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Waste not, want not: Valuing waste as a resource

Proposed legislative framework for waste-derived materials

Discussion Paper – September 2020

Submission to Department of Water and Environmental Regulation

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About CME

The Chamber of Minerals and Energy of Western Australia (CME) is the peak resources sector representative body in Western Australia (WA). CME is funded by member companies responsible for more than 86 per cent of the State's mineral and energy workforce employment.[1]

In 2019-20, the WA's mineral and petroleum industry reported a record value of $172 billion.[2] Iron ore is currently the State's most valuable commodity at $103 billion. Petroleum products (including crude oil, condensate, liquefied natural gas, liquefied petroleum gas and natural gas) followed at $37 billion, with gold third at $16 billion.

The value of royalties received from the sector totalled $9.3 billion in 2019-20,[3] accounting for 28.8 per cent of general government revenue.[4] In addition to contributing 40 per cent of the State's total industry Gross Value Added,[5] the sector is a significant contributor to growth of the local, State and Australian economies.

Summary of Recommendations

The following recommendations address specific key concerns and priorities for recovered resources (i.e. waste-derived materials) in WA.

- Consistent with a circular economy and end-of-waste approach, any term using "waste" must not be used for materials that are approved for use (and hence no longer "waste"). Multiple different alternative terms could be used such as 'secondary material', 'derived material', 'derived resource', or 'recovered resource'. The term 'recovered resource' is recommended by CME and has been used throughout this submission to more clearly distinguish products from being a waste, assist marketing, and crucially, to align with the terminology used in Queensland, New South Wales and South Australia.
- Agglomerated products which are comprised of or derived from a recovered resource should not be subject to a recovered resource framework.
- The recovered resources framework should not apply to distributors of recovered resources beyond standard requirements for the safe storage, handling and transport of the material.
- The Department of Water and Environmental Regulation 'Factsheet – Assessing whether material is waste' be incorporated into an amended definition of 'waste'.
- Materials produced and managed under the *Mining Act 1978*, *Petroleum and Geothermal Energy Resources Act 1967*, and State Agreement Acts be excluded from the definition of waste or exempt from waste licensing and levy obligations, under the new recovered resource legislation.
- Industry-to-industry transfer of materials to be considered in the development of the recovered resource legislation to prevent unnecessary regulation and mechanisms adopted to incentivise industrial symbiosis in WA.
- Develop a single approval document which sets out both the requirements for producers and users of a recovered resource, similar to the Queensland end-of-waste framework.
- Develop and publish the list of proposed matters to which the CEO must have regard when making a WDM determination.
- Apply robust and consistent risk assessment framework to ensure effective and appropriate regulation of recovered resources.

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[1] Full-time employees and contractors onsite in 2019-20, excludes non-operating sites. Government of Western Australia, *2019-20 Economic indicators resources data*, Safety Regulation System, Department of Mines, Industry Regulation and Safety, September 2020.

[2] Government of Western Australia, *Latest statistics release: Mineral and petroleum review 2019-20*, Department of Mines, Industry Regulation and Safety, September 2020.

[3] Government of Western Australia, *2019-20 Economic indicators resources data*, Safety Regulation System, Department of Mines, Industry Regulation and Safety, September 2020.

[4] Government of Western Australia, 2019-20 *Annual report on State finances*, Department of Treasury, 25 September 2020.

[5] Duncan, A. and Kiely, D., *BCEC Briefing note: WA Economic update*, Bankwest Curtin Economics Centre, November 2019, p. 4.

- Both general and case-by-case approvals for recovered resources should be developed to distinguish between common and bespoke uses.
- A circular economy approach should prioritise recovered resources capable of the displacing virgin materials.
- The framework should specifically enable and incentivise investment in, and the trialling of, materials for their suitability to become recovered resources.
- Clear accountabilities of producers and users, and distinct transfer of liability at point of sale must be developed.
- DWER should acquire additional resources to establish a dedicated team responsible for managing the implementation of the Framework.

CME does not support the following two proposals canvassed in the Discussion Paper:

- The requirement for producers to provide a statement of compliance to users is not supported.
- The requirement for time-limited storage of recovered resources is not supported.
- The requirement for recovered resources to be subject to additional regulation under the *Environmental Protection (Controlled Waste) Regulations 2004*.

