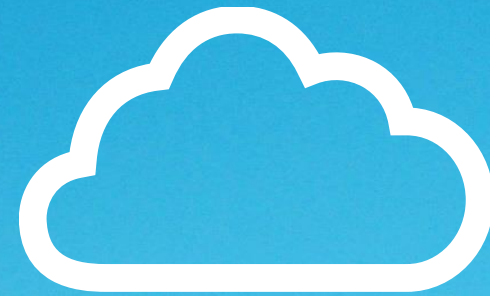




LCA modelling of supply chains with CO₂ compensated raw material input

- 1. myclimate and Compensation**
- 2. Label Guidelines**
- 3. PCF and Climate Neutral Product**
- 4. Approach for Compensated Raw Materials**
- 5. Conclusion**



Our Activities at myclimate

Effective climate protection – locally and globally

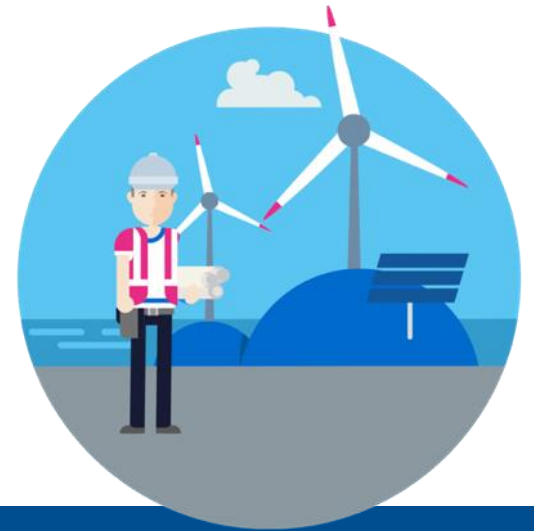
Consulting Services



Climate Education



Climate Protection Projects



→ A broad spectrum of individual solutions

Climate Protection

CO₂ is a waste issue!

50ies



80ies



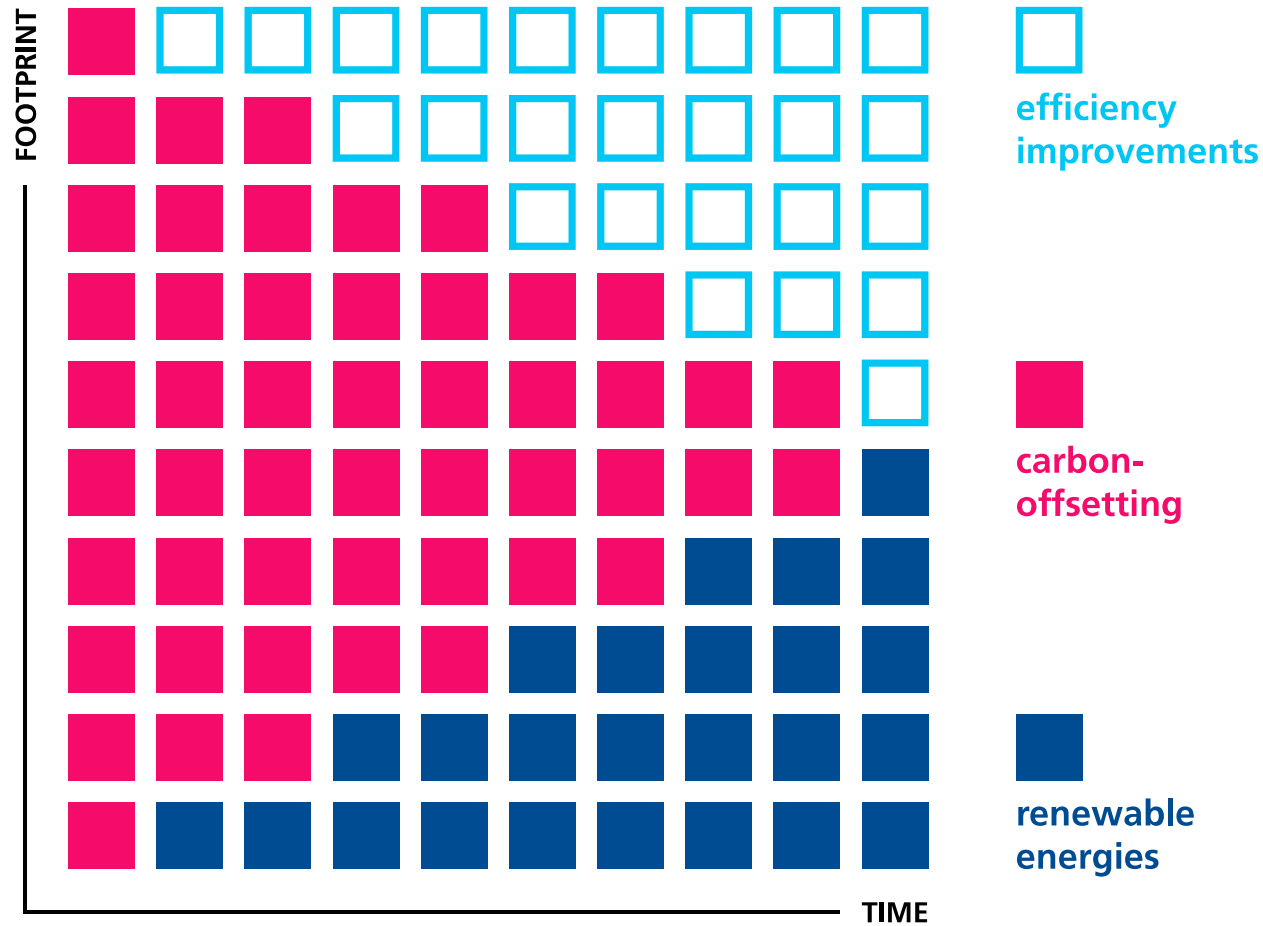
Today?



