

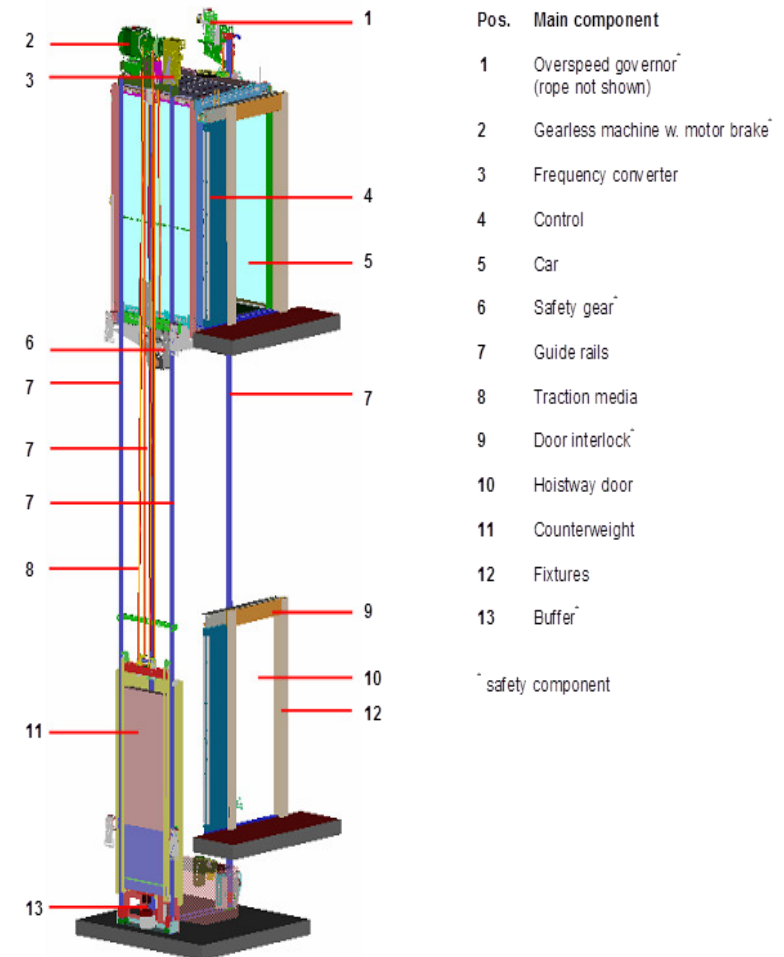
PCR draft for elevator EPDs

compatibility with tools and standards

PCR draft – tools and standards of the construction sector
Carbotech AG, 28 November, 2014

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What is the information meant for? Introduction ISO:

“Type III environmental declarations present quantified environmental information on the life cycle of a product to **enable comparisons between products** fulfilling the same function”

Principles to enable comparison



Equal rules for evaluation, agreement on content

- 1) Product Category Rules (PCR) which define the specific calculation rules for life cycle assessment of elevators and for the declaration format
- 2) Harmonization with PCR of other program operators

