IMPEL “Waste management & Circular Economy” Project

End-of-waste and By-products: compliance with REACH Regulation

Minutes REACH & Circular Economy WORKSHOP

Location: TEAMS

Date: 25/11/2021

Session 0: Opening and Welcome (Moderator: Jan Teekens)

Romano Ruggeri (ARPA Sardegna, Italy) gave information on IMPEL Waste Management and Circular Economy project. Demo version of End-of-Waste case-by-case database has been developed. Article 6 of WFD states the following: "*Member States may make information about case-by-case decisions and about the results of verification by competent authorities publicly available by electronic means*". This tool aims at creating the structure of a voluntary database to help permit writers, inspectors and operators to find information on end-of waste case-by-case decisions or resulting from self-assessment verification.

There are 6 clusters:

1. Compiler information: This section is relative to whom is filling in the database; it may be useful if somebody wants to contact the compiler. All the fields are required.

2. Permitting authority: This part is requested when the end-of-waste status is granted within a permit. It is not requested in case of operator self-assessment. Contact details of the permitting authority can be useful if asking for more information is needed.

3. Recycling company: This part is optional; the data of the producer can be public available if included in a permit. In case of self-assessment, is up to the operator whether to publish the requested information or not.

4. Input waste: It contains crucial information about provisions of the waste to be recycled.

5. Treatment and final use: This section requires information about the recycling process, the destination market of the end-of-waste, the substance/material replaced by end-of-waste, etc.

6. Environmental and technical standards: This section collects crucial data about technical standards required, environmental standards, REACH registration.

The demo version will be integrated to the new IMPEL website next year. We will have a meeting with the Commission to present this tool.

Topi Turunen (Finnish Environment Institute) presented the results of the survey on REACH and Circular Economy that was conducted during the registration.

Issues arising in applying REACH Regulation are:

- Unclear requirements in the regulation (what to do, when to do etc.)
- How to apply REACH in permitting and inspections
- Application of REACH to EoW materials and effect of the REACH in EoW assessment

- Defining the chemical composition of waste-based materials and risk screening (traceability)
- Exemptions for REACH registration

Issues to emphasise in the IMPEL work

- Basic requirements of REACH + compliance check - how to see these waste based materials are compliant with REACH Regulation
- REACH and waste-based materials, recovery exemptions - help with import/export of EoW products
- Practical approach and examples, process type instructions
- Certain specific waste streams were mentioned (e.g. inert, oil, plastics)
- Analysis and sampling for waste based materials
- Coordination between authorities
- Workshops and training

Session 1: Basic Principles REACH and WFD Legislation (Moderator: Romano Ruggeri)

Erwin Annys (ECHA) gave a presentation on REACH Regulation – Basic Principles.

What made REACH different from the previous legislations?

- No data, no market: For every single substance which is coming into the EU or is manufactured in EU above 1 ton which do not fall under exemptions, you need a registration.
- Inversing the burden of proof – responsibility to industry: The industry has to come up with the information on the substance that they are manufacturing and importing.
- Substance and use information required
    - Hence new communication in the supply chain
- Avoid testing on vertebrate animals: Animal testing should be the last resort for gathering the information for registering substances.
- Only EU based manufacturers/importers can register

- Non-EU manufacturers can appoint an only representative

- Authorisation introduced next to restrictions

There are two essential parts in registration:

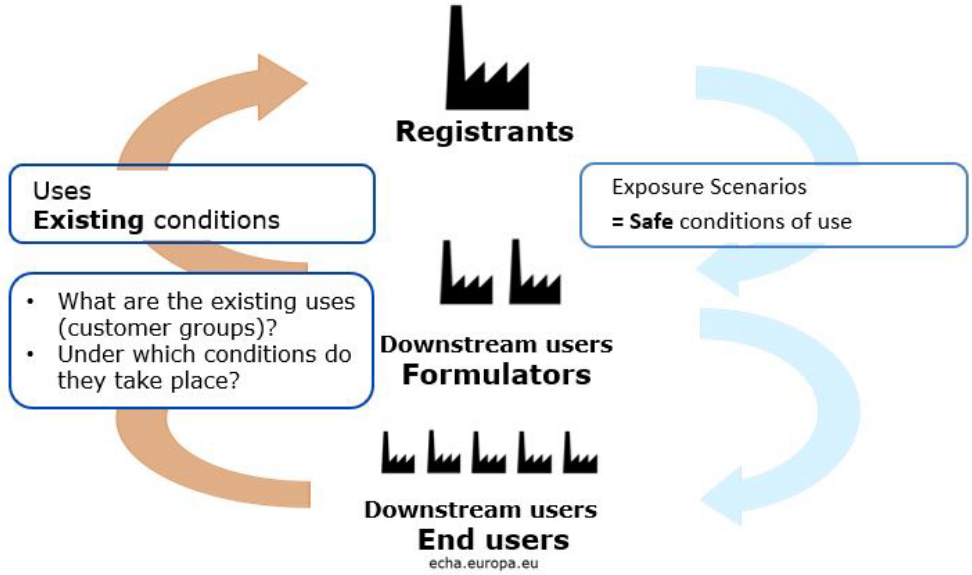
- A technical dossier: All information that is required in different annexes, the composition, analytical techniques etc.

- A chemical safety report (for substances above 10 tpa and that are hazardous according to CLP): This has to be done by the industry for substances that are above 1 ton and are hazardous according to the CLP Regulation.

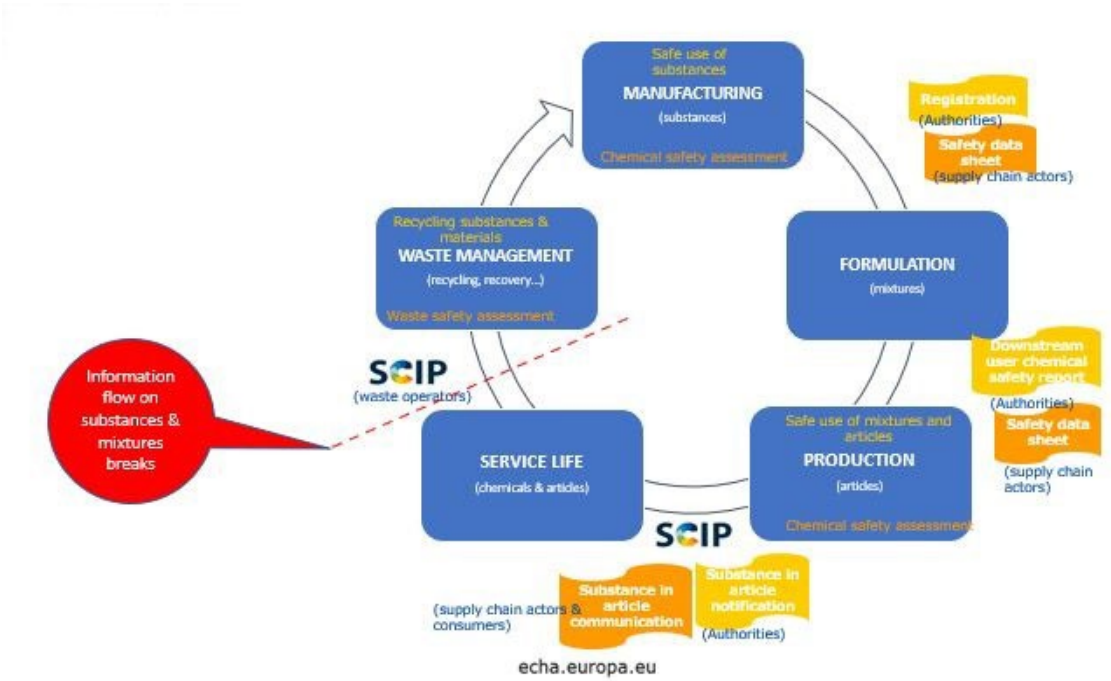
    - Including waste management measures during waste disposal and/or recycling

