SWIM and Horizon 2020 Support Mechanism

Working for a Sustainable Mediterranean, Caring for our Future

SWIM-H2020 SM Regional activity on Solid Waste Management:

Construction & Demolition Waste

Presented by:

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SWIM and Horizon 2020 SM Study visit CDW

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Day 2: Co-organised by

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UNE STRATÉGIE be 2025 be.brussels

be circular
be.brussels

CDW : BEST PRACTICES FROM BRUSSELS

Examples from the « be circular » projects

Anne-Laure MAERCKX, Cenergie

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OVERVIEW OF THE PRESENTATION

I. Context of the « be circular » projects
II. Waste Hierarchy
III. Examples:
    - Preservation of existing buildings
    - Reversible building design
    - Adaptability
    - Re-use
IV. Conclusions

I. CONTEXT

- Chantiers circulaires – circular construction sites :
  - = part of the call for projects « Be circular – be brussels »: http://www.circularprojects.brussels
  - Aimed for : contractors
  - Goals:
    - *beter management of material ressources*
    - *beter management of human ressources*

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I. CONTEXT

- In 2016: 9 winners
  - Variety in size :
    - 4 « small » projects
    - 3 « medium » projects »
    - 2 « big » projets
  - Variety in functions:
    - 3 residential projects
    - 4 mixed projects : residences+ equipement/offices/shops
    - 1 cultural centre
    - 1 workshop

II. WASTE HIERARCHY

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III. EXAMPLES

A Reduce

Preservation of existing buildings

- **Boondael [Llinye Liliya]**
  - Deep renovation of 2 rental buildings
  - Preservation of 90% of existing buildings thanks to a careful architectural design and close collaboration with owner

Pictures: Cenergie

III. EXAMPLES

A Reduce

Pictures: Sébastien Piaget

III. EXAMPLES

A Reduce

- **Dépôt Lemmens [DRTB]**
  - Development of a wooden structure allowing extensions on flat roofs, without structural reinforcement → more density in combination with preservation of existing buildings

