

Owner: Træ- og Møbelindustrien (TMI)  
No.: MD-25105-EN  
Issued: 20-08-2025  
Valid to: 20-08-2030

3<sup>rd</sup> PARTY VERIFIED

**EPD**

VERIFIED ENVIRONMENTAL PRODUCT DECLARATION | ISO 14025 & EN 15804

### Owner of declaration

Træ- og Møbelindustrien (TMI)  
H.C. Andersens Boulevard 18,  
DK-1553 København



**Issued:**  
20-08-2025

**Valid to:**  
20-08-2030

CVR nr.: 13513104

<https://www.danskindustri.dk/medlemsforeninger/foreningssites/tmi/>

### Programme

EPD Danmark  
[www.epddanmark.dk](http://www.epddanmark.dk)



☒ Industry EPD  
☐ Product EPD

☐ Product specific  
☒ Average  
☐ Worst Case

### Declared product

Planned construction timber products made of pine & spruce

Number of declared datasets/product variations: 1

### Production site

Production sites in Sweden and Finland

### Use of Guarantees of Origin

☒ No certificates used  
☐ Electricity covered by GO  
☐ Biogas covered by GO

### Declared unit

1 m<sup>3</sup> of planned construction timber products made of pine & spruce in various dimensions

### Year of production site data (A3)

Varies due to the use of different EPDs (incl. 2016)

### EPD version

Version 1.0.

### Basis of calculation

This EPD has been developed and verified following the European standard: EN 15804+A2.

### Comparability

EPDs are not comparable unless they comply with the requirements of EN 15804+A2. Likewise, EPD data is not comparable unless the datasets comply with the requirements of EN 15804+A2 and are from the same database.

### Validity

This EPD has been verified following ISO 14025. From the date of issue, it is valid for five years.

### Use

The purpose is to provide scientifically based environmental information on construction timber products to evaluate the environmental performance of buildings.

### EPD type

☐ Cradle-to-gate with modules C1-C4 and D  
☒ Cradle-to-gate with options, modules C1-C4 and D  
☐ Cradle-to-grave and module D  
☐ Cradle-to-gate  
☐ Cradle-to-gate with options

CEN standard EN 15804 serves as the core PCR

Independent verification of the declaration and data, according to EN ISO 14025

☐ internal ☒ external

Third party verifier:

*Mie Ostenfeldt*

Mie Ostenfeldt  
Ostenfeldt Consulting

*Martha Katrine Sørensen*

Martha Katrine Sørensen  
EPD Danmark

### Life cycle stages and modules (ND = module not declared)

| Product             |           |               | Construction Process |                      | Use |             |        |             |               |                        |                       | End-of-Life                |           |                  |          | Beyond the system boundary               |
|---------------------|-----------|---------------|----------------------|----------------------|-----|-------------|--------|-------------|---------------|------------------------|-----------------------|----------------------------|-----------|------------------|----------|------------------------------------------|
| Raw material supply | Transport | Manufacturing | Transport            | Installation process | Use | Maintenance | Repair | Replacement | Refurbishment | Operational energy use | Operational water use | De-construction demolition | Transport | Waste processing | Disposal | Re-use, Recovery and Recycling potential |
| A1                  | A2        | A3            | A4                   | A5                   | B1  | B2          | B3     | B4          | B5            | B6                     | B7                    | C1                         | C2        | C3               | C4       | D                                        |
| X                   | X         | X             | X                    | ND                   | ND  | ND          | ND     | MD          | ND            | ND                     | ND                    | X                          | X         | X                | X        | X                                        |

# Product information

## Product description

The product materials are listed below.

| Material     | Weight-% of declared product |
|--------------|------------------------------|
| Wood*        | 84%                          |
| Moisture     | 16%                          |
| <b>TOTAL</b> | <b>100%</b>                  |

\*Pine and Spruce.

## Product packaging:

Product packaging is listed below.

| Material     | Amount [kg]  | Weight-% of product packaging |
|--------------|--------------|-------------------------------|
| Plastic      | 0,422        | 94%                           |
| Metal        | 0,028        | 6%                            |
| <b>TOTAL</b> | <b>0,450</b> | <b>100%</b>                   |

## Representativity

This EPD covers the declared unit of 1 m<sup>3</sup> of planned construction timber products produced by multiple companies in Sweden and Finland and sold in Denmark. The EPD covers the majority of the Danish market.

Product-specific data originates from EPDs and is weighted using Danish import statistics.

Background data is from the EN 15804 ecoinvent database. Generally, the used background data-sets are of good quality and most of them are only a couple of years old.

## Picture of product



## Hazardous substances

The planned construction timber products do not contain substances listed on the "Candidate List of substances of very high concern for Authorisation" in quantities exceeding 0,1% by weight.