Chemical safety assessment is requiring different information which is in the hand of manufacturers which have to know the properties of the substances. A lot of Information is needed from the downstream users. Because they know how they are using them in the mixtures they are producing: foreseen products, concentrations and amounts, operational conditions, risk management measures.

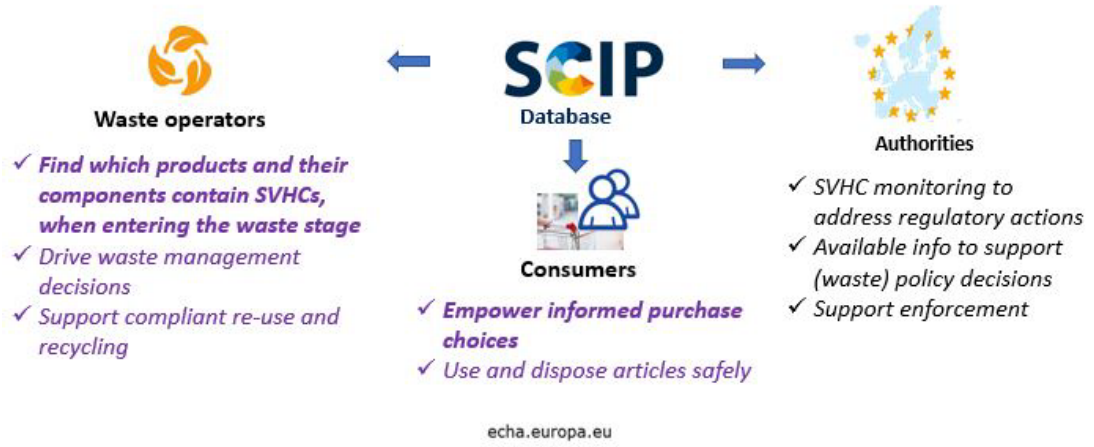
Communication in the supply chain is essential. Figure below is a simple view with only two steps. From experience we know that this can be up to seven levels.



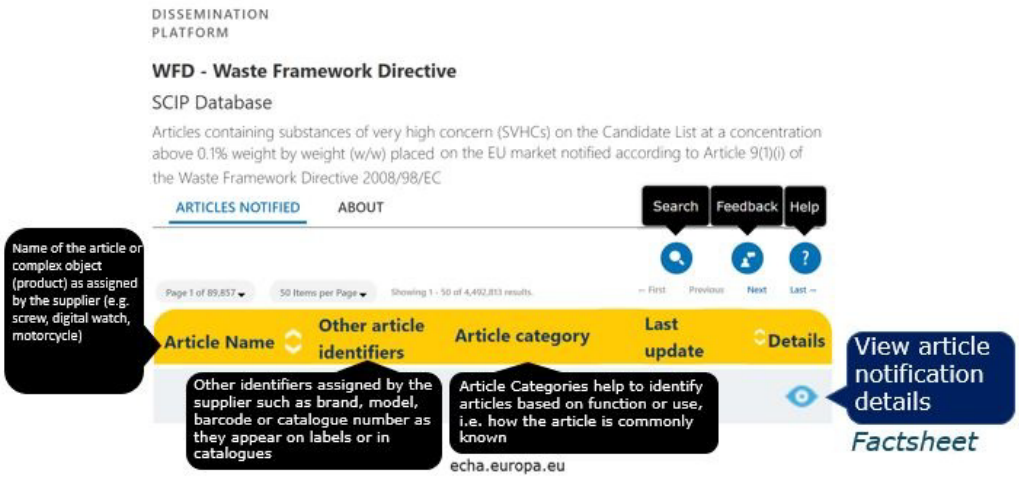
Ulrich Kremser (ECHA) presented the SCIP Database and the advantages for waste recyclers. SCIP is the database for information on **S**ubstances of **C**oncern **I**n articles as such or in complex objects (**P**roducts) established under the Waste Framework Directive (WFD).



The objective is to improve transparency on substances of very high concerns in articles through the supply chain mainly for waste operators.



Dissemination of SCIP data: When the duty holders make their SCIP notification ECHA publishes this information on their homepage as it is received.



There are different filters (article identity/category, material & mixture category, substance of concern or concern/reason for inclusion) to search articles and products.

Waste operators are a diversified group. It is a complex chain with very different needs. Waste stage operations are:

Information from SCIP database, since it is article centric, would be of most use by those actors in the waste treatment chain that actually still deal with complex objects or articles. These are collection, disassembly and preparing for re-use.

The Information from the SCIP Database could, for instance:

- **support the segregation of waste** containing Candidate List substances in waste collection, disassembling, and sorting operations
- **facilitate high-quality recycling** through identification and removal of Candidate List substances from further processing, and consequently **boost the uptake of better quality secondary raw materials**
- **help identify material-based streams** that could be impacted by these substances in articles when they become waste; and
- **contribute to innovation** and emergence of new waste treatment technologies.
- lower the costs of necessary chemical analysis of certain wastes
- support models to identify "concerning" sources

Enrique Garcia John (DG Environment) gave a presentation on Waste Framework Directive: EoW and by-products requirements and interaction with REACH.

EoW in the revised WFD: Member States shall take appropriate measures to ensure that waste which has undergone a recycling or other recovery operation is considered to have ceased to be waste… (new Art 6).

There are aspects linked to ensuring that material that ceases to be waste and go back into the economy has to meet some minimum quality requirements.

Ensuring quality EoW through detailed criteria (Art. 6 (2)): Permitted input material, allowed treatment processes, quality criteria for EoW material, management system, declaration of conformity.

Transparency and knowledge sharing (Art. 6 (4)): Member States may make information about case-by-case decisions and about the results of verification by competent authorities publicly available by electronic means.

This links to the work carried out by IMPEL Waste Management and Circular Economy project to collect this information and make it available electronically.

When we move to product legislation, we have REACH and CLP. WFD already sets number of issues how these two legislations interact with each other. These are related to the transition from waste to product.

