

THE ZERO EMISSION NEIGHBOURHOOD – THE ROLE AND CONTRIBUTION OF WOODEN BUILDINGS

Trondheim 28.09.2017

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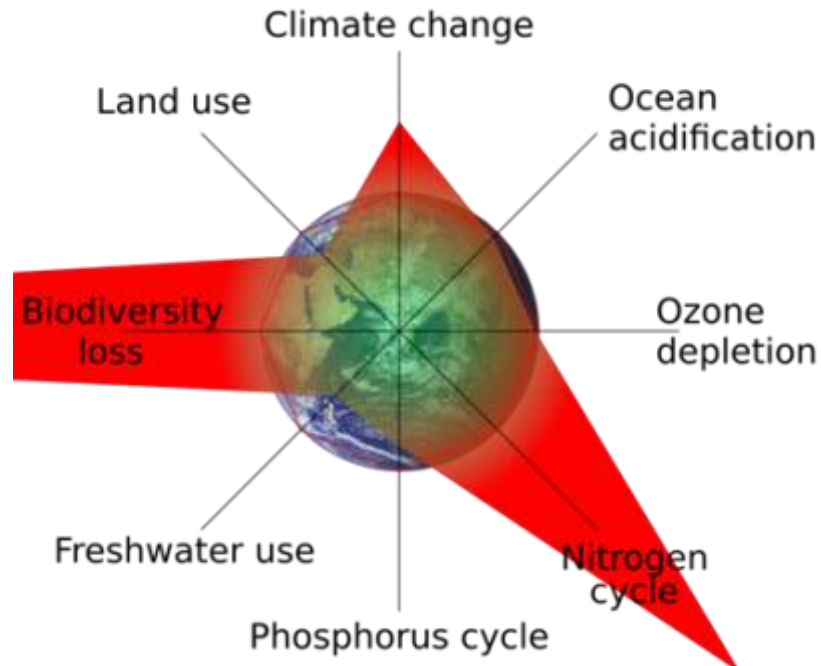


BUILDINGS – A CLIMATE CHANGE PROBLEM

- More than 40% of energy consumption
- More than 1/3 of greenhouse gas emissions
- Extraction of more than 50% of all primary materials
- More than 1/3 of total waste

(Source: “Roadmap to a Resource Efficient Europe”, European Commission, 2011)

Critical levels of the Earth’s capacity are being exceeded:



TAKING CLIMATE RESPONSIBILITY

Long-term ambitions:

- Deliver zero emission buildings before 2030
- Climate-neutral property portfolio
- Help to reduce the environmental footprint of public sector activities



Short-term targets 2015-18:

- Building project portfolio: reduce emissions by **at least 30%**
- Property portfolio: reduce emissions by **at least 15%**