avoid
reduce
offset

Polluters Pay Principle?

Compensation – Avoiding Misconceptions



- **Firstly** – the best ton of CO₂e is the one that is never produced
- **Carbon offsetting** is a way of handling current CO₂e-emissions that cannot be avoided
- **The final objective** is to manage emissions without carbon offsetting – with wide-spread renewable energy applications and efficiency improvements

Compensated Raw Materials

When we talk about „compensated raw materials“, we also have to talk about:

Supply Chains

System Boundaries

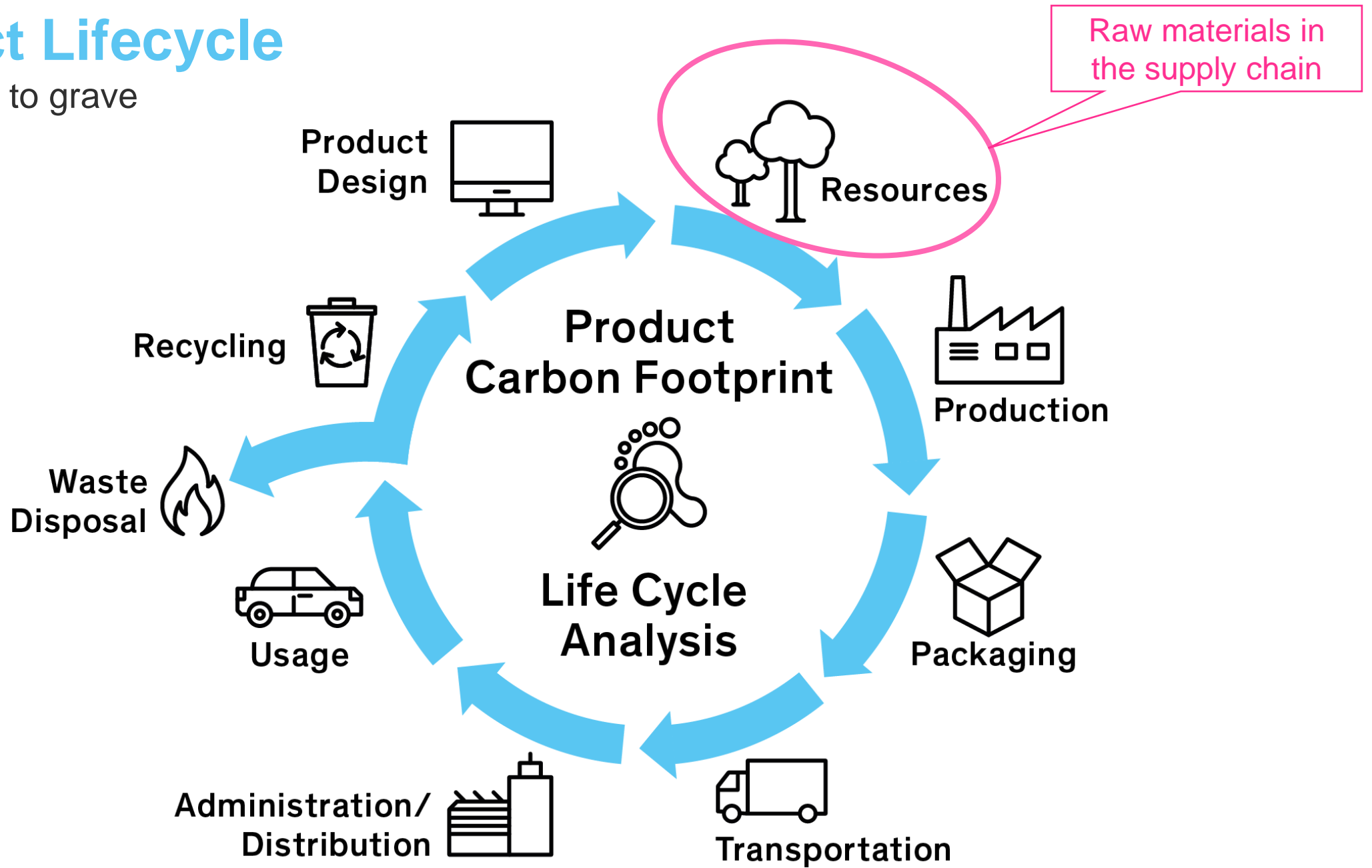
Label Guidelines

Credits

Double Counting

Product Lifecycle

From cradle to grave



Label Guidelines



myclimate Label Guidelines

2.2 Labels for products, services, printed matter, packaging or transport

2.2.1 Methodology

For a climate-neutral product (incl. service, printed matter, packaging or transport), all climate-impacting emissions along the life cycle of a product are taken into account, from the extraction of raw materials to the use of the product and its subsequent disposal or recycling.

The methodology is based on the life cycle assessment standards ISO 14040/44 and ISO 14067.

2.2.2 Minimum system boundary requirements

The following categories must be included in the carbon footprint so that offsetting on this basis is sufficient for awarding the myclimate climate neutral label:

- Energy consumption for production
- Materials and auxiliary materials incl. delivery
- Disposal and recycling of production waste
- Packaging, including delivery, disposal and recycling
- Delivery of the product to the direct customer
- Spare parts and service during the product's use phase
- Disposal and recycling of the product after its use phase

2.2.3 Recommendations

It is recommended that the following categories are also included in the carbon footprint:

- Energy consumption during the use phase
- Delivery of the product to the end customer