WFD:

- Rules on by product and EoW apply without prejudice legislation on chemicals and legislation concerning the placing on the market of certain products.
- End-of-waste status can only be achieved if substances or objects comply with relevant requirements applicable to products.
- End-of-waste rules can be established in product-specific legislation. (e.g. FPR)

REACH:

- [Art. 2(2)] - Waste as defined in Directive 2006/12/EC … is not a substance, mixture or article within the meaning of Article 3 of this Regulation.

  This article makes it clear that waste is not a substance, mixture or article which means that waste is not subject to REACH.

- [Art. 2(7)(d)] - Substances recovered in the Community are exempt of registration obligations, subject to: 1) sameness to registered substance; 2) Article 31 (eSDS) and 32 information.

Guidance on waste and recovered substances (ECHA 2010) state that '… companies willing to benefit from this exemption must provide the authorities (only on request) with appropriate documentation proving that their recovered substances qualify for the exemption.'

Regulation on Fertilising Products:

Article 19 – End-of-waste status: This Regulation lays down criteria in accordance with which material that constitutes waste, as defined in Directive 2008/ 98/EC, can cease to be waste, if it is contained in a compliant EU fertilising product. In such cases, the recovery operation under this Regulation shall be performed before the material ceases to be waste, and the material shall be considered to comply with the conditions laid down in Article 6 of that Directive and therefore to have ceased to be waste from the moment that the EU declaration of conformity was drawn up.

There are developments regarding waste within DG Environment with the help of JRC. Circular Economy Action Plan (CEAP) has a chapter called 'Less waste more value':

- Enhancing circularity in a toxic-free environment

- Working to create a well-functioning EU market for secondary raw materials

Why are EoW and BP a priority?

- Circular Economy
  - Safe and quality secondary materials
  - Waste/by-products from one industry input for another
  - Level playing field between MS and regions
  - Legal clarity for businesses and authorities
- Internal market
  - Avoid delays or restrictions of intra-EU shipments because of waste vs. non-waste discussions
- Environmental protection
  - Most stringent and protective criteria at EU level

Session 2: Applying REACH to End-of-waste and By-products (Moderator: Jan Teekens)

Ulrich Kremser (ECHA) gave a presentation on How to meet REACH requirements for EoW and by-products.

Whereas the instruments to verify end-of waste status differ between Member States, the underlying very basic approach to regulatory risk assessment whether a substance, mixture or article can be released from the waste stage should be the same for all end-of-waste criteria and case-by-case decision making.

The waste recovery operator has some roles under WFD and REACH.

WFD: Has the recovered material met the criteria for no-longer being waste?

- Provide all relevant information for the assessment
- Final determination remains with MSCA

REACH: Recovery operation considered as a manufacturing process

- Registration obligations
- Safe use information
- Authorisation/restriction

The REACH Regulation requires all chemical substances manufactured or imported in quantities of one tonne or more per year to be registered, except

- substances out of the scope of REACH (e.g. waste, food …)

- substances exempted from the registration obligation under REACH (Annex IV, V)

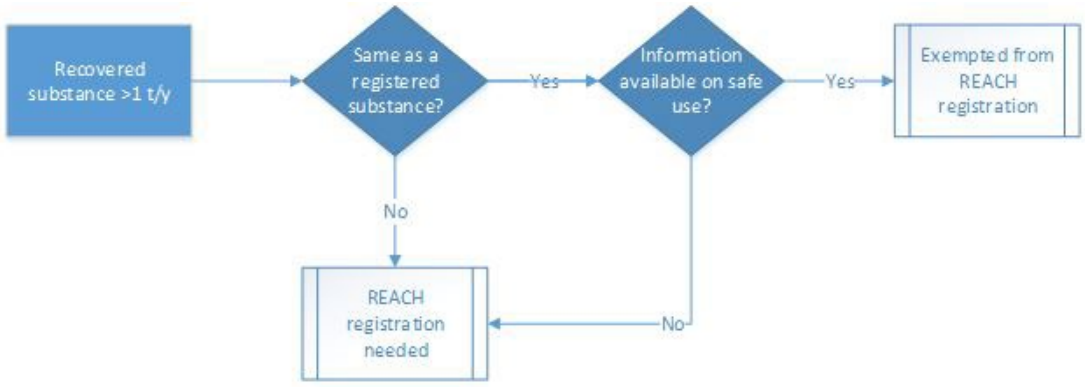
For EoW materials and by-products REACH foresees under certain conditions an exemption from registration for substances on their own, in mixtures or in articles.

A recovered substance can benefit from the exemption only in case:

- it is manufactured in EU by a chemical and/or mechanical process handled by a recovery operator under the WFD,
- from at least one of the sources that is a waste, and
- if the conditions i) and ii) in Article 2(7)(d) of REACH are fulfilled.

Please also see ECHA's Guidance on waste and recovered substances for more information.

REACH Article 2(7)(d) exemption (assuming that the substance as such is not completely exempted from REACH registration)



Existing registration of the same substance at manufacturing or importing stage

- any registration by any registrant: the registrant does not have to be part of the supply chain leading to the waste generation; many recovery operators may benefit from one registration (issue of 'free-riding')
- the use of a recovered substance is not limited to the identified uses of the "original" registered substance, but can be applied to different uses
- no restriction regarding the quantities of the recovered substance

How to judge the sameness is based on:

- Rules of the guidance on substance identification; based on the sameness of the main constituent;
- Assessment to be done by the recovery operator themselves (no confirmation by ECHA)

- Same EC and CAS numbers for substances are an indicator for the sameness of the substance

Most recovered materials are substances in mixtures and the substances are UVCB substances (Substances of **U**nknown or **V**ariable composition, **C**omplex reaction products or **B**iological materials): composition it either unknown or number of constituents is very high

- Requires information on the waste sources and from recovery processes for identification

Article 2 (7)(d)(ii) of REACH: *"the **information required by Articles 31 or 32** relating to the substance that has been registered in accordance with Title II **is available** to the establishment undertaking the recovery"*.

Thus, the recovery operator must have available one of the following

1. A SDS as required by Art 31 (1) or Art 31 (3) on the registered substance, with the annexed exposure scenario, if applicable *(substances classified as hazardous, PBT, vPvB, SVHC),* or
2. The registration number(s), status of on authorisation and restrictions, and any other information about the substance necessary to enable appropriate risk management measures *(if an SDS was not required for the 'original' substance)*

Access to this information is in practice very difficult:

- Recovery operators usually do not receive such information with the input waste (from the registrant)
- Potential breach of intellectual property rights if the recovery operator applies 'detective's work' to compile this information; no mandate for ECHA to intervene in the data sharing

Requirements for the second life-cycle

- in case the recovery operator can rely on the recovery exemption no registration of the recovered substance is needed
- Safe use information for the recovered substance in its second life needs to be provided down the supply chain: SDS or other information on safe use
- Use of information from recovery exemption (information 'available') can form the basis for the supply chain information of the recovered substance(s): relevance and adequacy of this information (e.g. different hazard profile) for potentially different uses

Requirements for by-products

- By-products as defined in Article 5 of the WFD cannot benefit from the Article 2(7)(d) exemption under REACH

- In principle, registration obligation when the by-product substance is manufactured / used for the first time (not only when the substance is placed on the EU market)
- By-products may however be exempted from registration on the basis of Annex V REACH, unless
  - they are imported, or
  - placed on the market themselves

Essentially, this only leaves by-products that are used in the same production process to be exempted from registration.

