H2020 DRIVE 0 Project

Driving decarbonization of the EU building stock by enhancing a consumer centred and locally based circular renovation process

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Sustainable Places 2020
Innovative Solutions Supporting the NZEB renovation Workshop
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SUSTAINABLE PLACES

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Our built environment…

40%	of the final energy amount in EU is consumed by the built environment.
60%	of the energy used during the building's life cycle is the embodied energy, with collateral embodied CO2.
50%	of all extracted materials within the EU are attributed to buildings.
25-30%	of waste streams generated in the EU derives from construction and demolition.

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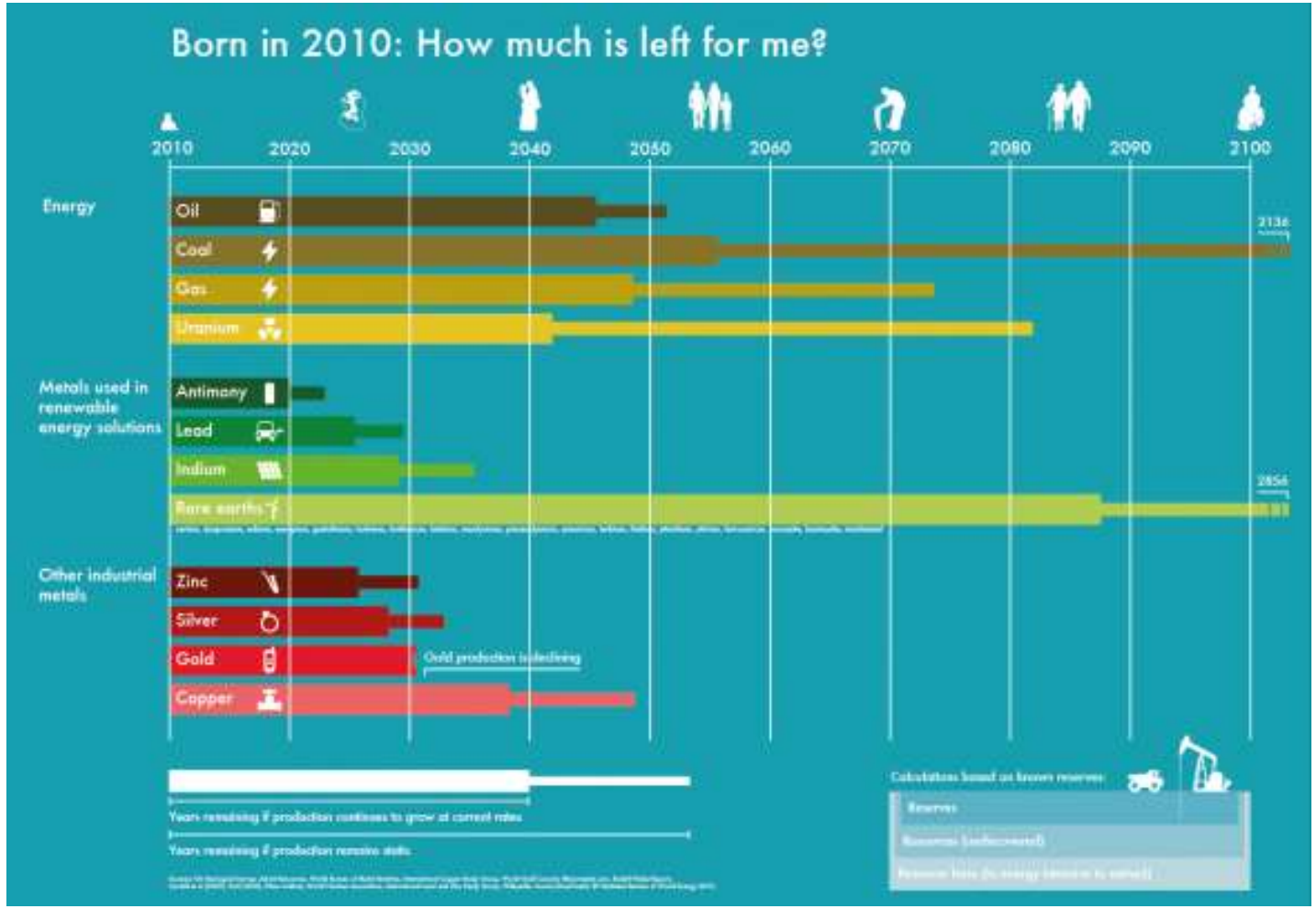
MEENS


Zone
CPWU
101929 6
12GB
CONTAINER

So… Is this the way?

….no, our sources are not infinite….
and no, energy is not the biggest issue…..



