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sustainability consulting + software

Why and when does regionalized LCIA makes sense?

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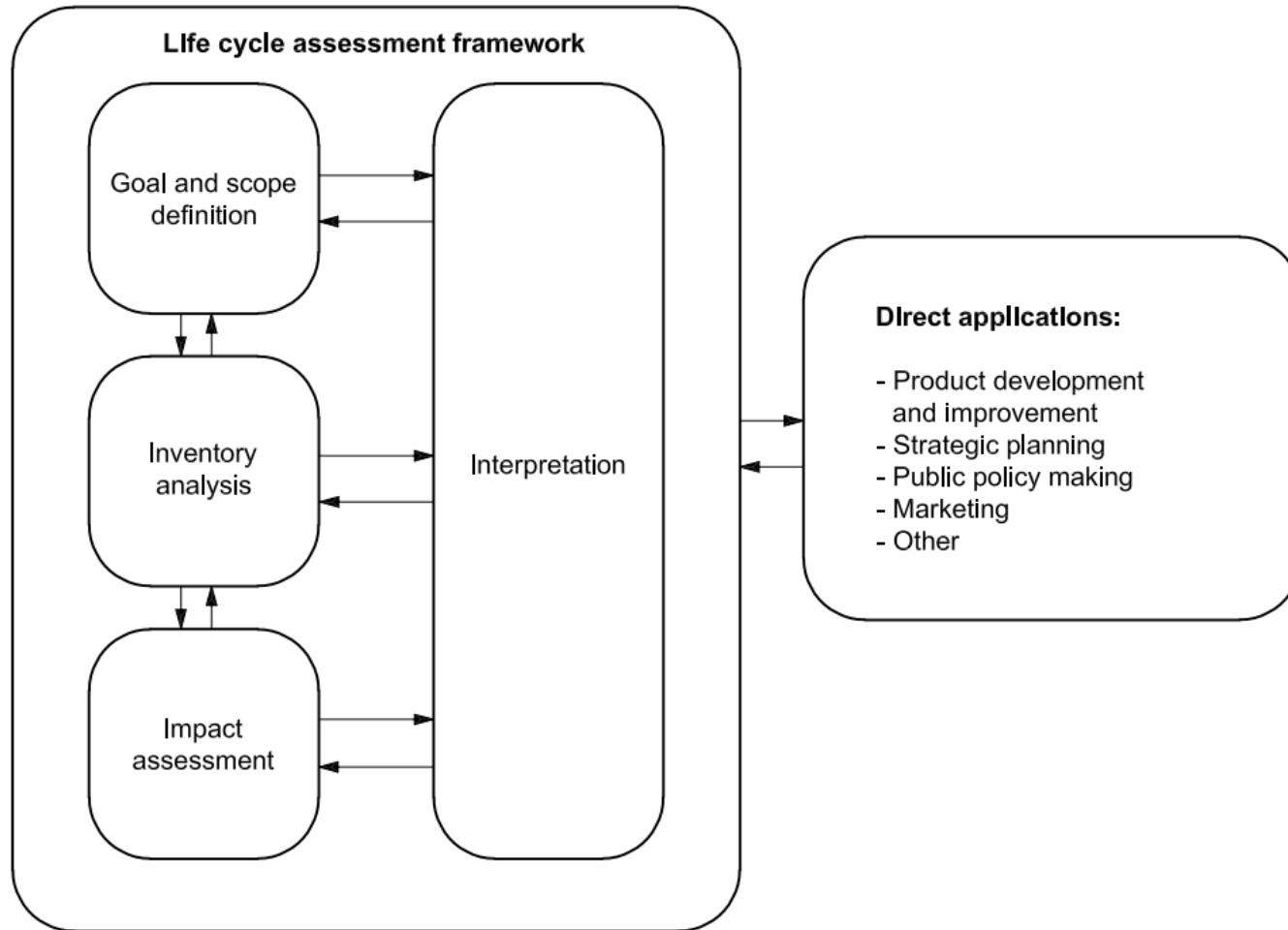
Why and when does regionalized LCIA makes sense?