Hannela Artus (Ministry of Environment of Estonia) gave a presentation on How Waste Framework Directive and REACH interact in the system of wastes becoming products.

All environmental decisions are under the administration of the Ministry of the Environment (MoE). Main role for implementation is given to the Environmental Board and the Environmental Inspectorate (now in one authority).

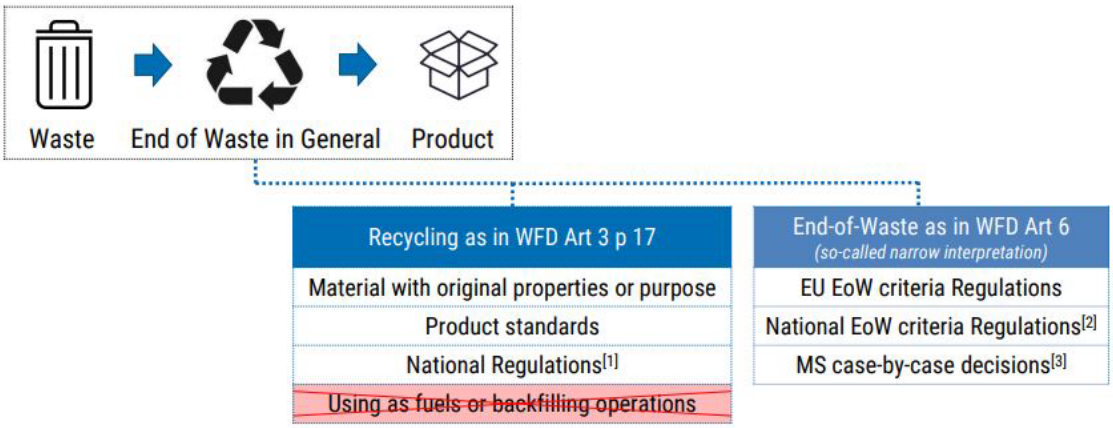
All REACH topics responsibilities are under administration of the Ministry of Social Affairs (MoSA) – main role the Health Board as the CA of REACH&CLP.

Core discussions about the End-of-Waste criteria started with and related oil wastes which are hazardous waste. Up to 01.01.2020 all hazardous waste operators had to apply for a licence prior to a permit. Since 01.01.2020 there is only a permit with the same requirements.

All hazardous waste licences were discussed in a committee for hazardous waste management. Now the environmental protection permit committee.

Members of the committee are industrial emissions, waste, ambient air experts from MoE and the Environmental Board, enforcement representative, legal adviser, REACH&CLP experts from MoSA and the Health Board + invited experts dependant on topics. All case studies were discussed in the Committee.

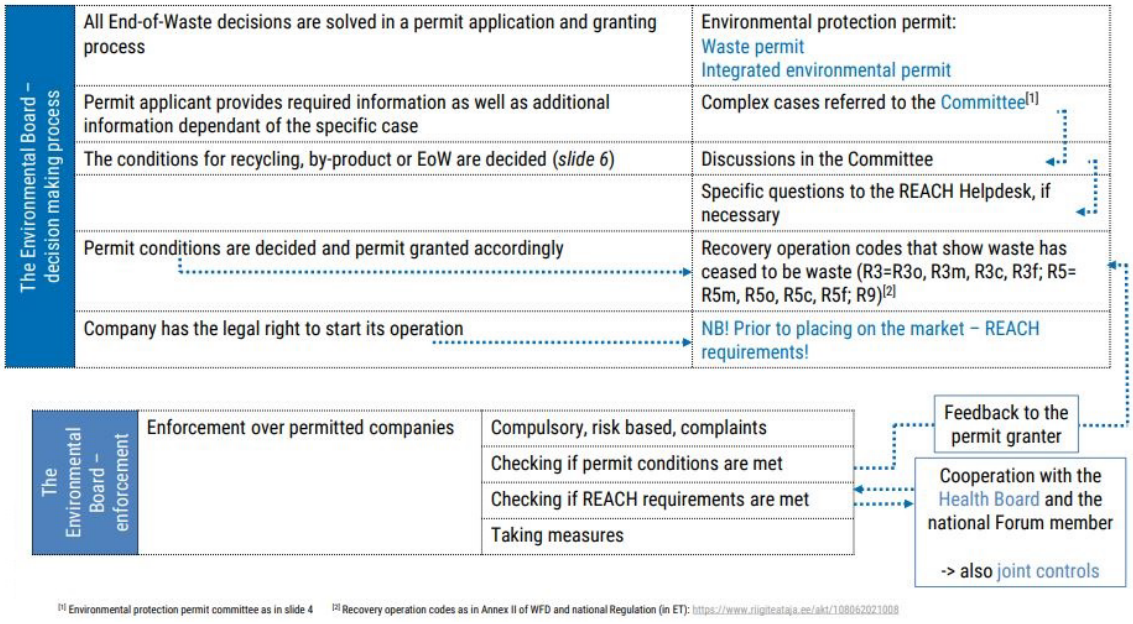
The illustration below shows the approach that is being implemented since 2013. It shows how waste ceases to be waste.



[1] E.g. biomass ash and oil shale fly ash if they meet specific criteria set in the Fertilisers Act and related Fertilisers Regulations
[2] Six National Regulations have been established for the EoW of specific waste streams (in ET https://envir.ee/ringmajandus/jaatmed/jaatmete-lakkamine); TRIS search -> Country EE, numbers 458, 357, 700, 154, 297, 662, 28
[3] Directive (EU) 2018/851 amending Directive 2008/98/EC on waste, Article 6 amendments; No case-by-case decisions have been made so far