<http://echa.europa.eu/candidate-list-table>

## Product use

The products are used as construction timber in various types of constructions and in a range of different functions such as columns, beams and planks. The products are not exposed to outdoor environments.

## Essential characteristics

Not declared.

## Reference Service Life (RSL)

Not declared.

# LCA background

## Declared unit

The LCI and LCIA results in this EPD cover the declared unit of 1 m<sup>3</sup> of planed construction timber products.

|               | Value | Unit           |
|---------------|-------|----------------|
| Declared unit | 1     | m <sup>3</sup> |

## Functional unit

Not relevant.

## Material properties

The material properties are listed below.

|         | Mass Factor [kg/DU] | Density [kg/m <sup>3</sup> ] |
|---------|---------------------|------------------------------|
| Product | 488                 | 488                          |

## PCR

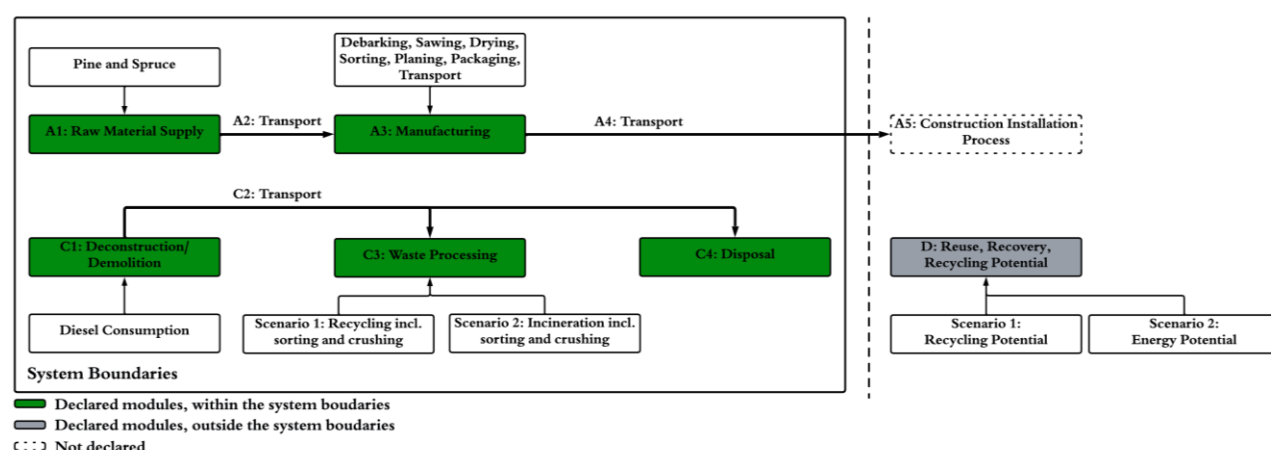
This EPD is developed according to the core rules for the product category of construction products in EN 15804+A2, and the core rules in PCR EN 16485:2014 Product category rules for wood and wood-based products for use in construction.

## Conversion factors

A conversion factor to 1 kg is listed below.

|         | Conversion Factor to 1 kg |
|---------|---------------------------|
| Product | 0,00205                   |

## Flow diagram



## Energy modelling principles

### Foreground System:

The foreground system is modelled using EPDs. The energy modelling principles are therefore unknown but are expected to fulfill requirements. The only exception is the planing process as it is modelled using ecoinvent data. TMI does not purchase guarantees of origin, the planing process is therefore modelled using the Finnish and Swedish residual mix, see below for further information.

| Residual Mix               | Emission Factor   |
|----------------------------|-------------------|
| Residual mix, Finland 2023 | 0,659 kg CO2e/kWh |
| Residual mix, Sweden 2023  | 0,052 kg CO2e/kWh |

### Background System:

The background system is modelled using aggregated ecoinvent processes that use electricity grid mixes.

## System boundary

This EPD is based on a cradle-to-gate LCA with options and modules C1-C4 and D in which 100 weight-% has been accounted for.

The cut-off criterium per module is set at a maximum of 5% of energy usage and mass while the cut-off criterium per unit process is set at a maximum of 1% of energy usage and mass. This is in compliance with the rules stated in EN 15804+A2, 6.3.6. There are no known excluded processes.

### Product stage (A1-3) includes:

A1 - Extraction and processing of raw materials

A2 - Transport to the production site

A3 - Manufacturing processes

The product stage comprises acquisition of Nordic wood logs from forestry as well as other raw materials, products and energy, transport to the production site, packaging and waste processing up to the "end-of-waste" state or final disposal. The production processes include debarking, sawing, drying, sorting, planing, transport and packaging.

The LCA results are declared in aggregated form, which means, that the sub-modules A1, A2 and A3 are declared as one module: A1-A3.