Context

CME welcomes the opportunity to provide a submission to the Department of Water and Environmental Regulation (DWER) on the 'Waste not, want not: Valuing waste as a resource – Proposed legislative framework for waste-derived materials' Discussion Paper (the Discussion Paper) released 25 September 2020.

The Discussion Paper proposes a legislative framework for waste-derived materials (WDM) including various legislative amendments to the *Environmental Protection Act 1986* (EP Act), *Waste Avoidance and Resource Recovery Act 2007* (WARR Act) and *Waste Avoidance and Resource Recovery Levy Act 2007* (WARR Levy Act). The proposed framework is intended to support and promote use of WDM by improving confidence in and demand for recycled products to stimulate market development in WA.

New South Wales, South Australia and Queensland have adopted the term "recovered resource" as opposed to "waste-derived material". CME recommends using the term "recovered resource" to more clearly distinguish products from being a waste, assist marketing, and better align with the approach of other jurisdictions. The term "recovered resource" will be used throughout this submission.

Proposed legislative framework

The development of an effective legislative framework for recovered resources is critical to supporting a circular economy and the achievement of the Waste Strategy 2030 targets.

Supply chains of relevance to the resources sector are highly complex and relationships between products and waste are often non-linear or binary. The proposed framework must be capable of clearly differentiating various process materials as outlined in Table 1. Appendix I: Proposed application of a recovered resources framework. details the proposed application of the framework consistent with the below differentiations.

Table 1: Differentiating process materials and their consideration under a recovered resource framework.

Material	Is it waste?	Does it have value?	Sold, traded, given away?	Under framework?
By-product & co-product Secondary material produced from the manufacturing / processing of another primary product.	No	Yes	Yes	No
Intermediate product Material, which is not a final product, produced from one process and used in other. Includes materials involved in inter-industry and intra-industry transfers.	No	Yes	Yes	No
Recovered resource Material recovered or derived from waste, has a beneficial use, and is produced and used as per relevant product specifications.	No	Yes	Yes	Yes
Agglomerated product Material which is comprised of or derived from a recovered resource.	No	Yes	Yes	No
Waste Material which discarded as no longer useful or required after the completion of a process.	Yes	Sometimes	No	Yes

Agglomerated products

A clear distinction is needed to determine when a recovered resource becomes a product and is no longer subject to the recovered resource framework.

Where a recovered resource is used to produce an agglomerated product, and where this use is consistent with the requirements of the recovered resource product specification, the agglomerated product should not be captured under the framework.

The framework must have distinct boundaries defining the scope of its application in a circular economy. These boundaries must not allow the framework to indefinitely apply to a material supply chain and should be restricted to the production of and use of a recovered resource, not subsequent products.

CME recommends agglomerated products which are comprised of or derived from a recovered resource should not be subject to a recovered resource framework.

Distributors

The application of the framework regarding distributors of recovered resources requires clarification.

As agents who supply goods to users, distributors should not be themselves considered 'users' under a recovered resource framework and as such should not be subject to regulation under the framework. As with any standard product specification, requirements for the safe storage, handling and transport of the material should be complied with. However, requirements for registration, record keeping and monitoring of use of the recovered resource should not apply.

CME recommends the framework should not apply to distributors of recovered resources beyond standard requirements for the safe storage, handling and transport of the material.

Definition of 'waste'

Correcting the definition of waste is fundamental to the waste reform agenda, providing certainty around when recovered resources are no longer waste and negating the need for an additional legislative framework.

The definition of waste needs to be amended to:

- Stop capturing (or potentially capturing due to ambiguities) by-products, co-products, intermediate products, recovered resources, uncontaminated fill, clean fill, and waste already regulated under other legislation; and
- Be flexible enough to allow for material to cease to be waste.

Under DWER's 'Factsheet – Assessing whether material is waste', saleable material and waste which has been substantially transformed or converted into a product or good are not waste.[6] This definition reflects DWER's current position and promotes streamlined management of recovered resources.

