### Preparatory study and impact assessment support study on tyres

#### **ESPR SR8: Tyres**

Specific contract 2025/4500082801/ENV.B4/GROW under framework contract in cascade No ENV.B.4/FRA/2023/0018 Lot 1

### 15 October 2025: Stakeholder Meeting 1 of ESPR-SR8

**Date & time:** 15 October 2025, 9:00-17:00

**Location:** Conference Centre Albert Borschette - room 2B

Online participation via WebEx

### **Participants:**

**Study Team** 

VITO Nele Kelchtermans

Oeko-Institut Daniel Hinchliffe, Yifaat Baron, Izabela Kosińska-Terrade, Felix Mayer

Online: Lucía Gascón, Frederick Adjei

Ecomatters Max Sonnen, Serena Cunsolo,

Online: Maria Papavasileiou

Trinomics Laurent Zibell,

Online: Lucia van den Boogaart, Corina Haita-Falah

European Commission (EC) DG ENV: Lie Heymans, Pierre Henry, Kim-Mai Hoang

DG GROW: Anne Serra

### **Registered Stakeholders for the Meeting**

- Aliapur
- Apollo Tyres
- Avery Dennison
- BAM Bundensanstalt für Materialforschung und -prüfung
- RASE
- BIPAVER EEIG Bureau International Permanent des Associations de Vendeurs et Réchapeurs de Pneumatiques
- BMUKN Bundesministerium für Umwelt, Klimaschutz, Naturschutz und nukleare Sicherheit
- Bridgestone
- CEFIC European Chemical Industry Council
- Continental

- Continental Reifen Deutschland GmbH
- CUST
- Danish Environmental Protection Agency
- Decathlon
- Decathlon SE
- Dow
- Dow Silicones Belgium
- ECOS Environmental Coalition on Standards
- Elanova
- Emissions Analytics
- ExxonMobil
- ETRMA European Tyre and Rubber Manufacturers' Association
- Febelauto
- FSLCI Forum for Sustainability through Life Cycle Innovation
- French Ministry for ecological transition
- GDSO Global Data Service Organisation for Tyres and Autmotive Components
- Genan
- Goodyear
- GS1
- Hana Technologies
- ID Tech Solutions
- IISRP International Institute of Synthetic Rubber Products
- Lanxess Deutschland GmbH
- Kenda Tyres Europe
- Michelin
- Ministère de l'Intérieur, France
- Mobivia
- Nexen Tire
- NILU Norwegian Institute for Air Research
- Norwegian Environment Agency
- NXP Semiconductors
- ORZEŁ S.A.
- Pirelli & C. S.p.A.
- Recycling Europe
- RecyBEM/Stichting Fonds Band en Milieu
- REGOM
- RIGDON
- RIVA Group

- Rijkswaterstaat
- Shell
- Swedish Chemicals Agency
- Swedish Energy Agency
- Swedish Environmental Protection Agency
- Synthos S.A.
- The Norwegian Environment Agency
- The Pew Charitable Trusts
- Tire Industry research
- TÜV SÜD
- Tyre Specialists of Finland (ARL r.y.)
- UPM Biorefining
- UTAC
- Verband der Chemischen Industrie e.V.

<u>Purpose of the meeting</u>: First Stakeholder Meeting, to present and discuss the results of the Preparatory Study Phase I – Tasks 1-4.

### Agenda:

| Time  | Item | Topic                                | Presenter (Institution)                    |
|-------|------|--------------------------------------|--|
| 9:30  | 1    | Welcome                              | Yifaat Baron - Oeko-Institut               |
| 9:35  | 2    | Introduction to ESPR                 | Lie Heymans, Pierre Henry -                |
|       |      |                                      | DG ENV                                     |
| 9:45  | 3    | Introduction to the study team       | Nele Kelchtermans -VITO                    |
| 9:50  | 4    | Introduction to the ESPR Tyres Study | Daniel Hinchliffe - Oeko-Institut          |
| 10:00 | 5    | Task 1: Scope                        | Yifaat Baron - Oeko-Institut               |
| 10:15 | 6    | Task 2: Markets                      | Dr. Laurent Zibell - <i>Trinomics B.V.</i> |
| 11:15 | 7    | Task 3: Users                        | Daniel Hinchliffe - Oeko-Institut          |
| 13:30 | 8    | Task 4: Technologies                 | DrIng. Izabela Kosińska-Terrade,           |
|       |      |                                      | Dr. Felix Mayer - <i>Oeko-Institut</i>     |
| 14:50 | 9    | Base Cases                           | Yifaat Baron - Oeko-Institut               |
| 16:10 | 10   | Task 5: LCA + LCC                    | Serena Cunsolo - Ecomatters B.V.           |
| 16:45 | 11   | Closing words and outlook            | Daniel Hinchliffe, Yifaat Baron -          |
|       |      |                                      | Oeko-Institut                              |

