Exemption Request Form - Exemptions #6(b) & 6(b)-I

Date of submission: 09 October 2020

1. Name and contact details

1) Name and contact details:

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On behalf of the Company/Business organizations/Business associations listed below participants in the **RoHS Umbrella Industry Project ("the Umbrella Project"):**

ACEA European Automobile Manufacturers Association The European Automobile Manufacturers' Association (ACEA) EU Transparency Register ID number: 0649790813-47	AmCham EU SPEAKING FOR AMERICAN BUSINESS IN EUROPE American Chamber of Commerce to the European Union (AmCham EU) EU Transparency Register ID number: 5265780509-97	ANIE FEDERAZIONE CONFINDUSTRIA ANIE Federation EU Transparency Register ID number: 74070773644-23	CIAJ Communications and Information network Association of Japan Communications and Information Network Association of Japan (CIAJ)
Cu Copper Development Association Inc. Copper Alliance Copper Development Association Inc. (CDA)	DIGITALEUROPE DIGITALEUROPE (DE) EU Transparency Register ID number: 64270747023-20	EUROMOT The European Association of Internal Combustion Engine Manufacturers European Association of Internal Combustion Engine Manufacturers (EUROMOT) EU Transparency Register ID number: 6284937371-73	COCIR Advancing Healthcare European Coordination Committee of the Radiological, Electromedical and Healthcare IT Industry (COCIR) EU Transparency Register ID number: 05366537746-69

European Garden Machinery Industry Federation (EGMF) EU Transparency Register ID number: 82669082072-33	European Partnership for Energy and the Environment (EPEE) EU Transparency Register ID number: 22276738915-67	European Passive Components Industry Association (EPCIA) EU Transparency Register ID number: 22092908193-23	The European Semiconductor Industry Association (ESIA) is an industry association working under the umbrella and legal entity of the European Electronic Component Manufacturers Association (EECA) EU Transparency Register ID number: 22092908193-23
Fédération des Industries Mécaniques (FIM) EU Transparency Register ID number: 42858181373783-89	GAMBICA - The UK Association for Instrumentation, Control, Automation & Laboratory Technology	Gesamtverband der Aluminiumindustrie e.V. (GDA) EU Transparency Register ID number: 654963534726-10	Information Technology Industry Council (ITI) EU Transparency Register ID number: 061601915428-87
Interconnect Technology Suppliers Association (ITSA)	IPC International, Inc. EU Transparency Register ID number: 390331424747-18	Japan Analytical Instruments Manufacturers' Association (JAIMA)	Japan Business Council in Europe (JBCE) EU Transparency Register ID number: 68368571120-55
Japan Business Machine and Information System Industries Association (JBMIA)	Japan Electric Measuring Instruments Manufacturers' Association (JEMIMA)	Japan Electrical Manufacturers' Association (JEMA)	Japan Electronics and Information Technology Industries Association (JEITA)
Japan Federation of Medical Devices Associations (JFMDA)	Japan Inspection Instruments Manufacturers' Association (JIMA)	Japan Land Engine Manufacturers Association (LEMA)	Japan Lighting Manufacturers Association (JLMA)

Japan Measuring Instruments Federation (JMIF)	Japan Medical Imaging and Radiological Systems Industries Association (JIRA)	LightingEurope (LE) EU Transparency Register ID number: 29789243712-03	MedTech Europe EU Transparency Register ID number: 433743725252-26
Nippon Electric Control Equipment Industries Association (NECA)	Orgalim – Europe's Technology Industries EU Transparency Register ID number: 20210641335-88	SPECTARIS - German Hightech Industry Association EU Transparency Register ID number: 55587639351-53	The Japan Auto Parts Industries Association (JAPIA)
Wirtschafts Vereinigung Metalle (WVMetalle) EU Transparency Register ID number: 9002547940-17	Wirtschaftsverband Großhandel Metallhalbzeug e.V. (WGM)	Wirtschaftsverband Industrieller Unternehmen Baden e.V. (wvib)	Wirtschaftsverband Stahl- und Metallverarbeitung e.V. (WSM) EU Transparency Register ID number: 921351835520-23
ZVEI - German Electrical and Electronic Manufacturers´ Association EU Transparency Register ID number: 94770746469-09			

1. Reason for application:

Please indicate where relevant:

☐ Request for new exemption in:

☐ Request for amendment of existing exemption in

☒ Request for extension of existing exemption in

☐ Request for deletion of existing exemption in:

☐ Provision of information referring to an existing specific exemption in:

☒ Annex III ☐ Annex IV

No. of exemption in Annex III or IV where applicable: 6(b) & 6(b)-I

Proposed or existing wording: Existing wording

Duration where applicable: *We apply for renewal of these exemptions for the category marked in section 4 further below for the maximum validity period foreseen in the RoHS2 Directive, as amended. For this category, the validity of these exemptions may be required beyond those timeframes. As specified in separate requests to renew the exemptions submitted to the European Commission within the deadline foreseen by the Directive for submission of applications, applications in this exemption renewal request are relevant to other categories not marked in section 4 further below.*

☐ Other: _____

2. Summary of the exemption request / revocation request

Recycling of aluminium scrap is an important part of the circular economy. Aluminium contributes to building the European infrastructure and is one of the major raw materials in industries with high recycling rates such as: construction, automotive and packaging, engineering products and more

In order to contribute to the circular economy and secure the efficient use of raw materials, an appropriate collection infrastructure, including well-functioning shipment legislation, needs to be in place.

As highlighted in the previous application, aluminium produced from recycled scrap metal may contain lead. The reason for this is that scrap coming from products from the past can sometime contain lead. When these products are recycled the lead will unintentionally and unavoidably be transferred to the new casting alloys and products made with these alloys.

Mechanical separations in advance to the remelting/refining process such as eddy current and density processed, can hugely reduce the amount of lead metal as well as of other metals going into the aluminium scrap stream and it is possible to a limited extend to separate high lead containing Al scrap from the low lead containing scrap if the density difference is sufficiently large. However, to obtain significant environmental benefits, high lead containing Al scrap should be recycled and not be landfilled. The last chance to remove lead would be at the remelting stage if suitable methods were available. A study on 'Existing technologies for lead removal from Aluminium melts' [1] was carried out by MIMI Tech UG and finalized in June 2012 (the study is attached to this application). The study shows, however, that only a few methods could be found and were assessed, i.e. Phase separation, Electrolysis and Vacuum distillation. These methods are either not approved (or practical) above lab-scale or from an environmental perspective are not feasible. The only alternative to reduce the lead content to <0.1% is to dilute the metal with primary aluminium. This would result in higher environmental impacts due to the fact that the production of primary aluminium is very energy intensive in comparison with remelting of scrap. We are not aware of any further study since the last renewal request from 2015. Since the last renewal was published only in 2018, there was not enough time to further plan and implement additional industry studies. To our knowledge there was also no publicly (e.g. EU) funded dedicated research programmes for such studies neither therefore academia has developed programs in this respect in this domain. Aluminium manufacturers have long called for the right infrastructure for collection and sorting in order to increase recycling rate in Europe as well as for increased funding for treatment and sorting technologies.

Thus, lead is included in the scrap flow as an impurity which cannot be separated during the scrap recycling process phase. Current science and technology has not found a solution yet. Although lead is not intentionally added in the secondary production, it is tolerated to a certain level for the production of many secondary alloys, due to the fact that the presence of lead is either benign or in some uses it improves the machinability of the alloys in its subsequent treatment to produce the semi-final or final products. The level of tolerance is specified in both European standards for aluminium scrap and for aluminium alloys.

In particular, aluminium alloys from the EN 43000 to 47000 series made from scrap and the products produced from these alloys are permitted to contain lead e.g. the production of frameworks of lamps and lights, heat sinks, electrical and electronic items in housing and industries, etc.

Allowing the use of the lead containing aluminium scrap at a level of 0,4% provides the possibility of effective and efficient use of recycled aluminium scrap without posing any health or environmental risks and will facilitate natural reduction of lead containing scrap on the market as the amount lead deliberately added to aluminium alloys made with primary aluminium decreases in the future.

There is no evidence that it would be possible to lower the limit from 0,4% for the time

being.