Born In 2010: How Much Is Left For Me?, Plan C Vlaanderen Circulair, 2012: https://www.vlaanderen-circulair.be/nl/2012/11/12/hoeveel-grondstoffen-blijven-er-nog-over-voor-een-meisje-van-twee

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H2020 DRIVE 0 Project

‘Driving decarbonization of the EU building stock by enhancing a consumer centred and locally based circular renovation process’

- **Duration:** 1 Oct 2019 – 31 Sep 2023
- **Call for proposal:** H2020-LC-SC3-EE-1-2018
- **Topic:** Decarbonisation of the EU building stock: innovative approaches and affordable solutions changing the market for buildings renovation
- **Funding scheme:** IA – Innovation action

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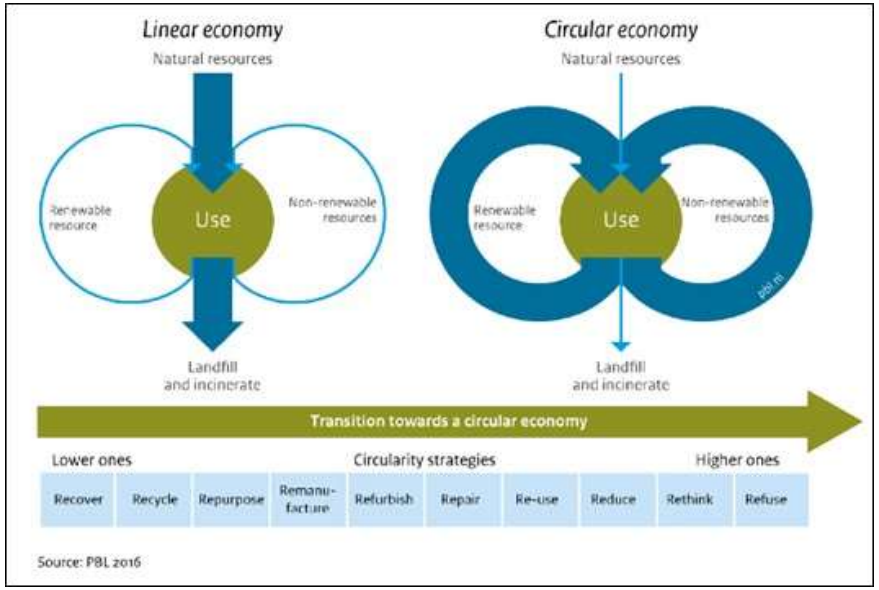
Drive 0 Circular renovation

A **circular deep renovation,** which contributes to a circular built environment, is based on **100% life cycle renewable energy**, and all materials used within the system boundaries are part of **infinite technical or biological cycles** with **lowest quality loss** as possible.



The transition from a linear economy to a circular economy based on the 10-R model

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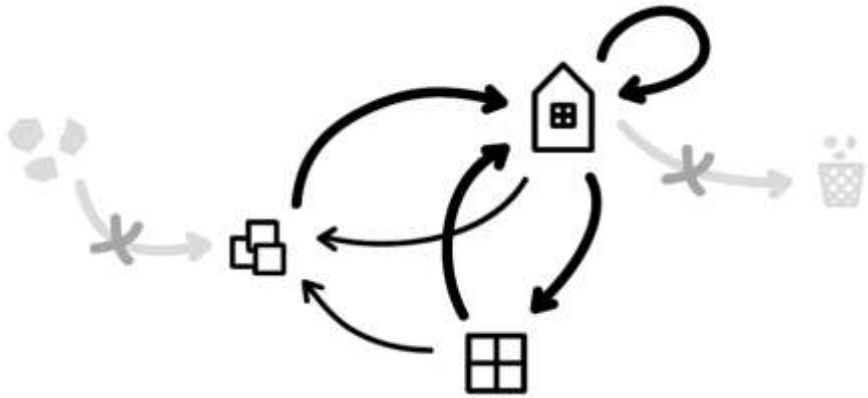
Drive 0 Approach



1. Market ready renovation products & concepts
   → *circular renovation products & concepts:*
   - Based on local availabiilty;
   - Use of bio based materials and components;
   - Emphasis on modular plug & play prefab solutions for building envelope elements and services;
   - Automated BIM controlled production processes.
2. Developing attractive *consumer centred business models* based on circular renovation concepts.
3. Providing occupants with *attractive and understandable* information on building performances in use.
4. Providing relevant stakeholders evidence of performance of the developed DRIVE 0 solutions by *local study and demonstration cases* initiated by ‘local drivers’.