#### **Meeting Minutes:**

These meeting minutes are intended to summarise the main points discussed during the meeting. While every effort has been made to ensure accuracy, the notes may not fully reflect all details of the discussion. The meeting was organised by the consultant; therefore, any opinions or statements recorded do not represent the views of the Commission.

#### Introduction to ESPR – DG ENV, Lie Heymans

Lie Heymans, Project Officer from Directorate General Environment, provided an introduction to the Ecodesign for Sustainable Products Regulation, which this study on tyres is part of.

### Introduction to the study team - VITO, Nele Kelchtermans

Nele Kelchtermans briefly presented the study team.

### Introduction to the ESPR tyres study - Oeko-institut, Daniel Hinchliffe

Daniel Hinchliffe from Oeko-institut provided an introduction to the overall aim and methodology of the ESPR study on tyres.

### Task 1 – Oeko-institut, Yifaat Baron

Yifaat Baron presented a summary of task 1 and raised various discussion points. The following reproduces the main discussion:

- On the definition proposed for a "tyre" stakeholders commented:
  - Stakeholder 5: Safety should be mentioned in some way in the definition;
  - Stakeholder 2: It should be mentioned that tyres fulfil their function through rolling and not e.g., sliding;
  - Stakeholder 6: It should be considered to add reference to main materials;
- On the definition of durability:
  - Stakeholder 2: Abrasion testing is being investigated at UN level (also EURO 7), and it is still under consideration if the testing will be in lab conditions or an "on the road" testing. Probably the latter.

In general, abrasion increases proportionally to weight so not a good metric for durability. Also initial tread depth and how you drive (incl. inflation/pressure) impacts abrasion. Abrasion rate ≠ mileage.

- DG ENER: Tyre service mileage is not directly related to abrasion rate: e.g. if you add a mm of tread depths, abrasion rate remains the same, mileage increases...
- Stakeholder 1: The deeper the tread depth, the higher the durability. Mileage is influenced by tread depth. Abrasion is covered under EURO 7.
- How one drives also impacts durability.
- On the possible reference to a limiting state:
  - Stakeholder 1: A complex discussion. EoL tyres dismantled from vehicle at EoL, collected and then inspected by experts at collection stage to determine if fit for re-use or retreading, some criteria define this + professional expert opinion. Can provide written feedback on this.
  - Tyre dismantling from the vehicle --> inspection at the collection point to determine if a tyre can be reused or retreaded.
- On end-of—life tyres and end-of-use tyres:
  - Stakeholder 1: EoL waste tyre definition is an effort to marry the definition of EoL tyres with the waste phase to make transition from first use into collection, re-use or retreading stage as clear as possible to separate EoL and non-EoL tyres. End of use and EoL and the difference between these: "end of use" = the tyre can be re-treaded, because the casing is in a shape appropriate for this (Is the tyre then considered as waste?); "end of life" = final end where the tyre cannot be re-treaded (Only the constituent materials can be re-used or recycled). Also concerns casings. Where we see this in the market is with casing trade: how it is interpreted as waste or not differs between Member States. Definitions across countries impact the transportation relating to waste, want to clarify this.
  - Stakeholder 2: The tyre continues to be useful if it goes through re-grooving or retreading process.
     Add in an extra clause on having a recognised life extension process.
- On inner tube recycling:
  - Stakeholder 2: there is a healthy recycling market. They are made of butyl rubber. There is no steel
    or contamination, pure material. Waste management is under control, no need to worry about it.
  - There are some companies that collect and treat tubes separately.
  - Stakeholder 1: used for reclaim (sub-section of chemical recycling)
- On categorisations:

- Stakeholder 4: A few categories missing: Run-flat tyres and bias belted tyres are missing alongside other constructions for pneumatic tyres. Snow tyres, spiked tyres, high load capacity tyres, regroovable tyres. No difference between the types for regular cars or EV cars.
- Stakeholder 1: Requirements also differ throughout these clusters of C1 C2 C3 which makes defining base cases very complex.
- Stakeholder 6: C1, C2, C3 are preferred for maintaining quality of rubber in recycling. Solid tyres different composition/harder to recycle. Tyres outside of C1, C2 and C3 are typically not handled by most recyclers and treated as separate waste stream.
- On Retreading being considered as remanufacturing vs refurbishment:
  - Stakeholder 1: definitions given fit more with refurbishment as it is a lifetime extension of an existing product in the market. Remanufacturing = a new product.
  - Stakeholder 1, Stakeholder 7 and Stakeholder 6 agreed that refurbishment fits better.
  - DG ENV explained the importance of the distinction. The process of retreading is understood to go beyond just cleaning and reassembling which are normally associated with refurbishment. It is understood to reflect a more substantial change of the product. From a legal point of view, a refurbished product is not "put on the market" again, whereas only products that are "put on the market" need to comply with performance and safety requirements and are considered new products under single market legislation. If a re-treaded tyre were considered as "re-furbished", it would not be considered as "new" and "put on the market", and would not be subject to any form of performance or safety requirement. This means that as soon as retreaded tyres are regulated (even if only regarding labelling) they must be considered as a new product. If there is a change in requirements regarding labelling, performance or safety, a re-treaded product should be considered as a "new" product being "placed on the market", and hence be legally considered as "remanufactured".
  - The study team exposed that there is a liability issue regarding re-treaded tyre. If retreading is considered as re-manufacturing, then the re-treader bears the liability for the safety of the tyre. If retreading is considered as refurbishing, then it is the original manufacturer that is considered as liable, even if the re-treader performed in-depth operations on the tyre that can have a determinant impact on safety, and is out of the control of the original manufacturer.
  - Stakeholder 2: Putting the liability on the original manufacturer would be bad if retreading happens by someone else.
  - Stakeholder 3: DPP needs to be considered new DPP, if remanufactured, information is lost from the previous life cycle

#### Regarding missing standards:

 Stakeholder 8: On the ECE Reg Side you are missing R 172 for retreads /3PMFS and Traction properties. The dimensions of used tyres/casings are limiting the use in the mould-cure/hot process, not in the precure process.

#### Task 2 - Trinomics, Laurent Zibell

Various discussion points from Task 2 were presented. The following reproduces the main discussion:

- On data gaps:
  - Stakeholder 1: can assist in filling the gaps.

#### On market share:

- Stakeholder 1: Rising imports have led to a reduction in market share in recent years. The introduction of the ESPR is expected to enhance competitiveness within the European market. Regarding retreaded tyres, their current market share stands at approximately 20% compared to the replacement tyre market, whereas it previously accounted for around 40%. This reflects the current market conditions in which we operate.
- Stakeholder 2: Growth is primarily concentrated in Southeast Asia, China, and India, while in Europe
  it is probably lower than 2% per year.

### On tyre production

- Stakeholder 4: Data appears to be missing, for example for the Netherlands and Germany.
- The study team responded that the data used were sourced from PRODCOM. However, in some EU Member States, the data are confidential. Germany has not disclosed production figures for several years, and the same may apply to the Netherlands. The reported EU total is not fabricated but deliberately rounded up to preserve confidentiality. Additionally, in the PRODCOM dataset, there is an important distinction between "0" and ":". The former indicates no production, while the latter signifies missing or undisclosed data.

#### On lifetime/mileage:

Stakeholder 2: the number of tyres per lifetime generally follows a replacement cycle of one unit per car per year, meaning a full set of tyres typically lasts about four years. A five-year cycle would be too low, corresponding to a factor of 0.8. In China, the replacement rate is higher, around 1.2 units per year, reflecting a shorter tyre lifetime.