CME recommends incorporating the DWER 'Factsheet – Assessing whether material is waste' into an amended definition of 'waste'.

Materials excluded from the waste definition or exempt from licensing and levy obligations

It is essential a number of mineral and processing materials in the resources sector are excluded from the definition of waste or exempt from waste licensing and levy obligations under the new legislation.

CME recommends materials produced and managed under the following legislation be excluded from the definition of waste or exempt from waste licensing and levy obligations, under the new recovered resource legislation:

- *Mining Act 1978*;[7]

[6] Available at https://www.der.wa.gov.au/images/documents/your-environment/waste/Factsheet-Assessing-waste.pdf.

[7] Government of Western Australia, Department of Justice, Parliamentary Council's Office - Mining Act 1978, https://www.legislation.wa.gov.au/legislation/statutes.nsf/main_mrtitle_604_homepage.html

- *Petroleum and Geothermal Energy Resources Act 1967*;[8] and
- State Agreement Acts.

By adopting this approach, the following materials, specific to the resources sector, will appropriately be excluded from the definition of waste, or exempt from licensing and levy obligations:

- Any material which is subject to a royalty payment and therefore is a natural resource which inherently still has a value / use to society;
- "Waste rock" – rock which is mined and does not have current metal concentrations of economic value to the miner; and
- "Tailings" – ground rock and process effluents that are generated in a mine processing plant and disposed of within tailings storage facilities as approved on Mining Act or State Agreement Act tenure.

By way of example, the following would be appropriately excluded from the definition of waste: waste rock crushed for road base and concrete aggregate; and tailings used for paste fill in underground mining situations.

It should be noted that none of the above Acts exempt activities from being regulated under the provisions of the EP Act and other legislation already in place to protect the environment and human health (such as the *Contaminated Sites Act 2003*). Further, CME does not consider it necessary, nor appropriate, for waste materials in the resources sector to be further regulated by the new proposed legislative framework.

By-products

CME considers the current definition of waste is too broad and could be unnecessarily obstructive to the beneficial use of by-products and the objectives of a circular economy.

A State framework for managing waste, where by-products produced by industry are defined as waste (as determined from the perspective of the person who is the source of material) and are subject to a levy, will undermine the adoption of industrial symbiosis (industrial ecology) and the development of a circular economy in WA.

The paper "Industrial Symbiosis in the Kwinana Industrial Area (Western Australia)"[9] discusses the benefits which can be derived from industry-to-industry transfer of by-product materials. This can only occur if such transfers are not over regulated and / or financially dis-incentivised.

The below figure, sourced from this paper, shows historical by-product industrial symbiosis in the Kwinana Industrial Area.

CME recommends implications of the framework on industry-to-industry transfer of materials be more clearly considered in the development of the recovered resource legislation to prevent unnecessary regulation and mechanisms adopted to incentivise industrial symbiosis in WA. CME is strongly of the view that industry-to-industry transfers are not captured by the framework as this would unnecessarily burden industry creating a disincentive.

[8] Government of Western Australia, Department of Justice, Parliamentary Council's Office - Petroleum and Geothermal Energy Resources Act 1967, https://www.legislation.wa.gov.au/legislation/statutes.nsf/main_mrtitle_704_homepage.html

[9] Harris, S. Dr, Industrial Symbiosis in the Kwinana Industrial Area (Western Australia), Centre of Excellence in Cleaner Production, Curtin University of Technology, Measurement + Control Vol 40/8 October 2007, https://journals.sagepub.com/doi/pdf/10.1177/002029400704000802