⇒ *Stakeholder consideration*

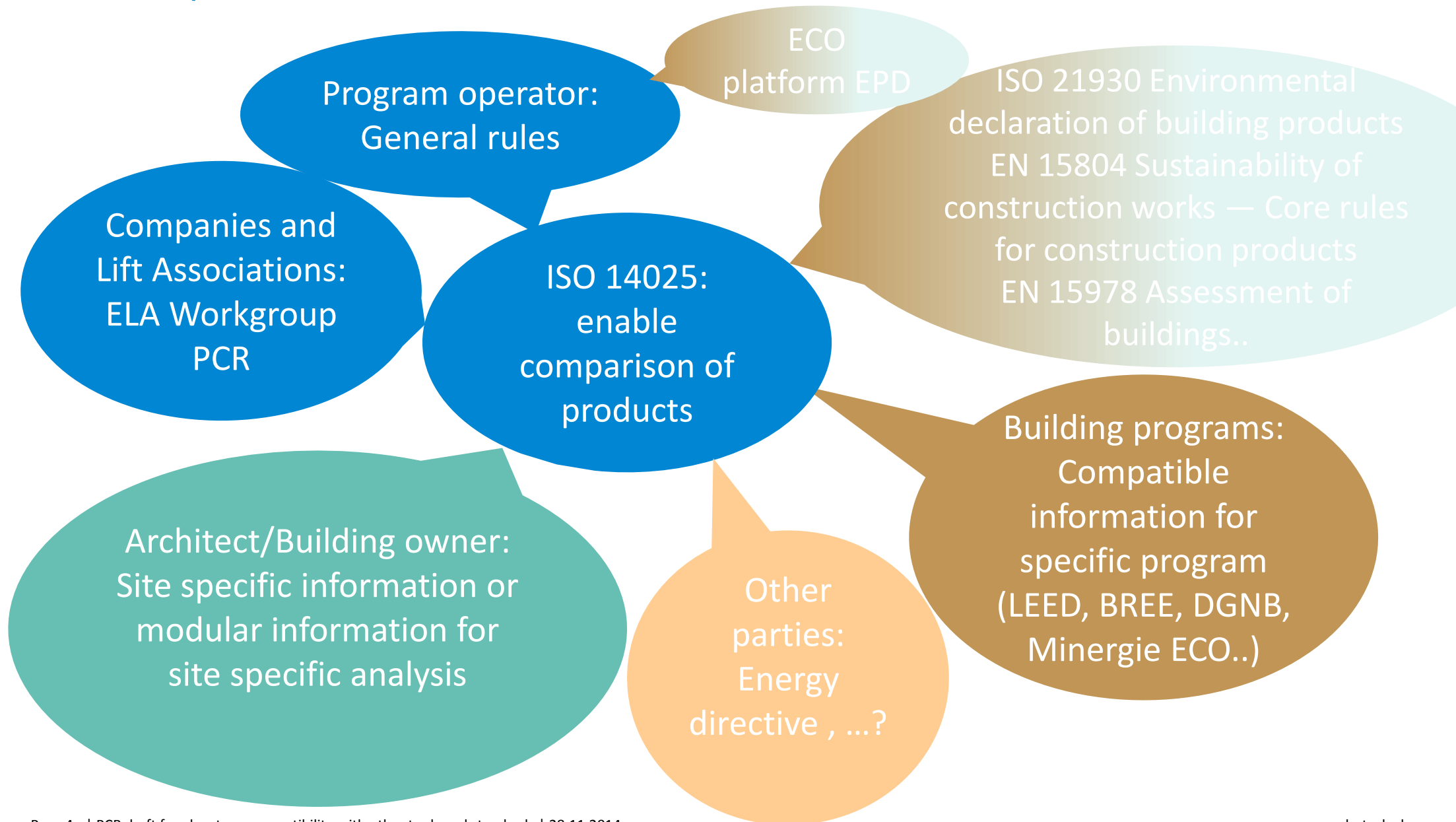
⇒ *Consultation of existing PCRs and standards*

⇒ *Definition of specific requirements for elevators*

PCR draft elaboration



different point of view and involvement of stakeholders

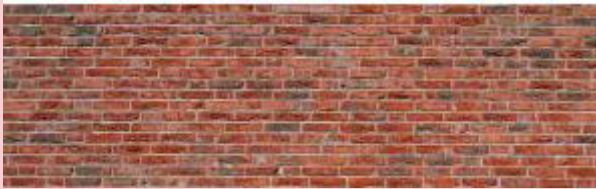


Obstacles for compatibility



“Consultation of existing PCR - falling in between existing standards”

Elevator = Construction product?



EN 15804 “Sustainability of construction works — Environmental product declarations — Core rules for the product category of construction products”

- ⇒ *elevator are not classic passive construction product, EN core rules considered where reasonable.*
- ⇒ *Lacking compatibility with tools and standards of the construction sector and building programs*

Elevator = machinery

PCR basic module for general purpose machinery
(Operator categorization)

Elevator = Transport equipment?



PCR basic modules for transport equipment. Applied for example for the PCR of the product category rolling stock (rail vehicles, trams, metros, locomotives)

