

The Federation of Norwegian Construction Industries, BNL:

Circular Economy in Construction and Building Sector

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BNL's 15 branches









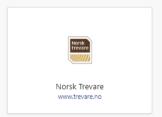




















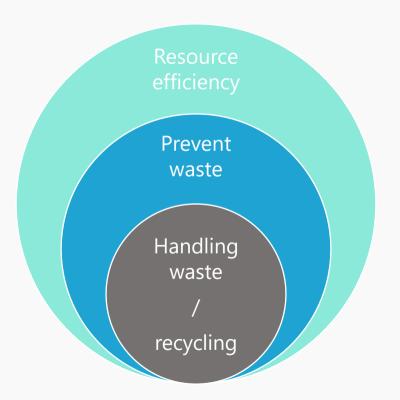


BNLs 15 branches consist of:

- Building manufacturers
- Craftsmen enterprises
- Civil engineering enterprises/Entrepreneurs
- Private property companies

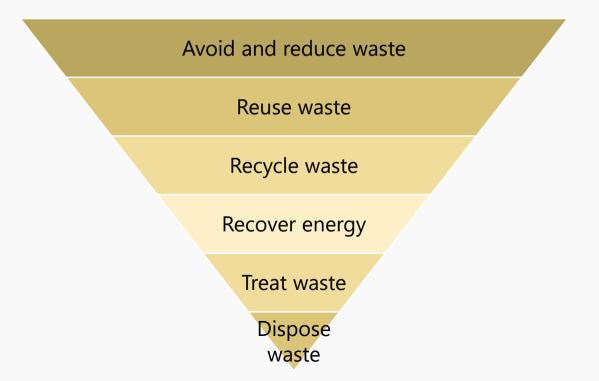








Waste hierarchy





BNL's Analyses

The sircular economy in the construction and building sector





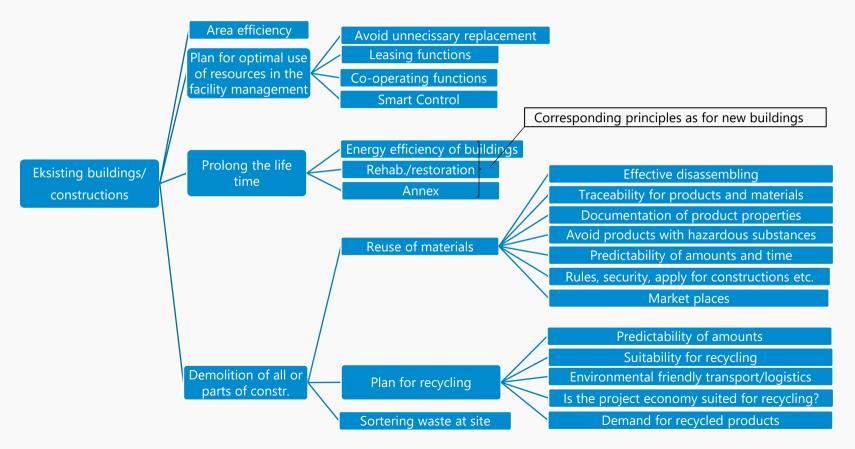
Circular economy –New constructions



			Use less materials
New buildings/constr.	Area efficiency		Planning for less waste
			BIM and tailored production
	Minimize use of resources from the		Industrialization/prefab
	building process		Reduse packaging
			See to that scrap can be used by others
			Ask for return arrangements
	Choose envir.friendly products		Avoid use of limited raw materials
	Choose envir.mentary products		Consider use of reused and recycled products
	/		Prevent unnecessary replacement
	Plan for optimal use of resources in the		Leasing functions
	facility management		Co-operating functions (of space)
			Smart Control
			Use standardized solutions
	Plan for a long lifetime		Use products and solutions of high quality
			Make sure that the building is adaptable
			Digital documentation
	Prevent waste in the coming lifetime	\leftarrow	Designe for disassambling
	Sorting remaining waste		Use products without hazardous substances

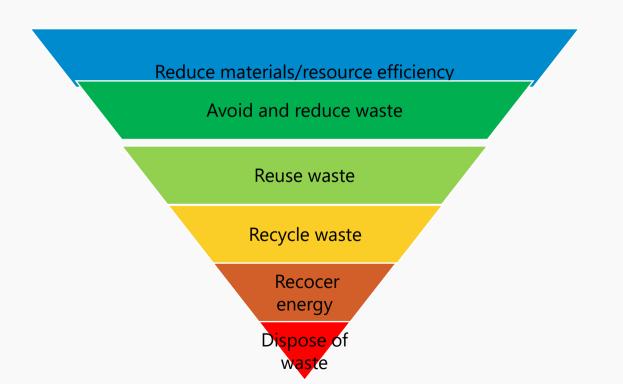
Circular economy – Existing buildings/constr.







Waste hierarchy + Resource efficiency = Circular economy



In general:

The higher in the hierarchy -

The better for the environment and the circular economy.