- Lead content is variable depending on the type of aluminium scraps and level below 0,4% cannot be achieved consistently.
- The EU Standards EN 1676 for alloyed ingots for castings are currently out for voting and might foresee a maximum content of lead in aluminium alloys of 0.29% (weight by weight). The timeline for approval is not known to us at the moment. Nonetheless RoHS limits can be lowered only once new standards (adopted globally as most EEE is sourced outside of the EU) are in place and enough time has been granted for depleting stocks along the whole supply chain and ensure that proper testing and re-certification (when required) has been achieved.
- As the manufacturers' supply chain is global, limits in RoHS cannot be changed before international standards are adopted and fully implemented and before the global supply chain has consistently adopted the new alloys, otherwise RoHS would end up banning imports of components and equipment manufactured outside EU, and for which EU alternatives are not available (or which would require virgin aluminium, with the related much higher environmental impact).

If the lead concentration limit were to be lowered, the aluminium industry will be confronted with the impossibility to continuing recycling of aluminium with higher lead content (or being required to dilute batches with higher concentration with virgin aluminium). A lower limit may also result in a de facto ban of the import of articles (electronic components and equipment) containing recycled aluminium that would result in the requirement for virgin aluminium to be used, thus increasing the global environmental impact and the cost for industry, and ultimately EU consumers/professional users.

Before the maximum threshold of 0.4% lead in exemption 6b-I could be reduced, it had to be checked if this is technically achievable globally in recycled aluminium without dilution using virgin metal. It should be taken into account that 0.4% is a maximum threshold that will usually not be fully exploited. In reality batches of recycled aluminium will usually have a lead content of less than 0.4% with this threshold merely acting as maximum upper limit. A reduction of the threshold would therefore introduce high burden for testing and change of a well-established system without a relevant reduction of the total lead amount.

The concentration of lead in recycled aluminium may decrease year after year in the future if new lead free aluminium machining alloys made using virgin aluminium are developed and which do not have a significantly higher environmental and health burden than the lead-alloys (e.g. bismuth as an alternative to lead in machining alloys has a much higher overall environmental and health impact than lead) when products made with these alloys reach end of life and are scrapped. A lower concentration limit at this stage will not bring any added value, but it will only force recyclers to dilute aluminium to

lower the lead content.

Therefore, we request the extension of the existing exemption: ‘Lead as an alloying element in aluminum containing up to 0,4 % lead by weight, provided it stems from lead-bearing aluminum scrap recycling ‘, for the maximum duration detailed by RoHS for the different categories.

3. Technical description of the exemption request / revocation request

3.1. Description of the concerned application:

1. To which EEE is the exemption request/information relevant?

   Name of applications or products: Recycled aluminium is used to make castings which have a wide variety of uses in all types of EEE. For example, the production of pinons, gears for chains, various machinery components, lawnmowers, brush cutters, lawn trimmers, scarifies and hedge trimmers, combustion engines, garden and outdoor equipment, petrol chainsaw, power cutters, pistons, flywheel, cylinders, medical devices (e.g. MRI and CT scanners), monitoring and control instruments, frameworks of lamps and lights, heat sinks, electrical and electronic items in housing and industries etc. The list is not exclusive. In practice the use is widespread across numerous products

   a. List of relevant categories: (mark more than one where applicable)

☐ 1	☐ 7
☐ 2	☐ 8
☐ 3	☐ 9
☐ 4	☐ 10
☐ 5	☒ 11
☐ 6	

   b. Please specify if application is in use in other categories to which the exemption request does not refer: *As specified in separate requests to renew the exemptions submitted to the European Commission within the deadline foreseen by the Directive for submission of applications, applications in this exemption renewal request are relevant to categories not marked above and below.*

   c. Please specify for equipment of category 8 and 9:
      The requested exemption will be applied in
      ☐ monitoring and control instruments in industry
      ☐ in-vitro diagnostics

☐ other medical devices or other monitoring and control instruments than those in industry

2. Which of the six substances is in use in the application/product?

   (Indicate more than one where applicable)

   ☒ Pb ☐ Cd ☐ Hg ☐ Cr-VI ☐ PBB ☐ PBDE

3. Function of the substance: Lead is present as an unavoidable impurity when recycled metal is used. Use of recycled metal has a smaller overall environmental and health impact than use of virgin (primary) metal.

4. Content of substance in homogeneous material (%weight): Up to 0.4%

5. Amount of substance entering the EU market annually through application for which the exemption is requested: The exemption applies to the use of recycled aluminium in EEE. As the aluminium is recycled, no additional quantities of lead are added to the EU market. Industry cannot estimate the quantities imported in articles due to huge variety of applications. Figures on imported tonnes for recycling are reported in 7.4.

