop without changing the current regulation
PO2	Non-regulatory measures 1. Information campaigns 2. Joint enforcement actions 3. Mandate to revise/develop relevant testing methods (e.g. abrasion)
PO3	Targeted legislative actions 4. Online labelling 5. Mandatory labelling of tyres delivered with vehicles at all times 6. Require label to be provided for C3 tyres 7. Require label to be provided to end-users in case of purchase through leasing contracts or as part of a fleet solution 8. Mandatory inclusion of snow performance on the label 9. Mandatory inclusion of ice performance on label 10. Re-adjustment of the label classes 11. Tyre registration database 12. Technical documentation and product fiche content 13. Amendment of current Annex V on test method for wet grip of C1 tyres 14. Amendment of current Annex IVa on laboratory alignment procedure for the measurement of Rolling Resistance Coefficient (RRC) 15. Extension of the type approval process to include label declaration
PO3B	As policy option 3, but without re-adjustment the label classes
PO3C	As policy option 3, but without the extension of the type approval procedure to the declaration of the label values
PO3|D	As policy option 3, but without online labelling
PO3E	As policy option 3, but without the tyre registration database
PO3F	As policy option 3, but without the effect of further OEM requirement
PO4	Policy option 2 + option 3. Non-legislative measures and targeted legislative actions are all applied
PO4B	As policy option 4, but without re-adjustment the label classes
PO4C	As policy option 4, but without the extension of the type approval procedure to the declaration of the label values
PO4D	As policy option 4, but without online labelling
PO4E	As policy option 4, but without the tyre registration database
PO4F	As policy option 4, but without the effect of further OEM requirement

Section 5.2 describes the specific measures in each option in more detail.

5.1. What is the baseline from which options are assessed?

In the baseline, the current TLR and all other relevant EU-level and national policies and measures are assumed to continue, including the GSR. This baseline will be referred to as BAU[58] (Business As usual) or 'no-action' scenario.

55 https://ec.europa.eu/info/law/better-regulation/initiatives/ares-2017-3509962_en
56 http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32009L0125&locale=en
57 http://eur-lex.europa.eu/eli/reg/2017/1369/oj

The base cases include the Original Equipment Manufacturer (OEM) tyres sold with new vehicles for each tyre type.

So far, tyre labelling has been able to transform the market in a positive direction for all the performance parameters included in the label, even though the effect on the noise level is less clear (see the Evaluation report in Annex 5). There is still room for the label to drive the market because the market share of tyres with the best fuel efficiency class A is still low (less than 1% of the tyres sold), but due to the problems described in Section 2, the full potential is not reached in the baseline scenario.

5.2. Description of the policy options

5.2.1. Option 1 – No action

PO1 (as described above) forms the baseline for the impact assessment of the other options.

5.2.2. Option 2 – Non-regulatory measures

PO2 is based on the outcome of the review study, which shows a need to improve end-users' knowledge of the label. Indeed, the consumer survey showed that only around half of the respondents were aware of the label before taking the survey.

5.2.3. Option 3 – Targeted legislative measures

Article 11 of the TLR empowers the Commission to adopt implementing acts to amend and adapt the TLR to technical progress. The scope of the article could be expanded to changes to the label itself. Therefore, inclusion of the snow, ice, mileage and abrasion performance, and re-adjustment of the label classes would be achieved *via* delegated acts.

Delegated acts are the appropriate instrument as Article 11 refers to amending non-essential elements and supplementing the Regulation, which is what delegated acts under Article 290 of the Treaty on the Functioning of the European Union are designed for.

The majority of the targeted legislative actions would take the form of amendments to the current TLR and/or its annexes, as a part of the current revision. A further amendment that should be considered is reinforcing the requirements of the TLR on penalties and enforcement.

5.2.4. Option 4 – Non-regulatory measures and targeted legislative measures

Details of the measure under Options 2 and 3 are set out below.

Option 2 - Non-regulatory measures (see above 5.2.2.)

1. Information campaigns

Target groups. In their replies to the consultation carried out for the review study, tyre manufacturers, retailers and consumer organisations recommended organising promotion campaigns to increase end-users' knowledge of the label and explain its meaning. The

[58] As opposed to BAU0, which refers to the baseline without any regulation in place, i..e before the current regulation.

target groups should be end-users in the C1, C2 and C3 tyre segments. However, awareness campaigns targeting end-users of C1 tyres are considered the most important because they constitute the largest share of tyre sales. Moreover, information campaigns should target tyre retailers, with efforts focused on (but not limited to) the development of educational tools such as brochures, short videos, webinars, etc. Guidance could be developed in cooperation between Member States and retail organisations and be supported by the European Commission. Tools for retailers could partly build on information material developed for end-users, providing them with a basis to inform end-users about the label parameters.

Geographic scope and initiators. The awareness campaigns should be run at national level by Member State authorities, at EU level by the Commission, or both. It would be an advantage to include tyre manufacturers and retailers in the campaigns to reach end-users more effectively. Some Member States have already facilitated awareness campaigns about the tyre label or plan to do so. Experiences and recommendations from these campaigns should be taken into account.

Media scope. The activities could be carried out through several different media such as television, posters in the public space, internet banners, social media campaigns, etc. They could be undertaken either at national and/or EU level and include stakeholders such as Member States, consumer organisations, manufacturers and retailers.

Awareness campaigns could include a reference to the fuel savings calculator on the Commission's website[59] that allows end-users to calculate their potential fuel savings from tyres. In addition, the Commission could support activities with regard to cooperation and exchange of best practices, including recommending common key messages.

53% of respondents to the OPC thought that awareness raising campaigns by Member States or business would be useful to increase consumer knowledge of the tyre labelling scheme.

2. Joint enforcement actions

The aim of joint enforcement action is to foster cooperation as well as exchange of information and experiences between MSAs to extend and improve market surveillance and enforcement of the tyre labelling in the EU. This measure is intended to alleviate the problems mentioned by MSAs that the test costs are high that there are too few test facilities.

The activities envisaged under this measure would be the following: [60]

– Enhance EU level cooperation – share plans and results between MSAs, and adapt results among individual countries;
– ADCO group[61] – encourage MSAs to participate in the ADCO for labelling of tyres. The group discuss market surveillance issues for tyres with the aim to ensure efficient, comprehensive and consistent market surveillance;

[59] Tyres Labelling Calculator: Savings are based on the energy efficiency performance of the tyre and on the number of kilometres that the set of tyres can run.
[60] Recommendations partly taken from the "Evaluation of the Energy Labelling Directive and specific aspects of the Ecodesign Directive (http://www.energylabelevaluation.eu/eu/home/welcome)

– ICSMS[62] – encourage MSAs to publish results of market surveillance activities in the ICSMS database on a regularly basis (the database includes very few data on tyres);
– Pan-European project to increase the level of market surveillance and investigate enforcement challenges for tyres (for instance uncertainties of test results);
– An increased role of the European Commission in market surveillance including supporting the options mentioned above.

An example of a joint surveillance action is the Market Surveillance Action for Tyres 2015 (MSTyr15)[63] project. The main objective of the project is to help deliver the intended economic and environment benefits of labelling C1 tyres. This will be achieved by improving the effectiveness of market surveillance authorities through capacity-building, training and the development and use of good practice guidelines. Future projects could include more MSAs, and the extension of inspections and testing to C2 and C3 tyres.

3. Mandate to revise/develop testing methods (e.g. for abrasion)

Based on statements from MSAs and industry representatives, the review study found that the test methods for the current label parameters contain a number of uncertainties, especially for the wet grip test. Furthermore, the test method for rolling resistance is based on laboratory measurement rather than real-life driving. Moreover, test methods for parameters not currently on the label are missing, for example for mileage and abrasion. To improve the effectiveness of the TLR it is suggested to upgrade the test methods to be more reliable, accurate and reproducible. In addition, the test methods should preferably be closer to "real world" use of tyres. The latter would be a prerequisite for developing test methods related to e.g. mileage and abrasion.

The benefits of such new test methods are to obtain more reliable test results, and the possibility of including new performance parameters on the label. The drawbacks are that real-life testing might increase test costs compared to laboratory tests.

Against this background, the Commission will prepare a standardisation request to initiate development and revision of the relevant standards.

Option 3 - Targeted legislative measures (see above 5.2.3.)

4. Online labelling

This measure includes an obligation on manufacturers and retailers to show the label when tyres are offered for sale online. A similar obligation has been implemented for energy-related products covered by an implementing measure under the Energy Labelling Framework Regulation.

This measure is becoming more and more important because tyre purchases on the internet are increasing. It is expected that online tyre retail will grow to around 24% of

61 Administrative Cooperation Groups. Informal groups of market surveillance authorities with the aim to facilitate European cooperation
62 ICSMS: the internet-supported Information and Communication System for the pan-European Market Surveillance. For more information, see https://webgate.ec.europa.eu/icsms/
63 http://www.mstyr15.eu/index.php/en/

total sales in Europe by 2023[64]. In addition, an increasingly large share of consumers uses the internet in advance to inform their choice before buying a product in a retail outlet. This development is only expected to increase or even accelerate along with mobile internet device market penetration.

Online labelling for tyres could follow the key principles set out in Regulation (EU) 518/2014 regarding labelling of energy-related products on the internet. This regulation requires that:

- The label corresponding to the advertised product must be clearly displayed in proximity to the price of the product, or;

- If the energy label is not shown, the energy class must be displayed[65], and should itself be a link to the corresponding energy label.

The design of the arrow and whether the arrow should indicate the fuel efficiency class alone or both the fuel efficiency class and the wet grip class should be investigated further.

34% of OPC respondents thought the tyre label should be shown when tyres are sold online. 56% of those replying to the consumer survey for the review study said that they expected to buy tyres on the internet in the future.

5. Mandatory labelling of tyres delivered with vehicles at all times

This measure is an extension of the current requirement to provide the label information when tyres are sold with new vehicles (OEM tyres).

Results of the review study show that only 31% of the buyers of new vehicles were offered a choice between different tyre, and only 18% were given the required information. This means *a contrario* that about 82% is not informed about the performance of the tyres on their new car.

