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Belgian Risk Management Association

The future challenges for C.A.R. Insurance regarding the Green Evolution 3

22/06/2023

HDI

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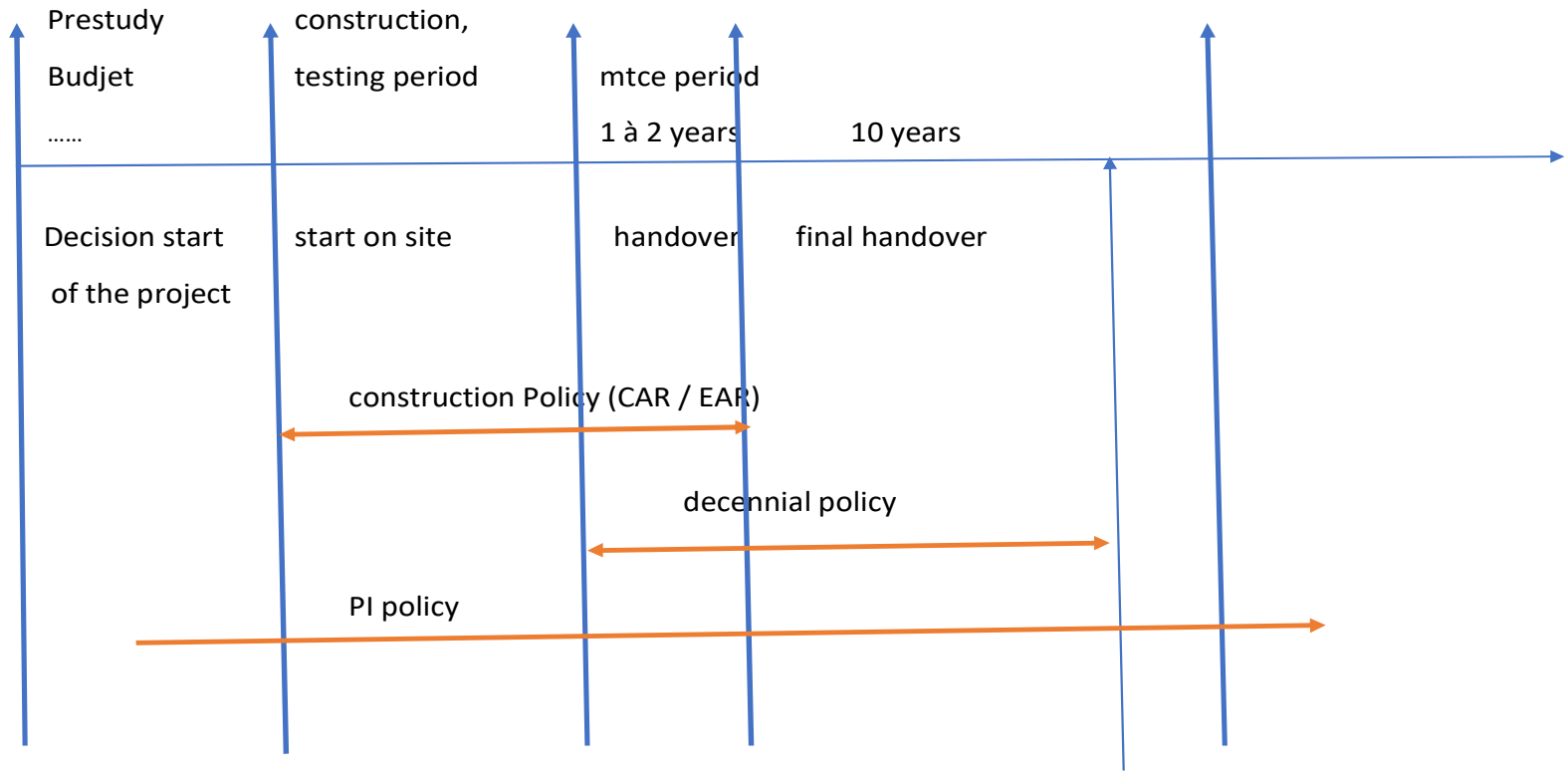
   - 3.3 new materials
     wood structures, cement free concrete, ……
   - 3.4 new technologies
     Modular constructions
     BES (battery energy storage)
     Beton Core Activation
     steel production with less or no CO2 exhaust
   - 3.5 decennial cover
   - 3…….