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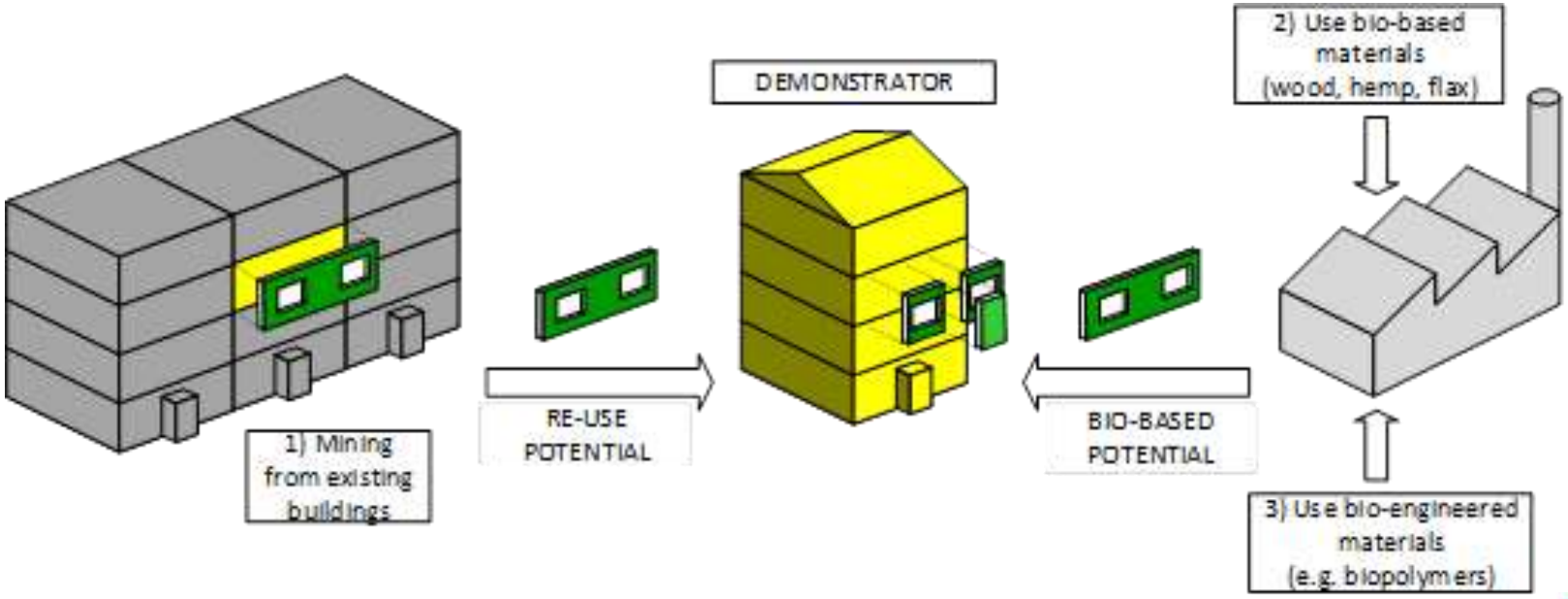
Conceptual model of DRIVE 0 circular deep-renovation solutions

DRIVE 0 focuses on the following three strategies of developing and implementing (scaling up) of circular deep renovation solutions for the existing housing stock:

1. *re-using and recycling locally available materials* by urban mining;
2. using *renewable environmentally friendly materials;*
3. using *bio-based engineered materials.*