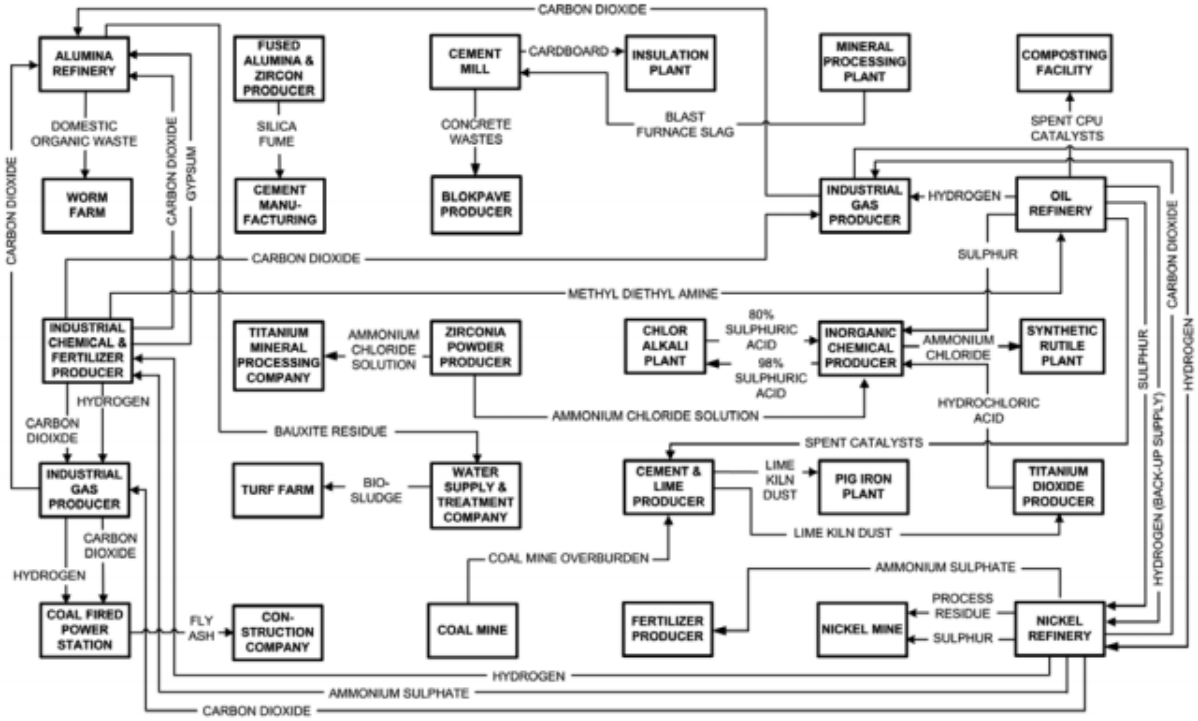

Figure 3: Existing by-product IS in the Kwinana Industrial Area. (van Beers, Corder et al. 2007)

WDM determinations

Making a WDM determination

Under the proposed framework, general and case-by-case 'WDM determinations' will be developed which each comprise of a 'WDM product specification' for producers and 'WDM declaration' for users. The use of three different terms for a single recovered resource approval appears unnecessarily complex.

Under the Queensland end-of-waste framework, a single document (a 'code' for general use, or 'approval' for specific trial use) is developed which separately sets out requirements for producers and users. From a transparency perspective, it would also appear beneficial for both users and producers to be aware of the requirements placed on the other party as part of the Framework.

CME recommends development of a single approval document which sets out both the requirements for producers and users of a recovered resource, similar to the Queensland end-of-waste framework.

Matters the CEO would have regard to in assessing and making a WDM determination

In principle, CME supports the list of proposed matters to which the CEO must have regard when making a WDM determination. However, greater clarity is needed regarding the evidence required by industry to demonstrate alignment with the proposed principles in order to obtain CEO approval.

Acknowledging DWER's commitment to ensuring this detail is captured in further guidance material, CME looks forward to contributing to future consultation on these guidance documents.

Setting conditions in WDM determinations

CME support risk-based regulation and conditions proportionate to the risk. However, under the proposed framework there exists no clear pathway for how a recovered resource is to be considered low or high risk. Perception of risk can differ across stakeholder groups and its method of assessment must be clearly defined and consistently applied.

CME recommends a robust and consistent risk assessment framework be applied to ensure effective and appropriate regulation of recovered resources.

Types of WDM determinations

CME supports the development of general and case-by-case approvals for recovered resources to distinguish common and bespoke uses.