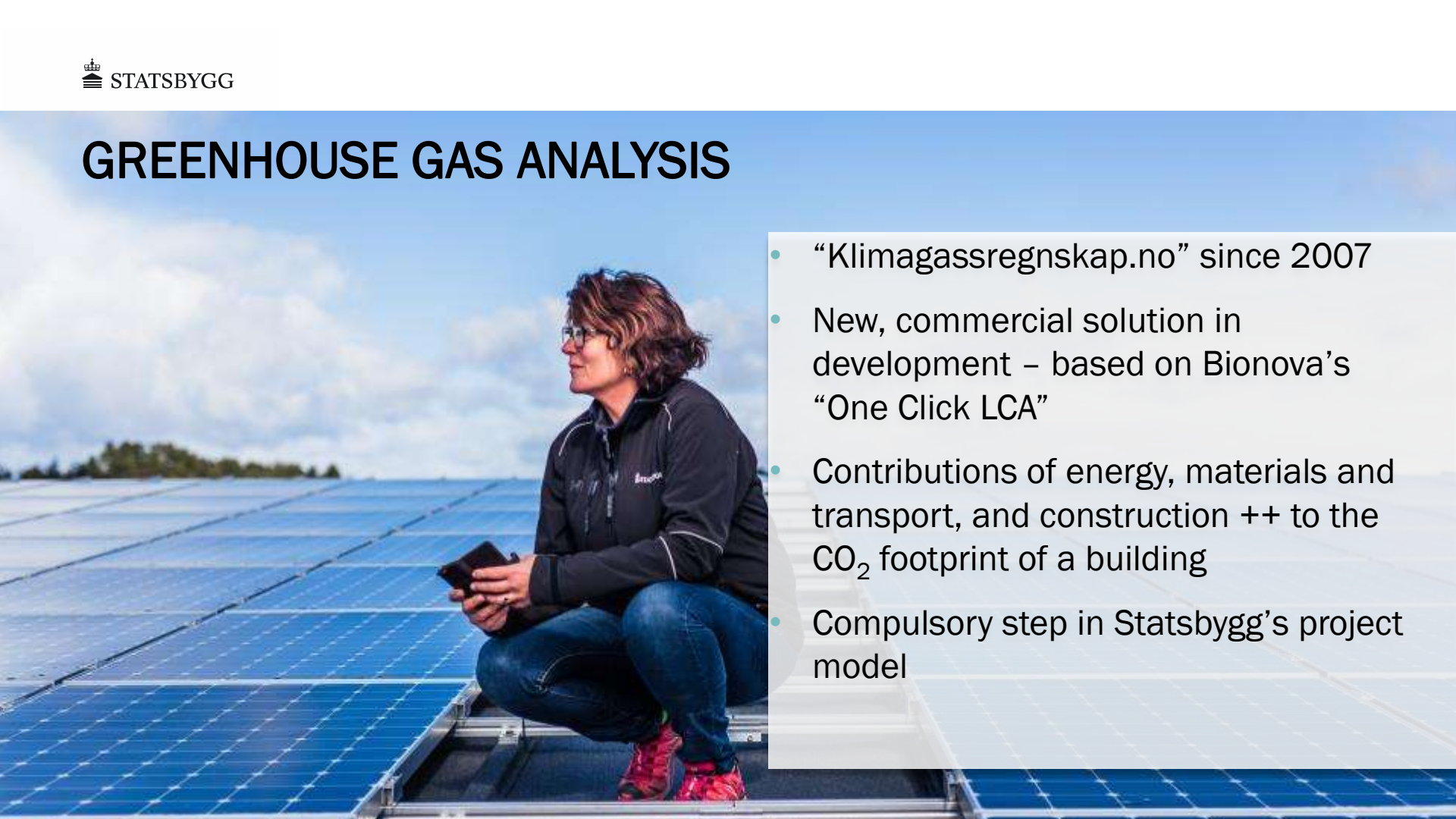


WOOD IS A GOOD ALTERNATIVE:

- less emissions under production
- renewable material which can be reused and recycled
- carbon storage effect - reduced greenhouse gas emissions
- light material: less demands on the foundations and less greenhouse gas emissions in transport



GREENHOUSE GAS ANALYSIS

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- “Klimagassregnskap.no” since 2007
 - New, commercial solution in development – based on Bionova’s “One Click LCA”
 - Contributions of energy, materials and transport, and construction ++ to the CO₂ footprint of a building
 - Compulsory step in Statsbygg’s project model

ZERO EMISSION BUILDINGS (ZEB)

Vision:

To reduce the greenhouse gas emissions caused by buildings.

Main goal:

To develop products and solutions that will lead to a market breakthrough for buildings with **zero greenhouse gas emissions associated with their production, operation, and disposal**

A national team with 25 partners (2009-2016)



ZERO EMISSION BUILDING (ZEB-COM) AT CAMPUS EVENSTAD





FASTER BUILDING TIME AND BETTER LOGISTICS



- Reusing cuts time and costs
- Prefabrication speeds shortens building phase
- Industrialised timber construction promotes use of BIM
- Shell has to be covered. Re-drying wastes time, energy and assets
- Efficient assembly means fast completion and better HSE in production and assembly

Campus Evenstad in Hedmark

CHALLENGES FOR THE INDUSTRY



- risk of damage/deterioration during construction.
- The solid wood surface is *finished*
- The solid wood surface has to be treated as finished
- Pre-dried elements must not be spoiled or made wet unnecessarily.

CERTIFIED TIMBER FOR OUR BUILDINGS

- Our challenge: we often receive general certificates and not product-specific information.
- Need for more knowledge on how the certification schemes work



THE RESEARCH CENTRE ON ZERO EMISSION NEIGHBOURHOODS IN SMART CITIES

Vision

**Sustainable neighbourhoods with
zero greenhouse gas emissions**

Duration: 2017-2024

30 partners



FROM ZEB TO ZEN. FROM OIL TO A ZERO EMISSION CAMPUS