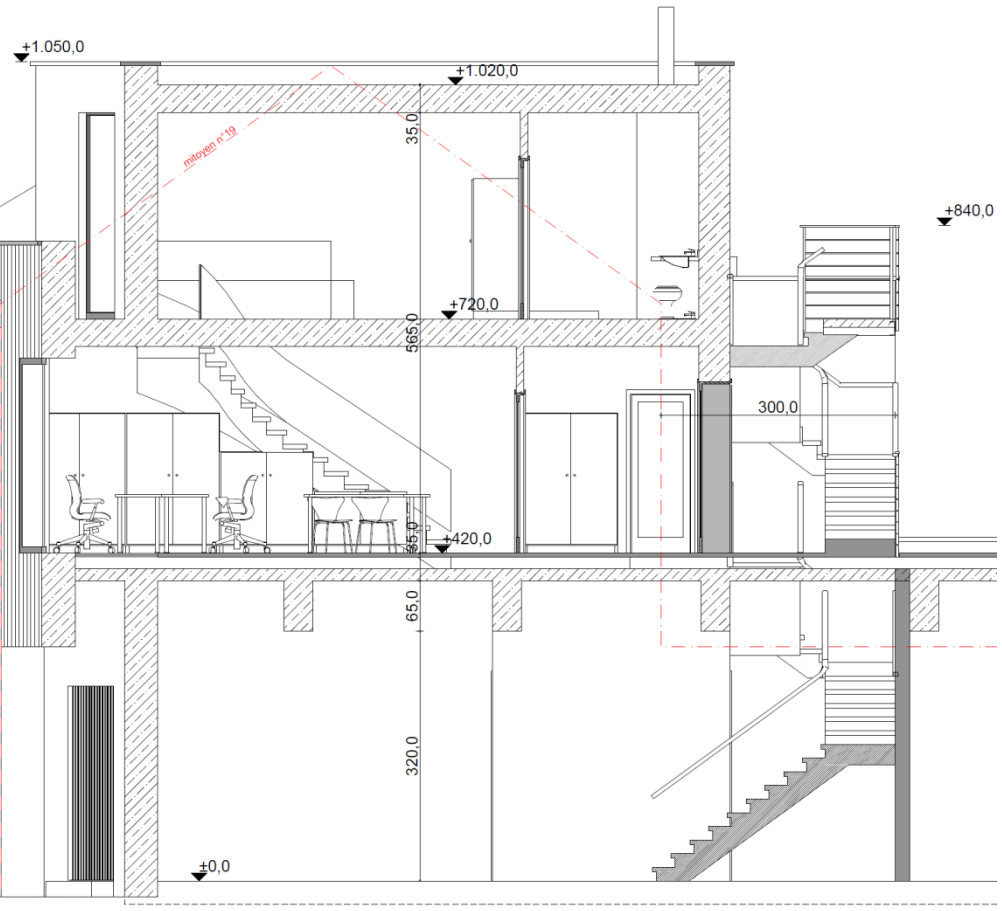
Pictures : DRTB

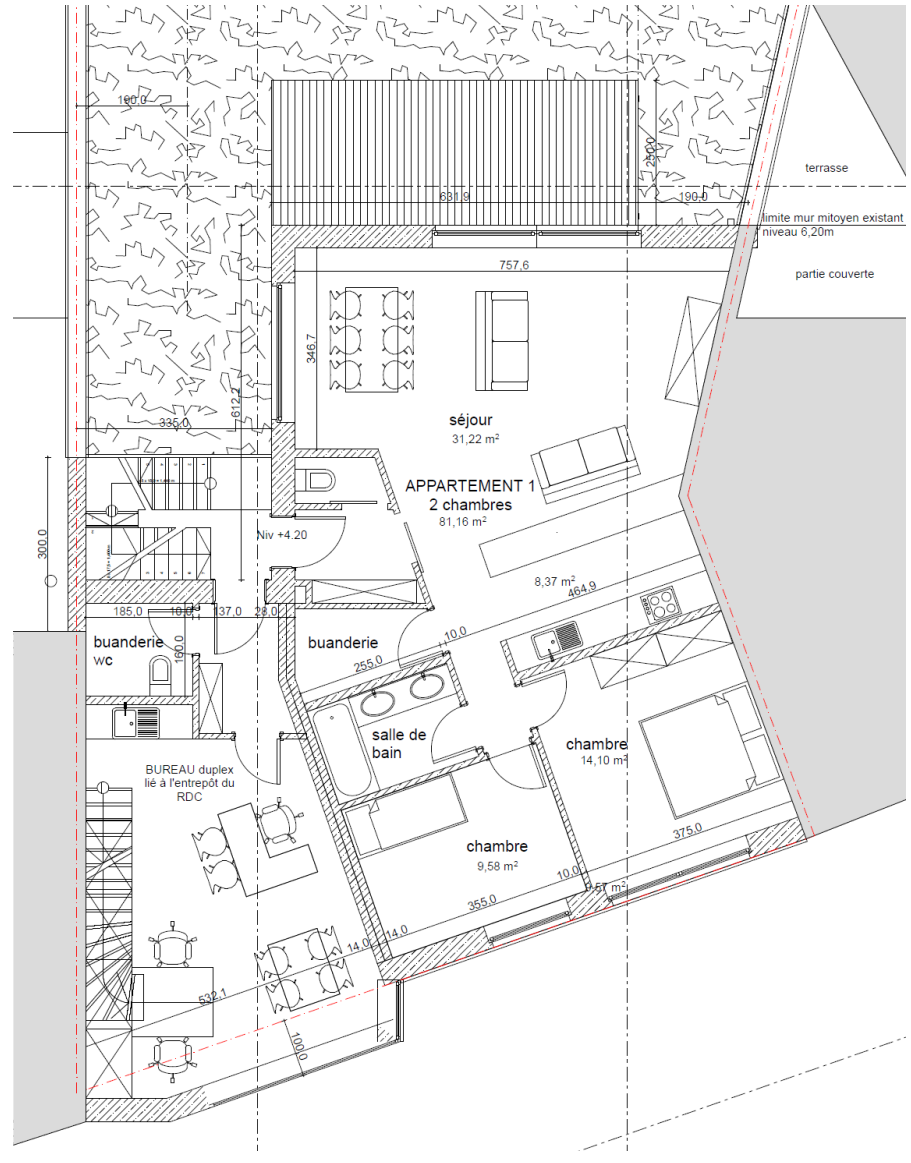
III. EXAMPLES

A Reduce

Dismantling and reversible building design

- **Dépôt Lemmens**
  - **Reversible building system**: easy to mount and dismantle wooden structure → currently under development