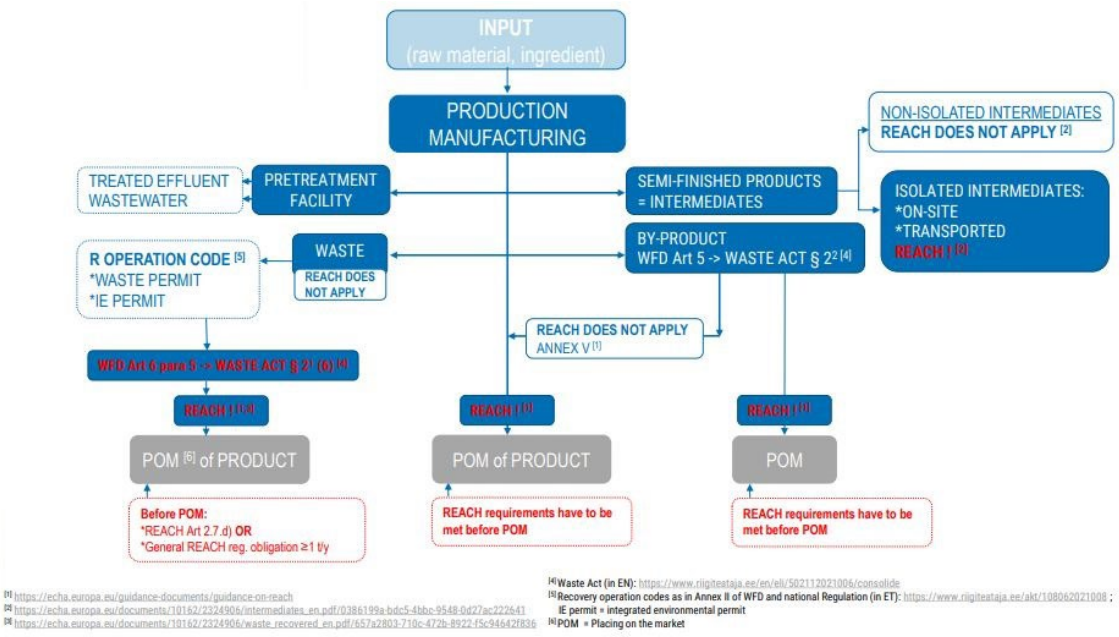
Estonia has 6 National End-of-waste criteria Regulations. There are no MS case-by-base decisions in Estonia so far.

Decision making process is as follows:



[1] Environmental protection permit committee as in slide 4 [2] Recovery operation codes as in Annex II of WFD and national Regulation (in ET): https://www.riigiteataja.ee/akt/108062021008

In conclusion, the general production scheme is as follows:



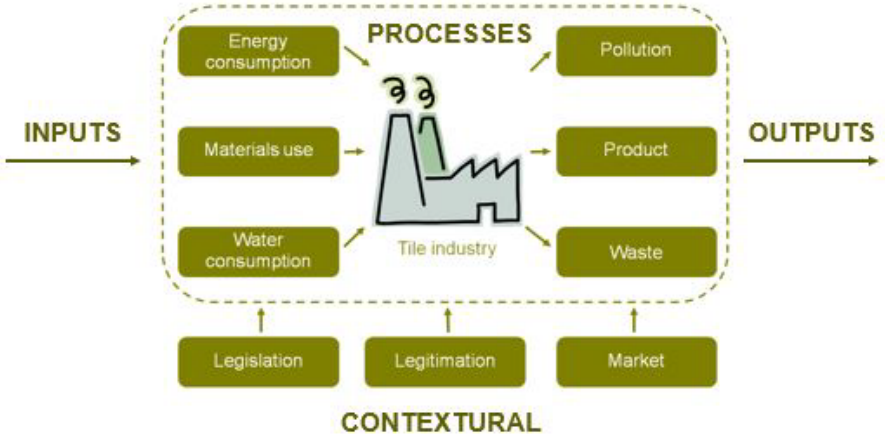
- Application of REACH Article 2.7.d) exemption for recovered substances
    - Clear EU rules should be developed on the approach how to assess substance sameness – what data should be provided on the waste side and what on the already registered substance side
    - Could be applied only to simple substances that are comparable on a chemical structure level
    - Should not be applied to UVCB
- EoW questions as regards to customs codes and shipment of liquids: definition of waste and fuels, application of WSR, REACH and Customs activities

From the authorities' perspective;

- Large production companies fall under several legislations with obligations to apply for permits in their sector
    - A permit giving authority takes responsibility of permitting an activity but doesn't have a say in the companies' decision about REACH
- What is the role of an environmental permitting authority as regards to REACH requirements? And what is the role seen here for the REACH CA?
    - How to ensure that a permit is not granted to a company that is not able to fulfil its REACH requirements?
- What data could and should be asked from the applicant in the permit application process to facilitate the work of an environmental inspector?

Paqui Quereda and Ana Lopez (Institute of Ceramic Technology) presented the Valorisation of EoW and By-products in the ceramic industry: practical examples and REACH requirements.

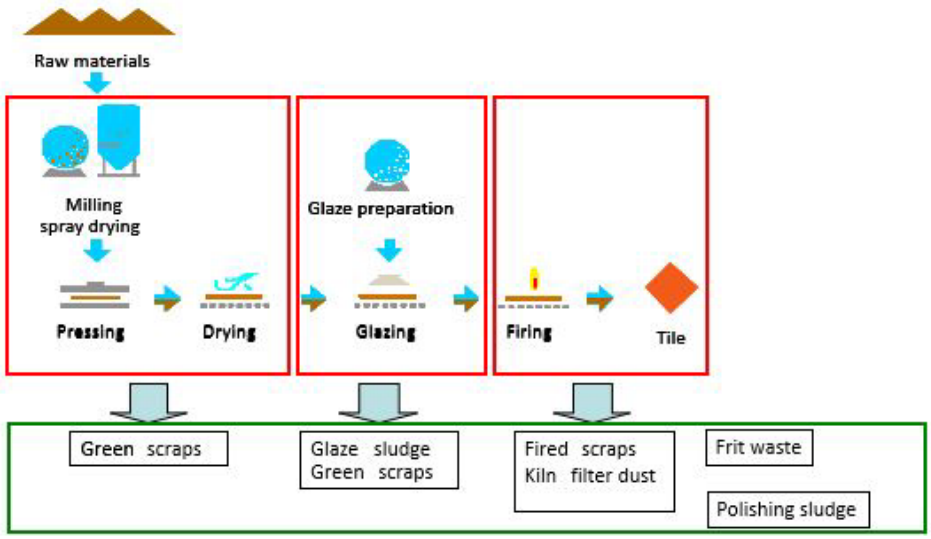
Green factors affecting the ceramic industry:



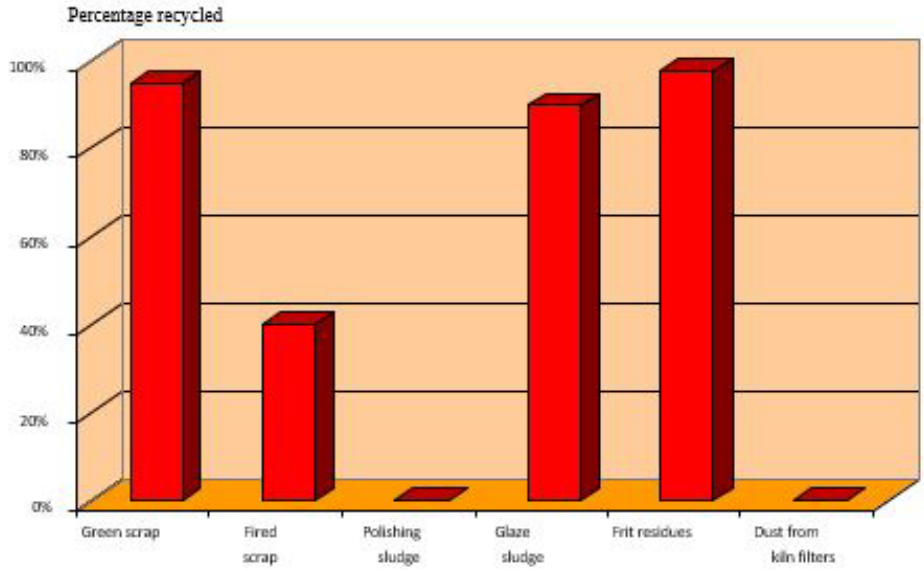
D. Gabaldón, E. Criado and E. Monfort. 2014. The green factor in European manufacturing: A case study of the Spanish ceramic tile industry. Journal of Cleaner Production 70, 242-250.

