

# Wood EPDs in Norway – New standards and customer requirements

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## Brief history for EPD 1990s

- **1996 EPDs for Nordic wood products released, based on ISO14025 that was under development**
- **ISO 14020 series released**
  - Type I Environmental labels
  - Type II Self-Declaration
  - Type III Environmental product declarations (EPD)
- **ISO 14025 for EPDs requires:**
  - Program operator
  - Product category rules (PCR)
  - Third party verification

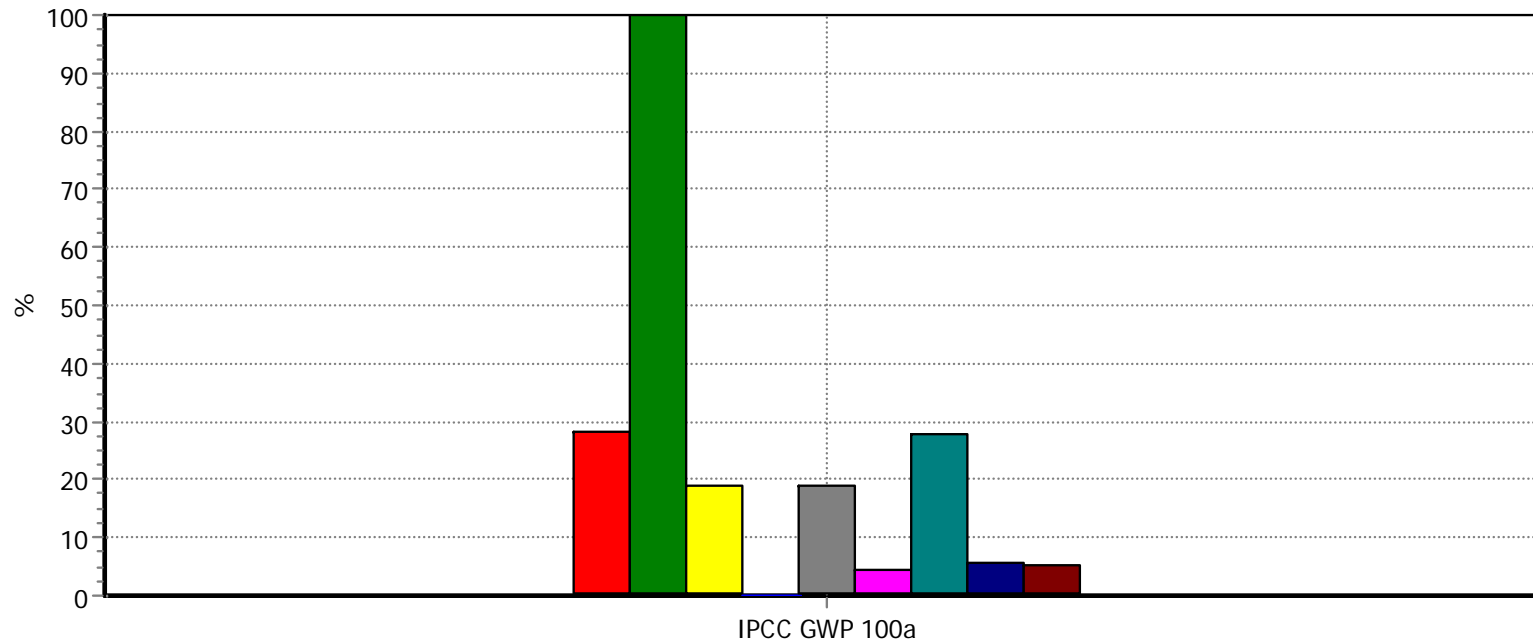
# Breif history for EPD 2000s

- **2001 EPDs type II for windows released**
- **2001 Program operator EPD-Norge founded according to ISO14025**
- **ISO 21930:2007 Environmental product declaration of building products. Convener: Sverre Fossdal**
- **2009 Environmental declaration Type III based on ISO14025 and ISO21930**
  - **NPCR015 Solid wood products**
  - **Industry wide EPDs for sawn wood, construction wood, painted cladding and interior pane**

# New NPCR015 wood and wood-based products

- **Adaptation of new standards**
  - **EN 15804 Core PCR for building products**
  - **ISO/TS 14067 Carbon footprint specification**
- **Goal to be in line with FprEN 16485 PCR for wood and wood-based products – expected in June 2014**
- **Changes**
  - **Volume allocation to economic allocation**
  - **Biogenic carbon flows are included in global warming potential calculations**
  - **Benefits of recovery/recycling of wood at end-of-life**