1 Regionalised LCIA is model sophistication

2 Conclusions

1 Regionalised LCIA is model
sophistication

(LCIA is part of LCA)



Regionalised LCIA is model sophistication

- Commonly, in Life Cycle Assessment (LCA), the impact assessment (LCIA) is performed ignoring any regional differences.
 - Differences in the inventory are considered as far as possible (e.g., different processes for electricity generation, in different countries...)
 - There are good reasons for considering a regional variation in the impact assessment, but this adds complexity
- When does this make sense?

Good reasons for considering a regional variation in the impact assessment

- Withdrawal of 1l water for agriculture



Good reasons for considering a regional variation in the impact assessment

- Fine particles emission to air

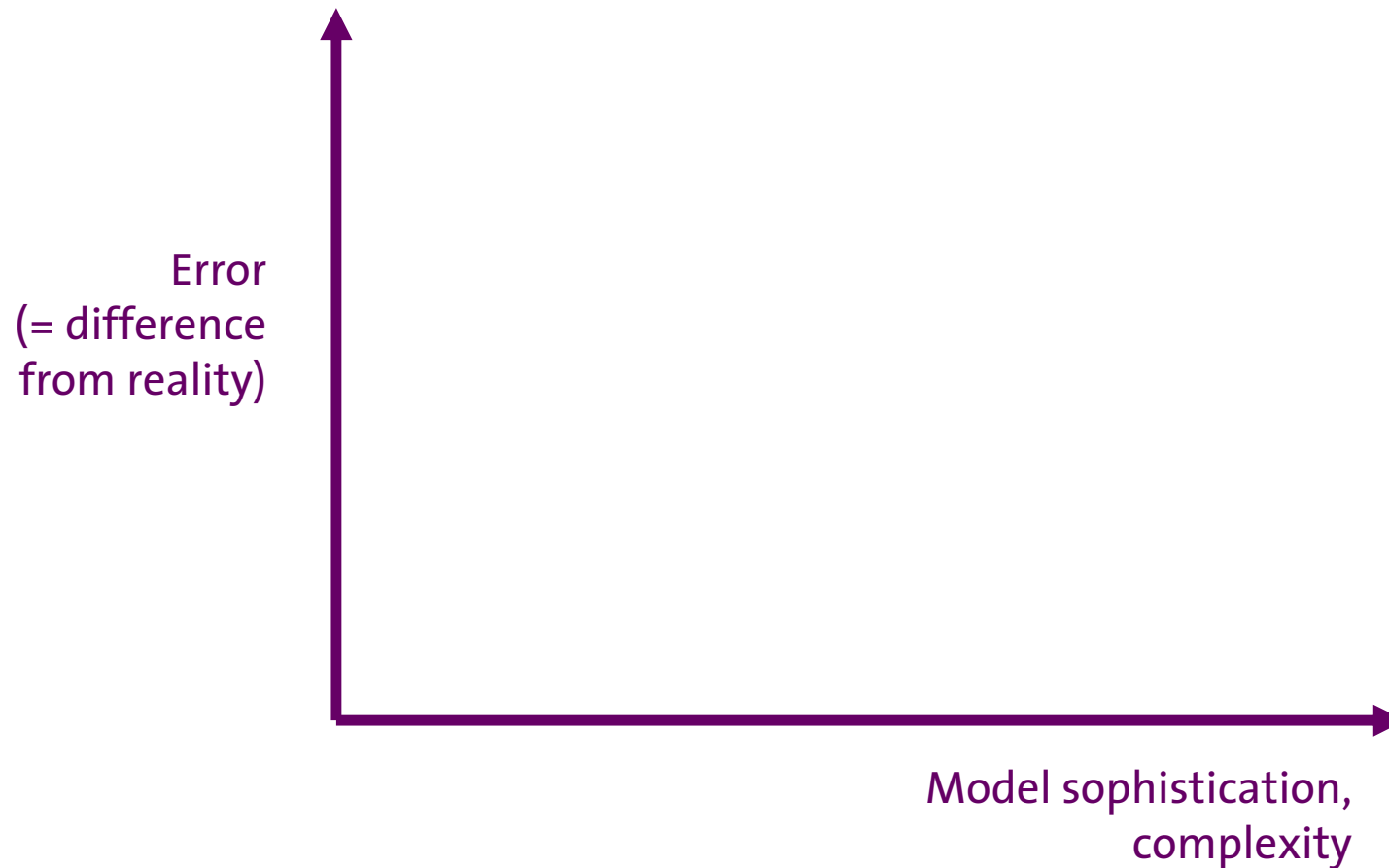


When does this make sense?