### Construction process stage (A4-5) includes:

A4 - Transport to the building site, located in DK.

| Type  | Distance [km] | Distance & Amount [tkm] |
|-------|---------------|-------------------------|
| Lorry | 1248          | 609,8                   |
| Ship  | 185           | 90,2                    |

The distances are weighted values, calculated by using Danish import statistics.

Module A5 is not declared.

### End-of-Life (C1-4) includes:

Deconstruction of construction timber products in Denmark is assumed to be carried out by various companies and in various ways. An average diesel consumption of 1.4 L/ton - based on data from the Danish Environmental Protection Agency - is modelled to represent typical deconstruction activities.

The End-of-Life includes two different scenarios. Scenario 1 assumes that the construction timber products are collected separately from other construction waste and recycled into particle boards. Scenario 2 assumes that the construction timber products are collected with mixed construction waste and incinerated. These scenarios are modelled as the actual percentages of recycling and incineration are unknown.

Transport to recycling is modelled by assuming a distance of 150 km by lorry while transport to incineration is modelled by assuming a distance of 100 km by lorry. Following EN 16485:2014, both scenarios are modelled in module C3.

### Re-use, recovery and recycling potential (D) includes:

For Scenario 1, module D includes benefits from the avoided production of virgin wood shavings (used in particle boards).

For Scenario 2, module D includes benefits from the avoided production of average Danish electricity and thermal energy.

# LCA results

The additional environmental impact indicators are not declared as the EPDs - used as data sources in A1-A3 - have not consistently declared them.

The following tables present LCI and LCIA results for **Scenario 1 (100% Recycling)**.

| ENVIRONMENTAL IMPACTS PER M3 OF CONSTRUCTION TIMBER PRODUCTS |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |           |          |          |          |          |          |           |
|--------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|----------|----------|----------|----------|----------|-----------|
| Parameter                                                    | Unit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | A1-A3     | A4       | C1       | C2 (1)   | C3 (1)   | C4 (1)   | D (1)     |
| GWP-total                                                    | [kg CO <sub>2</sub> eq.]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | -7,14E+02 | 3,94E+01 | 2,49E+00 | 1,39E+01 | 7,82E+02 | 0,00E+00 | -9,21E+02 |
| GWP-fossil                                                   | [kg CO <sub>2</sub> eq.]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 4,23E+01  | 3,93E+01 | 2,49E+00 | 1,39E+01 | 9,82E+00 | 0,00E+00 | -3,70E+01 |
| GWP-biogenic                                                 | [kg CO <sub>2</sub> eq.]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | -7,56E+02 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 7,72E+02 | 0,00E+00 | -8,84E+02 |
| GWP-luluc                                                    | [kg CO <sub>2</sub> eq.]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2,42E-01  | 1,37E-02 | 2,17E-04 | 4,62E-03 | 1,00E-03 | 0,00E+00 | -2,12E-01 |
| ODP                                                          | [kg CFC 11 eq.]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 6,69E-06  | 7,66E-07 | 3,81E-08 | 2,76E-07 | 1,33E-07 | 0,00E+00 | -4,57E-07 |
| AP                                                           | [mol H <sup>+</sup> eq.]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 3,37E-01  | 1,62E-01 | 2,25E-02 | 2,90E-02 | 3,84E-02 | 0,00E+00 | -2,31E-01 |
| EP-freshwater                                                | [kg P eq.]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 7,19E-03  | 2,56E-03 | 7,26E-05 | 9,42E-04 | 3,34E-03 | 0,00E+00 | -1,92E-02 |
| EP-marine                                                    | [kg N eq.]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 1,22E-01  | 3,98E-02 | 1,04E-02 | 6,96E-03 | 1,12E-02 | 0,00E+00 | -6,76E-02 |
| EP-terrestrial                                               | [mol N eq.]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1,40E+00  | 4,36E-01 | 1,14E-01 | 7,50E-02 | 1,18E-01 | 0,00E+00 | -7,26E-01 |
| POCP                                                         | [kg NMVOC eq.]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 3,77E-01  | 1,91E-01 | 3,40E-02 | 4,81E-02 | 3,52E-02 | 0,00E+00 | -2,40E-01 |
| ADPm <sup>1</sup>                                            | [kg Sb eq.]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 9,25E-04  | 1,21E-04 | 8,68E-07 | 4,52E-05 | 1,58E-05 | 0,00E+00 | -8,66E-05 |
| ADPf <sup>1</sup>                                            | [MJ]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 1,00E+03  | 5,48E+02 | 3,26E+01 | 1,96E+02 | 1,34E+02 | 0,00E+00 | -5,91E+02 |
| WDP <sup>1</sup>                                             | [m <sup>3</sup> world eq. deprived]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 1,44E+01  | 2,99E+00 | 9,55E-02 | 1,10E+00 | 7,89E+00 | 0,00E+00 | -1,36E+01 |
| Caption                                                      | GWP-total = Global Warming Potential - total; GWP-fossil = Global Warming Potential - fossil fuels; GWP-biogenic = Global Warming Potential - biogenic; GWP-luluc = Global Warming Potential - land use and land use change; ODP = Ozone Depletion; AP = Acidification; EP-freshwater = Eutrophication - aquatic freshwater; EP-marine = Eutrophication - aquatic marine; EP-terrestrial = Eutrophication - terrestrial; POCP = Photochemical zone formation; ADPm = Abiotic Depletion Potential - minerals and metals; ADPf = Abiotic Depletion Potential - fossil fuels; WDP = water depletion potential |           |          |          |          |          |          |           |
|                                                              | The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*10 <sup>2</sup> or 195, while 1,12E-11 is the same as 1,12*10 <sup>-11</sup> or 0,0000000000112.                                                                                                                                                                                                                                                                                                                                                                                                    |           |          |          |          |          |          |           |
| Disclaimer                                                   | <sup>1</sup> The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.                                                                                                                                                                                                                                                                                                                                                                                                                     |           |          |          |          |          |          |           |