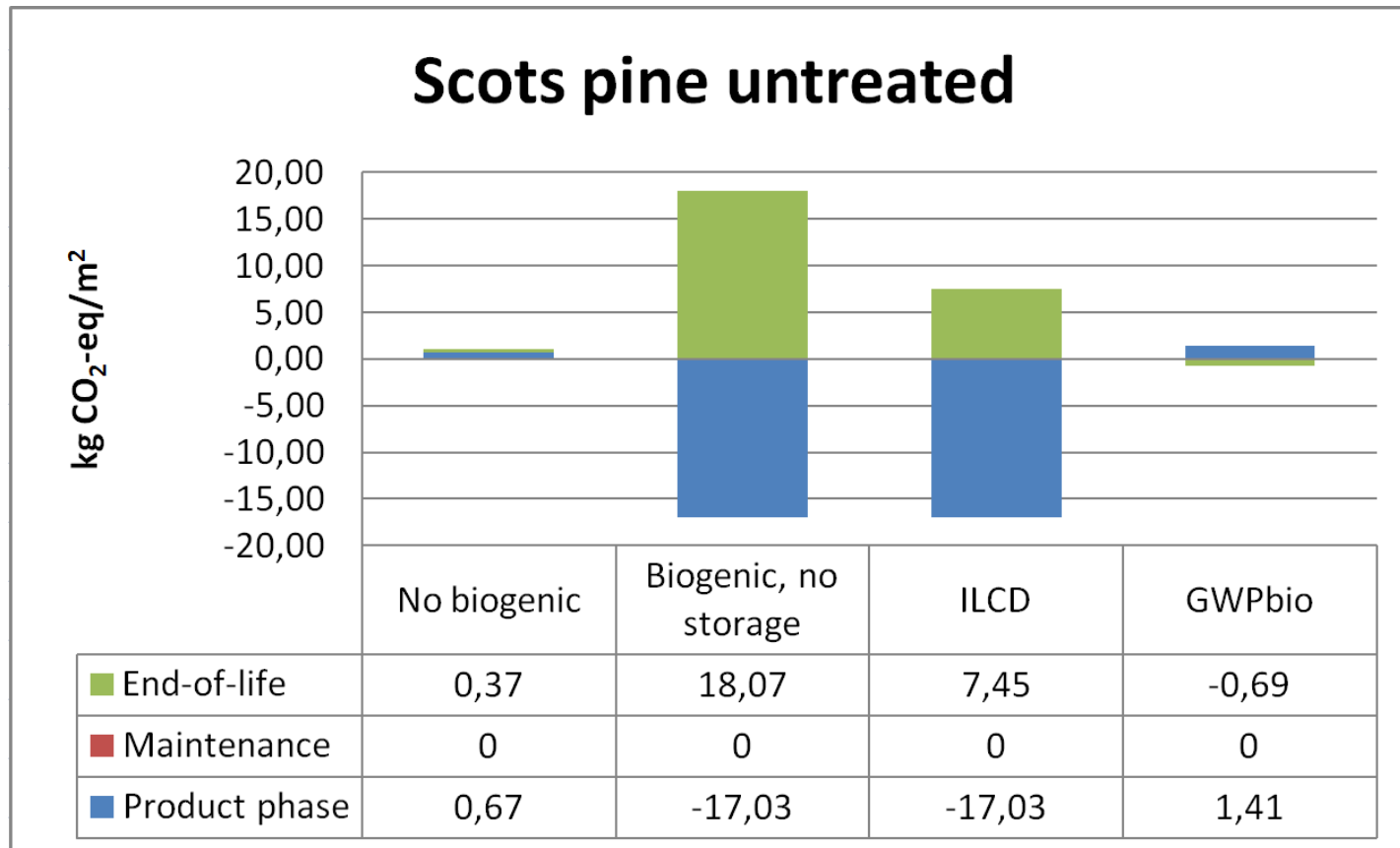
# Allocation of sawmill products – mass vs economic



- █ Sawn wood, packed for sale, at plant/NO U
- █ Sawn timber, softwood, raw, kiln dried, u=20%, at plant/RER U
- █ Bark, at sawmill /NO U
- █ Bark chips, softwood, u=140%, at plant/RER U
- █ Sawdust and chips, green, at sawmill /NO U
- █ Wood chips, softwood, from industry, u=40%, at plant/RER U
- █ Shavings, from grading, at sawmill /NO U
- █ Heat, sawmill furnace /NO U
- █ Heat, softwood chips from industry, at furnace 1000kW/CH U

Comparing processes;  
Method: IPCC 2007 GWP 100a V1.02 / Characterisation

# Inclusion of biogenic carbon flows



# Benefits of energy recovery – Module D

- **In ELCD and FprEN16485 the substitution is of electricity and natural gas**
- **The utilization of energy at End-of-life in Norway is estimated as:**
  - **5-10% Municipal incineration to district heat and some electricity**
  - **5-10% Incineration to cement production**
  - **5-10% Sawmill**
- **Guestimates that:**
  - **20% to Sweden**
  - **50% to other industry such as pulp and paper, particleboard and biorefinery**

# Customer requirements

- **The Norwegian Government state building company**
  - **Strategy since 2010 to demand EPDs for 5-10 most used materials**
  - **Revisited in 2011 to 10 most used**
- **Building programs (Future cities)**
  - **Goal of having 10 EPDs in project**
  - **Did typically get 3**
- **Lack of strong incentives/ control**



# Customer requirements

- **BREEAM-NOR as a national adaption of BREEAM was launched fall 2011**
- **Give credit if at least 10 products used at a large scale have EPDs. Four of these must be**
  - **Insulation in outer walls**
  - **Exterior cladding**
  - **Floor elements**
  - **Frame structure**
- **Gives a control regime if EPDs are actually provided**

# Case study with Skanska



Powerhouse Kjørbo: BREEAM-NOR Outstanding

*Henning Fjeldheim i Treteknisk Informasjon nr. 1 2013*

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# Carbon footprint of buildings

- **Development of a national standard for carbon footprint of buildings**
- **Shall be in line with *EN 15978 Sustainability of construction works – Assessment of environmental performance of buildings – Calculation method***
- **Started January 2014 and is the largest standardisation committee in Norway**

# The future (?)

- **New standards for EPD**
  - **Revision ISO21930. Convener: Anne Rønning**
  - **Time-adjustment of biogenic/all carbon dioxide flows**
  - **Module D requirements**
- **Customer requirements**
  - **Building project specific module information**
    - **Transport to building site, maintenance, repair, etc.**
  - **Digitalisation of module information**
    - **Direct use with building information modelling (BIM)**
    - **More cost efficient**