Reduce materials/resource

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bniii Byggenæringens Landsforening

Avoid and reduce waste

Reuse waste

Recycle waste

Recocer energy Dispos

waste

New buildings/constr

Area efficiency

Minimize use of resources from the building prosess

Choose envir.friendly products

Plan for optimal use of resources in facility management

Plan for a long lifetime

Prevent waste in the coming lifetime

Sorting remaining waste

Use less materials
Planning for less waste

BIM and tailored production

Industrialization/prefab

Reduse packaging

See to that scrap can be used by others

Ask for return arrangements

Avoid use of limited raw materials

Consider use of reused and recycled products

Prevent unnecessary replacements

Leasing functions

Co-operating functions (of space)

Smart Control

Use sdandardized solutions/systems

Use products and solutions of high quality

Make sure that the building is adaptable

Digital documentation

Designe for disassambling

Use products without hazardous substances

Reduce materials/resource **Byggenæringens** Landsforening Avoid and reduce waste Reuse waste Area efficiency Avoid unnecessary replacement Recycle waste Leasing functions Plan for optimal use of resources in Co-operating furnctions Recocer the FM **Smart Control** energy Corresponding principles as for new buildings Dispos **Energy efficiency** waste Prolong the Rehab./ restoration **Existing** Effective disassembling lifetime Annex buildings/constr. Tracability for products and materials Documentation of product properties Avoid products with hazardous substances Reuse of materials. Predictability of amounts. Time lag. Rules, security, apply for constructions etc Market places Predictability of amounts Suitability for recycling Environmental friendly transport/logistics Plan for recycling or parts of constr. Is the project economy suited for recycling? Sorting waste at site Demand for recycled products.

Circular economy – The actors





Constructor Manufacturer

Archit./Enginee

Recycling

Municipalities

Others

New buildings/constr.

Area efficiency

Minimize use of resources from the building prosess

Choose envir. friendly products

Plan for optimal use of resources in the facility man.

Plan for a long lifetime

Prevent waste in the coming lifetime

Sorting remaining waste

Use less materials

Planning for less waste

BIM and tailored production

-Industrialization/prefab

Redused packaging

See to that scrap can be used by others

Ask for return arrangements

Prevent use of limited raw materials

Consider use of reused and recycled products

Prevent unnecessary replacement

Leasing functions

Co-operating functions (of space9

Smart Control

Use standardized solutions/systems

Use products and solutions of high quality

Make sure that the building is adaptable

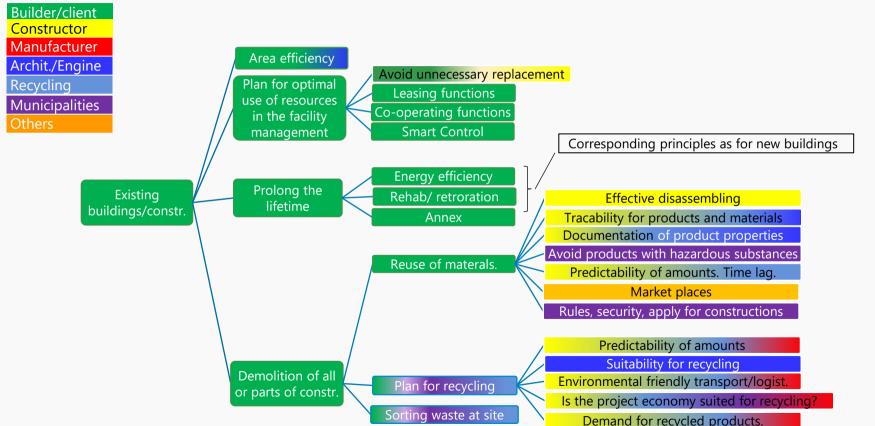
Digital documentation

Designe for disassambling

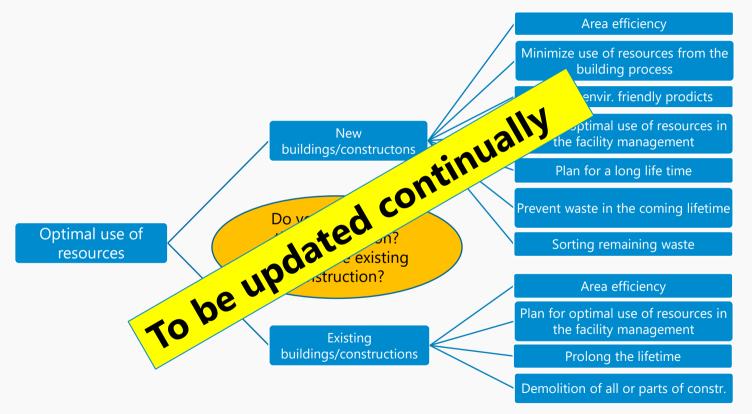
Use products without hazardous substances

Circular economy – The actors









BNLs Overall environmental policy