76% of OPC respondents though the label should be provided with all tyre sales.

6. Require the label to be provided for C3 tyres

This measure is an extension of the current requirement to provide the label as such to end-users of C3 tyres. The 2008 Impact Assessment for the TLR[66] discussed whether the fuel efficiency, rolling resistance and noise parameters should apply to C3 tyres. It was argued by some stakeholders that there was no need for rolling resistance labelling of C3 tyres because they are sold to professionals who already have all the information necessary for their purchasing decision and therefore a labelling scheme would not bring any added value. This was objected to by road transport companies themselves, including their European federation, the International Road Transport Union. Furthermore, experience with other product groups (such as professional refrigeration and lighting) has shown that the comparative value and green-to-red scale of the label also have a positive impact in a B-to-B setting.

---

64 https://ww2.frost.com/frost-perspectives/e-retailing-tires-projected-gain-strength-na-and-eu-tire-aftermarket/

65 See for example: https://europa.eu/youreurope/business/_static/images/uploads/nestedarrow.jpg

66 http://eur-lex.europa.eu/legal-content/EN/HIS/?uri=CELEX:32009R1222&qid=1520493804540

Although C3 tyres account for only 5% of tyre sales in the EU, they consume more fuel and cover more kilometres annually than C1 tyres so the potential for fuel savings in absolute term will be higher in this market (estimated already in the 2008 IA as EUR 800 savings per year; equivalent to EUR 870 in 2017).

In 2008, the conclusion regarding the labelling scheme for C3 tyres was to make the grading available only in catalogues, websites and advertising tools as this market is addressed to professionals and it was considered sufficient to make the information available for end-users without further communication tools. In the context of this impact assessment it is appropriate to revisit that conclusion.

7. Require the label to be provided to end-users in case of purchase through leasing contracts or as part of a fleet solution

In leasing and fleet solutions, end-users driving the vehicle and/or paying for the fuel are usually not responsible for purchasing the tyres, but rather lease the vehicles including a pre-defined set of tyres. In order for end-users to know the impacts of using tyres with different performance levels, the lessor should be responsible for providing the lessee with the relevant tyre label information and the label itself in the same way that a tyre retailer is responsible for providing the information.

8. Mandatory inclusion of snow performance on the label

In the tyre labelling scheme, the wet grip index is used as a measure for safety. However, this risks misleading end-users purchasing tyres for winter conditions in two ways. First, they may believe that a tyre with very good wet grip will have a good grip on snow, which is not necessarily the case due to the varying conditions such as temperature and surface roughness, which make the tyres perform differently on each type of road surface. Second, and conversely, tyres designed to perform better on snow and ice often have a poorer wet grip than standard summer tyres[67].

The inclusion of snow and ice performance in the labelling scheme would address a safety concern and would provide more complete information to end-users, which could ultimately lead to increased label confidence, especially in Nordic regions.

This measure concerns inclusion of an icon on the label showing that the tyre has suitable performance in severe snow conditions. The proposed icon is the 3-PMSF (3 Peak Mountain Snow Flake) logo or 'Alpine symbol', which is applicable for all tyre types (C1, C2 and C3). The threshold performance that is required of the tyre in order to use the 3-PMSF logo is defined in UNECE Regulation 117[68], implemented in the EU through the GSR[69].

---

67 'Summer tyre' does not correspond to a legal definition of a specific product. It refers to a normal tyre to be used preferably under non-severe wintry weather conditions. For information, there are 'all-season tyres', which also does not correspond to any legal definition and which are tyres that can be used both under summer and winter conditions according to manufacturer declaration. They are generally marked 'M+S' but do not necessarily respond to an approved 3-PMSF (3 Peak Mountain Snow Flake) certification as the legally defined 'severe snow tyre'. All these different terms of tyres ('summer' and 'all-season') correspond to manufacturer declaration, not based on further requirements or tyre performance tests.

68. Addendum 116: Regulation No. 117, " Uniform provisions concerning the approval of tyres with regard to rolling sound emissions and/or to adhesion on wet surfaces and/or to rolling resistance", United Nations, February 2014.

69 See the pictogram in OJ L 307, 23.11.2011, p. 3.

Figure 2: The 3-PMSF logo

Source: UNECE Regulation 117

There is a general agreement among stakeholders that were consulted for the review study, including C1 end-users, industry and consumer organisations, that good snow and ice grip performance should be indicated by pictograms on the tyre label to increase road safety and help end-users choose the best tyre. 59% of those questioned in the consumer survey for the review study said that it was very important to include information on snow and ice performance.

Using pictograms ensures language neutrality of the label similar to labels implemented under the Energy Labelling Framework Regulation.

9. Mandatory inclusion of ice performance on the label

This measure is very much in line with the measure on snow performance, but concerns the inclusion of a logo showing that the tyre has suitable performance on ice. Tyres with a good performance on ice are also referred to as "Nordic winter tyres". These tyres often have the lowest wet grip values on the label as ice grip and wet grip are negatively correlated, and end-users consulting the wet grip scale for assessing the tyre safety will therefore be misled by this information.

Ice performance should be implemented in the same way as the snow performance, by adding a logo on the label if the tyre lives up to a certain performance (brake or handling) on ice. An ISO standard is under development and it is expected that the standard will be ready between end of 2018 and beginning of 2019.

The expected ISO standard, in combination with a threshold value and a corresponding pictogram, seems to be a useful solution. If a redesign of the label is decided, a consumer survey should be considered to assess the effect of having *both* the snow and the ice logo on the label, as opposed to allowing tyre manufactures to only show *one* of them.

43% of respondents to the OPC thought that it should be mandatory to show information ice and/or snow performance on the tyre label, while 27% thought this should be included, but that it should be voluntary.

10. Re-adjustment of the label classes

This measure concerns re-adjusting the label to deal with the outdated performance classes while maintaining the label's potential to drive the market towards better performing tyres. The current label is no longer accurate because of the GSR banning bottom classes and the fact that for wet grip, the label has an empty class in the middle of the A-G range.

This measure does not involve a full "rescaling" of the label as envisaged under the Energy Labelling Framework Regulation for products where the top class was overpopulated and A+, A++ and A+++ classes were added. It would be similar to the

situation where a more stringent tier of requirements is introduced after a certain date in current product specific energy labelling regulations. When this happens, manufacturers have to accompany the product with the new label. There is no requirement to change the labels on products that were placed on the market prior to the change, and they are eventually all sold in the normal way.

The re-adjustment is an aspect of "future proofing" the label and would take into account the speed of the technological progress. The re-adjusted label could leave the top class empty to encourage innovation and technological progress, provide for regulatory stability and limit the need for future of re-adjustment.

In the review study, it was concluded that the level of technological development compared to the label classes, and the rate at which tyres with both an A-class for rolling resistance and wet grip are developed, does not justify a full rescaling of the label. However, the label is no longer accurate because of the GSR banning bottom classes and the fact that for wet grip, the current label has an empty class in the middle of the A-G range, and this would justify a re-adjustment of the classes.

For the current assessment, newest data was obtained from the German tyre database TOL[70] and supplemented by extrapolated sales weighted data from GfK for 5 Member States[71]. The updated data show the same results as the 2016 Review Study: the market share of tyres rated "A" in both RRC (rolling resistance coefficient) and wet grip is still less than 1% and the main constraint is the RRC. This result fits with the statement from the tyre industry that the focus is on developing tyres with better wet grip while maintaining or improving RRC *when possible*, as the two parameters are to some extent negatively correlated. It is also in line with the consumer survey where C1 end-users showed a higher focus on safety.

However, the new data shows that for the wet grip of C1 tyres, the top class is already populated at the level of 26% of the tyres made available on the market. For the three classes on external noise, the bottom class has been banned and the top class is already populated at the level of 18%. Also, for the noise there are only 2 classes, which may be too little to drive the market towards better performing tyres.

The three possible options for re-adjustment are the following:

1. Bespoke 4 classes scale so that empty classes are no longer shown;
2. Keep the current scale(s) but have some classes empty (greyed-out) to reflect regulatory requirements which mean that there are no tyres in those classes;
3. Redefine the boundaries between the current A-G classes to make them more accurate.

11. Tyre registration database

This measure concerns the establishment of a digital registration database for tyres on the EU market and a requirement for manufacturers to enter information in the database that is intended to provide relevant information to end-users, retailers, manufacturers and MSAs, and will also be a useful tool for retailers when providing the tyre label information to end-users.

70 Tyres online and Energy GmbH, database extractions from year 2012-2015, Hämmerling Group, Germany. Dataset covering 2012-2015 with 30,000 tyres total.

71 Germany, United Kingdom, France, Italy and Spain

This measure assumes the tyre label database could become part of the product database that will be set up according to the Energy Labelling Framework Regulation. That database will consist of a public (open) part and a compliance part (for MSAs), which will be accessible via an online portal. Including tyres in the database would possibly require a legislative amendment to the Energy Labelling Framework Regulation.

The responsibility of the tyre manufacturer would be to register all new types and enter pre-defined information in the database before placing the tyre on the market. The information would include details about the manufacturer and the product, for instance manufacturers name and trademark, model identifier, performance classes and other parameters on the label, the label in electronic format and the technical documentation.

As tyre manufacturers are already obliged to assemble all the required documents and information (including providing the label) and make the technical documentation available to MSAs on request, the additional costs for uploading this information in a database would be limited. The additional costs could be offset by the fact that manufacturers do not need to handle requests from the authorities because they would have easy access to the information in the database.

The burden for MSAs to obtain the documentation would be reduced. As the Commission is already obliged to set up the database for energy-related products, the extra costs for inclusion of tyres would be marginal. In the Impact Assessment accompanying the Energy Labelling Framework Regulation it is estimated that this option could increase compliance by 6% and thus reduce losses from non-compliance by 3%.

70% of OPC respondents supported a registration database and 30% of those questioned in the consumer study specifically mentioned this as an element that would improve their confidence in the tyre labelling scheme.

12. Technical documentation and product information sheet

This measure concerns inclusion of (i) a new annex in the TLR detailing the content of the new technical documentation that tyre manufacturers must make available to MSAs and (ii) an annex detailing the content of the product information sheet with relevant information for end-users.