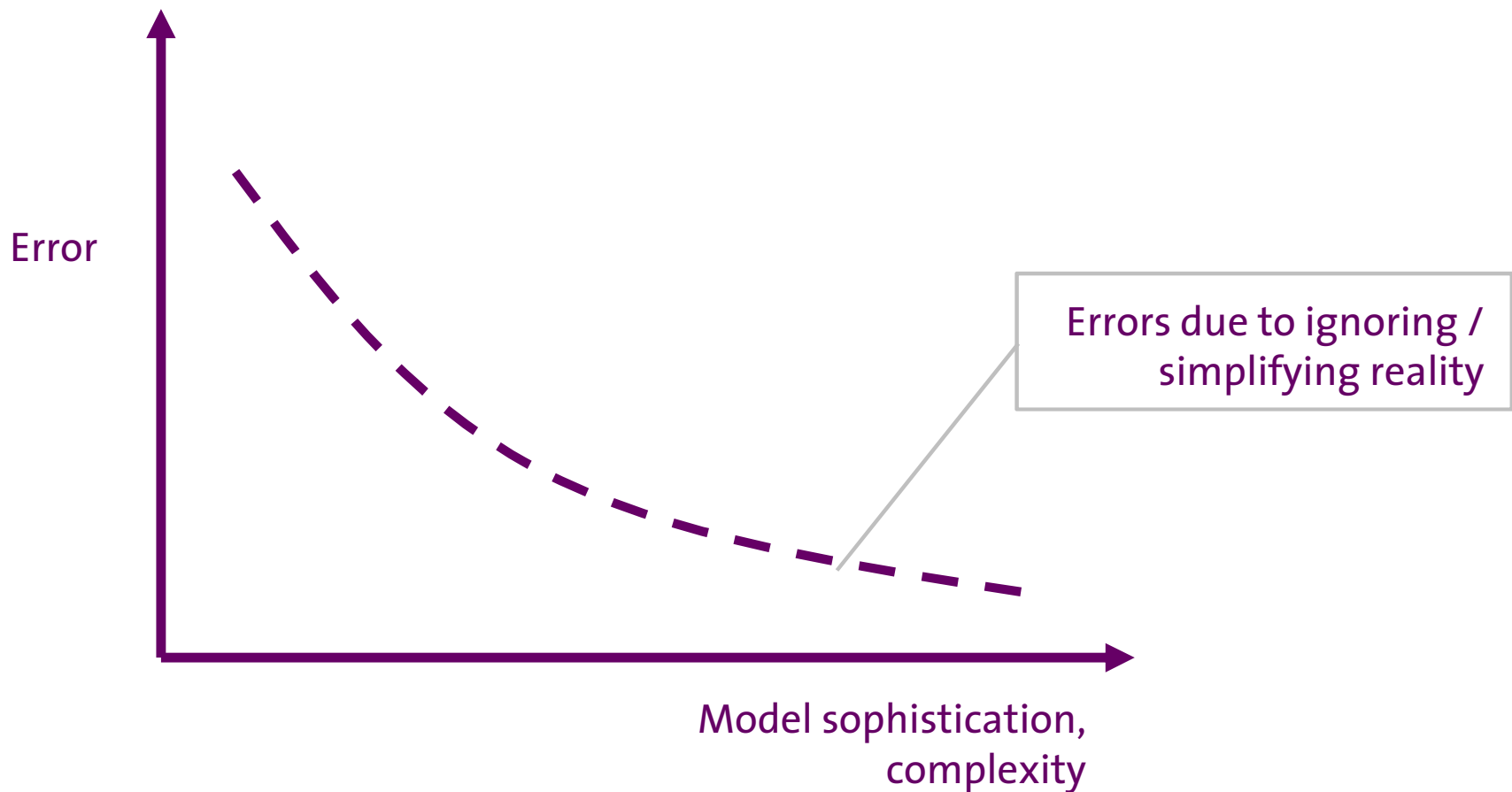
Let's take a pragmatic approach

- Pragmatic: result-oriented rather than driven by dogma or believe (!)
- Basically, an LCA study tries to model the environmental impacts of a product over the life cycle