6. Please supply information and calculations to support stated figure.

7. Name of material/component: Aluminium alloy

8. Environmental Assessment: Numerous life cycle assessments for primary and secondary aluminium are published and all show that overall, the impact on health and the environment from use of recycled alloy is less negative than use of primary aluminium[1]. Reuse of recycled materials is positively encouraged by EU Circular Economy policies as well as the WEEE directive

   LCA: ☐ Yes

   ☒ No, a separate LCA is not submitted with this request as these are already published (e.g. footnote 1) comparing primary and scrap aluminium

3.2. In which material and/or component is the RoHS-regulated substance used, for which you request the exemption or its revocation? What is the function of this material or component?

Aluminium alloys (containing lead) are used to make a very large number of EEE products, parts and components of products some of which are listed as examples

[1] https://european-aluminium.eu/media/1329/environmental-profile-report-for-the-european-aluminium-industry.pdf (this LCA has been independently assessed)

in Section 4 (A) 1. Many of the equipment manufacturers do not make the aluminium alloy parts that they use and which require this exemption. These alloys are selected and used by the component manufacturers who are located world-wide and they source aluminium globally.

Aluminium recycling is the key contributor to circular economy with recycling aluminium saves up to 95% energy compared to primary production and 75% of all aluminium ever produced is still in use today[2]. The industry relies heavily on scrap as a raw material. The reuse of scrap material is supported through initiatives such as the revised legislative framework on waste[3] which sets recycling targets for aluminium in packaging materials. Scrap can contain unwanted impurities like lead.

3.3. What are the particular characteristics and functions of the RoHS-regulated substance that require its use in this material or component?

Lead is present in scrap aluminium and is therefore in the recycled aluminium.

4. Information on Possible preparation for reuse or recycling of waste from EEE and on provisions for appropriate treatment of waste

4.1. Please indicate if a closed loop system exist for EEE waste of application exists and provide information of its characteristics (method of collection to ensure closed loop, method of treatment, etc.)

Here below is a general description on the recycling of EEE waste.

After the de-pollution step carried out according to the WEEE Directive, WEEE consists chiefly of a mixture of metal, plastics, ceramics and glass. From here, the treatment of WEEE in general has the following steps, though the process may vary with different combinations of: shredding, granulating (more than once), magnetic separation, and eddy current separation (more than once), there is also the possibility of density separation on the separation table and/or hand separation.

The stainless steel, Al and Cu fractions are separated from other ferrous metals and other non-ferrous metals, including free lead metal, during these processes, mainly achieved by eddy current separation and/or density separation, and can be sent directly to the steel works or metals refineries. The metal content in the plastic fraction can be

[2] *https://www.european-aluminium.eu/media/1716/driver-of-change-circular-economy-aluminium-as-the-front-runner.pdf*

[3] *https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=OJ:L:2018:150:TOC*

high; however it is possible to further recover these metals later during the plastic recycling process or, if the plastic is incinerated, from the bottom ash of the incinerators.

The recycling process gives an aluminium fraction that will be further processed in a secondary refining plant. Before melting, when necessary, scraps may be first pre-treated to remove coatings (e.g. paint) or oil. With the addition of salt flux (this prevents oxidation and improves yield), scrap is melted in a suitable furnace, and then refined and casted according to product specification.

4.2. Please indicate where relevant:

☒ Article is collected and sent without dismantling for recycling

☒ Article is collected and completely refurbished for reuse- applicable to some types of medical devices such as CT and MRI

☐ Article is collected and dismantled:

- ☐ The following parts are refurbished for use as spare parts: _____
- ☐ The following parts are subsequently recycled: _____

☐ Article cannot be recycled and is therefore:

- ☐ Sent for energy return
- ☐ Landfilled

4.3. Please provide information concerning the amount (weight) of RoHS substance present in EEE waste accumulates per annum:

☐ In articles which are refurbished _____

☒ In articles which are recycled: no volume data available for estimation

☐ In articles which are sent for energy return _____

☐ In articles which are landfilled _____

5. Analysis of possible alternative substances

5.1. Please provide information if possible alternative applications or alternatives for use of RoHS substances in application exist. Please elaborate analysis on a life-cycle basis, including where available information about independent research, peer-review studies development activities undertaken

There is no suitable alternative applications or alternatives. (Please see point 8 for assessment and justification).;

In 2017, 32% of aluminium was produced from new and old scrap, of which 60% was from old scrap (new and old scrap includes product manufacturing and end-of-life scrap; it does not include internal scrap produced in aluminium fabrication facilities). In 2017, collections rates for aluminium were over 95% for new scrap and 70% for old[4].