Under the current TLR, technical documentation must be sufficiently detailed to allow authorities to verify the accuracy of information provided on the label with regard to fuel efficiency, wet grip and external rolling noise[72]. This measure would extend this requirement by including specific parameters and the order in which they should appear in the technical documentation. Furthermore, the product information sheet would mirror the current Annex III “Information provided in technical promotional material”.

This will make it easier for manufacturers to ensure that they provide sufficient documentation and for market surveillance authorities to evaluate the received documentation.

13. Amendment of the current Annex V on test method for wet grip of C1 tyres

72 Article 4 point 4 of the TLR.

In the current TLR, the wet grip index for C1 tyres must be measured according to several ASTM standards. It is proposed to change the wet grip measurement method in the TLR to ISO 23671:2015 Passenger car tyres – Method for measuring relative wet grip performance[73] (or the newest version of this standard[74]).

This standard specifies the method for measuring relative wet grip braking performance, indexed to a reference under loaded conditions for new passenger cars tyres on a wet-paved surface. The use of a reference tyre is necessary to limit the variability of the testing procedures. The ISO standard to some extent builds upon the ATSM standards mentioned in the current TLR. The ISO standard is considered the recognised state of art measurement method for tyre wet grip performance.

14. Amendment of current Annex IVa on laboratory alignment procedure for the measurement of RRC

In 2010, an 'Expert Group on laboratory alignment for the measurement of tyre rolling resistance' was set up[75]. The main activities of the group are dedicated to the creation of an alignment method for laboratories having to measure tyre rolling resistance in accordance with the TLR. In 2013/2014 and 2016/2017, the Expert Group assessed, in cooperation with a Network of Reference Laboratories[76], the stability and validity of the assigned values[77] of the reference laboratories.

The experience gained during the inter-laboratory comparison tests led the Expert Group to suggest some amendments to the Laboratory alignment procedure for the measurement of rolling resistance in Annex IVa of the TLR[78]. The amendments focus on clarifying several definitions and the general provisions of Annex IVa, and correcting the formula to calculate allowed standard deviation of the measured rolling resistance.

15. Extension of the type approval process to include the label declaration

Under the GSR the manufacturer must test tyre types either in-house or in a third party laboratory. A national type approval authority then endorses the resulting test values. Currently, the values for rolling resistance, wet grip and noise that manufacturers declare on the tyre label are based on the results of those tests. However, the declaration of those values on the label (i.e. the translation of those values into the classes of the label) is not subject to any verification and is done by manufacturers themselves (self-declaration).

This measure would require the tyre manufacturer to subject the label declaration to the type approval process. Consequently, this would add an additional guarantee of the correctness of the label.

---

73 https://www.iso.org/standard/65530.html, https://www.iso.org/obp/ui/#iso:std:iso:23671:ed-2:v1:en

74 The standard is reviewed every 5 years. A new process started in 2017.

75 Members are tyre manufacturers, independent test laboratories and observes. See: https://ec.europa.eu/energy/sites/ener/files/documents/report_from_egla_expert_group_2017.pdf

76 Publication of reference laboratories for the purpose of the alignment procedure concerning the measurement of rolling resistance of tyres for the implementation of regulation No http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.C_.2012.086.01.0003.01.ENG&toc=OJ:C:2012:086:TOC

77 Assigned value' means a theoretical value of one alignment tyre as measured by a theoretical laboratory, which is representative of the network of reference laboratories that is used for the alignment procedure.

78 Report from the Expert Group on Laboratory alignment for the measurement of tyre rolling resistance under Regulation (EC) No 1222/2009

16. Mandatory and independent third-party testing

This measure would require product testing to be done by independent third-party laboratories, over and above the testing that takes place under the GSR. The current GSR requires manufacturers to test their tyres, but they are allowed to carry out the testing in in-house facilities.

Third party testing will result in extra costs for manufacturers and manufacturers who are placing products on the European market, estimated to be as follows per tyre type placed on the market:

Table 4: Overview of testing costs per tyre type

Tyre type	Test cost
C1	3,500-4,000 Euro
C2	4,000-4,500 Euro
C3	5,000-6,000 Euro

Source: ETRMA

Industry does not support introducing additional independent third party testing of tyre performance. They argue that third party testing would be disproportionate to the available infrastructure of testing institutes/type approval authorities' laboratories and create unacceptable delays and costs for the tyre industry. Instead, they propose that market surveillance and enforcement should be increased and more coordinated.

Third party testing is however supported by other stakeholders such as environmental organisations and testing labs.

17. Inclusion of studded tyres in the scope of the TLR

This measure concerns inclusion of studded tyres[79] in the scope of the TLR to make information about the tyre performance parameters available to end-users for this specific type of tyre. Studded tyres are a subgroup of Nordic winter tyres developed for sub-zero temperatures and ice and wet ice conditions. Only 'studdable' tyres supplied without studs are currently covered by the TLR. Studded tyres are also exempted from the GSR.

18. Inclusion of retreaded tyres in the scope of the TLR

This measure concerns the extension of the scope of the TLR to include retreaded tyres.

Tyre re-treading is a process used to extend the life of used tyres. When a tyre is re-treaded, the worn-out tread is replaced with a new one, which can be repeated as long as the casing integrity is guaranteed. Re-treading is particularly relevant for C3 tyres, which make up about 30% of the market share of re-treaded C3 tyres in Europe, corresponding to around 5 million tyres[80,81]. However, a decreasing trend has been seen in the C3 retreaded market from 2013-2015 due to increasing imports in the EU of low cost C3 tyres. The market share of re-treaded C1 and C2 tyres is below 2% in Europe.

[79] Studded tyres have metal studs embedded within the tread in order to increase the traction of the tyre, in particular on ice.

[80] European Tyre and Rubber Manufacturers' Association, ETRMA (2011), "Re-treading" Website last updated 2011. Link: http://www.etrma.org/tyres/retreading

[81] Ruud Spuijbroek, Secretary at Bipaver (2015), personal communication on email September 16th 2015.

19. Mandatory inclusion of mileage as a performance parameter

This measure concerns adding mileage as a new tyre performance parameter on the label. Mileage is an important parameter for end-users and various stakeholders such as environmental and consumer organisations requested adding it to the label, as shown in the annexed OPC report.

Mileage is an indication of the usable life of a tyre, based in particular on the number of kilometres that the tyre can be expected to be driven for, before it reaches the legally defined minimum tread depth.

27% of OPC respondents were in favour of including mileage as a parameter on the label, but only if the accuracy of the measurement could be ensured.

20. Mandatory inclusion of abrasion as a performance parameter

This measure concerns the inclusion of abrasion as a new performance parameter on the tyre label.

Abrasion is the removal of materials from the tyre when it interacts with the road surface. Tyre wear particles are generated from the friction between the tyre and the road. According to the tyre industry, these particles might therefore be an agglomeration of approximately equal mass fractions of material from the tyre and the road[82]. The abrasion rate is intrinsically linked to the durability and life expectancy of tyres.

Particles are released to the environment as particles of different sizes and in different amounts. Smaller particles contribute to particulate air pollution and larger particles deposit on the road and run-off into streams and accumulate in the oceans. These particles are often referred to as microplastics. The Commission's recently published EU Strategy for Plastics in the Circular Economy[83] presents key commitments for action at EU level and recognises the significant contribution of tyre wear to the accumulation of microplastics in aquatic environments. Furthermore, the Commission acknowledges the need for more research to improve understanding of the sources and impacts of microplastics[84].

21% of OPC respondents were in favour of including mileage as a parameter on the label in all circumstances, with 20% in favour only if the accuracy of the measurement could be ensured. 41% thought concerns about abrasion should be covered in other forms of regulation.

5.3. Options/measures discarded at an early stage

Inclusion of studded tyres

The market share of studded tyres is very small in all but the two Nordic Member States (Sweden and Finland) as well as Norway, and the potential fuel saving is therefore very limited. One reason for the low market share is that use of studded tyres is actually prohibited in many Member States. In addition, testing of rolling resistance and wet grip for studded tyres is not possible with the current test standards. In both the RRC and the

82 http://www.etrma.org/uploads/Modules/Documentsmanager/20171003_etrma_trwp-position-paper.pdf

83 http://ec.europa.eu/environment/circular-economy/pdf/plastics-strategy.pdf

84 http://ec.europa.eu/environment/circular-economy/pdf/plastics-strategy.pdf

wet grip tests there is a limited allowed 'roughness' of the surface (machine drums or road), and the use of studs on these surfaces during the test will damage them to such an extent that the surfaces no longer comply with the test standards. Hence, with the current test standards, including studded tyres is not possible.

Based on all of the above reasons, including studded tyres in the TLR is discarded.

Inclusion of re-treaded tyres

The performance of re-treaded tyres is determined by the combination of casing, tread, and applied re-treading process[85]. The major challenge of including retreaded tyres in the labelling scheme is the necessity to establish the three label performance parameters (fuel efficiency, wet grip and external rolling noise) for each combination of casing, tread and retreading process. Since re-treaded tyres are produced in small series, the cost of testing each combination would make the re-treading business economically unfeasible, especially for SMEs[86].

As already mentioned, the TLR does not require C3 tyres to have a label. According to the industry organisation for tyre retreaders[87], the major barrier for including re-treaded tyres in the TLR is the vast diversity of possible product combinations and small number of similar re-treaded tyres.

Based on all of the above reasons, including retreaded tyres in the TLR is discarded.

Inclusion of mileage as a performance parameter

Inclusion of mileage in the label seems to be useful for end-users and could be an important factor for tyre purchases. It is also a durability parameter that fits adequately with the objectives of the circular economy strategy. However, its inclusion on the label coupled with the inclusion of further parameters such as abrasion and snow/ice performance should be assessed cautiously to avoid overburdening the label with too much information for the end-user, thereby reducing its effectiveness. In this context, the relation with the dry grip of tyres also has be taken into account.

