CIÊNCIAS SOCIALMENTE APLICÁVEIS:

INTEGRANDO SABERES E ABRINDO CAMINHOS

JORGE JOSÉ MARTINS RODRIGUES
MARIA AMÉLIA MARQUES
(Organizadores)

VOL VI

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APRESENTAÇÃO

Seguindo a lógica dos livros anteriores, o sexto volume desta coleção procura apresentar ao leitor uma coletânea de artigos sobre problemáticas que são transversais – intra e transdisciplinares – no campo das ciências sociais aplicadas.

Podendo ser discutível, na metodologia seguida na organização deste volume procurou-se privilegiar artigos que abordassem novas tendências e/ou problemáticas transversais relevantes, adotassem metodologias mais holísticas e/ou modelos de investigação aplicada, apresentassem estudos de caso nacionais e/ou internacionais e procurassem ser reflexivos, bem como os artigos sobre a razão do próprio ensino e aprendizagem. Nesse quadro, o presente volume está organizado em dois grandes eixos – o da Educação Ambiental e Sustentabilidade e o do Ensino e Aprendizagem.

Na construção da estrutura de cada eixo procurou-se seguir uma lógica em que cada artigo possa contribuir para uma melhor compreensão do artigo seguinte, gerando-se um fluxo de conhecimento acumulado que se pretende fluido e em espiral crescente.

Assim, o eixo Educação Ambiental e Sustentabilidade é constituído por um conjunto de dez artigos. Na sociedade esta temática constrói-se a partir de múltiplas práticas, nas famílias e nas empresas, sendo, quanto a estas últimas, um poderoso instrumento de incremento da competitividade. Assim, os artigos repartem-se pela inserção da temática em programas de ensino de nível superior, economia circular, cultura organizacional, cenários digitais, artefactos construídos com apoio de políticas de desenvolvimento regional que procuram também reduzir custos de produção e manutenção dos mesmos.

O eixo Ensino e Aprendizagem junta um conjunto de dez artigos que, em comum, contribuem para a construção da responsabilidade social e ambiental, através do melhor uso dos recursos da natureza. Assim, o conjunto dos artigos revela que a alfabetização e aprendizagem tem padrões de actuação e modelos que conduzem à alfabetização e motivam práticas docentes inclusivas, com impacto nas políticas de emprego na economia.

Com a disponibilização deste livro e seus artigos esperamos que os mesmos gerem inquietude intelectual e curiosidade científica, procurando a satisfação de novas necessidades e descobertas, motor de todas as fontes de inovação.

Jorge Rodrigues, ISCAL/IPL, Portugal
Maria Amélia Marques, ESCE/IPS, Portugal

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THE INTRODUCTION OF A CIRCULAR ECONOMY IN THE COMPANY AND THE SOLUTION OF LEGAL DILEMMAS

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ABSTRACT: During the mechanical processing of metals and alloys (grinding, milling, turning etc.) waste in different forms is produced (odbruski, ostružki, prah etc.). The waste if often classified as dangerous waste. Thus, questions of what to do with the waste, that is produced in such production, appear. Removal of the waste is expensive, it cannot be deposited and it can also not be stored in the company. Hence, we have developed a circular process, in which (considering all environmental regulations and law) we joined parallel processing of the potential waste into a by-product to the regular production. Therefore, we managed to combine two production processes into one uniform production processes with two products (main product and by-production). During the development of the uniform process our aim was to fulfil all the environmental regulations and to retain the production (the already established as well as the new, parallel) in the frame of the permission that was already existent. With the appropriate definition and the establishment of the production process by attaching a parallel processing of the »waste material« (into an economically valuable by-product) to the already existing production, we have managed to attain a final, uniform process, in which the product and a by-product are produced rather then the product and waste. With this uniform process we solved the problem of what to do with the waste (the waste removal that is done by an accredited contractor). Furthermore, the by-product can also be a source of income. Last but not least, our procedure has been patented (in regard to the technical performance) and we have received a prize for the innovation.

KEYWORDS: Circular economy. Waste. Recycling. Legal dilemas.