- As with any model, the LCA model tries to be as close to reality as possible

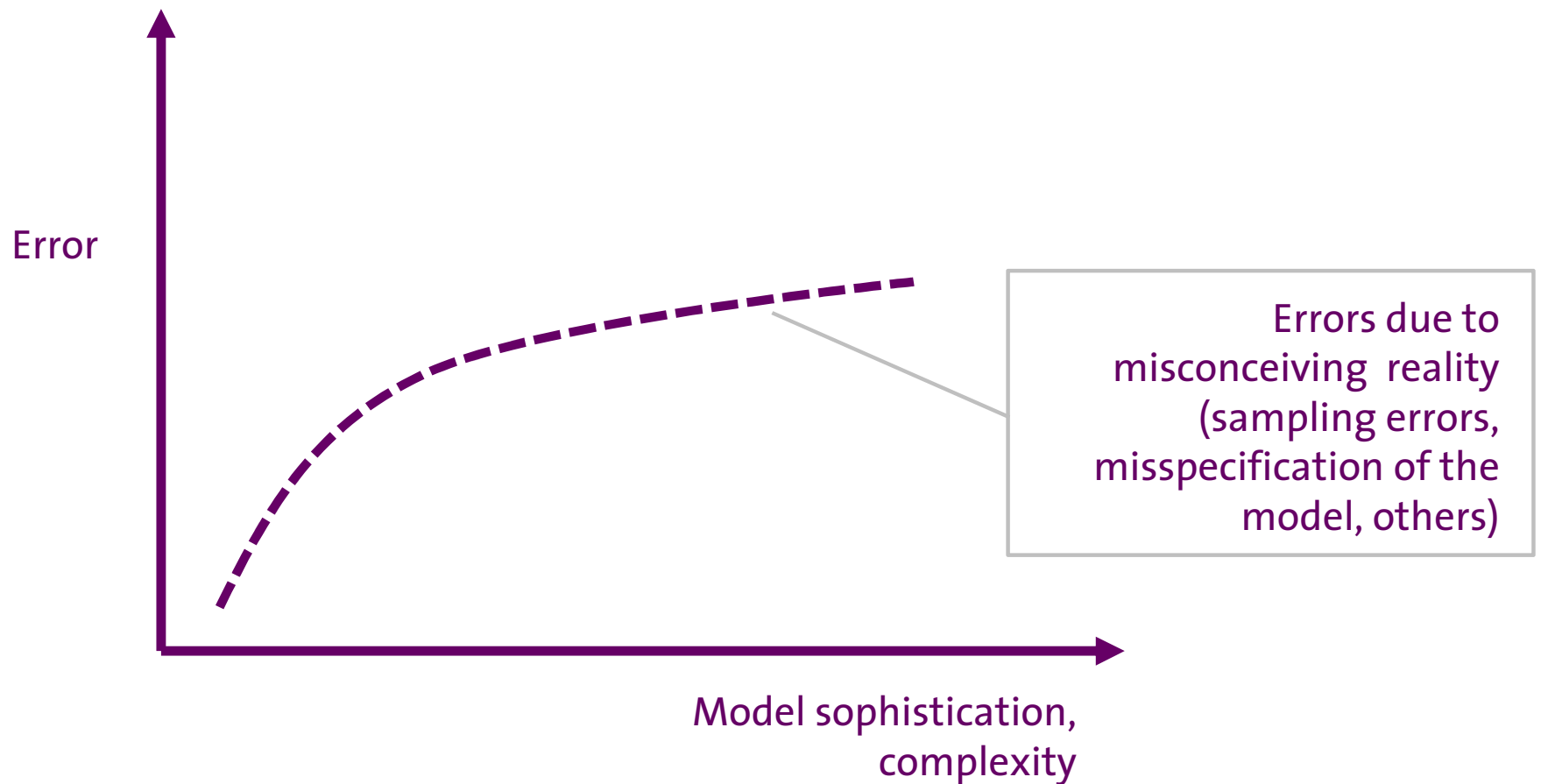
When does this make sense? Let's take a pragmatic approach