Construction time line



Construction in a nutshell

Construction all Risk & Erection all Risk

Belgian / UK market:

- Section I : damage to the works
- Section II : third part liability
- Section III : damage to existing property of the principal
  (sometimes included in section I)

Insured parties:

- Principal
- Contractors and subcontractors
- Architect, engineer, security surveyor,….
- Suppliers for their on site activities

Construction in a nutshell

Section I : damage to the works

during construction – erection – testing period:

sudden and unforeseeable material damage to the works, object of the contract.

whatever the origin, unless specificly excluded = **allrisk**

during maintenance period:

as specified: visits – extended – guarantee mtce = **+/- named perils**

- visits: punch list works to be finalized

- extended: origin damage on site during construction – testing period

- full makers guarantee: origin damage before handover

Construction in a nutshell

Section I: damage to the works

Bringing back the damaged works to the same situation as before the accident

Standard extension:

- **LEG 3**: material damage due to defects in design and material = covered

  not covered:

  - improvement, betterment, alterations,…
  - the existance of a defect as such (without material damage)

- Alternatives

  LEG 2: exclusion of all costs you would have made for the replacement or rectification of the defect part, immediately before the damage

  LEG 1: exclusion of losses and/or damage due to faulty design or material

https://www.londonengineeringgroup.com/

Construction in a nutshell

Insured parties

A split has to be made between an insured party and an insured risk !

Faulty design can be insured, even if you don't insure the designer

Do you want as principal, or general contractor to insure:

- every subcontractor
- every engineer
- …….

Insuring every party, blocks the right of recourse as well.

Construction in a nutshell

Section II : third party liability

liability of the principal (1382-86 & 3.101 (old 544))

liability of contractors, engineers, architect

cross liability, exclusion of

- damage insurable under section I or III (no buy back of PI)
- immaterial damage Principal (no buy back of DSU)

cover in first rank, in excess,

transfer of financial consequences of principal's liability

Construction in a nutshell

Section III : existing property

- cover for damage to buildings, equipment of the principal
    - extension goods in operation and/or stock
- damage as a consequence of the execution of the works
- no cover for immaterial losses

- cover during construction, testing period + mtce visits

Challenges

3.1 Inflation

standard:

- automatic acceptance of cover if increase SI < 15 à 25%
- premium regulation on “final” value of the works

What is final value: ? Sum of all invoices ?