| ADDITIONAL ENVIRONMENTAL IMPACTS PER M3 OF CONSTRUCTION TIMBER PRODUCTS |                                                                                                                                                                                                                                                                                                                                                                                                                                              |       |     |     |        |        |        |       |
|-------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-----|-----|--------|--------|--------|-------|
| Parameter                                                               | Unit                                                                                                                                                                                                                                                                                                                                                                                                                                         | A1-A3 | A4  | C1  | C2 (1) | C3 (1) | C4 (1) | D (1) |
| PM                                                                      | [Disease incidence]                                                                                                                                                                                                                                                                                                                                                                                                                          | INA   | INA | INA | INA    | INA    | INA    | INA   |
| IRP <sup>2</sup>                                                        | [kBq U235 eq.]                                                                                                                                                                                                                                                                                                                                                                                                                               | INA   | INA | INA | INA    | INA    | INA    | INA   |
| ETP-fw <sup>1</sup>                                                     | [CTUe]                                                                                                                                                                                                                                                                                                                                                                                                                                       | INA   | INA | INA | INA    | INA    | INA    | INA   |
| HTP-c <sup>1</sup>                                                      | [CTUh]                                                                                                                                                                                                                                                                                                                                                                                                                                       | INA   | INA | INA | INA    | INA    | INA    | INA   |
| HTP-nc <sup>1</sup>                                                     | [CTUh]                                                                                                                                                                                                                                                                                                                                                                                                                                       | INA   | INA | INA | INA    | INA    | INA    | INA   |
| SQP <sup>1</sup>                                                        | -                                                                                                                                                                                                                                                                                                                                                                                                                                            | INA   | INA | INA | INA    | INA    | INA    | INA   |
| Caption                                                                 | PM = Particulate Matter emissions; IRP = Ionizing radiation - human health; ETP-fw = Eco toxicity - freshwater; HTP-c = Human toxicity - cancer effects; HTP-nc = Human toxicity - non cancer effects; SQP = Soil Quality (dimensionless)                                                                                                                                                                                                    |       |     |     |        |        |        |       |
|                                                                         | The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*10 <sup>2</sup> or 195, while 1,12E-11 is the same as 1,12*10 <sup>-11</sup> or 0,0000000000112.                                                                                                                                                                                                                                      |       |     |     |        |        |        |       |
| Disclaimers                                                             | <sup>1</sup> The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experience with the indicator.                                                                                                                                                                                                                                                        |       |     |     |        |        |        |       |
|                                                                         | <sup>2</sup> This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator. |       |     |     |        |        |        |       |