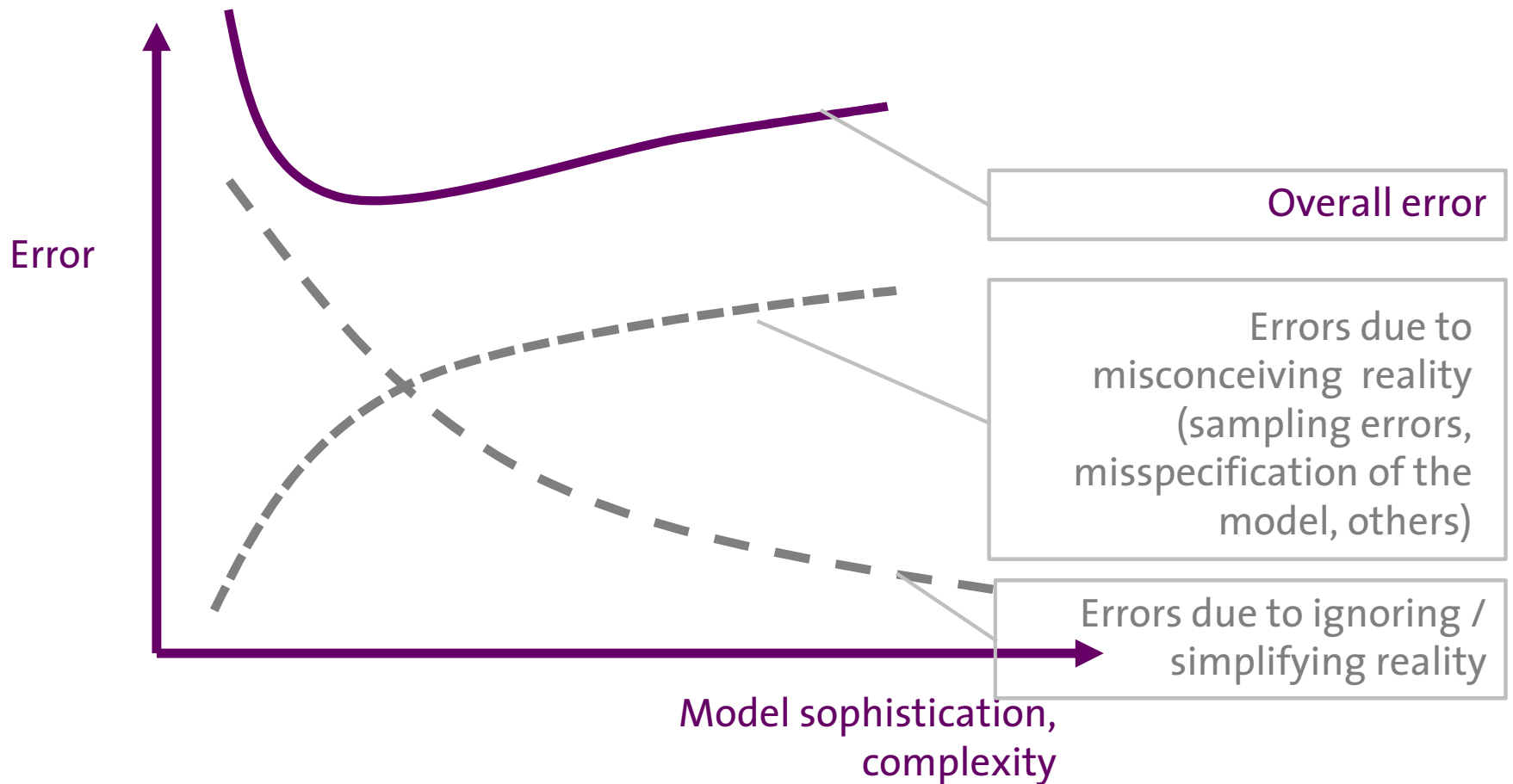
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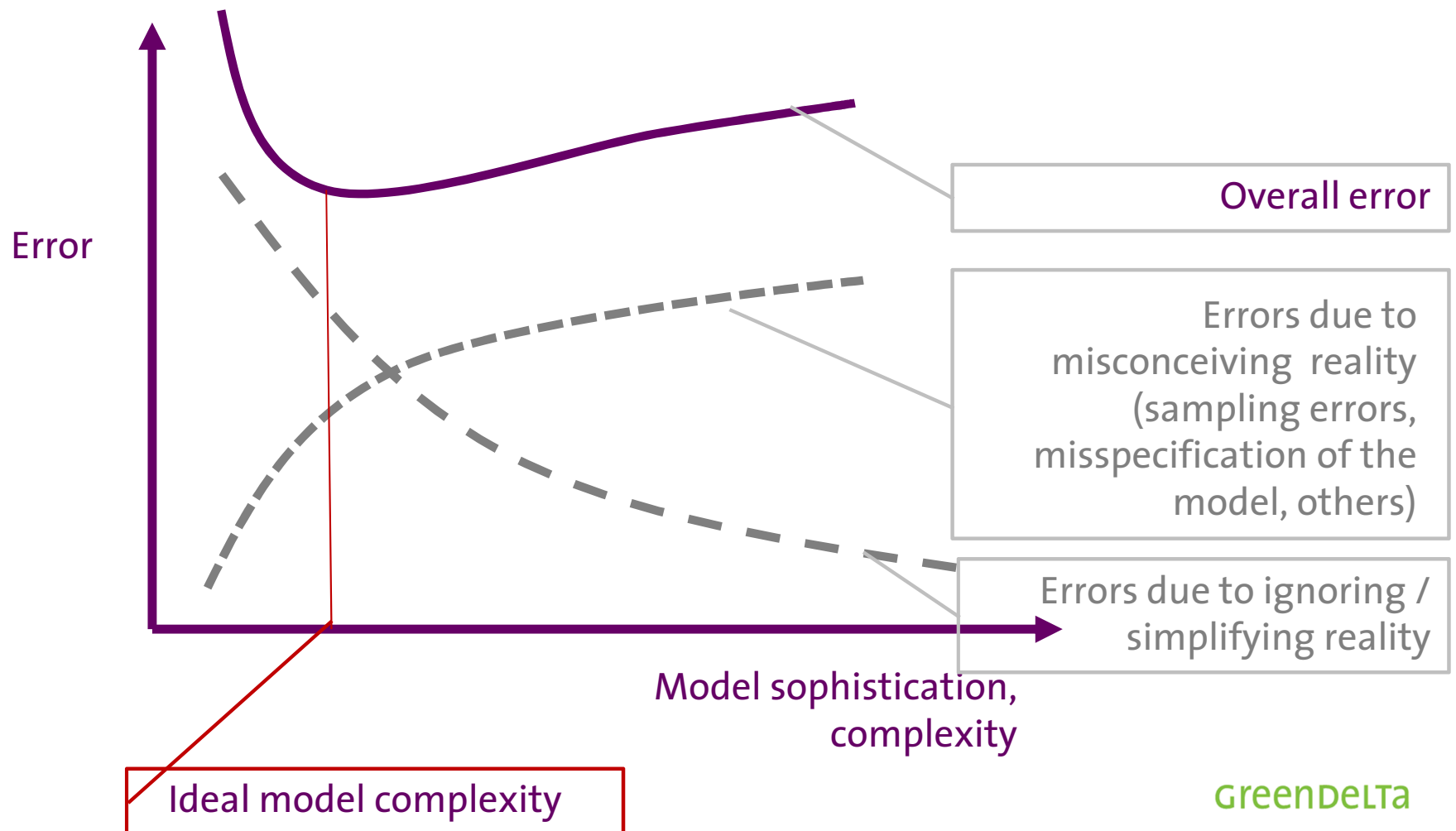