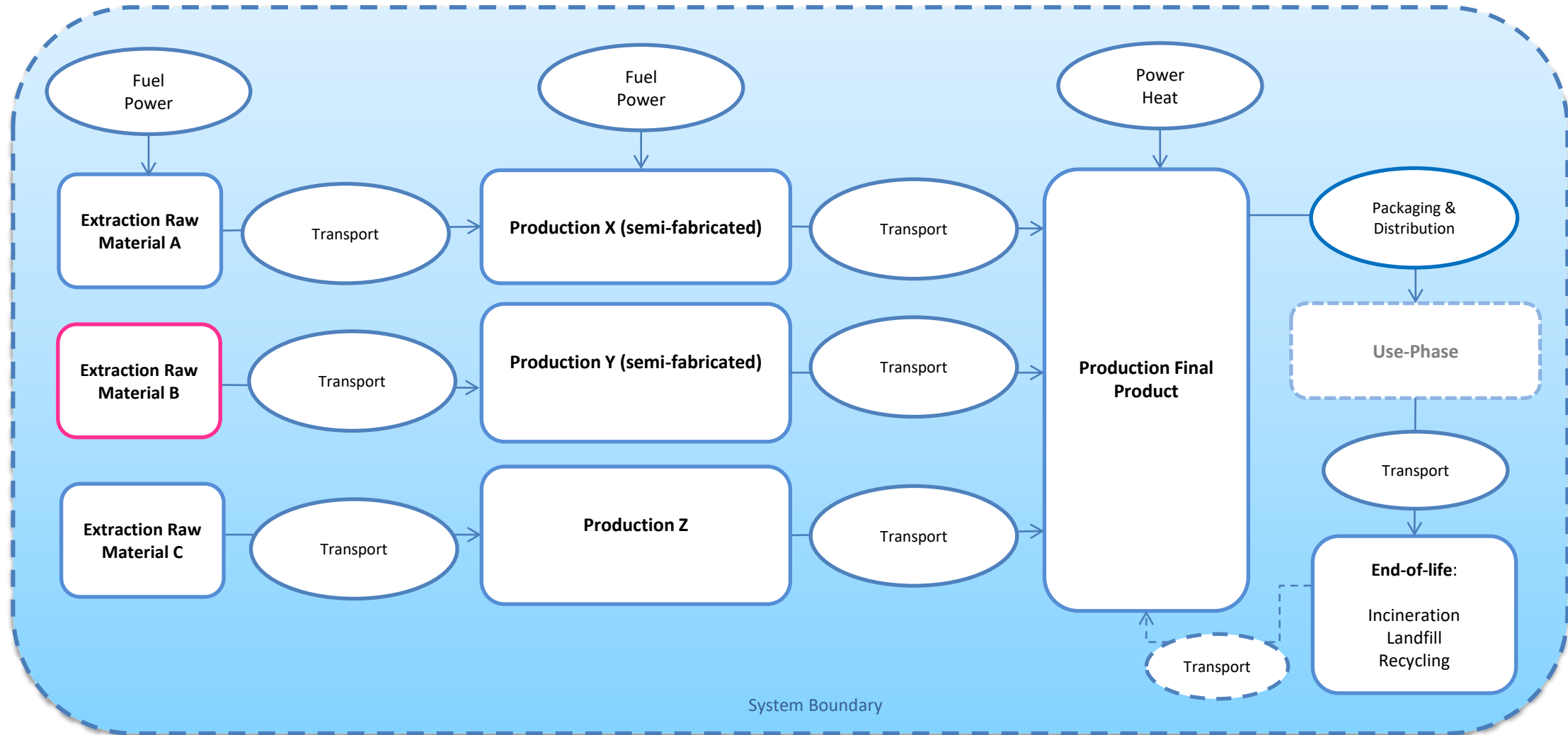
Approach for Climate-neutral Label

1. A so-called „conservative“ way is applied, e.g. if there are two processes to choose from and we are not sure which one fits, the dataset with more emissions is selected
2. To guarantee climate neutrality, we usually incorporate an „safety margin“ of 20%. This gives the customer and us the reliability that a product is completely compensated for