- Stakeholder 4: Information about tyre age can be obtained from the DOT (Department of Transportation) Tyre Identification Number, which is marked on the tyre and indicates its origin.
   Research in Belgium and the Netherlands, using methods such as rolling wheel studies, provides insights into tyre age, and the DOT number could potentially help track the origin and age of tyres.
- Stakeholder 4: range for C1 tyres can be somewhere between 10.000-200.000 km
- Stakeholder 9: The mileage figures are inaccurate. A mileage of 250,000 km for a C3 tyre is entirely feasible, and trucks can undergo more than three retreading cycles.
- On fitting costs:
  - Stakeholder 4: The stated costs likely refer to a set of four tyres, not a single tyre.
- On pricing:
  - Stakeholder 9: The pricing information for the retread market is inaccurate.
  - Stakeholder 10: Pricing should distinguish between Sell-In (from tyre manufacturer or importer to tyre dealer) and Sell-Out (from tyre dealer to consumer) prices.
  - The study team responded that the prices were collected from catalogues, aiming to cover various EU countries, and are also based on data from stakeholder consultations. Overall, there seems to be considerable variation, and all data contributions are welcome.

#### Task 3 – Oeko-Institut, Daniel Hinchliffe

Task 3 was summarised and various discussion questions were raised. The following reproduces the main discussion:

- On impact of rolling resistance data vs fuel consumption:
  - Stakeholder 4: I have done tests relating to C1 rolling resistance. Rolling resistance in the slides is stated as 1.6% of fuel consumption I think more 5%, and impact on the range of 5-10% I have done these tests 0-1.6 millimetres.
- On consumer preference for tyres and sustainable materials
  - Stakeholder 1: relating to tyres sold in segments covered by the study on consumer perceptions of the tyre label: availability of tyres in higher labelling segments has increased, but the number sold in the market is not evolving. The most prevalent label/category from 15 years ago is still the most prevalent today. Consumers don't use the tyre labelling as much as we would like. Consumers are mostly driven by cost.

- Stakeholder 2: on sustainable materials, all manufacturers have done their homework and see three main groups of consumers
  - 1) the man on the street not so interested in sustainable criteria.
  - 2) vehicle OEMs very interested but the question is how much they will be willing to pay in particular EU premium vehicle manufacturers are interested. If there is anyone applying pressure on the tyre manufacturers, it's them.
  - 3) Fleets: public facing organisations that will want to portray a green image, like Amazon, Lego, Nike or IKEA. If as a tyres manufacturer I can provide to Ikea or Amazon, that's worth a lot. These kind of contracts are worth an effort.

Durability is happening – North America is individually interested in durability, some guarantees of 100,000 km. In the EU it has not really taken off. If the durability of a tyre would be provided as information for consumers, people may be interested but of course there is a difference between what people say in surveys (sustainable) and how they actually behave (cheap).

- Stakeholder 11: Green Claims Directive would prohibit to use vague terms like "more sustainable materials. You need to be more specific on using the term 'sustainable materials'.
- European Commission DG ENER: The 2019 EC label study indicated also that MILEAGE is the second most relevant aspect in purchase choice, ex-aequo with RR.
- Stakeholder 12: An insight from the textile industry: a recent study shows that consumer perception (+30%) and purchase intent (+20%) for durable products can be significantly increased by using the "cost per wear": <a href="https://onlinelibrary.wiley.com/doi/10.1002/mar.70061">https://onlinelibrary.wiley.com/doi/10.1002/mar.70061</a>:
- Stakeholder 13: low-cost tires are becoming increasingly popular. But low-cost tires also mean less safety.
- On durability and whether abrasion performance can be used as proxy
  - European Commission DG ENER: The 2019 study and another we just did confirm that "mileage" (not abrasion) is the 2nd most important parameters in consumer purchase choice (with RR, after wet grip), because represents "money savings".
  - Stakeholder 4: We don't use 'durability' only for abrasion but also for e.g. high speed and endurance.
  - Stakeholder 1: we should not mistake abrasion and mileage with each other not fully linked. When looking at EPREL the ambition has been stated to investigate abrasion and mileage data in future we need to make sure that the efforts are not copied.