| RESOURCE USE PER M3 OF CONSTRUCTION TIMBER PRODUCTS |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |          |          |          |           |          |           |
|-----------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------|----------|----------|-----------|----------|-----------|
| Parameter                                           | Unit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | A1-A3    | A4       | C1       | C2 (1)   | C3 (1)    | C4 (1)   | D (1)     |
| PERE                                                | [MJ]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 9,93E+03 | 9,05E+00 | 1,99E-01 | 3,36E+00 | 8,17E+00  | 0,00E+00 | -5,56E+03 |
| PERM                                                | [MJ]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 6,88E+03 | 0,00E+00 | 0,00E+00 | 0,00E+00 | -7,03E+03 | 0,00E+00 | 0,00E+00  |
| PERT                                                | [MJ]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 1,73E+04 | 9,05E+00 | 1,99E-01 | 3,36E+00 | -7,02E+03 | 0,00E+00 | -5,56E+03 |
| PENRE                                               | [MJ]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 1,02E+03 | 5,48E+02 | 3,26E+01 | 1,96E+02 | 1,34E+02  | 0,00E+00 | -5,91E+02 |
| PENRM                                               | [MJ]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 2,88E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00  | 0,00E+00 | 0,00E+00  |
| PENRT                                               | [MJ]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 1,02E+03 | 5,48E+02 | 3,26E+01 | 1,96E+02 | 1,34E+02  | 0,00E+00 | -5,91E+02 |
| SM                                                  | [kg]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 3,49E-01 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00  | 0,00E+00 | 0,00E+00  |
| RSF                                                 | [MJ]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 5,61E-02 | 3,04E-03 | 3,54E-05 | 1,15E-03 | 7,55E-05  | 0,00E+00 | -2,46E-02 |
| NRSF                                                | [MJ]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00  | 0,00E+00 | 0,00E+00  |
| FW                                                  | [m <sup>3</sup> ]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 4,15E-01 | 7,36E-02 | 2,33E-03 | 2,71E-02 | 1,85E-01  | 0,00E+00 | -3,51E-01 |
| Caption                                             | PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy resources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Net use of fresh water |          |          |          |          |           |          |           |
|                                                     | The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*10 <sup>2</sup> or 195, while 1,12E-11 is the same as 1,12*10 <sup>-11</sup> or 0,0000000000112.                                                                                                                                                                                                                                                                                                                                                                                                                                                   |          |          |          |          |           |          |           |

| WASTE CATEGORIES AND OUTPUT FLOWS PER M3 OF CONSTRUCTION TIMBER PRODUCTS |                                                                                                                                                                                                                                                                         |          |          |          |          |          |          |           |
|--------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------|----------|----------|----------|----------|-----------|
| Parameter                                                                | Unit                                                                                                                                                                                                                                                                    | A1-A3    | A4       | C1       | C2 (1)   | C3 (1)   | C4 (1)   | D (1)     |
| HWD                                                                      | [kg]                                                                                                                                                                                                                                                                    | 1,11E+00 | 7,95E-01 | 3,64E-02 | 2,85E-01 | 9,23E-01 | 0,00E+00 | -2,56E+00 |
| NHWD                                                                     | [kg]                                                                                                                                                                                                                                                                    | 3,59E+01 | 1,64E+01 | 4,97E-01 | 6,03E+00 | 1,67E+01 | 0,00E+00 | -8,95E+01 |
| RWD                                                                      | [kg]                                                                                                                                                                                                                                                                    | 8,98E-03 | 1,69E-04 | 3,58E-06 | 6,31E-05 | 2,62E-04 | 0,00E+00 | -2,32E-03 |
| CRU                                                                      | [kg]                                                                                                                                                                                                                                                                    | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00  |
| MFR                                                                      | [kg]                                                                                                                                                                                                                                                                    | 3,02E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 4,88E+02 | 0,00E+00 | 0,00E+00  |
| MER                                                                      | [kg]                                                                                                                                                                                                                                                                    | 1,97E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00  |
| EEE                                                                      | [MJ]                                                                                                                                                                                                                                                                    | 2,92E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00  |
| EET                                                                      | [MJ]                                                                                                                                                                                                                                                                    | 2,53E+01 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00  |
| Caption                                                                  | HWD = Hazardous waste disposed; NHWD = Non-hazardous waste disposed; RWD = Radioactive waste disposed; CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported electrical energy; EET = Exported thermal energy |          |          |          |          |          |          |           |
|                                                                          | The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*10 <sup>2</sup> or 195, while 1,12E-11 is the same as 1,12*10 <sup>-11</sup> or 0,0000000000112.                                                                 |          |          |          |          |          |          |           |

The following tables present LCI and LCIA results for **Scenario 2 (100% Incineration)**.