More importantly, inclusion of mileage is currently not feasible as there is no reliable, accurate and reproducible standardised test method for identifying the number of kilometres achievable by tyres. Such a method would have to be developed by the standardisation bodies to provide end-users with comparable information. It should also be considered that measuring mileage using a standardised test method can deviate significantly from the mileage experienced by end-users in real life (as mileage is influenced by other parameters such as weather and road conditions, driving behaviour, etc.). If this happens, it may undermine end-users' confidence in the label.

Environmental stakeholders are in favour of including mileage on the label as shown in the annexed OPC report. Some even indicated that if the measure is not included based on lack of an appropriate measurement methods, it would be necessary to initiate the standardisation work as soon as possible in order to avoid that this argument will be used also in the future for not taking action.

---

85 Boustani, A. (2007), "Remanufacturing and Energy Savings" B.S. University of California Berkely, Massachusetts Institute of Technology. Link: http://web.mit.edu/ebm/www/Publications/reman-est.pdf

86 Retyre (2014), Main website. Link: http://www.retyre-project.eu/

87 BIPAVER

The industry and MSAs agree that it is not possible to measure mileage with the accuracy required for labelling, and MSAs do not consider it possible to perform market surveillance on such a requirement. Furthermore, the tyre industry, MSAs and tyre testing organisations all agree that introducing mileage as a parameter in the tyre labelling scheme would be very costly and would not help end-users choose better tyres.

However, this issue could be further investigated in a future amendment of the TLR (possibly through delegated acts), also taking into account consumer understanding testing of the future label.

This measure is therefore discarded based on the inability of meeting the criteria for technical feasibility (lack of testing method).

Inclusion of abrasion as a performance parameter

As with mileage, inclusion of abrasion in the label could be useful for end-users and thus an important factor for tyre purchases, contributing to the EU Strategy for Plastics. The inclusion of abrasion is however not feasible for the time being as there is no reliable, accurate and reproducible standardised test method for measuring the abrasion effect of tyres. Such a method would have to be developed by the standardisation bodies to provide end-users with this information.

The opinion of stakeholders regarding this measure is very much in line with their views on mileage, because the two parameters are related. As confirmed in the OPC, industry believes that tyre labelling is not appropriate for this complex question, while NGO's[88] consider it important that this information is included in the label. Given the likely high price of tyres that are well performing in terms of abrasion, the utility of including information on the release of microplastics on the tyre label needs to be carefully examined. Using the GSR to ban tyres that did not reach an acceptable abrasion level, in addition to labelling, in other words the traditional "push and pull" affect, is a future option that needs to be considered.

Due to the lack of a reliable and reproducible testing method, this measure is not technically feasible at this stage. However, given the importance of abrasion for the environment and for the durability of tyres, once such a test become available in the future, it should be made possible to adapt the label parameters under the TLR using a delegated act. To facilitate this process, the Commission could give a mandate to CEN/CENELEC to develop such a methodology.

Mandatory and independent third-party testing

For the purpose of this impact assessment, this measure is discarded for several reasons. Firstly, European product legislation (e.g. on safety or energy efficiency) is overwhelmingly based on some form of self-declaration by manufacturers and importers of the compliance of their products with the applicable requirements. This is supported by the CE marking and is based on the so-called New Legislative Framework that was introduced in 2008[89] (as an update of the New Approach to technical harmonisation that started in 1973). Resort to independent third party testing or type examination is limited to specific cases where the co-legislators have considered that the risk and consequences of non-compliance are particularly high, for example in the case of certain personal protective equipment or gas appliances. Non-compliance with the tyre labelling

88 See the OPC report in Annex 2

89 https://ec.europa.eu/growth/single-market/goods/new-legislative-framework_en

requirements, which could of course result in loss of energy and monetary savings, does not fall into this category.

Secondly, in the context of the revision of the Energy Labelling legislation, which was finalised in August 2017 with the adoption of a new Regulation, the co-legislators considered that self-declaration was still the appropriate conformity assessment procedure for demonstrating compliance with product-specific energy labelling requirements (e.g. for washing machines, vacuum cleaners and refrigerators). Although there has been a strong call for more, and more effective, market surveillance to check compliance, this is addressed by the extension of the type approval process to the label declaration and the product registration database.

Thirdly, the tyre labelling regulation is closely linked to the GSR, which imposes a type approval process on tyre manufacturers for key tyre parameters, but does not require mandatory third party testing. Imposing this only for the purpose of tyre labelling would mean diverging from this process and adding additional costs for manufacturers.

Fourthly, there is a risk that the lack of independent test laboratories[90] will constitute a barrier for placing new tyre models, including better performing tyres, on the market. Finally, third party testing is not guaranteed to address the inaccuracy of the information on the label, as this is at least partly driven by difficulties with the test procedures as such and not only by whether the tests are undertaken by a third party. This is also an issue best dealt with under the GSR, as the instrument that sets the general testing requirements.

[90] See Review study, https://ec.europa.eu/energy/sites/ener/files/documents/Study%20in%20support%20of%20the%20Review%20of%20the%20Tyre%20Labelling%20Regulation_final.pdf

Table 5: Options that were discarded at an early stage and options that were modelled

Discarded options	Inclusion of studded tyres Inclusion of re-treaded tyres Inclusion of mileage as a performance parameter Inclusion of abrasion as a performance parameter Mandatory and independent third-party testing
Modelled options	PO2: Non-regulatory measures PO3:Targeted legislative actions PO3B: As policy option 3, but without the effect of re-adjustment the label classes PO3C: As policy option 3, but without the effect of the extension of the type approval procedure to the declaration of the label values PO3D: As policy option 3, but without the effect of online labelling PO3E: As policy option 3, but without the effect of the tyre registration database PO3F: As policy option 3, but without the effect of further OEM requirement PO4: Policy option 2 + option 3. Non-legislative measures and targeted legislative actions are all applied PO4B: as policy option 4, but without the effect of re-adjustment the label classes PO4C: As policy option 4, but without the extension of the type approval procedure to the declaration of the label values PO4D: As policy option 4, but without the effect of online labelling PO4E: As policy option 4, but without the effect of the tyre registration database PO4F: As policy option 3, but without the effect of further OEM requirement

6. What are the impacts of the policy options?

The impacts were modelled following the methods set out in detail in Annex 4. The key assumptions underlying the modelling were:

- General assumptions: market data and prices for C1 (replacement tyres and OEM), C2 and C3 tyres; average number of kilometres that are driven each year; average lifespan of tyres; etc.

- Scenario assumptions: sales data; distribution of tyre models in the different label classes over time; effects of non-compliance; etc. (For instance, non-compliance is assumed to decrease in option 2 and even more in option 3 to 7%, compared to 15% in BAU scenario).

- Behavioural assumptions: impact of information campaigns and readjustment of the classes on end-users' buying behaviour; impact of improved market surveillance on compliance rate; impact of including snow and ice indicators on the label on number and severity of accidents; etc. (For instance, awareness of the label is assumed to increase from 41% to 60% due to information campaigns).

Given that there is significant uncertainty in particular as regards the behavioural assumptions, the impact assessment includes an extensive sensitivity analysis in section 8.2.

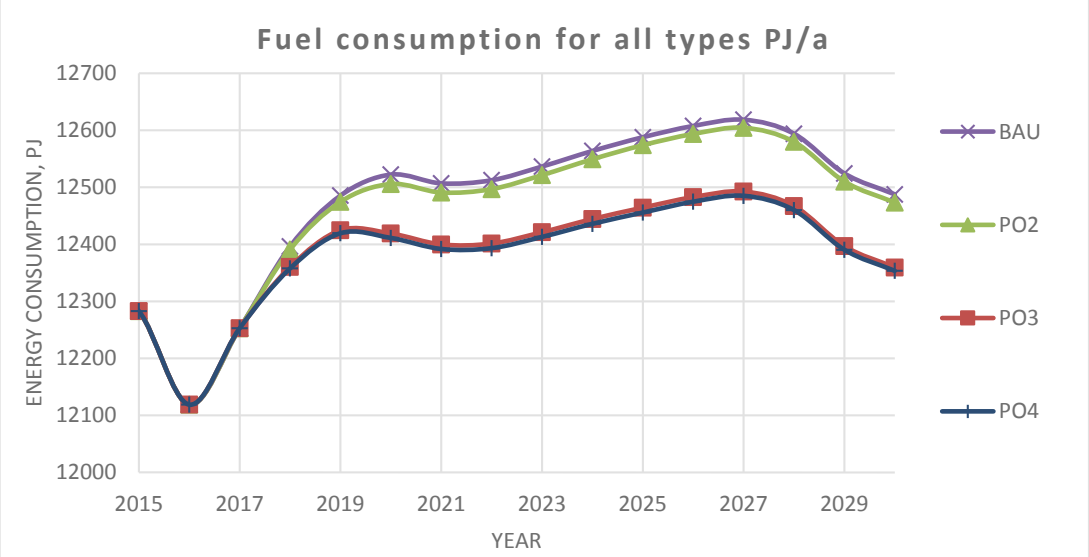
6.1. Environmental impacts

6.1.1. Fuel consumption

The rolling resistance of the tyres affects the energy consumption of a vehicle, and the differences in fuel consumption shown in the figure below are due to different rolling resistance in each policy scenario (the BAU values are provided for comparison). As seen in the figure below, policy option 4 (PO4) has the lowest annual energy consumption followed by policy option 3 (PO3).

Both scenarios give slightly higher consumption without re-adjustment of the label (PO3B and PO4B), but significantly higher consumption without the extension of the type approval procedure to the declaration of the label values (PO3C and PO4C). This can also be seen from the cumulative energy savings from 2017 to 2030, which are shown for each policy option in the table below, and the part of the saving resulting from each specific measure, where 36-39% of total savings results from the extension of the type approval procedure to the declaration of the label values. These two specific sub-options are shown in the graph below, while all sub-options are shown in the table under the graph.

Figure 3: Total fuel consumption for main scenarios expressed in PJ per annum[91].