1 INTRODUCTION

The circular economy (Europian Parliamen, 2021) is a concept based on finding solutions for humanity‘s sustainable living in the future and advocates the »reduce, reuse and recycle« principle. The circular economy concept makes it possible to minimize the need for new resources, thus reducing the pressure on the environment. The essence of the circular economy concept is that all raw materials and processes are designed so that no waste is produced.The production of products or semi-finished products directly affects the stock of resources and raw materials, the environment and waste generation, and indirectly also human health. To ensure the sustainable development of society, we must use our (still available) resources prudently. It has become clear that the existing „take-do-discard“ economic growth model we relied on in the past is no longer sustainable in the long run, nor is it suitable for modern societies in a globalized world. Our research and development are thus in accordance with Agenda 2030 (UN, 2015), unanimously adopted by the United Nations Summit in September 2015 (Agenda 2030 combines three balanced dimensions of sustainable development: economic, social and environmental, and covers five areas crucial for human progress and environmental protection, including the 17 Sustainable Development Goals). In fact, we went a step further in our development and research. Simultaneously with the start of production or rather in one of our programs, we began to develop a uniform process in which (potential) waste would, through a parallel process (with regular production), immediately become secondary raw material. Accordingly, we have left out quite a few phases from this closed circle, thus reducing it by a few steps: »→ planning, design → production, processing → distribution → reuse, repair → collection → recycling → planning, design →.« By planning and designing during production, we implemented, in addition to the final regular product, also a secondary raw material suitable for sale to end-users. Research (and consequently development) was focused on the reuse of different alloy powder generated during production that would otherwise be treated as waste in the absence of appropriate further processing.

2 TRANSITION TO CIRCULAR ECONOMY

The transition to circular economy is a very complex process, since it requires the modification of systems and new knowledge not just in the field of natural sciences, but also in the fields of planning and design (Eco Design), marketing and information communication technologies (Europian Commision, 2021) . The basis for a circular economy is recycling – used resources, materials and waste, that is a by-product in the

producing procedure (what is waste for some is a raw material for others), are recycled, returned into the producing process as so-called secondary raw material and thereby reused. If the potential of the secondary raw materials wants to be optimally exploited, an effective waste management has to be established, which includes a relaxation of regulations in their trade and an assurance of high-quality standards. Only in that kind of environment is the industry entirely able to exploit the secondary raw material in their own producing processes and can simultaneously assure a reliable supply. The fundamental postulate of recycling in a circular economy is to generate materials by the means of collecting, disassembling in recycling of used products. The renewed integration of these materials into the beginning of the production life cycle directly results in environmental mitigation and production cost reduction.

Although we have technically managed in a one year's time to solve the problem with the briquette production and to attain adequate results, a nearly equal amount of attention has been required for the formal legislative regulation by which our powder could be considered as a by-product in the production processes rather than classified as waste. The challenge was to solve the time-consuming obtaining of the legal environmental permission and required other permissions for recycling.

3 MAIN TERMINOLOGY

3.1 WASTE

Waste is defined as matter or an item, that the owner discards, wants to discard or is obliged to discard (matter or an item, classified into one of the groups or subgroups on the waste list, is considered as waste only if it coincides the aforementioned definition).

3.2 PRODUCTION RESIDUE

Production residue is matter or an item, that is generated in a production process, which main aim is not the production of this matter or this item. The production residue can be either a byproduct or waste.

3.3 BY-PRODUCT

Conditions for production residues to become by-products:

- Further use of the production residue is ensured (the owner has a contract for selling, long-term existence or a market for selling, the production residue can be entirely used, it is not stored more than 3 years prior selling).

- The production residue can be directly used without further procession, except for normal industrial procedures (this applies if only washing, drying, control management etc. have to be performed).
- The production residue emerges as a constitutive part of the production process (if it is from technical characteristics of the process evident, that the production residue is ready for further use and is actually sent for further use).
- The production residue fulfils the demands, determined for the use of such matter or items by regulations, which apply to products, the protection of the environment and human health. Further use of these production residues will not harmfully impact the environment (it they fulfil technical standards for products, they also have to fulfil regulations which apply to the protection of the environment and human health, the REACH decree etc.).

4 ENVIRONMENTAL DEFINITION OF DIFFERENT ALLOY POWDER BRIQUETTING

During the development and research of alloy-powder briquetting, we encountered not only technical but also legislative and environmental challenges. Thus, we had to set up and define the production method itself to meet the strict environmental standards. For this purpose, we decided on a uniform procedure that corresponded to the already obtained environmental permits. For the briquetting of diferent - alloy powder, we defined that the dust is a by-product and not waste, which is explained below. When briquetting diferent- alloy powder, it is necessary to begin with three key issues:

- What is waste?
- What is a by-product?
- When does waste cease to be waste? and from this on, which legislation applies:
- on waste
- on products
- REACH
- ??? (or something else)

We are able to answer all answers by referring to the definition and establishment of the process with the help from the Scheme of deciding if a production residue is considered as waste or as a by-product and thereby are able to find a final solution.

4.1 WHAT MAKES OUR PRODUCT A BY-PRODUCT AND NOT WASTE

We had to define why the residue from the production is not waste but a by-product. We thus used the European Commission‘s Interpretation on Waste and By-Products (2007)

and the REACH Regulation, i.e., the European Union regulation adopted to improve the protection of human health and the environment from the risks posed by chemicals.