| ENVIRONMENTAL IMPACTS PER M3 OF CONSTRUCTION TIMBER PRODUCTS |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           |          |          |          |          |          |           |
|--------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|----------|----------|----------|----------|----------|-----------|
| Parameter                                                    | Unit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | A1-A3     | A4       | C1       | C2 (2)   | C3 (2)   | C4 (2)   | D (2)     |
| GWP-total                                                    | [kg CO <sub>2</sub> eq.]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | -7,14E+02 | 3,94E+01 | 2,49E+00 | 9,27E+00 | 7,89E+02 | 0,00E+00 | -7,33E+01 |
| GWP-fossil                                                   | [kg CO <sub>2</sub> eq.]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 4,23E+01  | 3,93E+01 | 2,49E+00 | 9,27E+00 | 1,74E+01 | 0,00E+00 | -7,31E+01 |
| GWP-biogenic                                                 | [kg CO <sub>2</sub> eq.]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | -7,56E+02 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 7,72E+02 | 0,00E+00 | 0,00E+00  |
| GWP-luluc                                                    | [kg CO <sub>2</sub> eq.]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 2,42E-01  | 1,37E-02 | 2,17E-04 | 3,08E-03 | 2,86E-03 | 0,00E+00 | -1,34E-01 |
| ODP                                                          | [kg CFC 11 eq.]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 6,69E-06  | 7,66E-07 | 3,81E-08 | 1,84E-07 | 2,18E-07 | 0,00E+00 | -3,60E-06 |
| AP                                                           | [mol H <sup>+</sup> eq.]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 3,37E-01  | 1,62E-01 | 2,25E-02 | 1,93E-02 | 1,17E-01 | 0,00E+00 | -1,67E-01 |
| EP-freshwater                                                | [kg P eq.]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 7,19E-03  | 2,56E-03 | 7,26E-05 | 6,28E-04 | 6,63E-03 | 0,00E+00 | -1,94E-02 |
| EP-marine                                                    | [kg N eq.]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 1,22E-01  | 3,98E-02 | 1,04E-02 | 4,64E-03 | 5,30E-02 | 0,00E+00 | -4,49E-02 |
| EP-terrestrial                                               | [mol N eq.]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 1,40E+00  | 4,36E-01 | 1,14E-01 | 5,00E-02 | 5,19E-01 | 0,00E+00 | -5,17E-01 |
| POCP                                                         | [kg NMVOC eq.]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 3,77E-01  | 1,91E-01 | 3,40E-02 | 3,21E-02 | 1,36E-01 | 0,00E+00 | -1,66E-01 |
| ADPm <sup>1</sup>                                            | [kg Sb eq.]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 9,25E-04  | 1,21E-04 | 8,68E-07 | 3,01E-05 | 2,87E-05 | 0,00E+00 | -2,91E-04 |
| ADP <sup>1</sup>                                             | [MJ]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 1,00E+03  | 5,48E+02 | 3,26E+01 | 1,30E+02 | 2,01E+02 | 0,00E+00 | -1,21E+03 |
| WDP <sup>1</sup>                                             | [m <sup>3</sup> world eq. deprived]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 1,44E+01  | 2,99E+00 | 9,55E-02 | 7,34E-01 | 1,21E+01 | 0,00E+00 | -7,83E+01 |
| Caption                                                      | <p>GWP-total = Global Warming Potential - total; GWP-fossil = Global Warming Potential - fossil fuels; GWP-biogenic = Global Warming Potential - biogenic; GWP-luluc = Global Warming Potential - land use and land use change; ODP = Ozone Depletion; AP = Acidification; EP-freshwater = Eutrophication - aquatic freshwater; EP-marine = Eutrophication - aquatic marine; EP-terrestrial = Eutrophication - terrestrial; POCP = Photochemical zone formation; ADPm = Abiotic Depletion Potential - minerals and metals; ADP = Abiotic Depletion Potential - fossil fuels; WDP = water depletion potential</p> <p>The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*10<sup>2</sup> or 195, while 1,12E-11 is the same as 1,12*10<sup>-11</sup> or 0,0000000000112.</p> |           |          |          |          |          |          |           |
| Disclaimer                                                   | <sup>1</sup> The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experience with the indicator.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |           |          |          |          |          |          |           |

| ADDITIONAL ENVIRONMENTAL IMPACTS PER M3 OF CONSTRUCTION TIMBER PRODUCTS |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |       |     |     |        |        |        |       |
|-------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-----|-----|--------|--------|--------|-------|
| Parameter                                                               | Unit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | A1-A3 | A4  | C1  | C2 (2) | C3 (2) | C4 (2) | D (2) |
| PM                                                                      | [Disease incidence]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | INA   | INA | INA | INA    | INA    | INA    | INA   |
| IRP <sup>2</sup>                                                        | [kBq U235 eq.]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | INA   | INA | INA | INA    | INA    | INA    | INA   |
| ETP-fw <sup>1</sup>                                                     | [CTUe]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | INA   | INA | INA | INA    | INA    | INA    | INA   |
| HTP-c <sup>1</sup>                                                      | [CTUh]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | INA   | INA | INA | INA    | INA    | INA    | INA   |
| HTP-nc <sup>1</sup>                                                     | [CTUh]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | INA   | INA | INA | INA    | INA    | INA    | INA   |
| SQP <sup>1</sup>                                                        | -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | INA   | INA | INA | INA    | INA    | INA    | INA   |
| Caption                                                                 | <p>PM = Particulate Matter emissions; IRP = Ionizing radiation - human health; ETP-fw = Eco toxicity - freshwater; HTP-c = Human toxicity - cancer effects; HTP-nc = Human toxicity - non cancer effects; SQP = Soil Quality (dimensionless)</p> <p>The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*10<sup>2</sup> or 195, while 1,12E-11 is the same as 1,12*10<sup>-11</sup> or 0,0000000000112.</p>                                                                                                                                                                                    |       |     |     |        |        |        |       |
| Disclaimers                                                             | <p><sup>1</sup> The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experience with the indicator.</p> <p><sup>2</sup> This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator.</p> |       |     |     |        |        |        |       |