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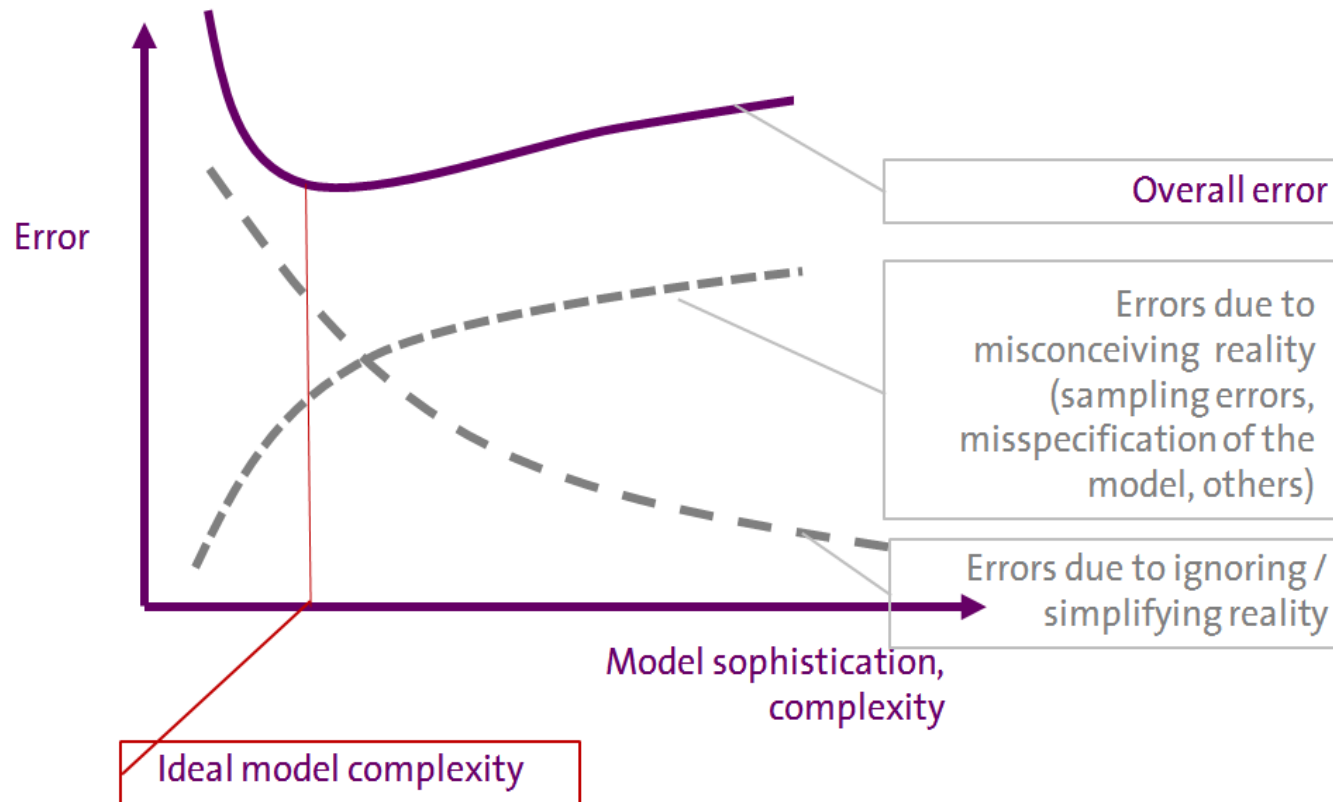
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When does this make sense? Let's take a pragmatic approach