Energy consumption (mainly natural gas) is very intensive in ceramic industry. We also have high water consumption.

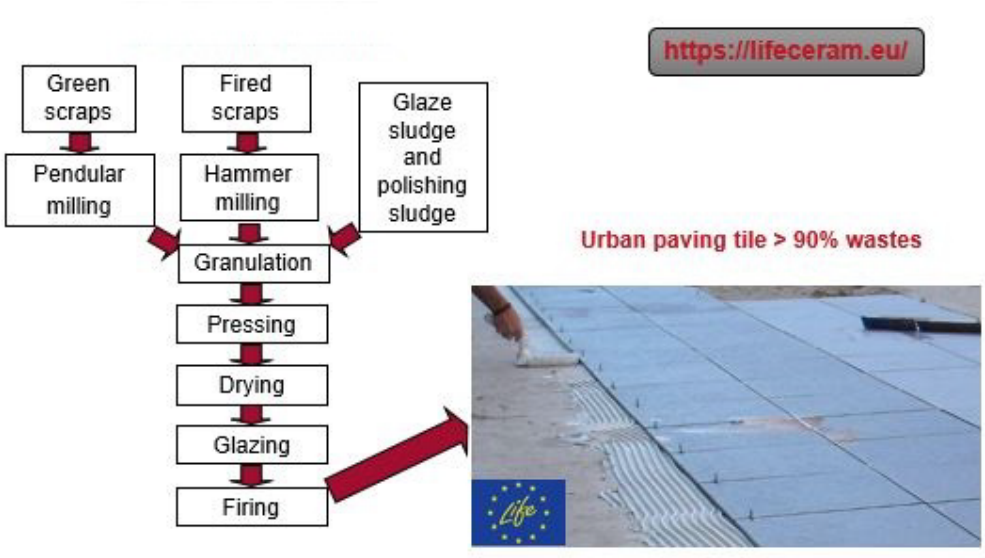
Manufacturing process of ceramic tiles and type of wastes produced can be seen below:



Graphic below shows the percentage of wastes recycled within the sector.



Ceramic wastes LIFECERAM project developed a manufacturing process for urban paving tile using wastes. Manufacturing process is as follows:



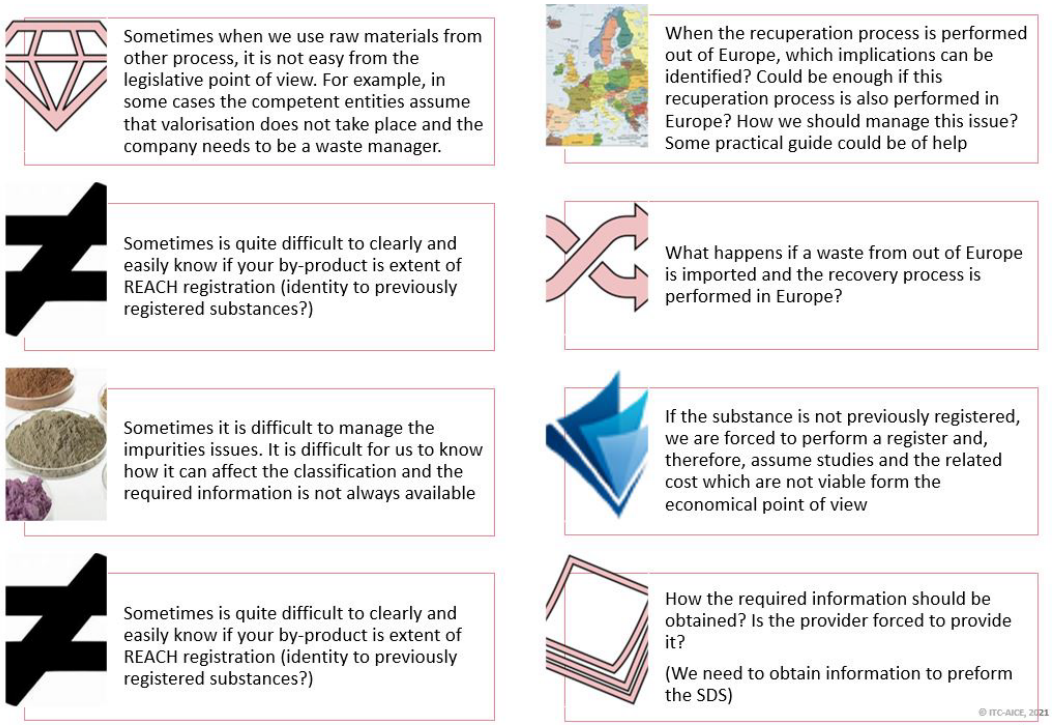
Project for non-ceramic wastes, namely FOUNDRYTILE, aimed to demonstrate the valorisation of all iron foundry sand and dust in the ceramic tile production process.

Steps to be follow in the projects are:

The main problems from the industrial perspective are as follows:

- EoW requirements
- REACH implications
- Substance, complex substance, mixture
- REACH regulation exemptions

Some specific examples can be seen below:



Joke Teeninga (Rijkswaterstaat, the Netherlands) gave a presentation on Practical implication of some terms used in REACH.

When there is end of waste you have to fulfil REACH obligations. As member of a competent authority, you have to judge whether the material is end of waste or a by-product, ask for evidence that the material is REACH compliant.

Example 1: Is it a substance or article? The advantage is exemptions of registration.

Definition of Article:

- Object
- Special shape/surface/design
- Determines its function to a greater degree than does its chemical composition

Here are some examples:

- Blasting grit: It is a solid material. It is a substance.
- Postcard: The surface is very important. It has to be capable of receiving graphite from a pencil. It is an article.
- Crayon: Mixture of paraffin and pigment.

Example 2: Transported isolated intermediate

The definition of intermediate (art. 3 of REACH):

- Manufactured for and
- Used in chemical processes
- To be transformed into other substances
- (synthesis)

ECHA Guidance documents that can be helpful on these issues are:

- Guidance on requirements for substances in articles (https://echa.europa.eu/documents/10162/2324906/articles_en.pdf)
- Guidance on intermediates (https://echa.europa.eu/documents/10162/23036412/intermediates_en.pdf/0386199a-bdc5-4bbc-9548-0d27ac222641)

Topi Turunen (Finnish Environment Institute) presented REACH and Circular Economy in the IMPEL Guidance.