Source: Modelling by Viegand Maagøe – see methodology Annex 4

Table 6: Cumulative fuel savings in PJ achieved by 2030 in each policy scenario (compared to BAU)

Specific measure	**PO2**	**PO3**	**PO4**
Annual savings in 2030	14 PJ/year	123 PJ/year	129PJ/year
Cumulative savings (2017-2030)	179 PJ	1348 PJ	1440 PJ
Savings distributions on each specific measure in the options			
Information campaigns	48 PJ (27%)	not applicable	40 (3%)
Concerted market surveillance	130 PJ (73%)		*109 (8%)
Extension of type approval procedure		526 (39%)	514 (36%)

[91] 1 Peta Joule per year is equal to 1 000 000 000 000 000 Joule per year (The Joule is a derived unit of energy in the International System of Units. It is equal to the energy transferred to (or work done on) an object when a force of one Newton acts on that object in the direction of its motion through a distance of one metre).

Re-adjustment of label (with new A)	not applicable	86 (6%)	87 (6%)
Online labelling		91 (7%)	85 (6%)
Digital registration database		*197 (15%)	*184 (13%)
Inclusion of OEM tyres		427 (32%)	400 (28%)
Technical doc. and data sheet		*21 (2%)	*20 (1%)

**The effect of these measures on compliance rate diminishes when extension of type approval procedure testing is applied*

Source: Modelling by Viegand Maagøe (see methodology Annex 4)

As seen in the previous table, the fuel savings are to a large extent driven by the decrease in non-compliance induced by the extension of type approval procedure testing (36-39% of savings) and by the mandatory labelling of OEM tyres at all times (28-32% of savings). It should be noted that including the extension of type approval procedure testing leads to a reduction in non-compliance, which is also driven by the digital registration database, the technical documentation content definition and concerted market surveillance decreases. Hence, the effects of these other measures will be greater than shown in the figure above if the extension of type approval procedure testing is not implemented.

It is important to note that the effect of label re-adjustment relies on the assumption that it is technically possible to improve both the rolling resistance and the wet grip parameters to the new class A (see annex 6). Re-adjusting the label with four classes (A-D) is assumed to cause a saving somewhere between the re-adjusted label (adding a new class) and not changing the label classes, i.e. somewhere between 0-6%. This is because in this case the class A threshold is not moved, but end-users might perceive the difference between A and D on the label as more significant, because classes below D are not shown.

The impact of information requirements on end-users' purchase behaviour has been investigated, and it is found that the awareness of the label and the importance of each label parameter to the end-user determines how large a share of end-users would buy higher rated tyres. For the rolling resistance parameter, 34% of end-users find it "very important" according to the 2016 consumer survey, but only a fraction of them is expected to actually purchase a more fuel-efficient tyre based on more/better information (See methodology Annex 4).

6.1.2. CO_2 emission mitigation

CO_2 emissions are directly linked to vehicle fuel consumption, and the savings follow the same pattern as the fuel savings, hence the scenarios have the same relative savings. The absolute values are given in the table below.

Table 7: CO_2 emission savings from each policy option in Mt CO_2-eq.

The distributions between specific measures in % are the same as fuel savings shown in the previous table.

Policy option:	**PO2**	**PO3**	**PO4**
Annual CO_2-eq savings in 2030	1.1 Mt/year	9.1 Mt/year	9.5 Mt/year
Cumulative CO_2-eq savings (2017-2030)	13 Mt	99 Mt	106 Mt

Source: Calculation modelled by Viegand Maagøe (See methodology Annex 4)

In addition to CO_2, other emissions result from the exhaust of vehicles. These include NOx gasses, exhaust particles, CO, SO_2, etc.[92]. These pollutants will decrease with the fuel savings and CO_2 emissions in all scenarios.

Policy option 4 is estimated to deliver 129PJ of final energy by 2030, which is around 0.8% of the savings needed to reach the EU's target of 30% energy efficiency by 2030. It is also estimated to save around 10 Mt CO_2 equivalent, which would contribute 1% towards the EU's target of 40% GHG emissions reduction by 2030.

6.1.3. Noise pollution

It is not possible to quantify exactly the direct health effect of tyre external rolling noise levels. However, it is well-established that noise influences human health and causes both premature deaths and hospitalisations due to cerebrovascular diseases and coronary heart disease[93], especially related to noise above 55 dB.

The average noise levels for each scenario are given in the table below, noting that the lower the values, the less serious the negative health effect. Since external rolling noise is generally considered less important than other factors by end-users, the effect of the label information is limited.

Table 8: Noise levels in 2030 for each tyre type (C1, C2 and C3) in each policy option

2030 noise levels	C1 tyres		C2 tyres		C3 tyres	
Policy Option	Replacement	OEM	Replacement	OEM	Replacement	OEM
BAU	70.5	71.2	72.1	72.5	71.5	72.0
PO2	70.3	71.2	71.9	72.5	71.3	72.0
PO3	70.2	70.2	71.7	71.7	71.7	71.1
PO4	70.1	70.1	71.7	71.7	71.0	71.0

Source: Calculations by Viegand Maagøe (See Methodology Annex 4)

6.2. Social impacts

6.2.1. Road safety

One of the largest social impacts related to tyres is safety, which is determined by the wet grip of the tyre. The wet grip is related to braking length and thus to impact and speed in accidents, which affects the severity of injuries. Reduced impact speeds also lead to less severe accidents, or even to avoided accidents, when the grip allows coming to a full stop before impact.

The following Table_ gives an overview of how safety, in terms of severity in accidents, is affected in each policy scenario. Note that only accidents on *wet road* (9% of total accidents) and accidents on *snowy (1%)* and *icy (1%) road* are considered here, since the policy options include safety parameters only for wet grip, snow grip and ice grip. It should be noted that there is a generally positive correlation between grip on wet road and grip on dry road, even though it is not directly quantifiable. This means that the effect of increasing wet grip will also have a positive effect on safety on dry road, leading to an even higher number of avoided fatalities and injuries than shown in the table below.

92 https://www.theaa.com/driving-advice/fuels-environment/emissions

93 http://www.rivm.nl/dsresource?objectid=a4029a59-c241-46c8-b8d1-8f2f537e9ac1&type=org&disposition=inline

Table 9: Severity of accidents in each policy option, measured by number of fatalities, severe injuries and minor injuries caused by traffic accidents on wet, snowy and icy roads.

		BAU	PO2	PO3	PO4
Annual occurrence 2030 (in numbers)	Fatalities	1 390	1 387	1 332	1 331
	Severe injuries	14 138	14 016	11 556	11 540
	Minor injuries	134 583	134 720	136 400	136 465
Cumulative number, 2017-2030	Fatalities	Not applicable	53	790	818
	Severe injuries		1 534	27 593	28 489
	Minor injuries		-1 729	-20 612	-21 472

Source: Calculations by Viegand Maagøe (see methodology Annex 4)

As seen from the above Table, the number of fatalities and severe injuries decrease with the increase in safety parameters (wet grip, snow grip and ice grip) in the three policy scenarios compared to BAU. PO4 shows the largest improvement, but with very similar results in PO3, of 4% fewer fatalities and 19% fewer severe injuries per year in 2030.

If the same improvement is assumed for dry road safety, it would correspond to 543 less fatalities per year in 2030 (where total fatalities are assumed to have fallen to 12,640 in the BAU scenario) and 24,160 less severe injuries (out of the total 128,500 in the BAU scenario in 2030).

At the same time, however, the number of minor injuries increases in the policy scenarios, and most in PO4 and PO3. This is because the wet grip affects the *severity* of accidents, and thus the accidents that would have inflicted e.g. a severe injury in BAU, cause only minor injuries in the policy options. However, the number of avoided fatalities and severe injuries are higher than the increase in minor injuries, because some accidents no longer cause personal injuries at all, due to increased grip of the tyres.

6.2.2. Noise health effects

Noise is an important social impact factor of tyres due to related health issues. Road traffic noise at levels over 55 dB L_{den}[94] affects an estimated 100-125 million European citizens based on noise mapping, with the actual number most likely being higher due to incomplete reporting[95,96]. For sleep disturbance, an indicator of 50 dB L_{night} is recommended[97].

Table 10: Health effects of environmental noise from road traffic

Implication	Annoyance	Sleep disturbance	Hospitalisations	Deaths	Reading impairment
Affected people	20 million	8 million	43 000	10 000	8 000

Source: https://www.eea.europa.eu/signals/signals-2016/articles/transport-and-public-health

Due to the large variations in reported numbers, it is not possible to quantify exactly the correlation between tyre external rolling noise and noise exposure in the different policy options. The World Health organisation (WHO) and the European Environmental Agency (EEA) assessed the health effects of the environmental noise form road traffic in

[94] Lden is the average annual Day, Evening and Night noise level, and 55 dB is the value set in the Environmental Noise Directive for noise mapping and assessments.

[95] https://www.eea.europa.eu/highlights/road-traffic-remains-biggest-source

[96] https://www.eea.europa.eu/signals/signals-2016/articles/transport-and-public-health

[97] http://ec.europa.eu/environment/noise/directive_en.htm

the unit Disability Adjusted Life Years (DALY) per year. The latest data from this assessment (from 2011) is used here.

Table 11: WHO health effects of environmental noise form road traffic in DALY/year

Implication	Cardio vascular	Annoyance	Sleep disturbance	Tinnitus	Cognitive impairment in children	Total
DALY/year	140 890	378 590	354 134	4 577	14 316	873 981

Source: Excel sheet provided by DG Environment, based on data form World Health Organisation (WHO) from 2011

Using the model, the decrease in health impacts in the table below can be calculated for an average decrease in noise exposure by 1 dB. This saving can be monetarised by using the Value of One Life Year (VOLY) Noise Directive, namely €110 987. This calculation is shown here as an example of impacts that can be obtained by decreasing road noise levels. The impacts cannot be calculated for each policy scenario because the improvement in average noise levels is overall too small (less than 1 dB).

Table 12: Health and monetary impacts of decreased noise exposure

Implication	Cardio vascular	Annoyance	Sleep disturbance	Tinnitus	Cognitive impairment in children	Total
Decrease, DALY/year	19 154	37 655	37 621	364	1 320	94 471
Decrease, %	14%	10%	11%	8%	9%	11%
Savings/year, billion euro	2.13	4.18	4.18	0.04	0.15	10.49

6.3. Economic impacts

6.3.1. Societal costs

Traffic accidents and noise pollution result in high societal costs. However, it has only been possible to quantify the accident-related costs impacts of the policy scenarios[98]. The total monetary savings are related to the number of accidents leading to fatalities, severe injuries and minor injuries respectively (see section 6.1).