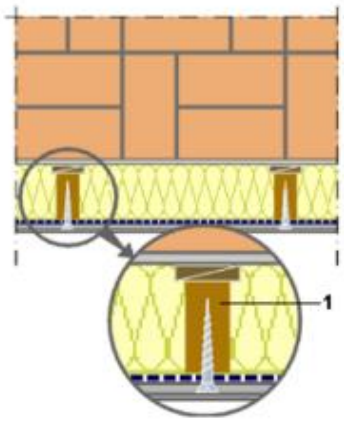
Pictures : DRTB

III. EXAMPLES

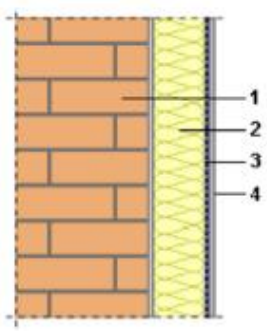
A Reduce

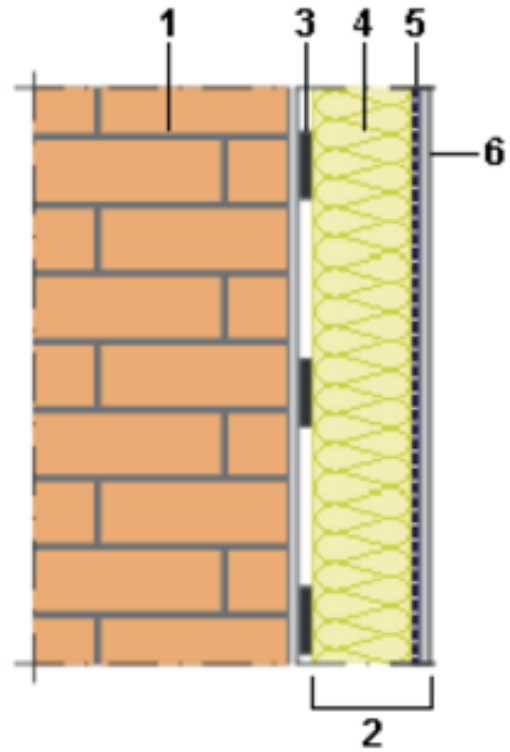
- **Debatty [Gillion Construct]**
  - Deep renovation of residential buildings
  - Reversible **building element**: internal insulation made of rockwool in cavity wall
  - + 1,700 m² reversible surface

Picture: Cenergie



1. Latte, ayant l'épaisseur de l'isolant, fixée mécaniquement à la maçonnerie et réglée à l'aide de cales. L'entreaxe des lattes est d'environ 40 cm.