- this is not the reconstruction value at hand-over

e.g. : 3 year construction period: each year 10 mio

year 1 : 10 mio, year 2 : 10 mio, year 3 : 12 mio

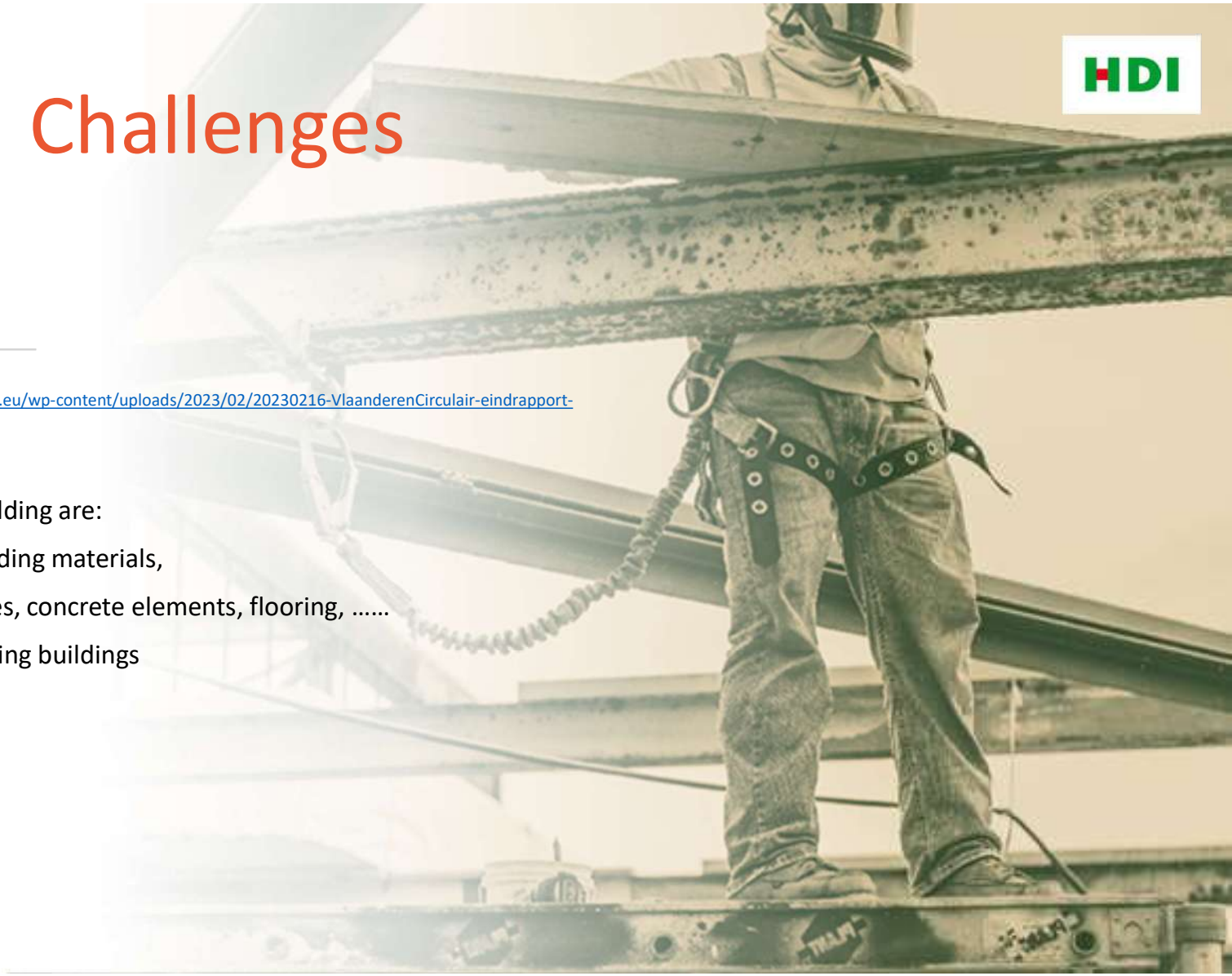
final value: 32 mio

reconstruction value: ? 37 mio ?

=> **no problem with partial damages, what in case of total loss?**

Challenges

3.2 circular building



- https://www.common-ground.eu/wp-content/uploads/2023/02/20230216-VlaanderenCirculair-eindrapport-WEB.pdf

- Parts of circular building are:
  - the re-use of building materials,

    e.g. steelprofiles, concrete elements, flooring, ……
  - Revalorising existing buildings
  - …..

Challenges

Old world

Recycling

Challenges

New world

- <u>Technical aspects</u>
  - Every construction element has its “pre-history”:
    - loading, environment,….
    - will the principal accept an eventual increased risk
  - Are there norms or guidelines to check the quality of used elements
  - Is a decennial cover possible?
  - …..

Challenges

Financial aspects

Assume that the re-used element has a value 100 & a new element 150

What happens in case of a loss?

- re-used element at the same price can be found, OK
- re-used element at the same price can't be found, NOK
  - Indemnity is based on the value of re-used elements
  - Insured value to be increased from 100 to 150?
- How to deal with delays if you are obliged to repair with re-used elements
  - Immaterial consequential loss is excluded
    - DSU, loss of subventions,….

Challenges

3.3 new type of materials

New materials and/or

- increase of the use of wood (incl. Cross Laminated Timber)
- use of “eco-friendly” materials
- ……

Do our contractors and designers already have enough experience to work with these materials ?

Is there already an idea on the long term behaviour of those materials ?

How water and humidity resistant are some eco-friendly materials ?

….

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Challenges

Use of wood:

as such no new material, but nowadays used for large and multifloor buildings

Challenges

Wood constructions

Fire mitigation

- Probability of PML loss far more higher with wood constructions
- High propagation velocity
- Safety employees


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1 day later

Challenges

Wood constructions

Water exposure mitigation

- Increase of frequency losses
- Incl. use of water sensitive insulation materials, gyproc,……
- More attention needed for daily protection of the works

Challenges

Cement free Concrete

- Cement has a huge carbon footprint (+/- ***850 kg CO2/tonnes cement***)
- Design and construction codes for “classic” concrete are well established
- Implementation already in the UK for binders with far less CO2 impact

  less than 100 kg CO2/tonnes

- Examples: Cemfree (DBG), Cemex EcoCrete, Earthfriendly Concrete (Wagner),…

Challenges

3.4 New technologies

Modular constructions

- Factory assembled units
- Concerns
  - Weather protection
  - Serial losses
  - Connections
  - ……

Challenges

Battery Energy Storage

- Technology of the batteries itself
  - NB How ESG is Lithium mining
- Fire protection with compartments

Challenges

Concrete Core Activation

- Heating and cooling pipes are directly installed in the bearing concrete, to use the inertia of the concrete mass.
- Risks
  - Finishing works and rough works to be done at the same time
  - Before pouring the concrete, the pipes have to be tested
  - Increase of frost damage