The accident related cost savings in EUR million are shown in the table below as annual costs in 2030 and cumulative costs savings from 2017 to 2030. Policy scenarios 3 and 4 give rise to the highest savings (i.e. largest decrease in severe accidents). Not including re-adjustment or extension of type approval procedure testing would each result in approximately EUR 160 million less savings in 2030.

Table 13: Health costs of fatalities, severe and minor injuries in traffic.

		BAU	**PO2**	**PO3**	**PO4**
Annual costs EUR 2030 million	Fatalities	2 354	2 348	2 255	2 254
	Severe injuries	3 565	3 534	2 914	2 910
	Minor injuries	2 622	2 625	2 657	2 659

[98] Total noise-related fatalities and hospitalisations including related costs are available only for the year 2014, and no correlation was made between tyre rolling noise and these incidents.

	Total	8 541	8 507	7 826	7 822
Cumulative cost savings 2017-2030, EUR million	Fatalities	Not applicable	89	1 330	1 378
	Severe injuries		386	6 948	7 173
	Minor injuries		-34	-401	-418
	Total		442	7 876	8 133

Source: Calculations by Viegand Maagøe (see Methodology Annex 4)

6.3.2. Financial savings for end-users

The economic impact for end-users primarily consists of the tyre purchase price and the fuel cost savings in the use-phase. The rolling resistance directly affects the fuel cost, whereas the combined performance of the three label parameters affects the tyre purchase price. Hence, the fuel savings caused by decreasing rolling resistance have to counterbalance the increase in purchase price caused by the total performance improvement. As seen in the table below, the economic benefit for vehicle owners is low, with PO3 and PO4 giving the highest end-user savings of below 1%. Calculations are based on average market values for rolling resistance and prices. The Total Cost of Ownership (TCO) is calculated as the purchase price for a full set of tyres and the fuel cost over the average tyre lifetime. The fuel cost savings have not been discounted.

Table 14: End-user Total Cost of Ownership (TCO), for C1, C2 and C3 users, at individual end-user level and on EU level. Based on tyre mileage and number of tyre fitted on each vehicle

	Tyre type	**BAU**	**PO2**		**PO3**		**PO4**	
End-user level, EUR		**TCO**	**TCO**	**Saving**	**TCO**	**Saving**	**TCO**	**Saving**
	C1	5 164	5 155	9 (0.2%)	5 136	28 (0.5%)	5 129	35 (0.7%)
	C2	12 473	12 467	6 (0.0%)	12 409	64 (0.5%)	12 400	73 (0.6%)
	C3	88 454	88 342	112 (0.1%)	87 933	521 (0.6%)	87 780	673 (0.8%)
EU level, billion EUR	C1	1 742	1 739	3 (0.2%)	1 733	9 (0.5%)	1 730	12 (0.7%)
	C2	512	512	0 (0.0%)	509	3 (0.5%)	509	3 (0.6%)
	C3	666	665	1 (0.1%)	662	4 (0.6%)	661	5 (0.8%)
	Total	**2 920**	**2 916**	**4 (0.1%)**	**2 904**	**16 (0.5%)**	**2 900**	**20 (0.7%)**

Source: Calculations by Viegand Maagøe (See methodology Annex 4)

6.3.3. Turnover and Employment

The business turnover is calculated for a simplified supply chain consisting of three actors: manufacturers, wholesalers and retailers. The turnover and employment are based directly on tyre sales and prices, and are without inflation or discounting. The estimated "mark-up factors" shown in the table below are used to scale between the three supply chain links, and the "revenues per employee" are used to estimate employment. More details on calculations are provided in Annex 4.

Table 15: Estimated mark-up factors and turnover per employee used in calculations

Market	Turnover/employee EUR	Mark-up factors
Retail	25 511	2
Wholesale	59 241	1.25
Manufacturer	63 929	1

Source: http://www.eurocommerce.eu/retail-and-wholesale-in-europe/facts-and-figures.aspx

As seen in the two tables below, both turnover and employment are expected to increase towards 2030 due to an increase in sales (2.1% per year for entire market) and in performance (see tyre unit prices in Annex 4). The difference between the scenarios is thus based entirely on tyre price increases due to increased performance, and PO3 and PO4 provide the largest performance increase and thus the largest turnover and employment benefit compared to BAU. See Annex 4 for the graphs of the turnover and employment development from 2017 to 2030.

Table 16: Estimated turnover and cumulative increase by 2030 for manufacturers, wholesalers and retailers in the tyre sector

	Sector	**BAU**	**PO2**	**PO3**	**PO4**
2030 levels, million Euro	Retail	52 656	52 619	57 107	56 900
	Wholesale	32 910	32 887	35 692	35 562
	Manufacture	26 328	26 310	28 553	28 450
	Total	**111 893**	**111 816**	**121 352**	**120 912**
Cumulative increase, 2017-2030, million euro	Retail	Not applicable	2 786	44 606	46 803
	Wholesale		1 742	27 879	29 252
	Manufacture		1 393	22 303	23 401
	Total		**5 921**	**94 787**	**99 456**

Source: Calculations by Viegand Maagøe (see methodology Annex 4)

Table 17: Estimated employment and cumulative increase by 2030 for manufacturers, wholesalers and retailers in the tyre business (in full-time equivalents)

	Sector	**BAU**	**PO2**	**PO3**	**PO4**
2030 levels, employees	Retail	2 064 037	2 062 603	2 238 519	2 230 405
	Wholesale	555 524	555 138	602 484	600 301
	Manufacture	411 830	411 544	446 644	438 395
	Total	**3 031 391**	**3 029 285**	**3 287 647**	**3 269 101**
Increase in employees between 2017-2030,	Retail	Not applicable	109 227	1 748 487	1 834 608
	Wholesale		29 398	470 595	493 774
	Manufacture		21 794	348 870	366 053
	Total		**160 419**	**2 567 953**	**2 694 435**

Source: Calculations by Viegand Maagøe (see methodology Annex 4)

6.4. Other impacts

6.4.1. Impact on competitiveness

Overall, any measure improving end-users' understanding of the tyre label and manufacturers' compliance with the labelling requirements, will improve competitiveness in the tyre market, since the tyre label would increasingly be a decision parameter for end-users in a purchase situation. The higher the understanding of, and confidence in, the label, the more end-users are likely to use the information given on the label to decide which tyre to buy. This means that tyre manufacturers can use the tyre label parameters to a higher degree to benchmark and differentiate their products.

This increase in competitiveness is likely to be the highest with the re-adjustment option that sets a new threshold for class A, since no or only very few tyres have yet achieved rolling resistance and wet grip within class A. The combination of new class A in both wet grip and rolling resistance would be difficult to reach and would likely cause competition among manufacturers, as was the case in 2012 when the label was first

implemented[99]. This would also support EU tyre manufacturers, which tend to produce higher quality tyres, to compete in the market.

6.4.2. Impact on innovation

Although very few tyres are currently rated in fuel efficiency class A, there is a lot of research and development (R&D) effort in tyre manufacturing[100] to achieve high performance in both wet grip and rolling resistance at the same time, as these two parameters counteract each other. This innovation effort is expected to increase as more end-users become aware of the tyre label and increased market surveillance results in a more level playing field, in which manufacturers are awarded for producing better performing tyres. Readjusting the label classes will most likely increase the innovation effort as well.

As noted in the 2016 Review Study, innovation is most likely to focus on rubber mixtures and additives that allow the development of tyre treads with properties promoting both good wet grip and fuel efficiency.

6.4.3. Impact on SMEs

On the manufacturer side, the EU market is primarily comprised of large global tyre companies, represented by ETRMA with 12 companies in total. ETRMA members account for 72% of the European C1 and C2 tyre markets and 70% of the C3 tyre market (2016)[101]. No SME tyre manufacturer was identified in the EU. Tyre imports from non-EU countries cover the remaining market share of roughly 30 %[102].

By contrast, SMEs dominate the tyre retreading industry with a market share of 35-40% of truck and bus tyres (C3). As described in section 5.3.1.2, the inclusion of retreaded tyres in the labelling scheme has been discarded mainly because the current testing methods would make the retreading business economically unfeasible, especially for SMEs. The proposed policy options are therefore not considered to have significant impacts on these businesses.

SMEs active in retailing/importing of tyres could face additional costs by the proposed changes, specifically related to the obligation on manufacturers and retailers to show the label when tyres are offered for sale online. These costs relate mainly to the obligation to ensure that the information is provided in a legible, comprehensible and comparable fashion, independently of the end-user's Internet access device; this may create web design costs. Providing the information to end-users once the design stage is completed bears no additional cost. Furthermore, this proposal does not change the coverage of the TLR in terms of products or create obligations to produce new information. Therefore, it is not expected to give rise to significant implementation costs.

Finally, SMEs using tyres in their activities will benefit from reduced costs over the lifetime of the tyres and increased safety for their employees.

---

99 http://www.transportengineer.org.uk/transport-engineer-news/goodyear-unveils-first-aa-grade-steer-concept-tyre/45469

100 See Review Study

101 http://www.etrma.org/uploads/20170912%20-%20Statistics%20booklet%202017%20-%20alternative%20rubber%20section%20FINAL%20web1.pdf

102 The majority of these companies are represented through the International Tyre Manufacturers' Association (ITMA). See https://itma-europe.com/history/

7. How do the options compare?

7.1. Summary of impacts and options comparison

As seen from the results presented in the two tables below, PO4 results in the greatest overall benefits, closely followed by PO3. PO2 gives only minor benefits in comparison, and in terms of turnover (and employment), it actually causes a decrease. This is because the development in BAU outpaces the overall improvement in tyre performance by 2030 in PO2, thus causing a lower tyre price and a lower turnover in the industry (see consumer prices in Annex 4). In cumulative savings, PO2 does provide only minor improvements.