- Stakeholder 14: Seen from a tyre manufacturer point of view, durability is a measure of a tyre reaching a limiting state of tyre failure while being tested way over its intended load. This is not a state that should ever occur during normal use and therefore cannot be used as a limiting state by the user.
- On test standards affecting the use phase
  - Stakeholder 10: On retreads ECE R 172 is also existing. For tyre mounting also ECE R 142 applies.
  - Stakeholder 3: On trucks and buses there are all the Vehicle CO2 emissions regulations (Vecto and related) that impact tyre RR through OEM specifications
  - Stakeholder 4: R30, R75 have information on endurance and high speed tests, R164 is for studded/spike tyres.
- On retreading market:
  - Stakeholder 10: Development-wise C1 and C2 disappeared from retreading. The reasons:
    - Dimensions. Hot-cure or pre-cure needs a perfect fit between tyre and casing
    - o Price difference
    - Retreading tyres is a highly craftsman-driven SME work compared to new production of virgin tyres that is highly automated
    - Acceptance of retreaded tyres following tyre tests over the last decades showed that retreaded tyres had poorer quality. Acceptance virtually disappeared.
    - Lack of know-how, lack of demand of the market, vast complexity in dimensions in one tyre size
      in the market. All newer technologies from tyre manufacturing were not passed to independent
      retreaders, meaning there is a lack of knowledge on how to integrate newest processes and also
      to deal with the complexity of dimensions.
  - Stakeholder 1: what stakeholder 10 said is generally agreed. C1 and C2 retreading was common in the 90's but almost disappeared.
- On End of Life (EoL) Treatment
  - Stakeholder 1: When we look at Europe, there is national EPR legislation in most countries. EPR laws might cover industrial, motorcycle and agricultural tyres, but not bicycle tyres.

Exported EoL tyres: separation between waste stream and product stream. Re-used tyres are a product and shipped under the product code, not the EoL codes. After collection and sorting, the EoL tyres are shredded, for purposes of transport ease and cost.

In Europe: waste shipment regulation. In India also extensive regulation in place for shipment of tyres. We have the responsibility to take care of that situation and to manage it well.

The ambition is to keep the waste streams in EU to create a secondary raw material market.

- Criteria to avoid shipments of tyres that end in incineration?
  - Stakeholder 1: As we speak the waste tyre guidelines are being updated in the Basel Convention.
  - Stakeholder 2: in the UK there was a recent summit on what is happening with exports to India. There is not a problem of reused or scrap tyres in India on the streets which indicates they are being treated somewhere, but the conditions under which recycling is performed are appalling. It doesn't look like there is enforcement of the legislation there.
    - Similar story on part worn tyres: pretty much zero inspection of what they are if you take tyres off e.g., a tyre with internal damage from a crash vehicle can be put on another vehicle for 10€. If you can improve the inspection that would be great. One aspect worth mentioning tracking life events in the tyre lifecycle that affect the carcass for the whole tyre life. If you can track tyres that were in a crash maybe that will help sort such tyres out.
  - Stakeholder 15: you referred to standards with minimum requirements an inspection control activity for vehicles in the EU. Vehicles are controlled and tyres are part of this. We have good quality tyres that can go back into the marketplace. We have formalised inspection control there is a general binding requirement. It's not a wild market. (Similar to MOT in UK).

#### Task 4 – Oeko-Institut, Dr.-Ing. Izabela Kosinska-Terrade, Dr. Felix Mayer

Several key points from Task 4 were presented and raised various discussion points. The following reproduces the main discussion:

- On abrasion
  - Stakeholder 1: Abrasion testing by ADAC cannot be used for the results, given that they are not based on the internationally agreed standards under UNECE
  - Stakeholder 2: Industry spent 5 years trying to come up with a test and still can't agree, whether drum test or road test should be used. Therefore the only data available are from ADAC.
  - Stakeholder 13: The Task Force "Abrasion" is working to have a final proposal ready by February 2026.
- On Best Available Technologies (BAT)

 Stakeholder 1: Regarding BAT, performance criteria of tyres differ depending on the clustering of tyres, and even within the clusters themselves. That makes the concept of BAT a very difficult thing to define. Thereof the aspect of BAT needs to be carefully assessed when using base cases for the LCA.

#### On EoL

 Stakeholder 10: Regarding the EoL management overview diagram, the repair cycle is missing for reuse.