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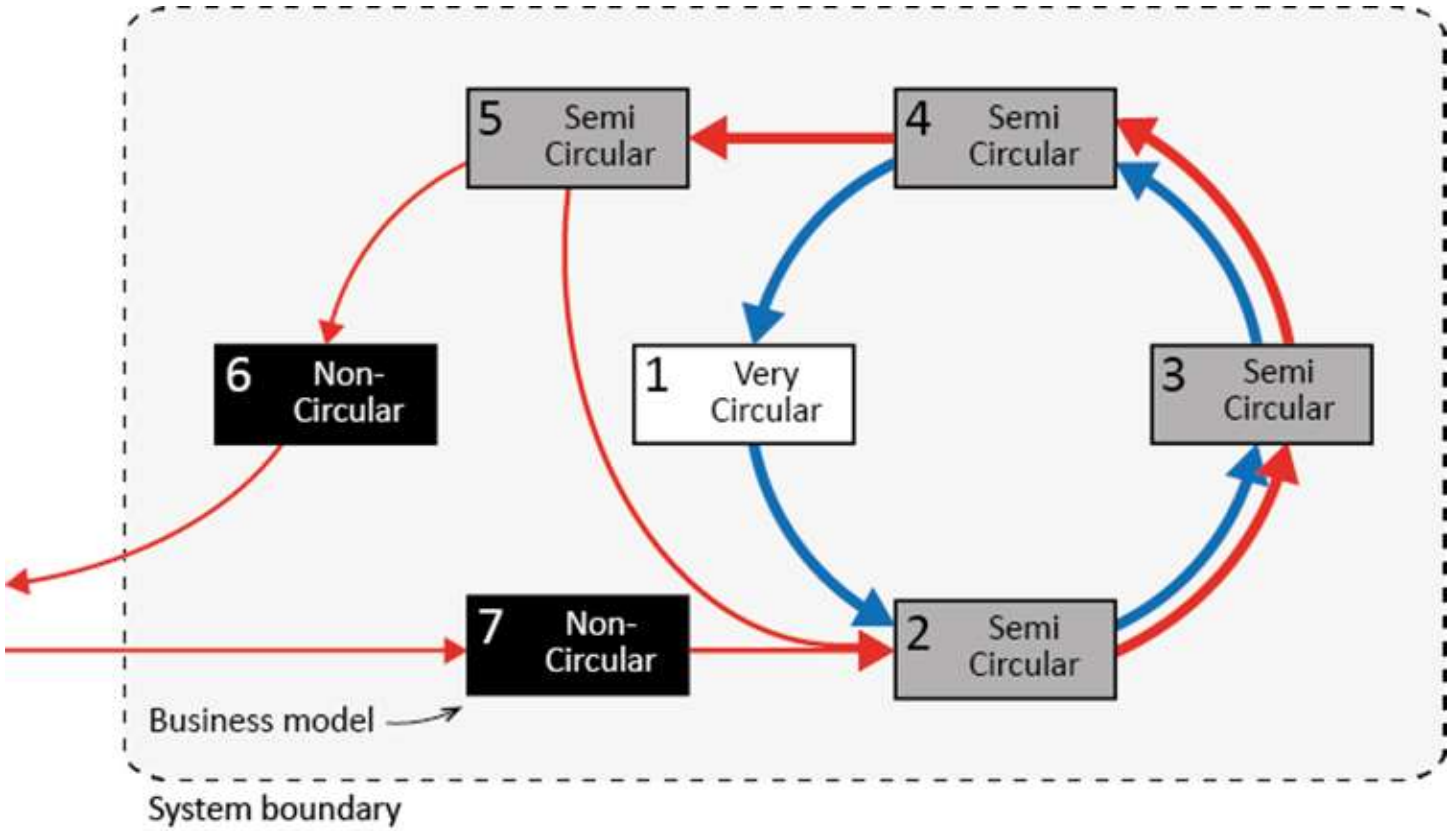
Towards circular business models



Mentink, B., 2014, Circular Business Model Innovation

Look at circular buildings within circular economy

A framework for circular buildings – indicators for possible inclusion in BREEAM, 2018

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Solutions to be further circular developed in the Drive 0

WEBC

-fab construction

Factory 0 compact installation kits

ALIVA Alucovering facade

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ISSO
www.isso.nl

Knauf Insulation
www.knaufinsulation.nl/

International Union of Property Owners
www.uipi.com

Housing Europe
www.housingeurope.eu

Pich Architects
www.picharchitects.com

Tallinn University of Technology
www.ttu.ee

Dublin Institute of Technology
www.dit.ie/

Architects' Council of Europe
www.ace-cae.eu

Coady Architects
www.coady.ie

Salfo & Associates SA
www.salfo.gr

Valencia Institute of Building
www.five.es/

Aliva
www.aliva.it

University of Bologna
www.unibo.it

Factory 0
www.factoryzero.nl/

Huygen Installatie Adviseurs
www.huygen.net/

Institute for Innovation and Development of University of Ljubljana
www.iri.uni-lj.si/

WEBO
www.webo.nl/

Zuyd Hogeschool
www.zuyd.nl/

Timbeco
www.timbeco.ee

National and Kapodistrian University of Athens
en.uoa.gr

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Collaboration is the key!

Want to join the action?

Then join our **Drive 0 Stakeholders Advisory Board**!
Approach me during the break or write us to get more info: info@drive0.eu

Pich Architects
www.picharchitects.com

Salfo & Associates SA
www.salfo.gr

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www.huygen.net/

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www.five.es/

Knauf Insulation
www.knaufinsulation.nl/

Factory 0
www.factoryzero.nl/

Architects' Council of Europe
www.ace-cae.eu

Timbeco
www.timbeco.ee

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Housing Europe
www.housingeurope.eu

Aliva
www.aliva.it

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Thank you for your attention.

Any questions?

Feel free to contact me later

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