1. The Communication from the European Commission to the Council and the European Parliament on the Interpretative Communication on waste and by-products (COM (2007) 59 finalized on 21 February 2007) states (European Commission, 2007):

Example: Chips and other similar material

In more general terms, excess material from the primary production process, or material that is deficient only in a cosmetic way but that is materially similar to the primary product, such as rubber compound and vulcanisation mix, cork shavings and pieces, plastic scrap, and similar material may be seen as by-products. For this to be the case, the material has to reusable either directly in the primary production process or in other integrated productions where reuse is also reliable. Materials of this type can thus be considered to fall outside the definition of waste.

4.2 UNNECESSARY ADDITIONAL REGISTRATION OR ADDITIONAL ENVIRONMENTAL PERMIT

Article 2 (7) of REACH states that registration is not required for (European Commission, 2007):

(b) substances listed in Annex V (...substances present in nature, provided they are not chemically modified: minerals, ores, ore concentrates, etc.)

(d) substances, on their own, in preparations or in products, which have been registered in accordance with Title II and which are processed in the Union if:

(i) the substance that results from the processing is the same as the substance that has been registered in accordance with Title II; and

(ii) the processing plant has access to the information required in accordance with Article 31 or 32 in relation to a substance registered in accordance with Title II.

Our answers to basic legal dilemmas:

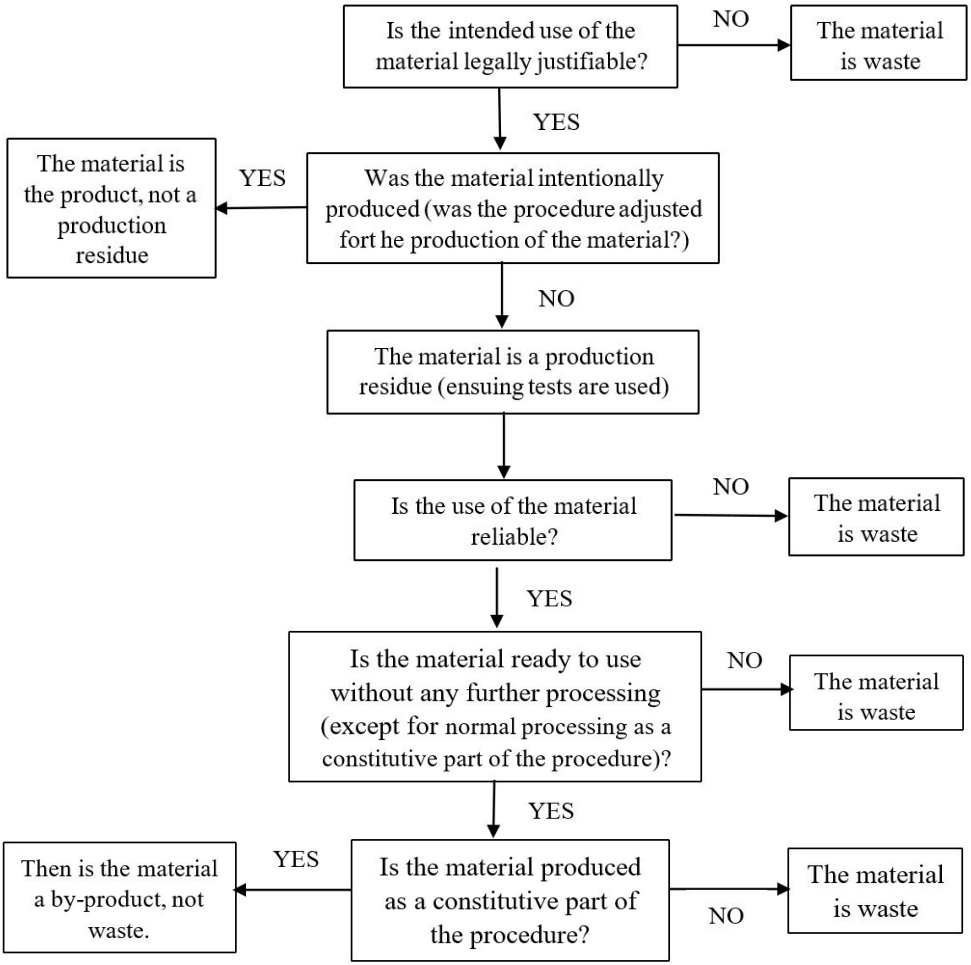
- Different alloy dust is the residue of production (by-product or waste) • Further use of the residue is ensured:
    - The holder does not have sales contracts (because nickel is a raw material, the price of which varies significantly on the stock exchange, and long-term fixedprice contracts do not make economic

sense), the demand for raw materials such as nickel is constant or even increasing.
    - A long-term market is guaranteed (Ni as an alloying element and in the field of superalloys).
    - The residue of the production is fully usable in the form of briquettes.
    - The base has not been stored for more than three years.
- As the residue of the production, it can be used without any further processing, only by compressing (briquetting as a typical industrial process).
- The residue of the production is created as an integral part of the production process.
- The residue of the production meets the requirements set for the use of such a substance or object that regulate products, VO, and human health protection, and its continued use will not have a detrimental effect on the environment.
- In accordance with the Communication from the Commission to the Council and the European Parliament: Interpretation on waste and by-products (COM (2007) 59 final of 21 February 2007).
- In accordance with Article 2 (7) of REACH, point (d), which states that registration is not required.

