

Circular economy and transition of the Swedish Construction and Real Estate Sector

Anna Jarnehammar

Executive Vice President IVL Swedish Environmental Research Institute

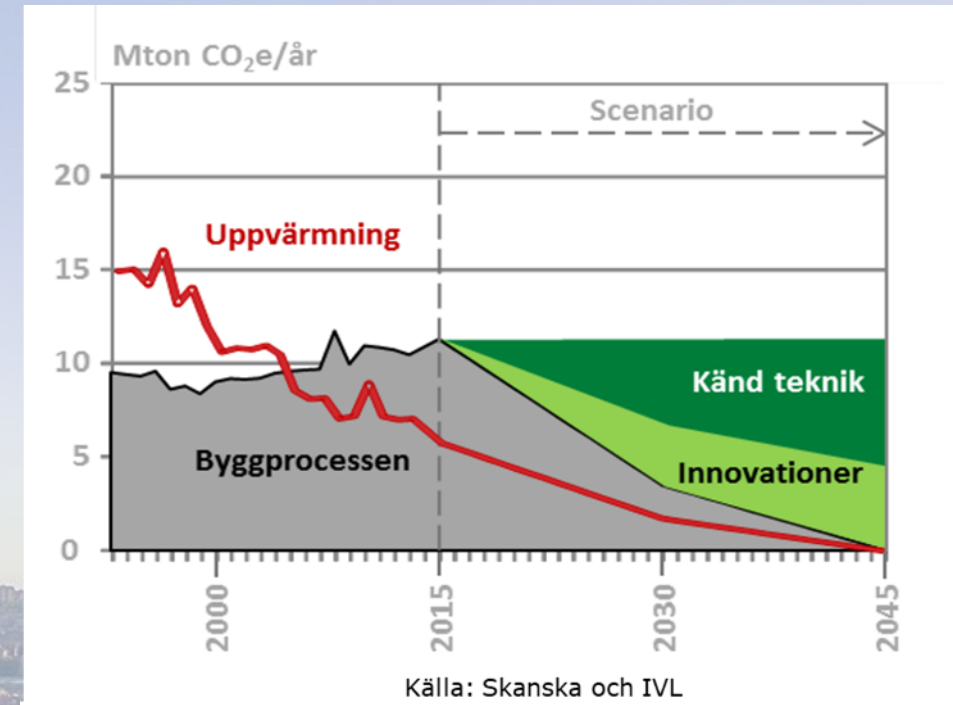


30 years of expertise
in Environmental research projects
HOW ENERO MAKES GREEN DEAL ALIVE
Join us in Brussels on 01/06/22 - www.enero.eu



Background

- Built environment demands > 50% of the material resources, >20% of plastic use is in construction sector in Europe (IVL-report)
- Construction > 35% of the total waste generated in the EU
- Construction sector >20% of the total CO₂-emissions in Sweden
- Building material supply stands for 5-12 % of Sweden's national CO₂-emissions
- For new construction > 60 % of CO₂-emissions from building materials



Sweden's transition to a circular economy – legislative measures for construction sector

- National strategy for a circular economy – 2020
 - sustainable production and product design.
 - sustainable ways of consuming and using materials, products and services.
 - toxin-free and circular eco-cycles.
 - driving force for the business sector and other actors through measures to promote innovation and circular business models.
- Swedish EPA – investigation on waste as a resource – 2021 December
 - National criteria for end – of - waste investigated
 - Circular quota obligation investigated
- The Swedish National Board of Housing, Building and Planning – Governmental assignment to develop the work with transition to a circular economy in the construction sector – 2024 final report



Barriers for increase re-use in the construction and real estate sector

- Virgin resources are cheaper, "more reliable supply", manufacturing is optimised for this
- New products has clear function, are CE-marked, has warranties etc. etc.
- Re-used products supply is not sufficient it is a supply problem rather
- Re-used products are not so well documented, the quality can vary.
- Actors that can supply re-used products are missing.
- The legislative framework for waste as resource and reuse of products is un-clear. The legislation is rather linear than circular.



[Transitioning the Swedish building sector towards reuse and circularity](#)



[file:///C:/Users/annaj/Downloads/978-91-620-6973-5%20\(1\).pdf](file:///C:/Users/annaj/Downloads/978-91-620-6973-5%20(1).pdf)

To shift from waste perspective to circular resource perspective

- From linear systems to circular systems – from waste hierarchy to circular economy
- To increase the demand for re-used products and re-cycled materials instead of virgin resources.



CCBuild a market driven initiative as a fore- - runner to a circular construction sector

- Collaboration arena

Networking, working groups, experience exchange

- Digital platform for collaboration

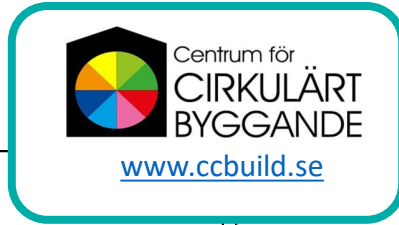
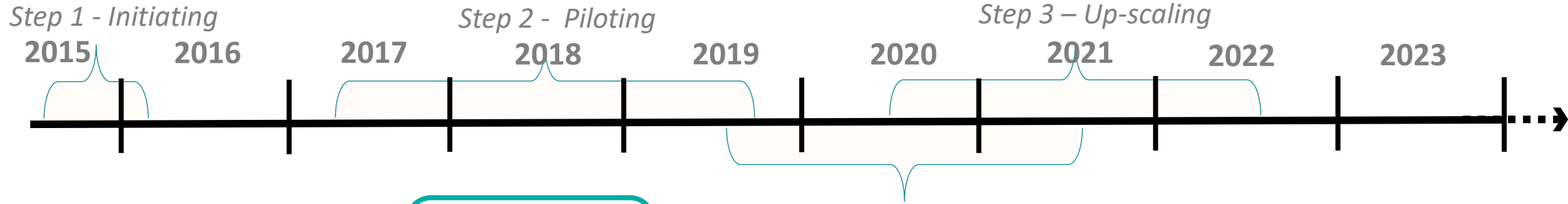
Inventory app, Product bank, Marketplace and Reuse KPI:s