| RESOURCE USE PER M3 OF CONSTRUCTION TIMBER PRODUCTS |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |          |          |          |           |          |           |
|-----------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------|----------|----------|-----------|----------|-----------|
| Parameter                                           | Unit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | A1-A3    | A4       | C1       | C2 (2)   | C3 (2)    | C4 (2)   | D (2)     |
| PERE                                                | [MJ]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 9,93E+03 | 9,05E+00 | 1,99E-01 | 2,24E+00 | 9,83E+00  | 0,00E+00 | -8,78E+02 |
| PERM                                                | [MJ]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 6,88E+03 | 0,00E+00 | 0,00E+00 | 0,00E+00 | -7,03E+03 | 0,00E+00 | 0,00E+00  |
| PERT                                                | [MJ]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 1,73E+04 | 9,05E+00 | 1,99E-01 | 2,24E+00 | -7,02E+03 | 0,00E+00 | -8,78E+02 |
| PENRE                                               | [MJ]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 1,02E+03 | 5,48E+02 | 3,26E+01 | 1,30E+02 | 2,01E+02  | 0,00E+00 | -7,39E+02 |
| PENRM                                               | [MJ]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 2,88E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00  | 0,00E+00 | 0,00E+00  |
| PENRT                                               | [MJ]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 1,02E+03 | 5,48E+02 | 3,26E+01 | 1,30E+02 | 2,01E+02  | 0,00E+00 | -7,39E+02 |
| SM                                                  | [kg]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 3,49E-01 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00  | 0,00E+00 | 0,00E+00  |
| RSF                                                 | [MJ]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 5,61E-02 | 3,04E-03 | 3,54E-05 | 7,65E-04 | 4,48E-04  | 0,00E+00 | -2,94E-01 |
| NRSF                                                | [MJ]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00  | 0,00E+00 | 0,00E+00  |
| FW                                                  | [m <sup>3</sup> ]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 4,15E-01 | 7,36E-02 | 2,33E-03 | 1,81E-02 | 2,85E-01  | 0,00E+00 | -1,03E-03 |
| Caption                                             | PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy resources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Net use of fresh water |          |          |          |          |           |          |           |
|                                                     | The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*10 <sup>2</sup> or 195, while 1,12E-11 is the same as 1,12*10 <sup>-11</sup> or 0,0000000000112.                                                                                                                                                                                                                                                                                                                                                                                                                                                   |          |          |          |          |           |          |           |

| WASTE CATEGORIES AND OUTPUT FLOWS PER M3 OF CONSTRUCTION TIMBER PRODUCTS |      |          |          |          |          |          |          |           |
|--------------------------------------------------------------------------|------|----------|----------|----------|----------|----------|----------|-----------|
| Parameter                                                                | Unit | A1-A3    | A4       | C1       | C2 (2)   | C3 (2)   | C4 (2)   | D (2)     |
| HWD                                                                      | [kg] | 1,11E+00 | 7,95E-01 | 3,64E-02 | 1,90E-01 | 4,08E+00 | 0,00E+00 | -1,89E+00 |
| NHWD                                                                     | [kg] | 3,59E+01 | 1,64E+01 | 4,97E-01 | 4,02E+00 | 5,18E+02 | 0,00E+00 | -3,08E+00 |
| RWD                                                                      | [kg] | 8,98E-03 | 1,69E-04 | 3,58E-06 | 4,20E-05 | 2,81E-04 | 0,00E+00 | -9,85E+01 |

|         |                                                                                                                                                                                                                                                                         |          |          |          |          |          |          |          |
|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------|----------|----------|----------|----------|----------|
| CRU     | [kg]                                                                                                                                                                                                                                                                    | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| MFR     | [kg]                                                                                                                                                                                                                                                                    | 3,02E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| MER     | [kg]                                                                                                                                                                                                                                                                    | 1,97E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| EEE     | [MJ]                                                                                                                                                                                                                                                                    | 2,92E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 7,12E+02 | 0,00E+00 | 0,00E+00 |
| EET     | [MJ]                                                                                                                                                                                                                                                                    | 2,53E+01 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 1,43E+03 | 0,00E+00 | 0,00E+00 |
| Caption | HWD = Hazardous waste disposed; NHWD = Non-hazardous waste disposed; RWD = Radioactive waste disposed; CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported electrical energy; EET = Exported thermal energy |          |          |          |          |          |          |          |
|         | The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*10 <sup>2</sup> or 195, while 1,12E-11 is the same as 1,12*10 <sup>-11</sup> or 0,0000000000112.                                                                 |          |          |          |          |          |          |          |