Regarding Table 1 on page 9 of the Discussion Paper, CME notes the following:

- The 'Use' column incorrectly captures both recovered resources and their potential uses. For example, crumbed rubber modified bitumen is a recovered resource made from used tyres and conveyor belts which can be used for road sealant spray applications. A third column should be added to distinguish waste, recovered resource and potential use.
- Red Sand is not used as a soil ameliorant.
- Acid sulfate soils are naturally occurring. It is not correct to consider treated acid sulfate soils a recovered resource and therefore should not be captured under a recovered resource framework. Acid sulfate soils may also be treated in-situ further compounding potential confusion about capture of this material as waste.
- Treated wastewater used for irrigation is already subject to Department of Health regulations and guidelines, and other parts of the EP Act and should not be subject to additional regulation under a recovered resource framework.

Prioritisation of WDM determinations

In determining the priority of materials for developing general determinations, CME recommends a circular economy approach is considered with prioritisation of recovered resources capable of the displacing virgin materials in bulk. Materials for use by Main Roads and other large-scale construction projects should also be prioritised.

Trials of recovered resources

Any legislation should allow for testing and trialling of recovered resources in different capacities to explore reuse options. Barriers to trials must be sufficiently low to encourage innovation and novel use. Allowing trial permits or periods could revolutionise how companies handle large volume mineral wastes. Minimising such wastes through reuse / repurposing has multiple benefits including reducing footprints, reducing liability, reducing demand for virgin materials and reducing potential environmental impacts.

CME recommends the framework specifically enables and incentivises investment in, and the trialling of, materials for their suitability to become recovered resources.

WDM production specifications

CME support clear accountabilities of producers and users, and distinct transfer of liability at point of sale. Producers should not be held accountable for the action (or inaction) of users. This was a clear lesson learnt from implementation Queensland's end-of-waste framework.

The need for a written statement of compliance to be provided by the producer to the user is questionable. Under the proposed framework, the producer is required to comply with the product specification stipulated in the relevant general or case-by-case determination. Failure to comply constitutes a non-compliance. The statement of compliance provides no additional legal certainty for the user regarding product quality, and only adds an unnecessary administrative layer and compliance requirement for the producer.

Furthermore, broader consumer protection laws apply, requiring the producer to ensure the product provided to the user is as per the required specifications.

CME do not support the requirement for producers to provide a statement of compliance to users.

Transitional provisions

The implementation plan provides 'transitional provisions' for recovered resources currently produced and / or in use so far as that determinations will be developed for 'prioritised' materials. The process for developing determinations is untested and the timeline unknown and unbound by statutory timeframes. While the intent is to mitigate impact on industry, this may not be entirely possible.

CME notes the proposed framework is highly resource intensive with regards to approvals and compliance, and long lead times are expected for the development of determinations. CME recommends DWER acquire additional resources to establish a dedicated team responsible for managing the implementation of the Framework.

WDM declarations

Product storage and stockpiling is a necessary part of inventory management and should not be subject to time limitations. The imposition of stockpiling restrictions on users is not consistent with a risk-based approach to regulation.

Recovered resources would be required to not pose an unacceptable risk to human health or the environment, as proposed under the 'principles for use'. Consequently, the storage and stockpiling of such material should not consistent an unacceptable risk to health or the environment. Restricting the storage of the resource would not provide for better environmental protection.

CME do not support the requirement for time-limited storage of recovered resources.

Controlled waste

Under the proposed framework, a recovered resource comprised of or derived from controlled waste would by default continue to be considered controlled waste and subject to the *Environmental Protection (Controlled Waste) Regulations 2004* (CW Regs). This presents a significant barrier to market development and resource uptake as the transport, storage and handling of the material would be subject to extensive regulation, including additional reporting and licensing.

Classification of recovered resources as controlled waste is inconsistent with intent of the framework for recovered resources. Controlled wastes are inherently hazardous wastes, unlike recovered resources which are required to not pose an unacceptable risk to human health or the environment.

CME recommends recovered resources are not subject to additional regulation under the CW Regs.

Conclusion

CME thanks DWER for the opportunity to comment on the Discussion Paper and looks forward to continuing to work with DWER through this reform process and the wider waste reform agenda.

If you have any further queries regarding the above matters, please contact Kira Sorensen, Senior Policy Adviser – Environment.