### On retreading:

 Stakeholder 9: For C3 tyres, 10-12 dimensions covers 80 % of the EU market. C1 on the other hand is a challenge due to large number of dimensions.

### • On problematic tyre components

Stakeholder 5: When discussing problematic tyre components, it is important not to put everything into one basket. We should distinguish between different technologies and applications—for example, self-sealing and noise-reduction technologies—and further separate components that can be removed from those that cannot. This differentiation could be reflected in tyre marking or labelling, which would help identify specific features relevant for EoL treatment.

#### • On alternative materials

- Stakeholder 2: Established tyre makers lack effective mechanisms to onboard new suppliers of alternative materials, making entry extremely hard. New materials typically require starting from scratch with major capital outlays (200–400 million EUR), and the costs and complexity of certification and meeting strict volume/quality/spec standards can exceed factory costs—deterring investors. While tyre companies like Stakeholder 3 and Continental have tried to support a new materials ecosystem, this is very expensive and can complicate competition. Stakeholder 2 suggests government funding could help de-risk early-stage development and enable scale-up of sustainable alternatives.
- Stakeholder 11: A lot of focus in tyres is on the use phase. Challenge is to not affect the performance (risk of unintended consequences). We need very rigorous LCA under ISO 14040/44 to make sure nothing is left uncovered in terms of unintended consequences. Deforestation for instance is a problem for natural rubber. These aspects should also be considered when moving to bio-based materials. Changing materials (e.g. halobutyl rubber) could challenge tyre industries even more and increase energy consumption of factories for production. No single aspect flagged without looking end to end.

- Stakeholder 6: Alternative materials are challenges, but also opportunities. Some of our plants are not acting at capacity. If we had a home for what we produce, then it would be well received. If we set some targets on recycled raw materials and also made it attractive for manufacturers then this would help. As recyclers and prospective raw material suppliers we see challenges and agree safety must come first. Still, if you make recycling (and the outlet of recycling plants) attractive and then we will have a supply.
- Stakeholder 1: Tyres are first and foremost a safety product. While we fully support environmental objectives, it is essential to have standardised measurement methods so that all actors report in a consistent and comparable way. Regarding End-of-Waste, clear criteria are needed to enable the safe and effective use of recycled materials. The same applies to bio-based and other innovative materials. The use phase of a tyre represents the largest share of its environmental impact—accounting for 80–90% of total CO<sub>2</sub> emissions over its lifecycle.
- Stakeholder 16: There are a lot of sustainable additives, bio-based /renewable materials with lower environmental footprint compared to conventional ones. It is small volume, but there are a lot of options to improve here when looking at specific additives.
- Stakeholder 17.: We have actively contributed to discussions on the bioeconomy through public consultations, but there remains a lack of clarity around what is meant by "bio-based synthetic rubber." Currently, premium products made with bio-based materials can be up to seven times more expensive, which presents a major barrier to wider adoption.

#### General comment

 Stakeholder 10: The width (i.e. 205 mm in the example shown in the slides) is the overall width of the tyre, not the width of the tread.

### Base Cases – Oeko-Institut, Yifaat Baron

Slides were presented on the initial proposed base cases to be modelled in Task 5.

#### Task 5 – Ecomatters, Serena Cunsolo

A summary of existing data points and gaps to be used in LCA was presented. The following reproduces the main discussion:

- On granularity level of modelling of synthetic rubber
  - Stakeholder 11: How granular will the modelling of synthetic rubber be?

- Study team: we usually tend to select one type of material, however if specific information on the type of synthetic rubber used is provided along with the data, we can check for its availability in the database.
- Is the LCA based on ISO 14040/14044? Study team: We are conducting an LCA that is in alignment with PEF, however PEF method is also based on ISO 14040/14044.
- On performing multiple life cycles regarding retreading
  - Stakeholder 18: C3 can be retreaded multiple times, are you thinking of a multiple lifecycle assessment? For example, doing it over several lifecycles?
  - Study team: it depends on feedback. Multiple retreadings could be integrated as a sensitivity analysis.
- On inclusion of Devulcanization process in LCA:
  - Stakeholder 15: Devulcanisation should be considered for inclusion. It has certain advantages against pyrolysis. First in C3, then C2, then also used as a large base in agricultural. It will stay less in volume than pyrolysis, but opportunity is rather interesting. Data can be shared.
  - Study team: please provide LCA data as well as data on how often this is currently used in practice (to understand the market size).
- On missing data
  - Stakeholder 1: Thank you for the overview and we will do our best to provide the missing data.
- On inclusion of impacts from microplastics and normalization
  - Stakeholder 19: There is an updated recommendation to integrate impacts from microplastics.
  - Study team: new recommendation has not been published yet, but we will look into it.
  - Will Normalisation and weighting be applied?
  - Study team: yes, as part of the MEErP methodology.
- On fuel consumption figures
  - Stakeholder 4: Fuel use: data for C1, C2 and C3 seem to be not correct for one tyre. (For one tyre it should be about 20% of the total energy use). For truck looking at 30L per 100km.
- On location of manufacturing:

- Stakeholder 8: The LCA of a tyre manufactured in Asia will be very different to one that is manufactured in Europe. Where is your base case manufactured?
- Study team: Send us data so we can compare
- On additives and Circular Footprint Formula
  - Study team: Additives data needed to make the LCA useful.
  - Multiple LCAs: in PEF methodology there is a circular footprint formula that enables to share environmental impact of a product in subsequent lives. MLCA is hence integrated in the methodology.

### Closing words and outlook - Oeko-Institut, Yifaat Baron

Next steps were presented together with project planning and meeting was closed.

- Stakeholder 1: It is quite some effort to provide good data: is there a possibility to provide more time for the data? Task 1-4 inform the later tasks but we won't get the final draft until March next year: how will we do tasks 5-7 if we have not concluded 1-4?
- Study team: iterative process where feedback is taken into revision of report, base cases and modelling.

### List of participants registered for the meeting (not necessarily all attended):

| Last Name         | First Name    | Company/Organisation           |
|-------------------|---------------|--------------------------------|
| Adjei             | Frederick     | Oeko-Institut                  |
| Aixill            | Joanne        | Exxon Mobil                    |
| Akkerman          | Floris        | BAM                            |
| Al Masri          | Fadie         | Continental                    |
| Alvarez           | Selene        | The Pew Charitable Trusts      |
| Baillet           | Patrice       | French Ministry for ecological |
|                   |               | transition                     |
| Baron             | Yifaat        | Oeko-Institut                  |
| Bernheim          | Teresa        | LANXESS Deutschland GmbH       |
| Best              | Emily         | ECOS                           |
| Boiko             | Denis         | Dow                            |
| Bosten            | Joëlle        | Rijkswaterstaat                |
| Canda             | Jimena        | Dow                            |
| Cascini           | Alessandro    | Bridgestone                    |
| Ceulemans         | Elke          | Febelauto vzw                  |
| CHANSOU           | Benoit        | Michelin                       |
| Chiovenda         | Francesca     | GS1                            |
| Cunsolo           | Serena        | Ecomatters B.V.                |
| DE BUYL           | François      | Dow Silicones Belgium srl      |
| Degardin          | Lea           | Mobivia                        |
| Demchuk           | Nataliia      | Avery Dennison                 |
| Descarpentries    | Simon         | Decathlon                      |
| Dodu              | Maëlle        | UTAC                           |
| Enggaard          | Emil Melchior | EUnited ASBL                   |
| Faure             | Jean Philippe | ALIAPUR                        |
| Furno             | Alessandro    | Bridgestone EMEA               |
| Gascón Castillero | Lucía         | Oeko-Institut                  |
| Georjon           | Olivier       | Exxon Mobil                    |
| GIOVANNOTTI       | Riccardo      | GDSO                           |
| Gomez             | Gabriel       | Recycling Europe               |
| Gonzalez Hidalgo  | Ruth          | elanova                        |
| Goodland          | James         | NXP                            |
| Grein             | Randall       | Hana Technologies              |
| Groeneweg         | Marjolein     | Synthos S.A.                   |
| Guth-Orlowski     | Susanne       | 4TheRecord / RAIN Alliance     |
| Haita-Falah       | Corina        | Trinomics B.V.                 |
| Halsband          | Claudia       | Akvaplan-niva                  |
| Harvey            | Stephanie     | Kenda Europe                   |
| Herzke            | Dorte         | NILU                           |
| Heymans           | Lie           | European Commission, DG<br>ENV |