| BIOGENIC CARBON CONTENT PER M3 OF CONSTRUCTION TIMBER PRODUCTS |                                                                   |                     |
|----------------------------------------------------------------|-------------------------------------------------------------------|---------------------|
| Parameter                                                      | Unit                                                              | At the factory gate |
| Biogenic carbon content in product                             | [kg C]                                                            | 210,4               |
| Biogenic carbon content in accompanying packaging              | [kg C]                                                            | 0,034               |
| Note                                                           | 1 kg biogenic carbon is equivalent to 44/12 kg of CO <sub>2</sub> |                     |

# Additional information

## Technical information on scenarios

### Transport to the building site (A4)

| Scenario information        | Value                                | Unit |
|-----------------------------|--------------------------------------|------|
| Fuel type                   | Diesel                               | -    |
| Vehicle type                | Lorry, 16-32 tons<br>Ship, container | -    |
| Transport load and distance | Lorry 609,8                          | tkm  |
|                             | Ship 90,2                            | tkm  |

### End-of-Life (C1-C4)

| Scenario 1 (100% recycling) information | Value | Unit           |
|-----------------------------------------|-------|----------------|
| Collected separately                    | 1     | m <sup>3</sup> |
| For recycling                           | 1     | m <sup>3</sup> |

| Scenario 2 (100% incineration) information | Value | Unit           |
|--------------------------------------------|-------|----------------|
| Collected with mixed waste                 | 1     | m <sup>3</sup> |
| For energy recovery                        | 1     | m <sup>3</sup> |

### Re-use, recovery and recycling potential (D)

| Scenario 1 (100% recycling) information | Value | Unit           |
|-----------------------------------------|-------|----------------|
| Displaced material                      | 1     | m <sup>3</sup> |

| Scenario information/Material                      | Value | Unit |
|----------------------------------------------------|-------|------|
| Electrical energy recovery from waste incineration | 712   | MJ   |
| Thermal energy recovery from waste incineration    | 1430  | MJ   |

#### Indoor air

The EPD does not give information on the release of dangerous substances to indoor air. The horizontal standards of the relevant measurements are not available.

Read more in EN15804+A1, Chapter 7.4.1.

#### Soil and water

The EPD does not give information on the release of dangerous substances to soil and water. The horizontal standards of the relevant measurements are not available.

Read more in EN15804+A1, Chapter 7.4.2.

## References

|                                      |                                                                                                                                                                                                                                                                                                           |
|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Publisher</b>                     |  <b>epddanmark</b><br><a href="http://www.epddanmark.dk">www.epddanmark.dk</a><br><small>Template version 2024.2</small>                                                                                                 |
| <b>Programme operator</b>            | Danish Technological Institute<br>Gregersensvej<br>DK-2630 Taastrup<br><a href="http://www.teknologisk.dk">www.teknologisk.dk</a>                                                                                                                                                                         |
| <b>LCA-practitioner</b>              |  <b>Transition</b><br>Transition ApS<br>Regnbuepladsen 7, DK-1550 København V<br><a href="https://transition.nu/">https://transition.nu/</a><br>Att. Lukas Blander Enevoldsen, Emma Ekebjærg<br>& Hannibal Holm Johansen |
| <b>LCA software/background data</b>  | SimaPro v.9.6.0.1<br>ecoinvent v.3.10 (EN 15804 database)                                                                                                                                                                                                                                                 |
| <b>3<sup>rd</sup> party verifier</b> | Mie Ostenfeldt<br>Ostenfeldt Consulting<br>Verified according to Verification Checklist 1,<br>v. 2.8<br>                                                                                                             |

### General programme instructions

General Programme Instructions, version 2.0, spring 2020  
[www.epddanmark.dk](http://www.epddanmark.dk)

### EN 15804

DS/EN 15804+A2:2019 - "Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products"

### EN 16485

DS/EN 16485:2014 - "Product category rules for wood and wood-based products for use in construction"

### EN 15942

DS/EN 15942:2011 - "Sustainability of construction works - Environmental product declarations - Communication format business-to-business"

### ISO 14025

DS/EN ISO 14025:2010 - "Environmental labels and declarations - Type III environmental declarations - Principles and procedures"

### ISO 14040

DS/EN ISO 14040:2008 - "Environmental management - Life cycle assessment - Principles and framework"

### ISO 14044

DS/EN ISO 14044:2008 - "Environmental management - Life cycle assessment - Requirements and guidelines"