[4] https://www.iea.org/tcep/industry/aluminium/

Currently most aluminium scrap contains lead and no commercial process is available to remove it. As a result recycled aluminium casting alloys will always contain some lead. Therefore, the only way to avoid lead or to comply with a more stringent lead limit value is to dilute secondary aluminium with primary metal. This would result in significant increase of environmental impact due to the fact that primary aluminium production is an energy intensive process. Aluminium recycling account for about 70% of the Aluminium produced in the EU.
Use of recycled metal has overall less negative health and environmental impacts as shown by published life cycle assessments[5] and is encouraged by EU Circular Economy policy.

5.2. Please provide information and data to establish reliability of possible substitutes of application and of RoHS materials in application

The only alternative to the use of recycled aluminium is to use virgin aluminium. The use of virgin aluminium involves a far higher environmental impact and would completely nullify all the achievements of the sector in implementing a circular economy business model.

It is also important to consider that aluminium parts are produced using internationally standardized materials (e.g. DIN) and customer specifications that cannot be changed unilaterally by EU suppliers.

6. Proposed actions to develop possible substitutes

6.1. Please provide information if actions have been taken to develop further possible alternatives for the application or alternatives for RoHS substances in the application.

The aluminium industry, together with its downstream industries, have been researching on the technical possibilities to remove lead from the aluminium scrap. Removal of lead from aluminium scrap is technically impractical or environmentally unacceptable due to the high energy consumption. Information on the research in this field are reported in chapter 8 of this dossier. IEA also state that the high energy consumption of producing virgin aluminium is not the only negative environmental and health impact that is more negative than recycling aluminium scrap[4]. They state:

- Scrap recycling consumes only 5% of the energy compared with primary production
- Primary aluminium production causes emissions of poly-fluorinated hydrocarbons (PFC), and other pollutants including fluorides,

[5] https://european-aluminium.eu/media/1329/environmental-profile-report-for-the-european-aluminium-industry.pdf (this LCA has been independently assessed)

polycyclic aromatic hydrocarbons (PAH), SO2, dust, metals, NOx, CO. These are not emitted during scrap remelting and overall scrap recycling emits far less emissions that primary production.

- A major waste from primary aluminium production is red mud (600-1500 kg/tAl2O3). Scrap recycling generates a sale slag as waste (500 t/t Al)

Apart from the comprehensive life cycle assessment published by European Aluminium (footnote 1), another has been published for aluminium production in the United States with the following results[6]:

Impact Assessment Category	**Unit**	**Production 1000kg primary aluminium ingot**	**Production 1000kg secondary aluminium ingot**
Primary Energy Demand	GJ/ton	138.1	10.95
Global Warming Potential	Ton CO2-eq/ton	8.937	1.23
Acidification potential	Kg SO2 – eq/ton	56.4	5.644
Eutrophication potential	Kg N-eq/ton	0.97	0.129
Smog formation potential	Kg O3-eq/ton	446	53.11

Other comparative LCAs for specific products have also been published, for example, one for aluminium cables, which shows that all health and environmental impacts of primary aluminium and much more negative than the impacts of secondary aluminium[7].

1.1.1 Please elaborate what stages are necessary for establishment of possible substitute and respective timeframe needed for completion of such stages.

At present there are no known commercially available lead free aluminium alloys which utilise aluminium scrap

[6] https://www.aluminum.org/sites/default/files/LCA_Report_Aluminum_Association_12_13.pdf

[7] https://www.sciencedirect.com/science/article/pii/S2212827116300671

7. Justification according to Article 5(1)(a):

7.1. Links to REACH: (substance + substitute)

1) Do any of the following provisions apply to the application described under (A) and (C)?