However, when combined with the legislative amendments in PO3, the information campaigns and increased market surveillance efforts pay off, as seen from the difference in benefits between policy options 3 and 4 (option 4 being the combination of options 2 and 3). In other words, the information campaigns and concerted enforcement actions *in addition* to legislative improvements will have a greater effect than information requirements without further legislative changes. This conclusion is supported by experience with energy labelling of household appliances, where the combination of legislative requirements with improved market surveillance and information efforts towards consumers has been effective.[103]

By their very nature, the non-regulatory measures of option 2 contribute to a lesser extent to the general and specific objectives than the targeted legislative actions of option 3. Nevertheless, as argued above, legislative and non-legislative measures mutually reinforce another and work best in combination (option 4).

[103] See Impact Assessment for the Energy Labelling Regulation, section 8

Table 18: Summary of policy option impacts, changes in annual values by 2030 compared to BAU

2030	Energy savings	GHG	End-user expenditure			Extra turnover			Compliance costs				Road safety			Societal health costs		
	Fuel savings	CO_2-eq reduction	Purchase cost saving	Energy cost savings	Net cost savings	Manu-facture	Whole-sale	Retail	Manufacturers	Retail	Member states	Commission	Fatalities	Severe injuries	Minor injuries	Fatalities	Severe injuries	Minor injuries
Policy Option	PJ	Mt	mln. €	mln. €	mln. €	mln. €	mln. €	mln. €	mln. €	mln. €	mln. €	mln. €	Nr.	Nr.	Nr.	mln. €	mln. €	mln. €
PO2	**14**	**1.1**	**37**	**812**	**849**	**-18**	**-23**	**-37**	**0**	**0**	**0.02**	**0.5-1**	**3**	**122**	**-137**	**6**	**31**	**-3**
PO3	**123**	**9.1**	**-4 451**	**6 632**	**2 181**	**2 226**	**2 782**	**4 451**	**127**	**50**	**0.02**	**0.5-1**	**58**	**2 582**	**-1 818**	**99**	**651**	**-35**
PO3B	109	8.0	-3 615	5 899	2 284	1 808	2 260	3 615	127	50	0.02	0.5-1	47	2 035	-1 505	79	513	-29
PO3C	84	6.2	-3 397	4 522	1 125	1 698	2 123	3 397	126	50	0.02	0.5-1	47	2 081	-1 492	80	525	-29
PO3D	114	8.4	-4 415	6 143	1 728	2 208	2 759	4 415	127	50	0.02	0.5-1	57	2 548	-1 790	97	643	-35
PO3E	101	7.4	-4 018	5 445	1 427	2 009	2 511	4 018	127	50	0.02	0.5-1	56	2 499	-1 750	95	630	-34
PO3F	93	6.8	-1 808	5 030	3 222	904	1 130	1 808	127	0	0.02	0.5-1	37	1 487	-1 480	63	375	-29
PO4	**129**	**9.5**	**-4 244**	**7 012**	**2 768**	**2 122**	**2 653**	**4 244**	**127**	**50**	**0.02**	**0.5-1**	**59**	**2 598**	**-1 882**	**100**	**655**	**-37**
PO4B	120	8.9	-3 237	6 560	3 323	1 619	2 023	3 237	127	50	0.02	0.5-1	44	1 932	-1 429	75	487	-28
PO4C	90	6.6	-3 531	4 902	1 371	1 766	2 207	3 531	126	50	0.02	0.5-1	48	2 097	-1 551	81	529	-30
PO4D	123	9.0	-4 252	6 687	2 435	2 126	2 657	4 252	127	50	0.02	0.5-1	59	2 577	-1 868	99	650	-36
PO4E	114	8.4	-4 193	6 221	2 028	2 096	2 620	4 193	127	50	0.02	0.5-1	58	2 545	-1 848	98	642	-36
PO4F	94	6.9	-1 720	5 174	3 454	860	1 075	1 720	127	0	0.02	0.5-1	39	1 517	-1 528	65	382	-30

Source: calculations by Viegand Maagøe (see methodology Annex 4). Further details about administrative costs appear in Annex 3.

Table19: qualitative evaluation of the policy options. PO3B and PO4B exclude re-adjustment and PO3C and PO4C excluding the extension of type approval procedure

Option	Energy savings	GHG	End-user expenditure	Extra turnover	Compliance costs	Road safety	Societal health costs	Total Nr of "+"
PO2	(+)	(+)	+	-	+++	+	+	6
PO3	++(+)	++(+)	++	+++	++	+++	+++	18
PO3B	++(+)	++(+)	++	++	++	++	++	15
PO3C	++	++	+	++	++	++	++	13
PO3D	++(+)	++(+)	+(+)	+++	++	+++	+++	17.5
PO3E	++(+)	++(+)	+	++(+)	++	+++	+++	16.5
PO3F	++	++	+++	+	++	+(+)	+(+)	13
PO4	+++	+++	++(+)	+++	++	+++	+++	**19.5**
PO4B	++(+)	++(+)	+++	++	++	++	++	16
PO4C	++	++	+	++	++	++	++	13
PO4D	++(+)	++(+)	++	+++	++	+++	+++	18
PO4E	++(+)	++(+)	++	++	++	+++	+++	17
PO4F	++	++	+++	+	++	+(+)	+(+)	13

Source: Based on calculations by Viegand Maagøe (see methodology Annex 4)

Option 4 adds the non-regulatory measures of option 2 to the legislative actions identified in option 3. Given that the legislative actions result in significantly more savings than the non-regulatory ones, option 4 does not deliver much more savings compared to option 3. Nevertheless, as outlined in section 7.1, second paragraph, the non-regulatory and legislative actions mutually reinforce each other. For example, joint surveillance action by Member States will be more effective once the registration database is in place, which would give them central access to all compliance information. In addition, in option 4 the Member States play an important role and this can have an additional beneficial effect in terms of increasing their commitment to the tyre labelling scheme.

From the overall ranking, PO4 (combination of policy options 2 and 3) comes out best overall. PO3 alone gives almost the same improvements as PO4.

8. Preferred option

8.1. Description of the preferred policy option

Based on the analyses presented in the previous chapters, the preferred option is PO4, which combines the specific measures from PO2 and PO3. This option includes the following measures:

Table 20: Specific measure included in the preferred option

POLICY OPTION	*SPECIFIC MEASURES*
PO 4 – Combination of PO 2 and PO 3: Non-regulatory actions and Targeted amendments to the TLR	1. Information campaigns 2. Joint enforcement actions 3. Mandate to revise/develop relevant testing methods (e.g. abrasion) 4. Online labelling 5. Mandatory labelling of tyres delivered with vehicles at all times 6. Require label to be provided for C3 tyres 7. Require label to be provided to end-users in case of purchase through leasing contracts or as part of a fleet solution 8. Mandatory inclusion of snow performance on the label 9. Mandatory inclusion of ice performance on label 10. Re-adjustment of the label classes 11. Tyre registration database 12. Technical documentation and product fiche content 13. Amendment of current Annex V on test method for wet grip of C1 tyres 14. Amendment of current Annex IVa on laboratory alignment procedure for the measurement of Rolling Resistance Coefficient (RRC) 15. Extension of the type approval process to include label declaration

The preferred option is estimated to result in the following administrative costs.

Table 21: Overview of administrative costs (all costs are direct costs) compared to baseline.

II. Overview of costs (million EUR) – Preferred option				
Options	**Manufacturers**	**Retailers**	**Member States**	**EU/Commission**
Information campaigns			10 (only once)	2 (only once)
Joint enforcement actions			0.02 per year	0,5-1 per year
Online labelling			3 (only once)	
Labelling of tyres delivered with vehicles		50 per year[104]		
Provision of label for C3 tyres	6 per year[105]			
Mandatory inclusion of snow and ice performance				
Re-adjustment of the label classes	40 (only once)[106]	30 (only once)		
Tyre registration database	0.25 per year			0.1 (only once) and 0.01 per year
Content of technical documentation and product fiche	120 per year[107]			
Amendment of measurement methods in Annex IVa and V				
Extension of type approval procedure	0.65 per year			
Total	127 per year 40 only once	50 per year 30 only once	0.02 per year 13 (only once)	0,5-1 (per year) 2,1 (only once)

Source: Based on calculations by Viegand Maagøe

8.2. Sensitivity assessment of the preferred option

Although 75% of those questioned in the consumer survey said that their confidence in the label would influence their purchasing decisions, there is no quantitative evidence of the effect of the label on consumer behaviour. Quantitative data on compliance rates was also difficult to obtain. Therefore, a sensitivity analysis is presented below to assess the impact of the lack of data.

8.2.1. Compliance rate

In the modelling of the preferred option, the compliance rate is expected to increase, which in turn is expected to cause decreases in fuel consumption, traffic accident severity and noise levels. In particular, the specific options of extension of the type approval accredited testing,

104 Retailers of vehicles

105 Manufacturers of C3 tyres

106 Cost per readjustment; if the label is re-adjusted again after for instance 10 years, cost for readjustment will appear again

107 For provision of product information sheet

joint enforcement actions, the tyre registration database and definition of the technical documentation and product information sheet content are expected to increase compliance rates.

In the BAU scenario a non-compliance rate of 15% is assumed, with non-compliant tyres expected to be on average two classes below their label value. In the preferred option, the non-compliance rate is assumed to decrease to 7% with non-compliant tyres on average being one class lower than the label value. This change is due to the collective effect of all of the above-mentioned specific options. In all scenarios it is assumed that the rate of non-compliance is the same for all three label parameters.

Since the non-compliance rate is based largely on assumptions for both the BAU[108] scenario and the preferred option, and the compliance rate has a large effect on the impact, a sensitivity assessment was conducted to address this uncertainty.

In the preferred option the non-compliance rate was varied between 0% (ideal scenario) and 15% (BAU) for all three label parameters with average non-compliance magnitudes of one and two classes.

For the total energy consumption, the correlation with the compliance rate is:

- 2.6 PJ/year in 2030 per %-point change for 1 class non-compliance;
- 5.2 PJ/year in 2030 per %-point change for 2 classes of non-compliance.