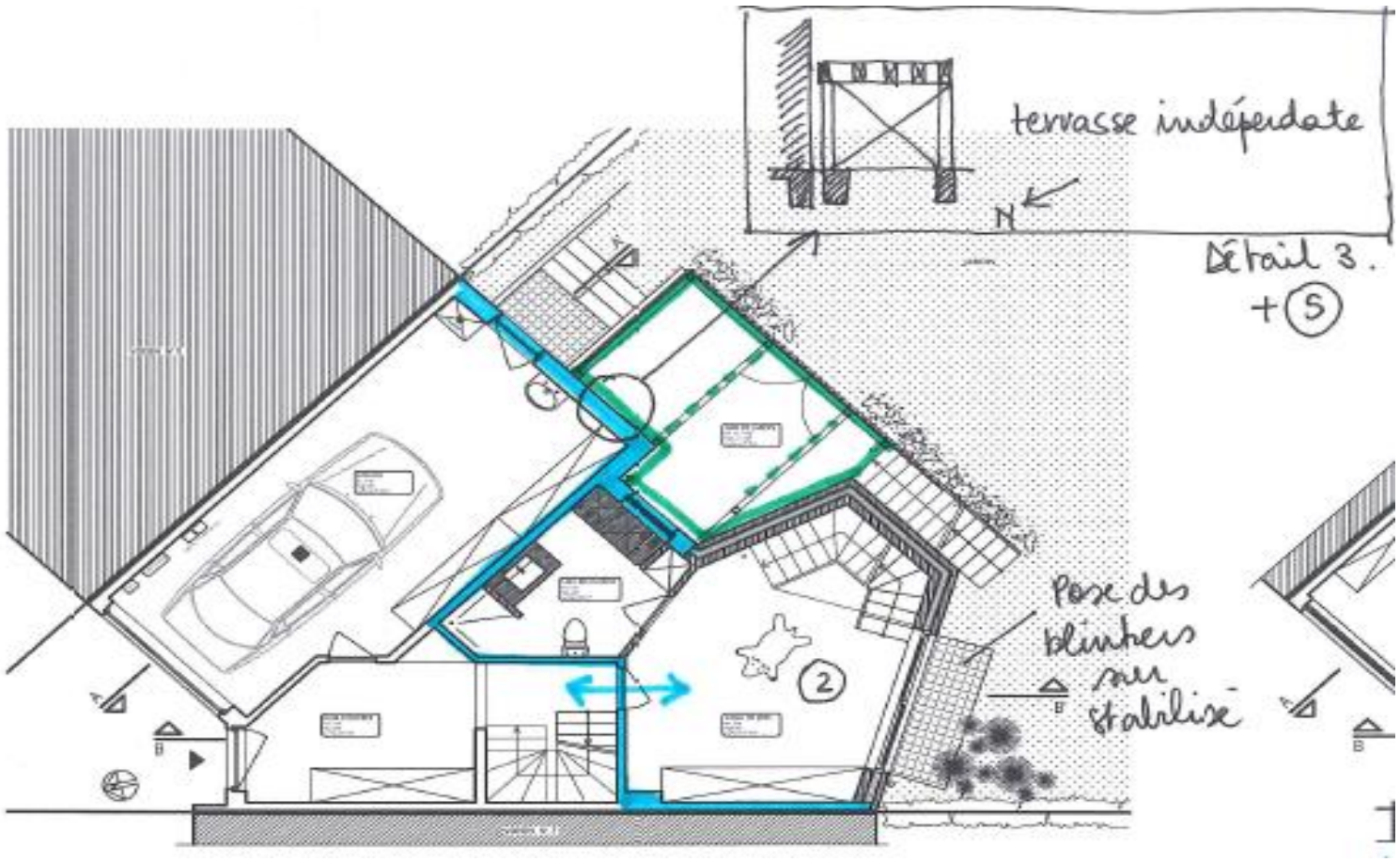
Source: Energie+ le site

cavity wall + rockwool vs glued polystyrene

III. EXAMPLES

A Reduce

- **Clos Dupont [Eco construct group]**
  - Extension of an existing terraced house



Picture : VLA-Architecture

Design:

Assemblies allowing dismantling

- Structure of the extension
- Insulation
- Terrace

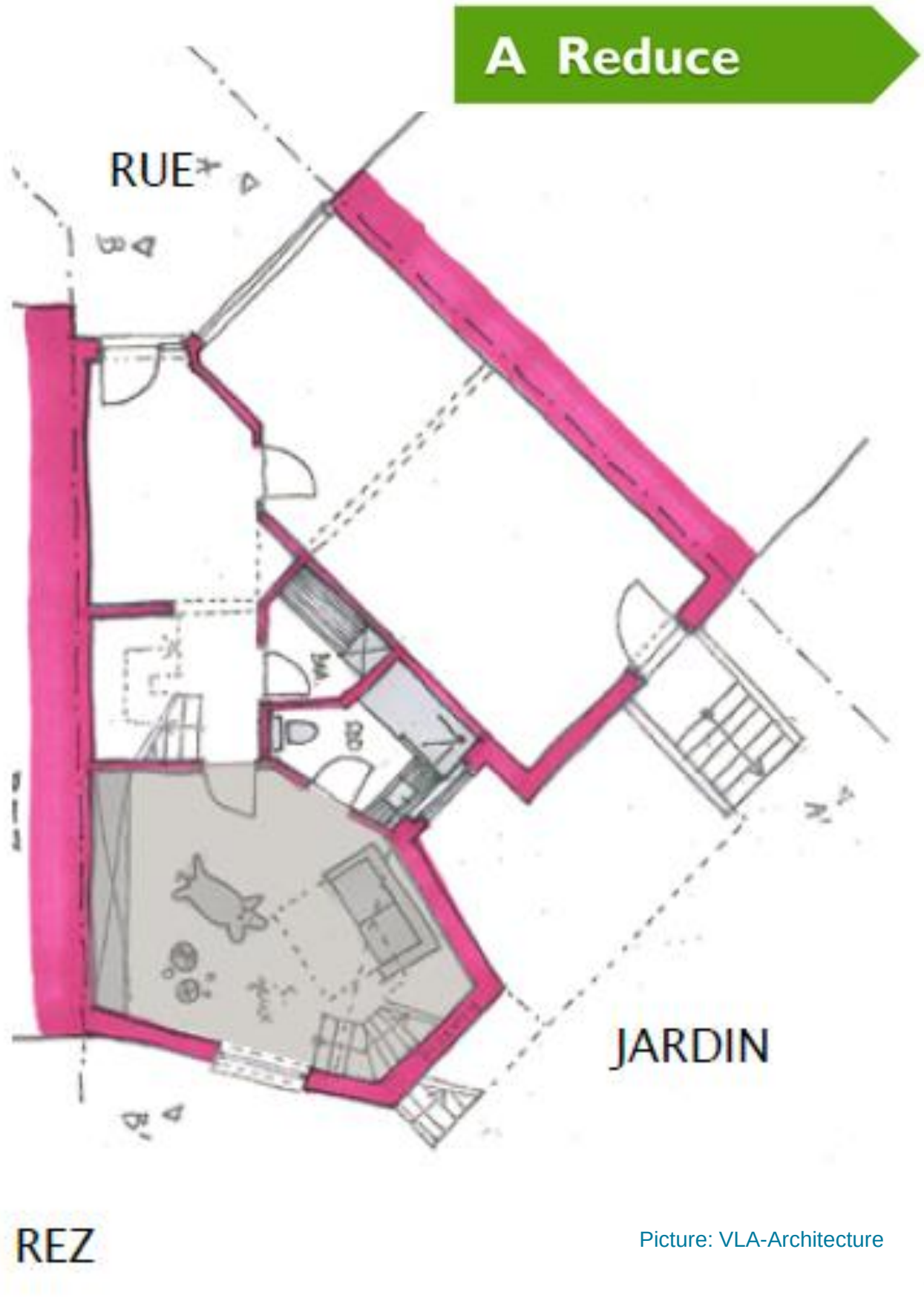
III. EXAMPLES

Adaptability

- **Clos Dupont**

Design:

- Careful design of spaces (access, circulation,…)
- Techniques



Picture: VLA-Architecture

III. EXAMPLES

Re-use

- **Warland 238 [Global Art Concept]**

  - Renovation of a terraced house

Re-use: wooden floor, marble (+ interior woodwork, masonery, radiators,…)

Technique:

Wooden floor: Dismantling and remount + cleaning and laying

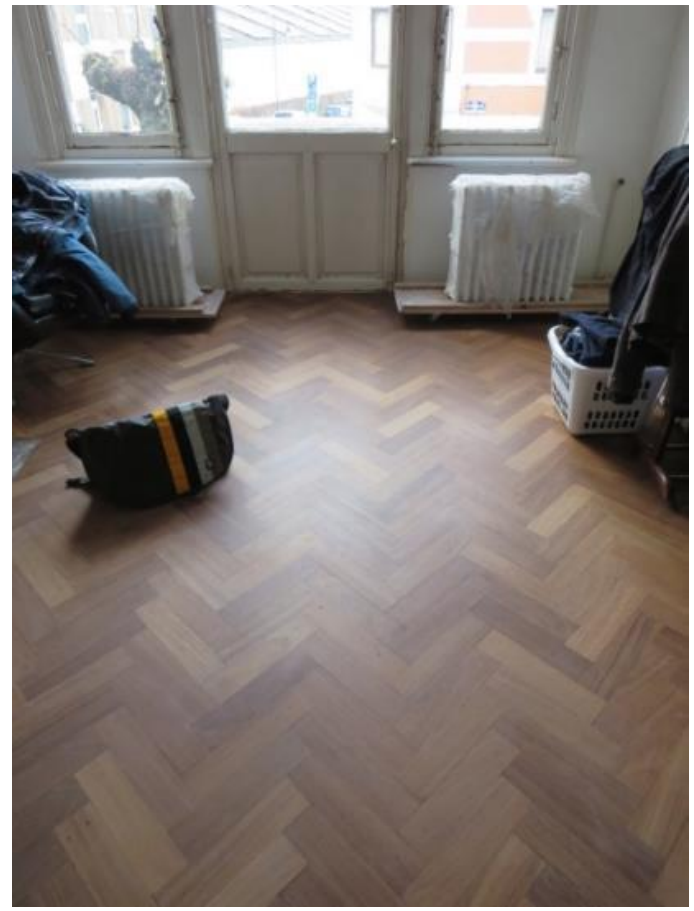
Marble: polishing – laying – repellent treatment

Points of attention:

Wooden floor: time consuming

Démontage préservant du plancher, en vue de son réemploi comme sol du +3

Picture: Lionel Billiet



Picture : Cenergie

III. EXAMPLES

B Re-use

Clos Dupont

Re-use: masonery, windows, blue stone, stairs,…

Technique:

Dismantling – storage – re-use

Points of attention:

Re-used bricks: size

Windows: energy performance

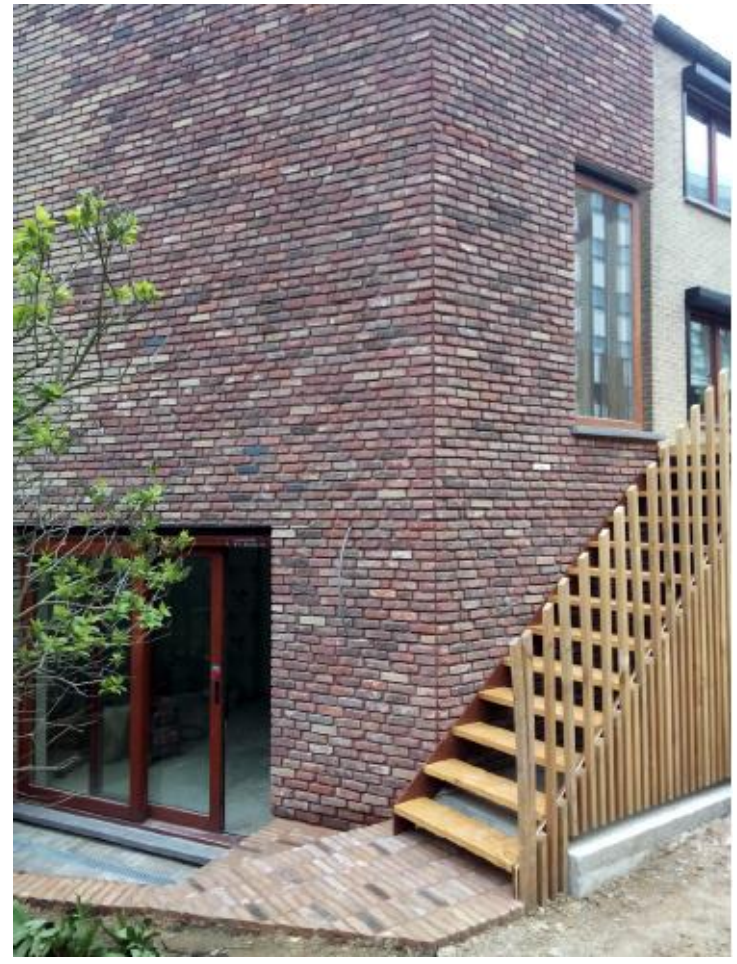
Storage

Picture: VLA-Architecture

III. EXAMPLES

B Re-use

Picture: VLA-Architecture



Picture: VLA-Architecture

Picture: Cenergie

II. EXAMPLES

- **Petite Suisse [Max Stockmans]**
  - Reconstruction of a studio on roof of an existing building