☐ Authorisation

☐ SVHC
☐ Candidate list
☐ Proposal inclusion Annex XIV
☐ Annex XIV

☐ Restriction

☐ Annex XVII
☐ Registry of intentions

☐ Registration lead has been registered – see https://ila-reach.org/our-substances/lead-metal/

2) Provide REACH-relevant information received through the supply chain.
Name of document:

Based on the current status of Annexes XIV and XVII of the REACH Regulation, the requested exemptions would not weaken the environmental and health protection afforded by the REACH Regulation. The requested exemptions are therefore justified as other criteria of Art. 5(1)(a) apply

7.2. Elimination/substitution:

1. Can the substance named under 4.(A)1 be eliminated?

☐ Yes. Consequences? _____

☒ No. Justification: _____ Negative environmental and health impact

2. Can the substance named under 4.(A)1 be substituted?

☐ Yes.

☐ Design changes:
☐ Other materials:
☐ Other substance:

☒ No.

Justification:

Elimination:

Mechanical separations in advance to the remelting/refining process such as eddy current and density processed, can reduce the amount of lead metal (e.g. by separating used lead-acid batteries) as well as of other metals going into the

aluminium scrap, or to some extend separate high lead containing Al scrap from the low lead containing scrap. Further removal of lead can only be achieved during the melting stages, although only by very high energy consuming processes.

OEA conducted a study on 'Existing technologies for lead removal from Aluminium melts' the study was carried out by MIMI Tech UG and finalized in June 2012. The study reviewed a number of methods to remove lead from the aluminium alloys. These methods are summarised here:

Phase separation: The phase separation of the aluminium-lead alloy is examined by solidification in the molten phase. With the help of nucleating agents, lead droplets rise and freeze below the binodal temperature. The droplets can thus be possibly separated from the molten aluminium. This procedure is only an academic one due to the small scale of melt that can be treated and reproducible results have not been achieved in a pilot scale. This method might, if at all, be used for high-cost/ high-purity Aluminium and special applications. But in those cases, the use of primary Aluminium is probably more economical.

Electrochemical refining: Tests were carried out electrochemically in a three-layer cell. With direct addition of alkali salts and controlled addition of sodium significant reductions of lead have been achieved. This method has existed for more than 20 years with little success beyond laboratory-scale testing. The key obstacle is the very significant amount of energy needed for the process, which makes the method both environmentally and economically undesirable.

Vacuum distillation: Laboratory and pilot tests show that vacuum treatment can also remove lead from molten aluminium at above 1000°C. However, only at 1300°C and with one hour distillation time can the removal of lead take place with sufficient speed.

Again apart from the high system cost and difficulties to scale up, the high energy consumption deems the method environmentally undesirable.

All three of the above methods are in the stage of laboratory/academic research and small scale testing, the obstacles to the development of these methods are not only economic in terms of system and equipment cost, but also an environmental issue, mostly due to the very high amount of energy required. There are currently no options to overcome the latter. Furthermore, such lead-reduced aluminium is expected to be used in special applications. But

whichever applications they are, high quality aluminium from primary production is likely to be a readily available and less expensive alternative. For the above discussed rationales, there are no clear steps forward.

Evidently, more ground research and tests are needed to enable further conclusions on these methods. A cursory search of patents and published research shows that research into aluminium scrap recycling is being carried out but there are no recent patents or publications describing lead separation from scrap aluminium, presumably because all possible methods were researched before 2012 and were found to be impractical.

3. Give details on the reliability of substitutes (technical data + information):
4. Describe environmental assessment of substance from 4.(A)1 and possible substitutes with regard to
    1) Environmental impacts: See lifecycle assessment in footnote 1
    2) Health impacts: See lifecycle assessment in footnote 1
    3) Consumer safety impacts: See information provided at chapter 6.B)

⇨ Do impacts of substitution outweigh benefits thereof? Yes, see the life cycle assessment in footnote 1 which includes a third party independent verified assessment by Prof. Dr. Walter Klöpffer, LCA Consult & Review, Frankfurt, Germany

Please provide third-party verified assessment on this: _____

7.3. Availability of substitutes:

a) Describe supply sources for substitutes: Primary aluminium can be used instead of recycled metal for many uses, but has a more negative overall health and environmental impact.
b) Have you encountered problems with the availability? Describe:
c) Do you consider the price of the substitute to be a problem for the availability?
☐ Yes ☐ No
d) What conditions need to be fulfilled to ensure the availability? Device manufacturer are reliant on supply from aluminium alloy manufacturers both in EU and extra-EU

7.4. Socio-economic impact of substitution:

⇨ What kind of economic effects do you consider related to substitution?