For the safety cost, the correlation with the compliance rate is:

- 9.1 million euro/year in 2030 per %-point change for 1 class non-compliance. The maximum difference (from 0% to 15% non-compliance) was 11 fatalities and 500 severe accidents;
- 18.6 million euro/year in 2030 per %-point change for 2 classes non-compliance. The maximum difference (from 0% to 15% non-compliance) was 22 fatalities and 1000 severe accidents.

For noise, the correlation cannot be made by noise class (number of "soundwaves" on the label), since the class depends on tyre size and type. Instead, the sensitivity analysis was based on dB values and the correlation to compliance rate is:

- 0.01 dB in average value per %-point change for in non-compliance.

If only half of the expected improvement in the non-compliance rate would be achieved, compared to the preferred option, the result would be:

- 24.5 PJ less fuel savings in 2030, corresponding to 19% less than the total savings in the preferred option (129 PJ/year in 2030);
- 88 million euro less in health cost savings in 2030, corresponding to 12% of the total savings in the preferred option (718 million euro in 2030);
- 0.05 dB higher noise levels on average, corresponding to around 10% of average values for all tyre types. The resulting values, however, depend highly on tyre size and type.

[108] Non-compliance rates of around 15% were reported but it was not specified for which parameter and how many classes the non-compliance was on average.

8.2.2. Consumer behaviour

In the modelling of the preferred option, consumers are assumed to react to the label information by purchasing better performing tyres. Specifically, the options related to online labelling, information campaigns and the product registration database are expected to increase label awareness[109]. The impact of the policy option is based on the number of end users purchasing better tyres, which is determined from a combination of the following parameters:

- Potential increase in awareness from awareness raising campaigns (59%)[110]
- Number of end users purchasing tyres online (21%)[111]
- Number of end users consulting the product database for information (51%)[112]

Furthermore, the share of respondents in the 2016 consumer survey who rated each parameter as "very important" is assumed to be affected by the label on that specific parameter:

- Rolling resistance (efficiency): 34%
- Wet grip (safety): 62%
- Noise: 21%

The combination of the above parameters was used to determine the share of end users affected by increased information provision for each parameter. The affected share in the preferred option (Policy option 4) for each parameter is:

- 9% of end users would buy a tyre with better rolling resistance performance
- 17% of end users would buy a tyre with better wet grip performance
- 6% of end users would buy a tyre with better noise performance

Since the underlying assumptions for the effect of increased information is based on a single questionnaire and end users might react differently in real life or refrain from purchasing better performing tyres due to increased prices, a sensitivity assessment was made for the information effect for each parameter. In this sensitivity analysis, the affected share of end users was varied for each parameter and plotted against the impact.

The resulting correlation shows that the total impact of the preferred option is not very sensitive to consumer behaviour compared to the compliance rate.

- For fuel efficiency, the correlation was 2.5 PJ/year per %-point of users choosing differently. This means that if, for example, only half as many end users as assumed in the preferred option were to buy more fuel efficient tyres, the annual savings in 2030 would be 17 PJ less, corresponding to 12% of the total fuel savings from the preferred option in 2030.
- For safety (measured as societal health costs), the correlation is 1.42 million euro/year per %-point of end users choosing differently. If only as many end users as assumed in the preferred option were to buy tyres with better wet grip, annual societal health cost

[109] These specific options are backed up/made possible by simultaneously adapting the measures related to requiring provision of a label for C3 tyres and in case of purchase through leasing contracts or as part of a fleet solution.

[110] In the 2016 consumer survey 41% of the respondents stated that they knew about the tyre label before taking the survey. The potential increase in awareness is thus 59%.

[111] In the 2016 consumer survey 21% of respondents stated that they would buy tyre online in the future.

[112] In the 2016 consumer survey 51% of respondents stated that they would use the online product registration database to search for information before purchasing new tyres.

savings in 2030 would be 19 million EUR less, corresponding to 3% of the health cost savings from the preferred option in 2030.

- For noise levels (dB measured values) the correlation for C1 tyres is 0.047 dB per %-point of end users affected by the noise information. If only half of the users assumed in the preferred option buy less noisy tyres, the difference in 2030 would be 0.24 dB on average, corresponding to a dB decrease of 0.34% less than the average noise in the preferred option. The percentage effect will be the same for C2 and C3 tyres.

8.3. REFIT (simplification and improved efficiency)

Identified possibilities for simplification of legislation and reduction of regulatory costs are:

Product registration database

Establishment and use of a product registration data, where manufacturers are obliged to upload product information including energy labels and technical documentation (including test reports), would make it easier and less costly for MSAs to access the required documentation. In addition, retailers will have easy access to download labels and product information sheets including electronic versions for labelling of tyres in web shops. Furthermore, a product registration database could also save time for manufacturers because they do not have to spend time to handle inquiries from market surveillance authorities about delivery of technical documentation, etc. On the other hand, manufacturers will face some extra costs for uploading the necessary information into the database.

The Commission is establishing a product registration database for energy-related products as required by the new Energy Labelling Framework Regulation. It is anticipated that tyres could be included in this database and the additional cost for extension of the database is considered marginal.

Alignment with General Safety Regulation

Both the TLR and the GSR require that tyres are tested according to UN-ECE[113] test standards. However, while the GSR requires an approval by a third party public authority before the product can be placed on the market, there is no such requirement in the TLR, according to which manufacturers makes a self-declaration. In both cases, manufacturers are allowed to do the testing in their own test facilities. In addition, under GSR a Technical Service can also do the test. To simplify the legislation and at the same time increase the compliance rates for tyres it is proposed to further align the TLR with the GSR with regard to certification procedures. Use of third party approval is more burdensome for manufacturers than self-certification but the manufacturers are already required to have their tyres approved under the GSR, even if a more thorough (and more expensive) testing is required to establish the label performance parameters. Therefore, the alignment could somewhat increase the manufacturers' costs for testing at an approved testing laboratory, but in return the tyres will only have to be tested once.

The use of pre-market approval for establishment of the tyre performance parameters on the label could reduce the need for testing by market surveillance authorities and thereby reduce Member States' enforcement costs, because the test results on which the label information is based would be more reliable.

Tyre Labelling Regulation/delegated acts

[113] UN-ECE: United Nations – Economic Commission for Europe

Currently, Article 11 of the TLR provides that implementing acts are to be used to introduce information requirements on wet grip for C2 and C3 tyres if suitable testing methods are available, adapt parameters for snow/ice tyres and to adapt the annexes to technical progress. It is proposed that TLR should be adapted to the TFEU and that the use of delegated acts in accordance with Article 290 should be specified. The use of such delegated acts could also allow amendments to the label itself, in certain circumstances, where appropriate based on insights/evidence from consumer behavioural testing (for example, if and when suitable testing methods for abrasion become available). This creates a certain parallel with the regulatory framework set up for energy-related products under the framework Energy Labelling Regulation. This would simplify the regulatory process when changes are required to achieve additional environmental improvements or to add parameters to the label.

The change of the regulatory process will save resources in the European regulatory process (in the Commission, the European Parliament and the Council) and at Member State level.

Table 22: Qualitative description of cost savings in the preferred option

REFIT Cost Savings – Preferred Option(s)		
Description	***Amount***	***Comments***
Product registration database	80 000 EUR/year[114]	Recurrent cost savings for Member State market surveillance authorities.. Eventually also cost savings for manufacturers. Initial marginal costs for the Commission to extend the database for energy-related products to cover also tyres.
Alignment with General Safety Regulation	420 000 EUR/year[115]	Could require more expensive tests for manufacturers in approved testing laboratories but in return, they will not have to carry out further testing. Reduced market surveillance costs (recurrent savings).
Tyre Labelling Regulation / delegated acts.	110 000 EUR per delegated act[116]	Will reduce the administrative costs in the EU law-making Institutions and in Member States.

9. How will actual impacts be monitored and evaluated?

The impact of the new TLR will be evaluated and monitored in a review study to be carried out 5-10 years after the entry into force of the new Regulation. In the review process, the impact of the TLR will be compared with the objectives of the Regulation as set out in the present Impact Assessment.

[114] An estimated 1 working day (7.5 hours) is saved per product because the technical documentation will be easier to obtain. The example further assume that each member state conducts 15 technical documentation checks per year, and the average labour cost is 25.4 Euro. http://ec.europa.eu/eurostat/statistics-explained/index.php/Hourly_labour_costs

[115] For Member States the need to test will decrease, since the testing will now be done by accredited, independent laboratories rather than through self-declaration by manufacturers. The number is based on assumed testing cost of 5000 EUR/test and 3 avoided tests per Member State per year.

[116] Assumptions: 1 week saved per MS, 28 weeks saved in European Parliament and Council, 12 weeks saved in the Commission, labour costs: 40 EUR/hour.

That review would include market analysis, which will allow the monitoring of the specific objective of having a well-known and well shown tyre label i.e. shown at all times when tyres are sold.

A consumer awareness study would also be part of the review, to assess how awareness of the label, and its impact on purchasing decisions, has improved. To align with general consumer awareness of energy labelling, the specific objective of having a well-known tyre label should be measured against the goal of 85% of consumers being aware of the label (which is the percentage of the Union's population who recognise the energy label on appliances).

The main monitoring element to verify compliance with the GSR and TLR requirements will be the tests carried out by national market surveillance authorities. This will check whether the new requirements have been complied with by suppliers. This monitoring is particularly relevant to the specific objective of having an adequately enforced tyre label. Reporting by Member States to the Expert Group on Tyres Labelling – Market Surveillance Administrative Cooperation[117] will provide data regarding market surveillance activities and compliance rates. Further data will also come from the ongoing MSTyre15 joint surveillance action and any follow-up projects.

The proposed mandatory product registration database will also be a source of more solid data to monitor and evaluate progress towards meeting the objectives of the TLR and will provide data on the distribution of tyre models across the different performance classes. It will also support market surveillance, which is essential for enforcement of the TLR. Enforcement would also be aided by requiring Member States to inform the Commission of the penalties and enforcement mechanisms applicable to infringements of the TLR.

[117] http://ec.europa.eu/transparency/regexpert/index.cfm?do=groupDetail.groupDetail&groupID=2808&Lang=EN