Authorised by	Position	Date	Signed
Robert Carruthers	Director – Policy & Advocacy	18/12/2020	
Document reference	201218-WDM Framework_Submission-Final.docx		

Appendices

Appendix I: Proposed application of a recovered resources framework.

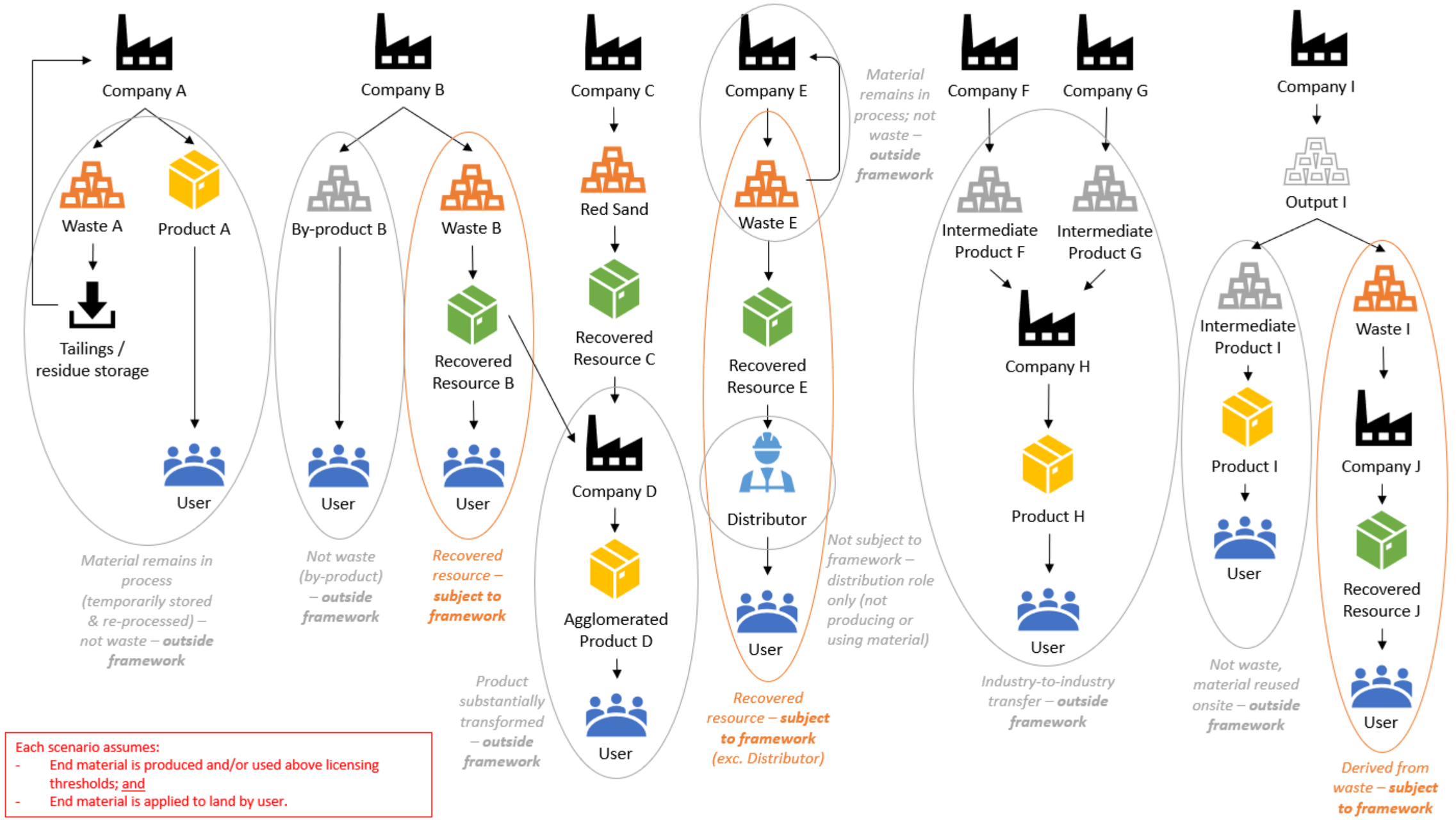

Figure 1: Application of a recovered resources framework illustrated under multiple scenarios.