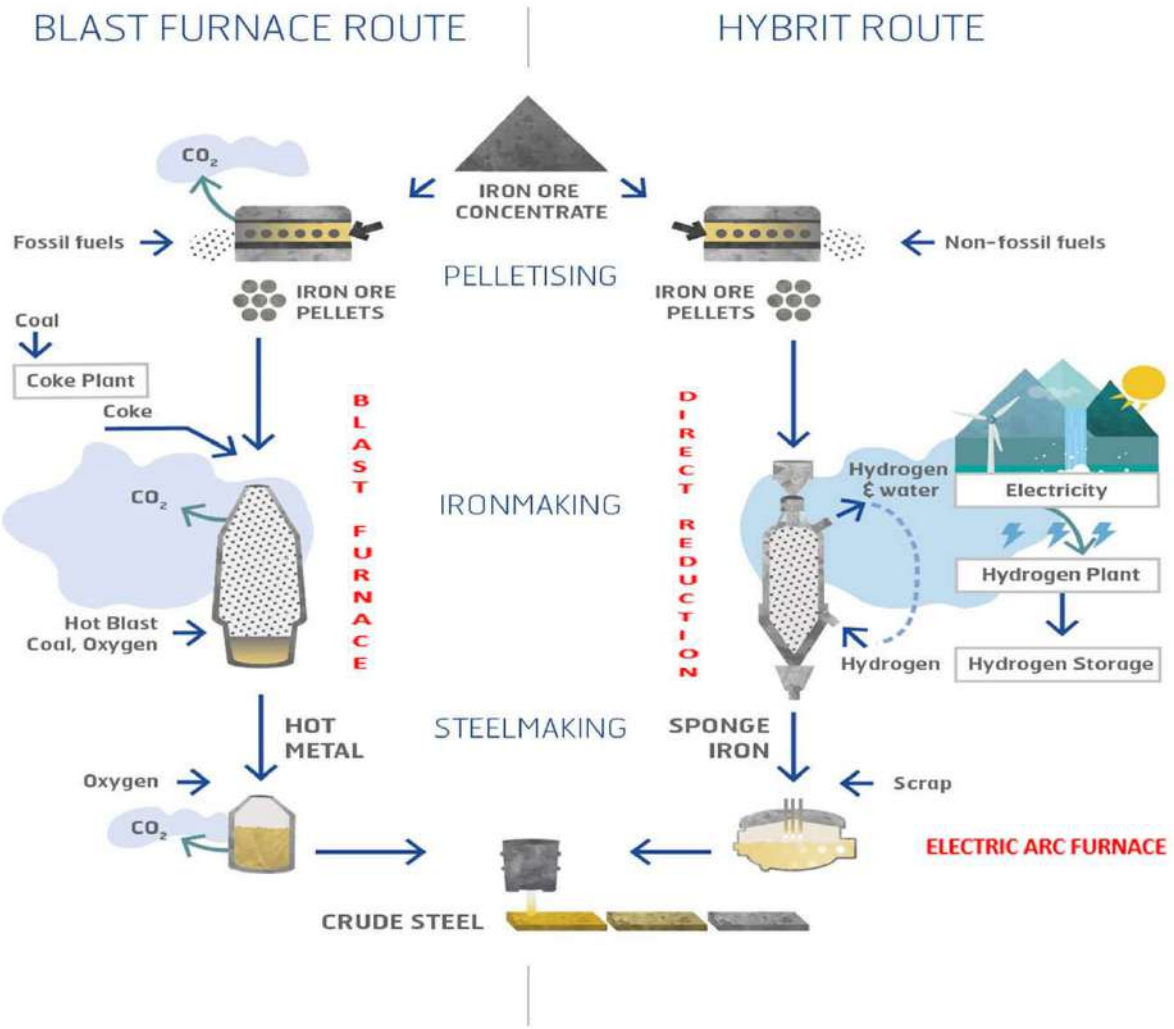
Challenges

Some claims examples

How to repair?

Challenges

Production of steel with less CO2 exhaust



Challenges

3.5 Decennial covers

- control insurance
- guarantee
- PI
- ????

For many of those new materials and technologies, there is hardly any information, on their long term behaviour

Thus probably less guarantee via insurances and/or other guarantees

conclusion

Whether we like it or not,

Insurance and other parties should keep up the pace with new technologies and they shouldn't slow down the technical evolution in the real world

But in the transition period covers for new technologies might be less extensive

Supporting is not the same as sponsoring

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Don’t miss out on our next events

29/06/2023 BELRIM Stamcafé – Artificial Intelligence

07/09/2023 BELRIM New Members Lunch
WTW Exchange Wellbeing & Health

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20-06-2024
SAVE THE DATE