

# Barriers and opportunities to reuse of building materials in the Norwegian building sector

Paper: **Anne Sigrud Nordby**

Presentation: **Lasse Kilvær**

SBE19 Brussels - BAMB-CIRCPATH



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*How do we realize industrial scale reuse of building materials from demolitions in the high-cost country of Norway?*

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# «Utredning av barrierer og muligheter for ombruk av byggematerialer og tekniske installasjoner i bygg»

## NHP-nettverket



### Fra Asplan Viak – avdeling for energi og miljø;

- Anne S. Nordby (oppdragsleder)
- Lars Bugge (medarbeider, KS)
- Anne M. Lia (medarbeider, LCA)

### Reference group;

- Eirik Rudi Wærner (Multiconsult Norge)
- Rannveig Ravnanger Landet (Byggenæringens Landsforening)
- Ingunn Marton (Direktoratet for byggkvalitet)
- Trine Dyrstad Pettersen (Byggevareindustrien)
- Daniel Tabacaru (Reframe arkitekter)

# 1. Introduction

We aren't reusing building products  
..anymore

Why?



# 2. Barriers

The technical, organizational and market barriers are interrelated

- Lacks economic driving forces
- Complications regarding time and dismantling
- High risk
- Lack of information
- Regulatory framework not adapted
- Legal restrictions



## Environmental potential – the numbers

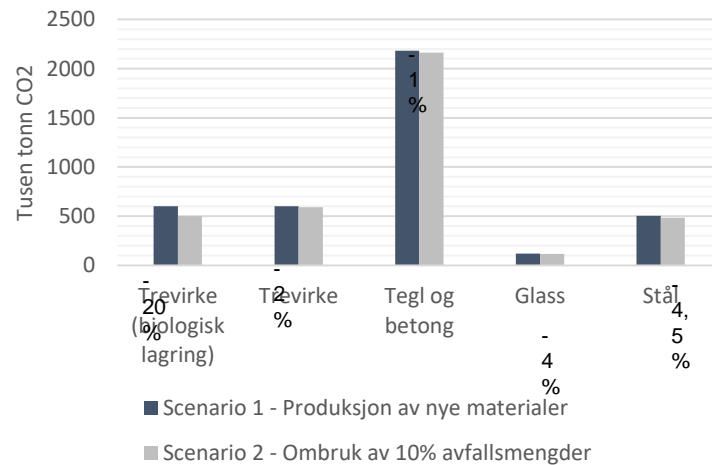


	Genererte mengder avfall 2016 (tonn) <sup>18</sup>	Produksjon og import (tonn)	Andel avfall av etterspørsel
Trevirke <sup>19</sup>	260 000	2 366 000 <sup>20</sup> (4 730 000m <sup>3</sup> )	11%
Betong	660 000 <sup>21</sup>	13 100 000 <sup>22</sup>	5%
Glass	9 500 <sup>23</sup>	76 000 <sup>24</sup>	13%
Stål	80 000 <sup>25</sup>	240 000 <sup>26</sup>	33%

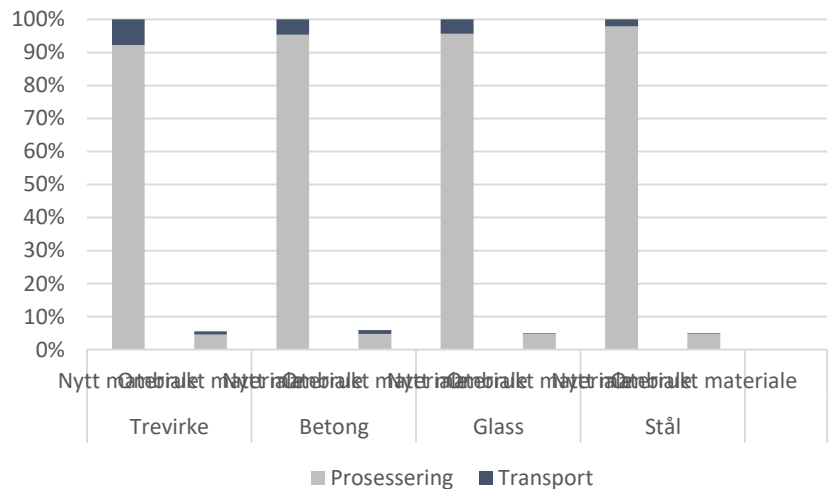


# Estimated potential for reduction of greenhouse gas emissions

## National perspective (top down)



## Project specific perspective (bottom up)



The top-down analysis may give the impression that reuse does not mean much for the BA industry's overall greenhouse gas emissions, the demolition/waste volumes are small compared to the material flows for new buildings.

The bottom-up analysis states that re-use could give the individual building project a significantly reduced greenhouse gas footprint.

# 3. Environmental Drivers

- National targets for reduced greenhouse gas emissions in buildings





# 4. Opportunities

- *4.1 The legal framework*
- *4.2 Economic incentives*
- *4.3 Competence and awareness*
- *4.4 Information system / marketplace*
- *4.5 Control, documentation and certification schemes*
- *4.6 Joint risk management*



# 5. Recommendations

- To clarify and adjust national regulations
- Incentivize third party players to enter the market
- EU regulations and CE marking should be redesigned to promote reuse



- Q:  
*How do you deal with documentation, regulations and CE marking?*

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Thank you!

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