+ 20 %

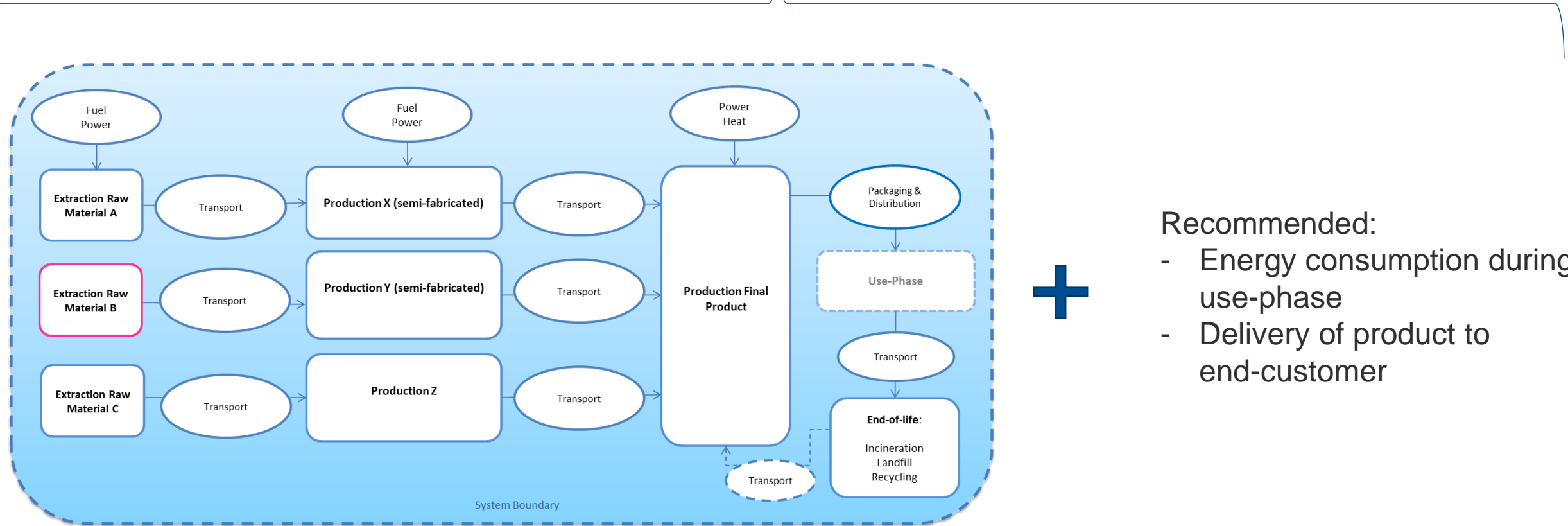
System Boundaries – Product Carbon Footprint



→ Standard approach for e.g. comparative PCF calculations

System Boundaries – Climate Neutral Product

Recommended boundary for cn label



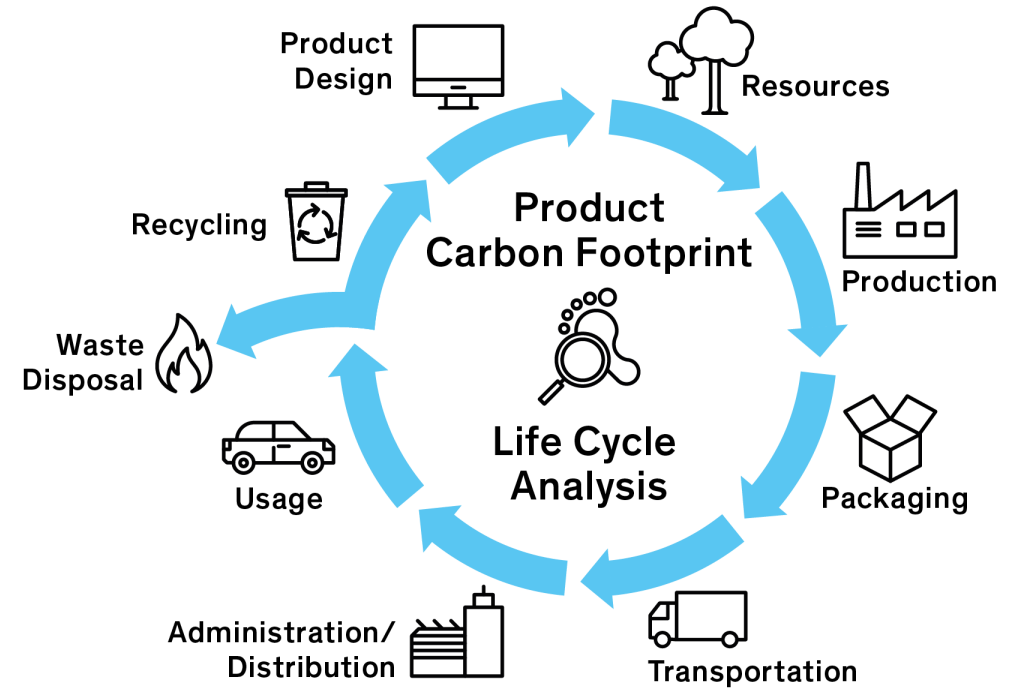
Minimum boundary requirements for cn label