4.3 PROCEDURE

During the development of the uniform process our aim was to fulfil all the environmental regulations and to retain the production (the already established as well as the new, parallel) in the frame of the permission that was already existent. With the appropriate definition and the establishment of the production process by attaching a parallel processing of the »waste material« (into an economically valuable by-product) to the already existing production, we have managed to attain a final, uniform process, in which the product and a by-product are produced rather then the product and waste. The application for the legal permission was based on the decision-making scheme: when are production residues considered as waste and when as a by-product. Similarly, as we have been able to solve the technical issues in the process, by applying appropriate legal formulation we have also been able to the issues regarding the environmental requirements and regulations.

4.4 DECISION-MAKING SCHEME



The scheme shows the procedure, with the help of which it can be proved that the powder is a by-product and not waste.

4.5 PROCEDURE ACCORDING TO THE SCHEME FOR OUR MATERIAL *(NAGLIČ,ŠUMAH ET ALL, 2021)*

Procedure according to the scheme for deciding whether or not a material is waste:

1. Is the intended use of the material legally justified?
    - YES. The intended use of the material is legally justified!
2. Was the process adapted for the production of the material?
    - NO. The process was not adapted for the production of the material!

3. Is the use of the material reliable?
    - YES. The use of the material is reliable!
4. Is the material ready for use without further processing?
    - YES. The material is ready for use without further processing!
5. Is the material produced as an integral part of the production process?
    - YES. The material is produced as an integral part of the production process! According to the decision scheme, our material is a non-waste by-product!

With this procedure, i.e., with parallel production, we have solved the legal-formal dilemma of whether our production creates waste or a by-product.

5 CONCLUSION

With a uniform production, i.e. recycling (with a final product, appropriate for direct immediate use in foundry or steel industry), we solve two important environmental aspects. Firstly, there is a significant decrease in the carbon footprint, since the primary production of metals and consequently alloys is considered one of the biggest CO_2 producers. Furthermore, as the biggest metal producers are Russia, Australia and Canada, followed by Asian countries and the USA, which are all countries that are far away from Europe, the decrease in the carbon footprint can also be associated with the restriction of global and local transport. Secondly, due to recycling of the alloy powder there is a reduction of waste and, consequently, of pressure on the environment. Before we developed the recycling method of briquette production, the alloy powder had been deposited as waste. The development of the prototype lasted more than one year since we had autonomously taken over the production, which had been previously carried out by another contractor. Meanwhile, the law also got stricter. Our success is confirmed by over two tons of produced briquettes. Moreover, through the introduction of the uniform process and recycling we have also limited the negative affect on the environment.

Additionally, through the services that we conduct we help our partners (together with external contractors) in establishing and introducing circular economy (as a leading partner in projects). As a socially and environmentally aware company we strive towards the reduction of the carbon footprint and the limitation of waste deposition. With the uniform process that includes the recycling of the powder from nickel alloys into briquettes we have already entered the market. We have also patented this procedure. Our next undertaking is the development of a uniform process of copper and iron alloys recycling, which will soon be finished.

LITERATURE

[1] European Commissionv (2007). COM (2007) 59: Communication from the Commission to the Council and the European Parliament on the Interpretative Communication on waste and by-products.

[2] Europian Commission (2007). REACH legal text. European Parliament and Council Regulation (EC) No 1907/2006 (Corrigendum 29 May 2007).

[3] Europian Commision (2021). Sustainable product policy & ecodesign. Available at: https://ec.europa.eu/growth/industry/sustainability/product-policy-and-ecodesign_en

[4] EoW: Regulation (EU) št.333/2011 Europian Parliament, (2021). Available at: https://www.europarl.europa.eu/news/sl/headlines/economy/20151201STO05603/kroznogospodarstvo-definicija-pomen-in-prednosti

[5] United Nations, Department of Economics and Social Affairs, (2015). Transforming our world: the 2030 Agenda for Sustainable Development.

[6] NAGLIČ, Jure, ŠUMAH, Tilen, STRMČNIK, Dušan, KOZEL, Uroš, STRMČNIK, Andraž, ŠUMAH, Štefan, et al. Nickel alloy powder recycling and carbon footprint reduction. IOSR journal of engineering. apr. 2021, vol. 11, issue 4, p. 1-8, ilustr. ISSN 22503021.

SOBRE OS ORGANIZADORES

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