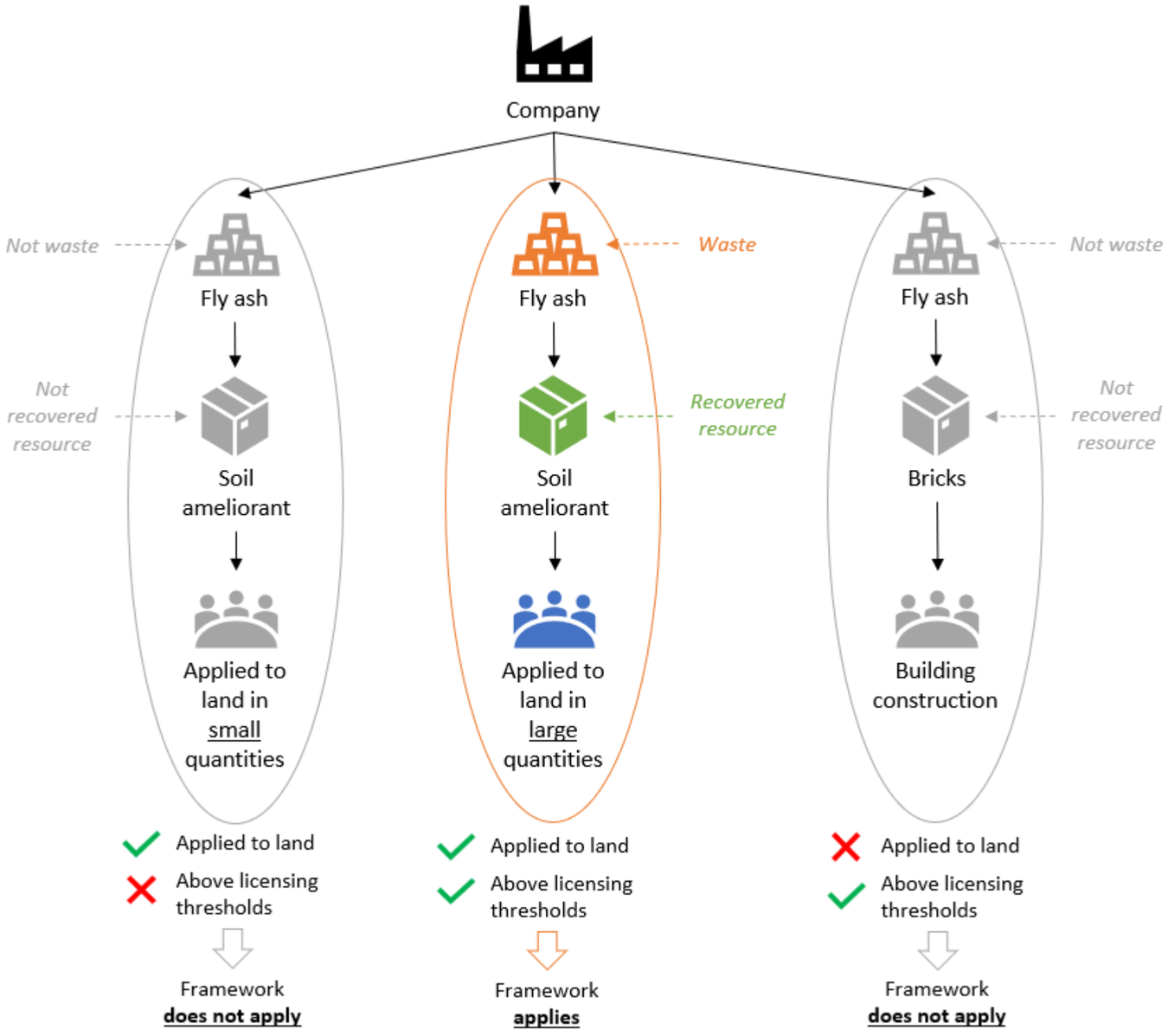

Figure 2: Example illustration of the application of a recovered resources framework.