| Hinchliffe       | Daniel            | Oeko-Institut                          |
|------------------|-------------------|--|
| Hyytinen         | Lauri             | Avery Dennison                         |
| Ihle             | Günter            | RIGDON                                 |
| Ingre-Khans      | Ellen             | Swedish Chemicals Agency               |
| Jungerling       | Kasper            | Rijkswaterstaat                        |
| Kappenberg       | Bernd             | Cefic                                  |
| Kelchtermans     | Nele              | VITO                                   |
| Klutke           | Aimée             | BASF                                   |
| Kobayashi        | Takahiro          | Bridgestone                            |
| Koch             | Eva               | BASF                                   |
| Kolbjørnsen      | Véronique         | Norwegian Environment<br>Agency        |
| Kosinska-Terrade | Izabela           | Oeko-Institut                          |
| Lankolainen      | Jukka             | Tyre Specialists of Finland (ARL r.y.) |
| Lau              | Cheri             | TUV SUD                                |
| Lo Vercio        | Gianluca          | Nexen Tire sro                         |
| Lopes            | Carlos            | Swedish energy agency                  |
| Ludwig           | Kathrin           | BMUKN                                  |
| Magnaghi         | Matteo            | Pirelli & C. S.p.A.                    |
| MARCELLO         | LUCA              | DECATHLON SE                           |
| Marin            | Alexandre         | RIVA Group                             |
| Mathioudaki      | Stella            | ETRMA                                  |
| Mau-Gefeller     | Joanna            | Continental Reifen                     |
|                  |                   | Deutschland GmbH                       |
| Mayer            | Felix             | Oeko-Institut                          |
| Migliorini       | Sabrina           | Cefic                                  |
| Mindegaard       | Jeppe Nothlev     | Danish EPA                             |
| Molden           | Nick              | Emissions Analytics                    |
| Mueller          | Dominik           | UPM Biorefining                        |
| Nante            | Francesca         | Michelin                               |
| Nerland Bråte    | Inger Lise        | The Norwegian Environment Agency       |
| Neyaz            | Anshrah           | ID Tech Solutions                      |
| Nébule           | Maxime            | Ministère de l'Intérieur               |
| Olsson           | Emma              | Swedish Energy Agency                  |
| Otte             | Alexander-Nikolaj | FSLCI                                  |
| Paolucci         | Dino              | Bridgestone                            |
| Papavasileiou    | Maria             | Ecomatters B.V.                        |
| Papukashvili     | Nino              | Shell                                  |
| PARMENTIER       | Jean-François     | MICHELIN                               |
| Petrovic         | Roxanna           | IISRP                                  |
| Podwórna         | Marta             | ORZEŁ S.A.                             |
| Qayyum           | Asim              | CUST                                   |

| Raahauge         | Lars     | Genan  |
|------------------|----------|--|
| Ramirez          | Mariano  | IISRP  |
| Routhiau         | Clémence | Michelin   |
| Schwämmlein      | Michael  | BIPAVER EEIG   |
| Schönnenbeck     | Martina  | Verband der Chemischen Industrie e.V.                  |
| Serra            | Anne     | European Commission, DG<br>GROW                        |
| Shaw             | David    | Tire Industry research                                 |
| Sonnen           | Max      | Ecomatters B.V.  |
| Spak             | Björn    | Swedish Environmental Protection Agency                |
| Szunder          | Csaba    | Michelin   |
| Taupin           | Amélie   | elanova  |
| Thoumsin         | Bertrand | REGOM  |
| Tuohy            | Malachy  | Goodyear   |
| van den Boogaart | Lucia    | Trinomics B.V.   |
| van der Steege   | Frits    | Kenda Tyres  |
| Van Gelderen     | Alex     | European Tyre and Rubber<br>Manufacturers' Association |
| van Koeverden    | Michiel  | Apollo Tyres (EU)                                      |
| Van Oostenrijk   | Kees     | RecyBEM/Stichting Fonds<br>Band en Milieu              |
| Velte            | Gabriele | Goodyear   |
| Verwey           | Lehani   | Apollo Tyres   |
| Williams         | Robert   | Trinomics B.V.   |
| Zibell           | Laurent  | Trinomics B.V.   |