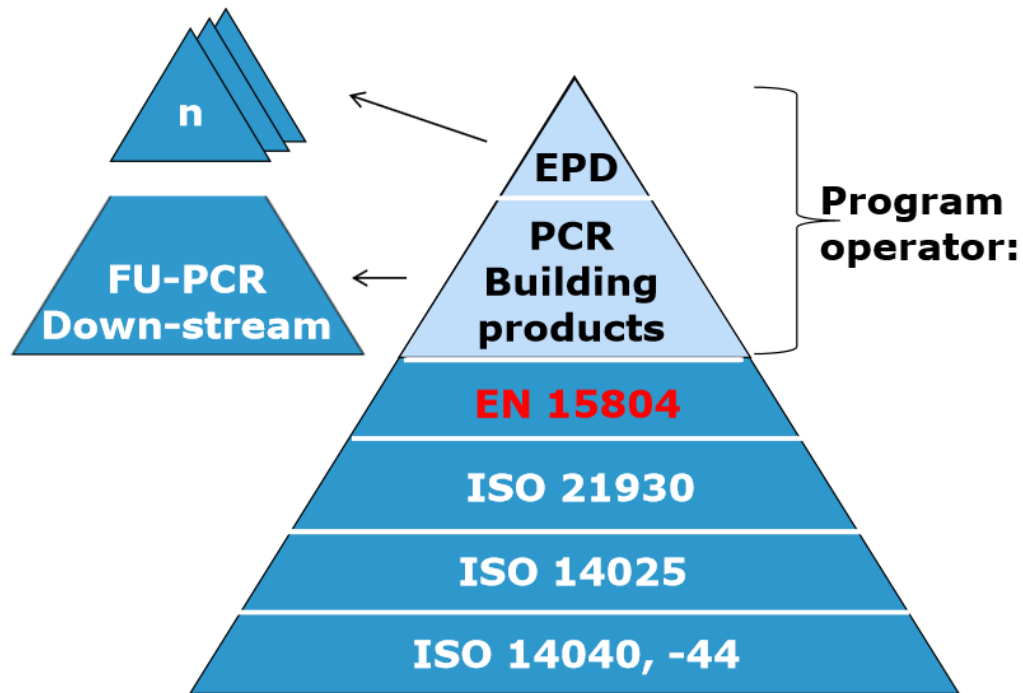
- ⇒ *Elevator systems similar in function to rail vehicles. PCR of rolling stock used as example for PCR draft.*
- ⇒ *Compatibility with programs of transport rather not required.*

Obstacles for compatibility



PCR draft, follow ISO 21930/ EN 21930 “if relevant”

All these standards:



- 1) PCR Building products – Program operator
- 2) (General PCR – Program operator)
- 3) **EN 15804 Sustainability of construction works – Core PCR related to Construction Product Regulation (CPR)**
- 4) ISO 21930 Environmental product declaration of building products
- 5) ISO 14025. Environmental labels and declarations - Type III environmental declarations - Principles and procedures
- 6) ISO 14040, -44. Environmental management - Life cycle assessment
 - /Principles and framework
 - /Requirements and guidelines

Figure derived from: <http://www.environdec.com/PageFiles/901/Product%20Category%20Rules%20for%20Construction%20products%20-%20Martin%20Erlandsson%20IVL.pdf>

Obstacles for compatibility



“Same product - different configuration and use – basis for comparison?”

105 m, ## Users, electricity x



50 m, # Users, electricity y



Modularity:
~~impacts per~~
~~kg, per m or~~
~~per floor~~
tkm for
comparison*

* Discussion on comparability of results for free parameter choice (load, usage, travel height)

Information per «tkm», calc. building?



Suggested information modules for reporting

Table 4: Information Modules Included and Excluded (EN 15978 format)

Life Cycle Stage	Information Module	LEED v4	Green Globes 2013 ¹²	IgCC 2012	CALGreen 2010/2012	PCR «tkm»
Product	A1 Raw Material Supply	✓	✓	✓	✓	✓
	A2 Transport	✓	✓	✓	✓	✓
	A3 Manufacturing	✓	✓	✓	✓	✓
Construction Installation	A4 Transport	✓	✓	✓	✓	✓
	A5 Construction-installation Process	✓	✓	✓	✓	✓
Use	B1 Use	?	?	?	?	?
	B2 Maintenance	✓	✓	✓	✓	✓
	B3 Repair	?	?	?	?	?
	B4 Replacement	✓	✓	✓	✓	✓
	B5 Refurbishment	?	?	?	?	?
	B6 Operational Energy Use	✗	?	✓	✓	✓
	B7 Operational Water Use	✗	✗	✗	✗	✗
End of Life	C1 De-construction Demolition	✓	✓	✓	✓	✓
	C2 Transport	✓	✓	✓	✓	✗
	C3 Waste Processing	?	?	?	?	?
	C4 Disposal	✓	✓	✓	✓	✓

Table 4 Notes

- ✓ Include
- ? Optional
- ✗ Exclude

Table from the Athena Guide to Whole-Building LCA in Green Building Programms 1st Edition

PCR draft (environdec)

Key topics with consequence on compatibility:

- Based on ISO, consulting EN standards
- Proposed functional unit FU «tkm»
- Open discussions on data quality, allocation, cut-off
- Suggested free parameter choice for evaluation (building height, number of floors, rated load, ..)
- Standard set of impacts and categories adapted
- Optional information, philosophy: minimize, keep it simple
- Definition of information modules (EN), reporting formate



Options to increase compatibility



Input in the next open consultation phase (about March 2015):

- Stakeholder feedback and expectations from the construction sector
- Solutions to obtain data for site specific building evaluations completing the data on tkm (for example data for material units and electricity in use..)
- Required optional informations
-?

Thank you
for your attention!