There are some implications to REACH Regulation in the current IMPEL Guidance document. In chapter 2 of the guidance there is a short description of REACH registration exemptions for by-products and recovery exemption. In Annex D of the guidance, the basic requirements of REACH regulation (what is meant by registration, how to register, authorisation etc.) are given. These issues are not detailed in the guidance at the moment.

Planned amendments are:

- Adding detail and examples to the existing guidance, especially the basic provisions of REACH Regulation
  - Most of the times the exemptions do not apply: basic requirements are crucial
- Adding texts on SR&D exemption and PPORD exemption
- Adding a visual tool/flow chart on REACH requirements

Goals of the flow chart/visual tool are:

- Flow chart aims to give visual guidance on how to comply the requirements of REACH Regulation
- Framework is often considered complicated → offers visual clarity, improves communication and is faster to use than the guidance text
- Flow chart is still under development

Session 2: Applying REACH to End-of-waste and By-products (Moderator: Romano Ruggeri)

Domenico Marchesini (ARPA Lombardia, Italy) gave a presentation on End of Waste criticalities: verification of POPs-REACH-CLP compliance

For the POP verification, annex IV of the POP regulation is applicable on the interaction between REACH and POP hazardous waste.
or verification of REACH and CLP requirements, article 6, under c) and d) of the Waste Framework Directive applies: when it concerns standards applicable to products (under c); and under d) the use of the substance or object will not lead to overall adverse environmental or human health impacts.
The verification of the REACH - CLP - POP regulations and specific product regulations must be verified at the same time as the verification of the End-of-Waste criteria.

Assessment of the POP verification is explained:
" 1-Are substances included in Annex IV of Regulation 1021/2019/EU and s.m.i. present in the waste (substances, mixtures or articles) starting from the production of EOW?
References: art. 4 (4), art. 7 (2) art 7 (3), art. 7(4) a), art. 7(4) b), All.IV-V POPs.

Example Paper and cardboard (PCB only in photocopiers). Flame retardants (Tetrabrobmodiphenyl ether) in plastics

2-Are the quantities of POPs identified in the starting waste, which will give rise to the EOW, below the limits set out in Annex IV?
References: art 7 (4) a)
Examples: D9 physico-chemical treatment, D10 ground incineration R1 Main use as fuel or other means of producing energy, except waste containing PCBs (Annex V Part I)
Example: EER 10 02 07 * Solid wastes from fume treatment containing hazardous substances with 50 mg/kg PCB and 5 mg/kg PCCD/F permanent storage under the conditions laid down (Annex V Part II)

3-Are there traces in the final EOW (substances, mixture or article)?
References: art. 3, Article 4 b). All.I-II.
Example: Tetrabromodiphenyl ether C12H6Br4O [40088-47-9 and others] limit 10 mg/kg in substances".

Oldrich Jarolim (Czech Environmental Inspectorate (ECHA Forum) gave a presentation on ECHA Forum project on REACH & recovered substances

An overview of the project REACH and recovered substances is presented, including the work method, experiences and preliminary conclusion.
The project deals with the interface between REACH and waste and was intended to investigate the exemption of REACH Registration obligation, under Article 2(7), under d) in the waste recycling sector. The information exchange between REACH and waste inspectors is encouraged in this project. The objectives of the project includes to raise awareness on the REACH obligations for the waste inspectors; assess the target group's compliance with REACH provisions on the registration of recovered substances in the waste recycling sector; assess whether the recovered substance/mixture fulfils the End-of-Waste criteria required by the WFD. The target group of the project are companies placing recovered substances on the market that are subject to REACH requirements.

Timeline of the project:
- Preparation from December 2019 to December 2020;
- Operational phase in 2021;
- Reporting phase 2022;
- Final report: June 2022.

11 member states are participating in de project. Work method consists of the selection of a company that place recovered substances or mixtures on the market. On sameness, article 2 (7), the duty holder is to collect sufficient information and data to demonstrate that he has identified his recovered substance. The first condition of exemption is to demonstrate that the company has identified recovered substances. The 2nd condition is the availability of the information.
Other investigations on: REACH regulation; Safety data sheets (SDS); CLP and POP regulation.
There was some delay on the inspections due to the COVID-19 restrictions. Also some questions were raised, for example on the application of legislation on recovered substances from the UK.
Cases that were discussed: pyrolysis oil from car tyres and a case on waste editable oil to make mixtures.
Result: better picture where difficulties arise between REACH and waste legislation and also better cooperation between REACH and waste inspectors was established.

And the end of the presentation, Romano Ruggeri underlines that he hopes for further cooperation between the ECHA forum project and the IMPEL project on Waste and Circular Economy.

Q&A: PLENARY DISCUSSION
Question on the presentation of Domenico Marchesini: some laboratories issue a declaration stating that no POPs are present. How to deal with such declaration without any data to support the statement? Answer: more information is necessary on the declaration. In a database is can be checked if the declaration is real.

Session 3: REACH inspections and connection with WFD and WSR inspection regimes (Moderator: Jan Teekens)

Peter Hellema (Human Environment and Transport Inspectorate, Enforcement Department / Hazardous Substances, The Netherlands) gave a presentation on Inspection regimes for REACH & recovered substances; examples of inspection synergies of REACH, WSR and WFD authorities.

An EU pilot project on the subject of waste, by-product, End-of Waste or recovered substances. Who decides which substances fulfills the End-of Waste criteria and what happens if no decision is taken. In the Netherlands End-of Waste decisions are taken by the local authorities. Several recovered substances were inspected. For example recovered diesel imported from UK (but UK is no longer in the EU, EU legislation does not apply.
The case which is presented concerns pyrolysis oil from waste car tyres. The question to be answered was is the company which wants to produce pyrolysis oil from waste car tyres need to register or can the company benefit from the exemption in article 2(7) under d) of REACH.
The database of ECHA was checked. Two registrations of recovered pyrolysis oil from waste car tyres were found in the database. The registrations covered the use of the substance as an intermediate. Article 2(7) under d) was not applicable since and the first manufacturer had to register this recovered substance in accordance with title II. The conclusion seems that on basis of article 2.7d for other manufacturers of the recovered substance pyrolysis oil from waste car tyres it fulfills the requirements to be exempted from registration since the recovered substance has been registered “before”.
Findings and conclusions: the burden of registration of a recovered substance that has not been registered before, lies only on the first manufacturer. All subsequent manufacturers of the recovered substance can now successfully claim exemption based on article 2 (7) under d) when they can prove “sameness”. All subsequent manufacturers are free from the identified uses, CSA/CSR and exposure scenario’s. Substances that have been obtained through chemical modification during the recovery process are more likely not “registered before”.
On the identification of new PCB it is not only the chemical composition that is important, but also the feedstock it was made from and the production process. Those both are part of the identification of the substance.
This seems in contradiction with the base rules of REACH this seems in contradiction with the basic rules of REACH which is: no data, no market and every manufacturer or importer has to register.