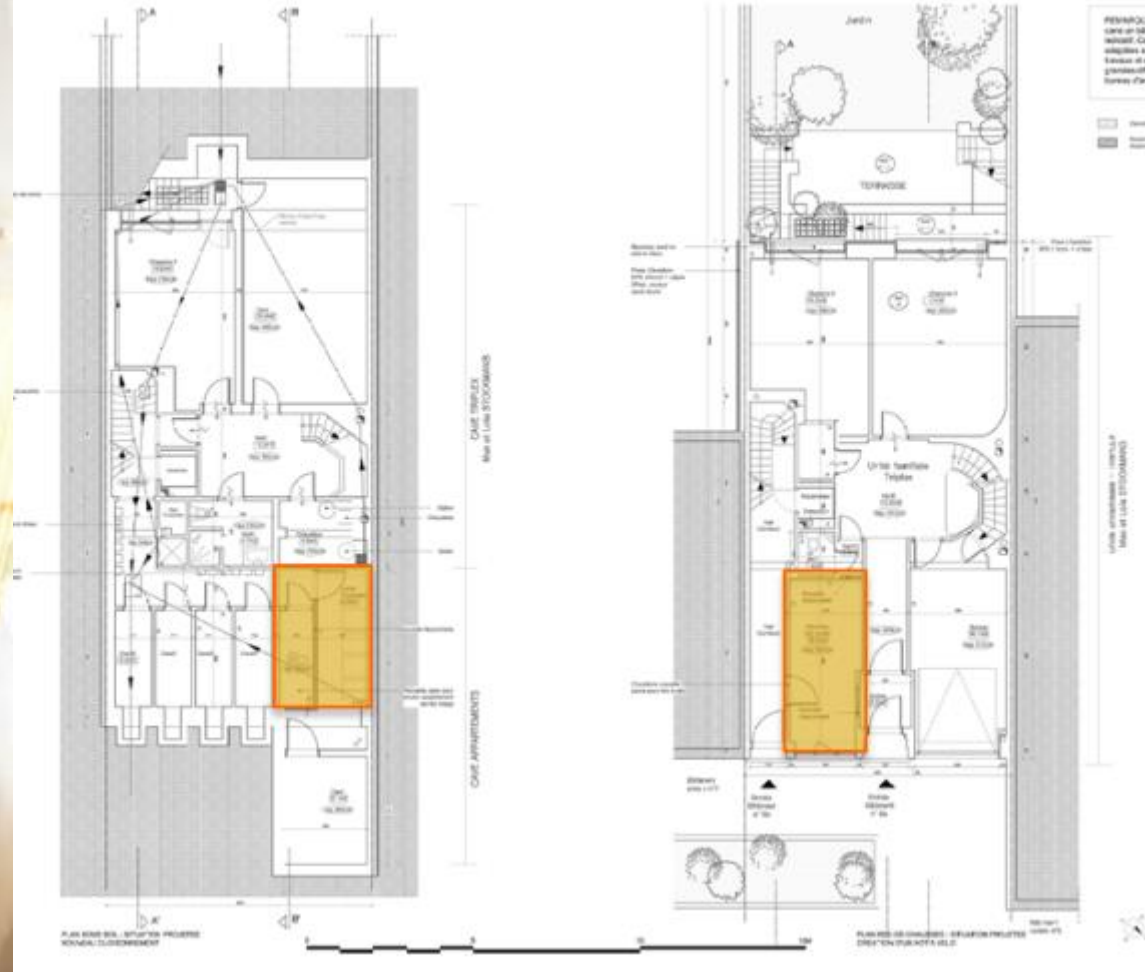
Re-use:
On site: wooden elements, masonery, hardware, electricity
Incoming: wooden floor, insulation
Technique:
Dismantling – cuts – remount
Dismantling – storage – remount
Points of attention:
Storage
Planning

Pictures: Max Stockmans

II. EXAMPLES

B Re-use

Picture: Cenergie



Picture: Max Stockmans

II. EXAMPLES

C Recycling

- Recycling:

  Coming next in the presentation of BBRI

IV. CONCLUSIONS

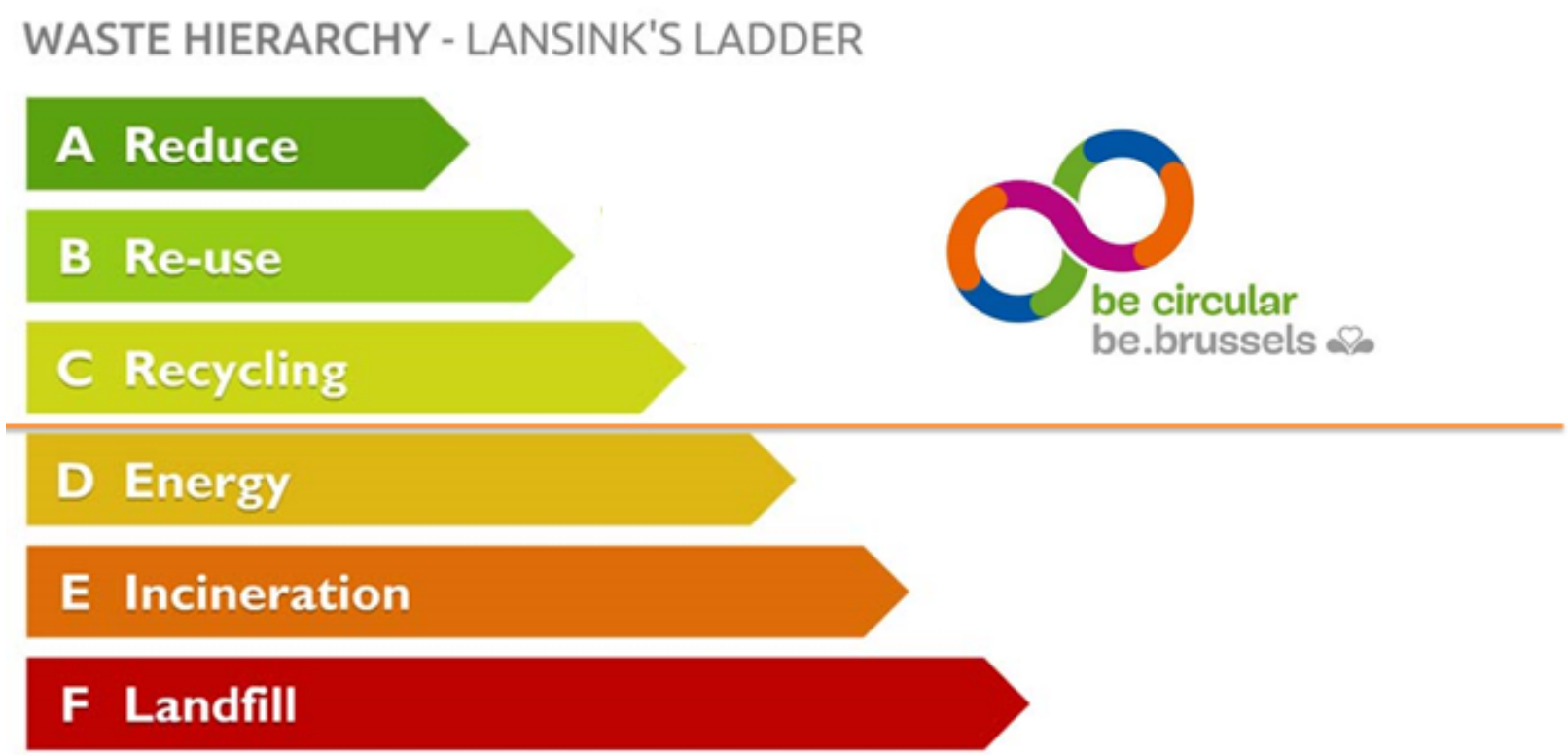
Designing projects while having the waste hierarchy in mind allows to prevent CDW by optimizing the use of

- Existing structures
- Existing materials
- The building by its future occupants

→ Preservation, re-use, adaptabilty and reversibilty have to be considered from the beginning to be successfully applied in projects.

IV. CONCLUSIONS

It is about choosing to invest in **studies and working force** instead of spending money in **new materials or waste disposal**



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Thank you for your attention.

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