Recommended:

- Energy consumption during use-phase
- Delivery of product to end-customer

Approach with Compensated Raw Materials in a Product

1. The total CO₂e-emissions over the *entire life-cycle of a product* are calculated, including the compensated materials



Approach with Compensated Raw Materials in a Product

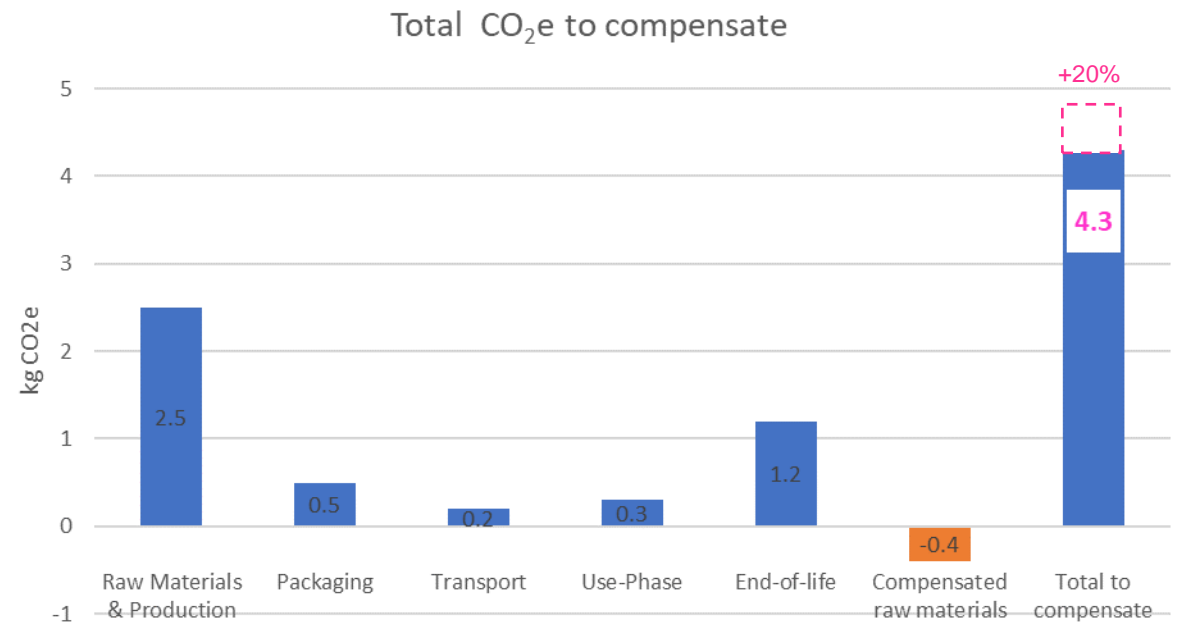
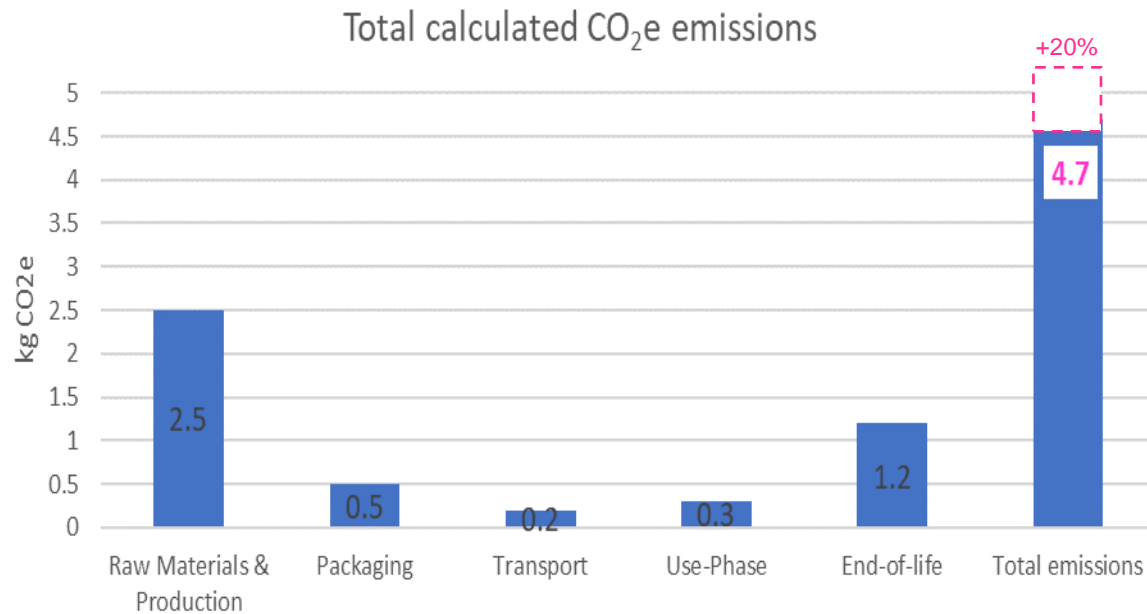
2. If a company can prove that a part or parts of their supply chain (raw materials) have already been compensated for, the procedure is the following:

- The customer is asked to contact their supplier
- The supplier of the raw material in question has to prove with a document (label or certificate) that the material has already been compensated for
- The applied system boundaries have to comply with the myclimate label guidelines for products (validation step)
- Compensation has happened in a high-quality climate protection project like „Gold Standard“ or „Plan Vivo“



Approach with Compensated Raw Materials in a Product

3. If the document is credible, the amount of CO₂e caused by that raw material will be deducted from the total CO₂e-emissions generated by the product (=Total to compensate)



A Word about „Double-Counting“

- There might be a situation where – even after a thorough research – it is unclear whether parts of a carbon footprint have already been compensated
- What to do? Risk a
 - Double-Counting or a
 - Under-compensation
- Our opinion there is clear:
 - Much rather a „Double-counting“ than „No Counting“

? Double-counting ?



Short Remark about „Credits“ in PCFs and LCAs

- „Credits“ could also be regarded as a kind of „compensation“ or „avoided burdens“
- Examples for „credits“ in LCA or PCF calculations:
 - Energy production through municipal incineration
 - Recycling activities (e.g. packaging)
 - Composting
 - . . .
- In terms of compensation or carbon offsetting, applying a system expansion or open-loop situation is critical

? Credits? Well ...



How to account for Credits ?

- It is **not** recommend to deduct a credit from the calculated PCF result – why ?
 - The business idea of a packaging company is not to produce packaging in order to create energy at the end-of-life . . .
 - The purpose is to produce a solid product that protects food, furniture etc.
- Incineration or recycling of plastic is a nice „side-effect“, but should not per se be subtracted from the calculated product carbon footprint

?Energy? Ok ...