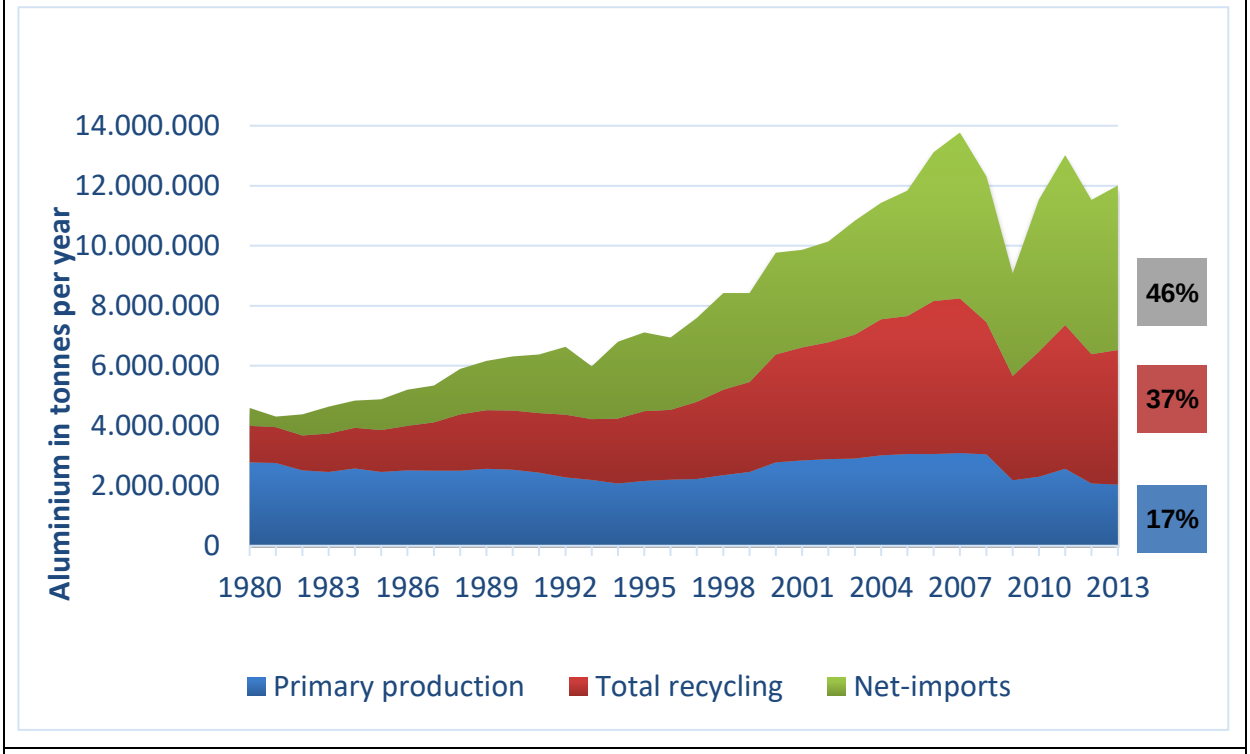
☒ Increase in direct production costs

☒ Increase in fixed costs

☐ Increase in overhead

☒ Possible social impacts within the EU

Decrease in recycling of Aluminium scrap will impact the EU circular economy and limit the economic growth and jobs. A circular economy approach has to rely on recycling. The only feasible way to lower the lead content is to dilute of the scrap with virgin aluminium and as such it does not offer environmental benefits. Increase of the EU dependency of primary Aluminium imports remains very high:



EU: Aluminium Import dependency[8]

☒☐ Possible social impacts external to the EU

Possible increase of export of scrap with higher lead content might lead to use of the resources in non EU regions increasing the EU dependency of import of primary Aluminium.

☐ Other: _____

8. Provide sufficient evidence (third-party verified) to support your statement: Other relevant information

Please provide additional relevant information to further establish the necessity of your request:

_____

9. Information that should be regarded as proprietary

Please state clearly whether any of the above information should be regarded to as proprietary information. If so, please provide verifiable justification:

[8] *Source: EAA and GTS based on Eurostat data for imports*