Henrik Hedlund (Swedish Chemicals Agency) gave a presentation on Challenges encountered when enforcing an operator recycling tyres for infill materials in Sweden.

Recycling of tyres and End-of-Waste in Sweden. Decisions on End-of-Waste are taken by the local of regional waste authority in Sweden. The Swedish Chemicals Agency (Keml) and the Swedish environmental authority have provided guidance for waste inspectors. Keml checks compliance with the chemical registration. There are no national End-of-Waste criteria. The recovery operator is responsible to do the assessment and authorities check this assessment at an inspection.
The case started in 2015. The company makes rubber granules from tyres by mechanical process. There is no pre-sorting of tyres. The product is marketed as a chemical product. Keml contacted the company and requested information for enforcement (SDS and REACH registration).
The company indicated that it is waste, and it had always been sold as such. Lawyers from Keml indicated that even if the product was marketed as a chemical product, it can't be enforced as such. It was then handed over to the regional authority who performed waste inspections to make sure that it was sold as waste and complying with the waste regulation. The regional authority performs the inspection and submits the report. The company submitted the report that End-of-Waste had been fulfilled. The regional authority request the opinion of Keml if the report and data shows that chemical legislation is fulfilled. Keml informs the regional authority that it is the company responsibility that chemical legislation is fulfilled and that Keml cannot give any pre- approvement (checks are done during inspection). Keml informs the company when it starts selling the product as a chemical product, Keml requests the company to send in information needed for enforcement: information on registration according to REACH and on SDS. The company submits the information they had available, but it lacked information on registration and SDS for the recycled substances in the mixture. Based on the information, the mixture should be classified, labeled and require SDS. The granules were sold as waste as investigation is completed. Keml contacts the company and the company indicates that the granules are sold as waste and will continue the be sold as waste. The enforcement case then closed by Keml.
Conclusion is that the cooperation between waste inspectors and chemical inspectors is crucial.

Emma Nurmi (Finnish Environment Institute (SYKE)) gave a presentation on Transboundary shipment of waste/end-of-waste: examples from Finland

When waste is moving from one country to another (when waste crosses the border) this is transboundary shipments of waste. The EU waste shipment regulation (WSR) applies.
For transboundary shipment there are two procedures:
1. Notification (notification document – Annex 1A of the WSR) and financial guarantee and consent from the other country.
2. Green-listed waste – Annex VII of the WSR – no consent from the other country is needed.
Syke is the competent authority and supervisory authority.
Article 28 of the WSR deals with the disagreement on classification issues: if the competent authorities of dispatch and of destination cannot agree on the classification as regards the distinction between waste and non-waste, the subject matter shall be treated as if it were waste.
In Finland there are not many cases on End-of-Waste, most cases on used electronics.

Case on lead paste from used lead acid batteries: a regional state administrative authority for environemental permits accepted lead paste End-of-Waste status in 2020. End-of-Waste Lead paste is shipped to some other countries for smelting. In Sweden an notification is required for shipment as waste.

Case on colbalt hydroxide from battery recycling: it originates from used lithium cobalt battery recycling process in a facility located outside the EU. Company wants to the material to Finland as a product. Country of origin does not have an End-of-Waste procedure. But would have allowed export as non-waste because it is a recycled material which could be used directly as a raw material. There was no information on how the requirements of the EU chemicals legislation would be fulfilled. SYKE concluded that with the information available the material the colbalt hydroxide from battery recycling should be imported as waste.

Case shredded plastic from Finland to Russia: plastic waste had been shipped via Finland to Russia using Annex VII of the WSR. This was a wrong procedure and shipment to Russia should have been notified. The exporters informed SYKE that the use of Annex VII had been an accident and what they sent was actually End-of-Waste plastics. SYKE and other transit countries disagreed with this. A take back was initiated by the country of dispatch.

Conclusions: it is not easy to define End-of-Waste status and End-of-Waste status in one country does not mean you can forget about the WSR procedures. Cooperation between different authorities is necesarry. And also international cooperation is very important.

Q&A: PLENARY DISCUSSION
Remark on the case on pyrolysis oil from waste car tires: ECHA is publishing on chemical recycling and pyrolysis and it is one of the six different activities which could fall under the broad umbrella of chemical recycling. What is coming out of this study is that there is in literature little information on different techniques which are allowing to get an ID on substance identity, which is the beginning of the whole discussion on eventually falling under article 2.7 (d) of REACH. It includes experiences on what is happening with substances of concern under the different technologies which are falling under this chemical recycling. So hopefully this study will create some discussion and the chances are high seeing the fact that POLITICO is going to write an article about this.

Session 4: Stakeholders views (Moderator: Romano Ruggeri)

Alejandro Navazas (EuRIC) gave a presentation on REACH requirements for secondary raw materials: the point of view of the industry

The European Recycling Industries' Confederation (EuRIC) focus on mechanical on the material recovery, mostly mechanical treatment. Dealing with material recovery from tyres, plastics, paper, textiles, batteries. EuRIC is in favor of EU wide harmonize criteria for End-of-Waste because legal certainty is essential. The product legislation imposes different types of requirements and the lack of certainty as to when waste is. For the CE it is important to have more certainty. Until now, the EU wide

End-of-Waste criteria have been focusing on rather very commonly used recovery materials. There are problems on REACH and sameness: for recyclers to be benefit of this exemption they need to show REACH sameness. The lead registrant needs to approve and share the data already registered which is not always the case as they often argue that the molecule is not the same as it comes from waste.

Greta Mosconi (ANPAR, Italy) gave a presentation on Requirements for producers of recycled and / or artificial aggregates from waste.

ANPAR is an Italian company that recovers metals and inner materials from different kind of waste like metal waste and bottom ash from incinerators. The presentation is about requirements for producers of recycled and or artificial aggregates from waste.
There are some End-of-Waste criteria and they are defined on different levels: European End-of-Waste criteria: on metal scrap like steel and iron; glass and copper scrap. In Italy there are some different national End-of-Waste criteria on SRF, asphalt conglomerates, paper and cardboard. There are no European or national End-of-Waste criteria for recycled/artificial aggregates. End-of-Waste conditions is included in Article 6 of Waste Framework Directive. On the condition use of substance or object will not lead to overall adverse environmental or human health impact: it is not
defined how to proof this. Can, for example, a leaching test or eco toxicity be used?

The Italian chemical test is based on empirical method. This test compares only a few parameters.
The test is considered inappropriate and does not consider the components of the aggregates. This is a problem for aggregates. Toxicity tests is in European biological test and it considered the entire mass of the sample, for that reason it is considered of higher quality than the chemical one.

Conclusions and closing of the Workshop
Romano Ruggeri closes the workshop and is thanking all participants for their valuable contributions to the workshop.