source: SRU, Umweltgutachten 1974, Stuttgart 1974, p. 208; Ciroth, A.: Uncertainties in Life Cycle Assessment, editorial, Int J LCA 2004

2 Conclusions

Conclusions

In a pragmatic view, a regionalised LCIA makes sense in the following cases

- a. Large regional differences in impacts of the same elementary flow; this is impact category-specific (climate change – noise, toxicity, water)
- b. Low errors / “easy” implementation of the regional differences in impacts in the LCIA model (? -- ?),
- c. Low error in the specification of the regionalised inventory (for GWP, CH can always be used as a location..)
- d. Relevance of these regional differences especially for the specific decision and case

Conclusions

In addition, the effort for

- Creating the models
- Applying the models
- Collecting suitable inventory information

Needs to be considered.

Conclusions

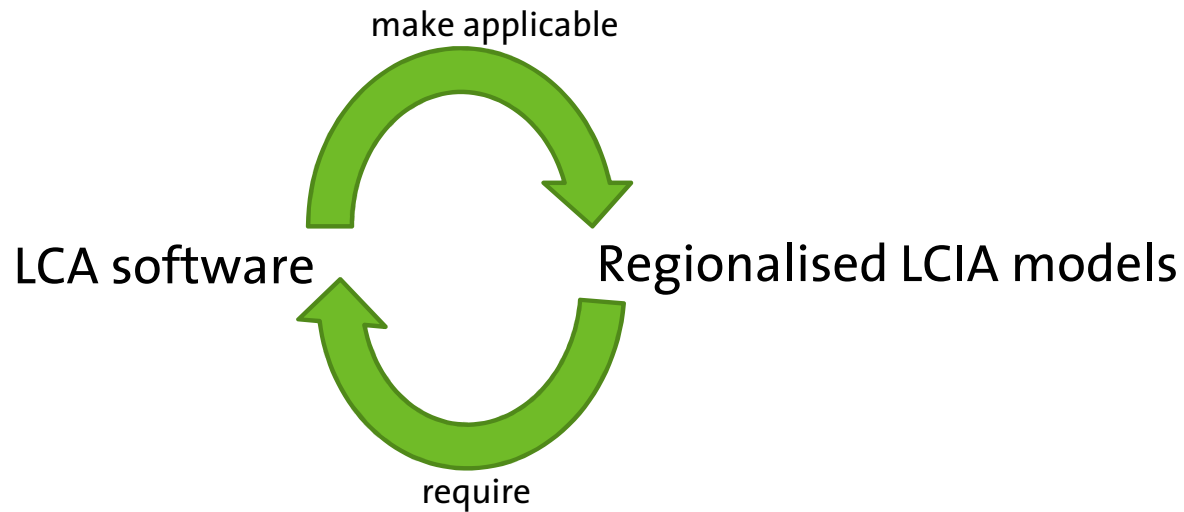
→ Idea for the workshop:

Nowadays, regionalised LCIA models, regionalised LCIs, and software that allows using both, are emerging.

This is a motivation to investigate where, how far and how regionalised LCIA can be implemented today in LCA models, to come to an overall better model, study result, and to provide better decision support.

Conclusions

→ Hen and egg problem:



→ We are looking forward to input of LCIA users and model developers!

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Thank you!

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