→ If a credit has to be displayed, it can be done with a separate bar, indicating what benefits different preferred end-of-life options would offer

Conclusion I

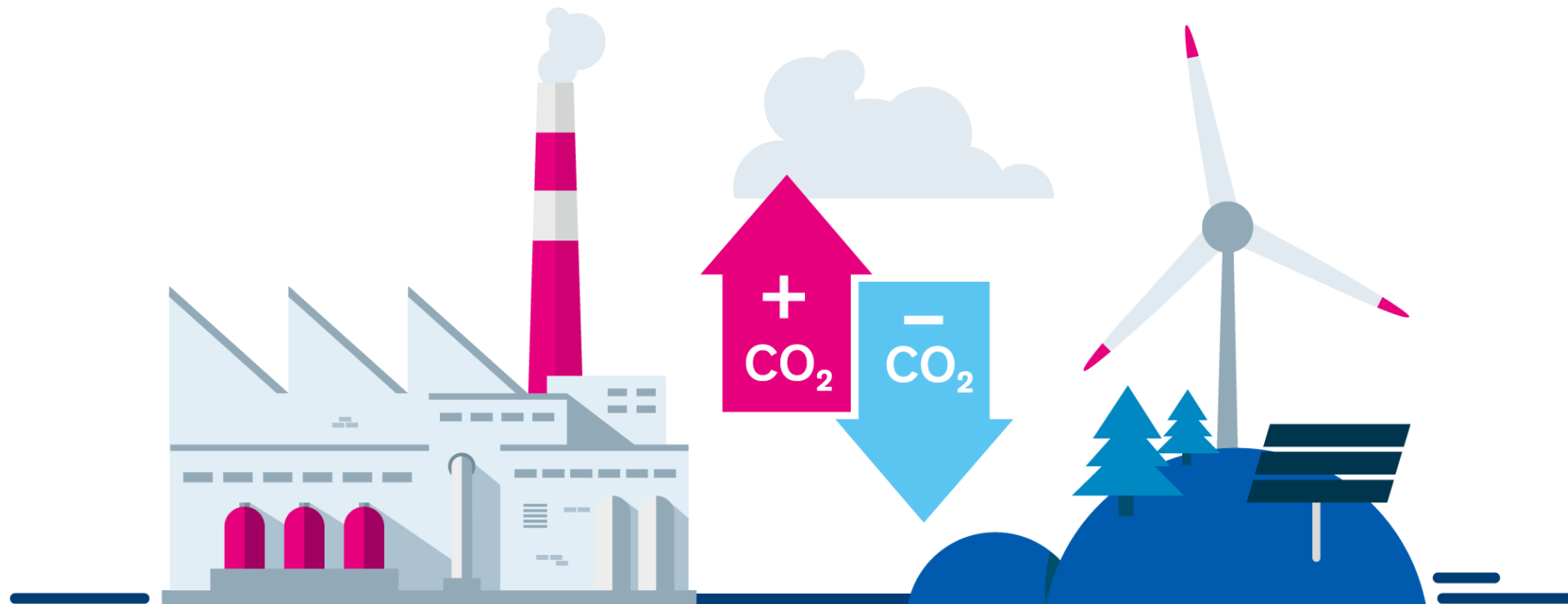
- Climate protection means to:
 - Avoid CO₂-emissions . . . and if that is not possible
 - to reduce CO₂-emissions . . . and if that is not possible or already done
 - to compensate for the rest of the occurring emissions
- A climate-neutral label fulfils a number of requirements
- A conservative approach with a solid safety margin is recommended

Conclusion II

- Compensated raw materials are not deducted when calculating the CO₂-footprint of a product (e.g. in a comparative PCF study)
- But the emissions of already compensated materials or processes are deducted from the compensation amount (kg CO₂e) when it comes to carbon offsetting (to avoid double-counting)
- Compensated materials require a certified document, sound system boundaries and a trustful climate protection project

Conclusion III

- „Double-counting“ is better than „no counting“
- Caution is advised when it comes to the incorporation of „credits“ in the final carbon footprint of a product



**Thank you for
your attention !**

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Your Partner for Active Climate Protection