- Target groups:

Property owners, architects, consultants, public sector, contractors, material suppliers, local networks

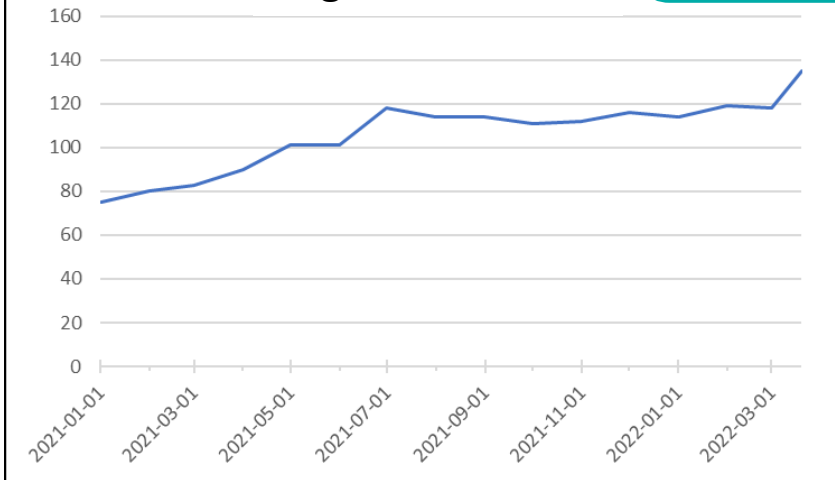


www.ccbuild.se

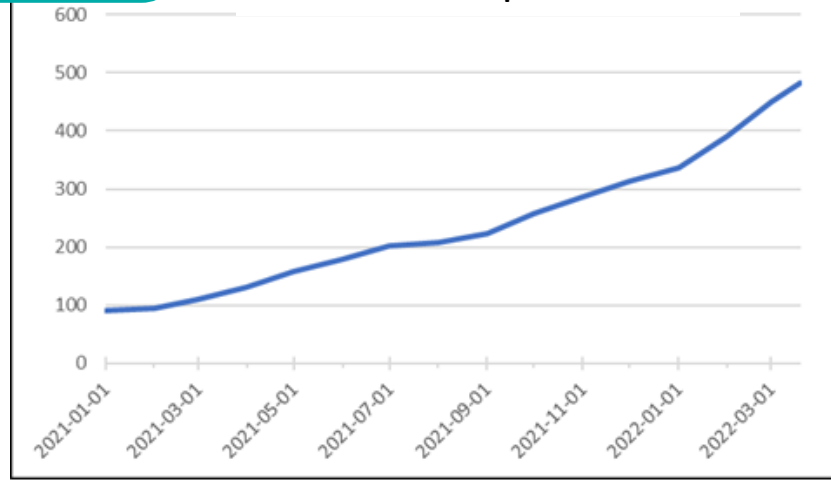


Region west
collaboration arena

Organisations



Users of the platform



Market place	60 674
Product bank	257 151
Climate savings ton CO2-eqv	4 654

This is CCBuild:

Industry organizations

Research Organisations

Material suppliers

Collaboration arenas

Real estate owners

Public authorities

Contractor

Architects

Consultants



Reuse KPIs



Rebuilding of our IVL office



12-18
ton
waste

41-53
ton
CO₂e

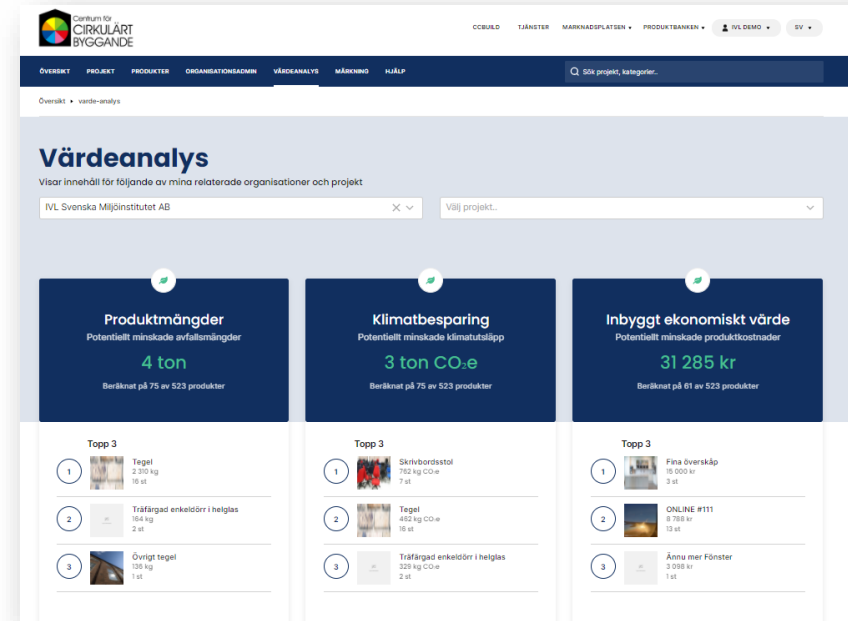
1,4-1,9
miljon
SEK

Decision Support – with KPIs

Waste volumes
(ton)

Greenhouse gas
emissions
(ton CO₂)

Economic
product value
(SEK)



Thank you!

anna.Jarnehammar@ivl.se

carina.loh.lindholm@ivl.se