Experience in environmental declarations programme ZAG EPD

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Why EPD program

- EPD program provides an independent tool for B2B communication
- Provides support for legislators
- Helps in B2C communication
- Enables sustainable buildings in Slovenia through data access

- Additionally (in development)
  - Consultancy in eco-balancing
  - Good practice demonstrations
Features

• ZAG EPD in reality deals with construction products
• ZAG provides one stop shop
  – LCA studies can be commissioned at ZAG
  – 3rd party LCAs are accepted, provided that the report passes verification (valid also for ZAG reports)
• Through ZAG EPD broader view is promoted
  – Sustainability exceeds the environmental issues
  – EPD programs should finally serve as reliable input for eco-balancing
International relations

• The program is based on EN 15804
  – Many programs are adapting / have adapted to EN 15804
  – ZAG EPD is young program, started form EN 15804
• ECO Platform membership
• EOTA activities
• Legislation analyses
  – Few pieces of legislation, related to EPD available today
    • Belgium, France, Netherlands, UK, Slovenia
Elements of the program

- **PCRs setting rules for the LCA**
  - In practice PCR form well established programs are used
  - New PCRs undergo acceptance

- **Verification**
  - Verifiers: experts from the field with knowledge on LCA
  - Open to verifiers to register for a particular field
  - Extensive verifiers check-list

- **Board**
  - Accepts the PCRs (among other tasks)
  - Consists of industrial representatives (at the moment 3)
  - Will be expanded in particular with wood experts

- **Communication**
  - Published EPDs listed
  - English versions as standard
  - Database in set-up
Wood in ZAG EPD

• All presented rules apply also to wood
• Wooden industry in Slovenia does not yet recognize the possibilities
• Main obstacles:
  – Mainly small companies, not capable to deal with the
    • High effort in data gathering
    • Financial effort needed
  – The process can be lengthy (data gathering phase)
• Particular PCRs not yet developed
  – Both natural wood and modified wood targeted
• EN 15804 basis means use of predefined set of midpoint indicators
Issues

• LCA must clearly state difference in biogenic and fossil carbon (not always justified)
• LCA must provide for a full set of midpoint indicators:
  – GWP_{100}, AP, EP, ODP, POCP
  – If possible also full set of other parameters (PERT, PENRT, FW, …)
  – All indicators must be calculated under the identical scenario
• If LCA extends beyond A3 module (gate), scenarios must be proven and well documented
  – At the moment this is an open issue for ZAG EPD
  – Unless the applicant is able to provide e.g. detailed description of recycling, defaults are used (incineration / decay)
Buildings – relative importance of emissions

• New building, 149 m² passive standards, Heat pump (electrical) SCOP = 2.5 :: RSL = 60 years
• Heating (15 kWh/m²a):
  – 413 (kg CO₂ ekv./a)
  – 24.804 (kg CO₂ ekv./LC)
  – 2.77 kg CO₂ ekv./m²
• Primary energy without appliances (45 kWh/a):
  – 1.240 (kg CO₂ ekv./a)
  – 74.412 (kg CO₂ ekv./LC)
  – 8.32 kg CO₂ ekv./m²
• Embodied emissions (GWP)
  – 50.031 kg CO₂ ekv.
  – 5.59 kg CO₂ ekv./m²
• Material selection matters!
CO$_2$ – emissions importance of factors

- Yearly cca. 7900 km
- Specific emissions 100 g CO$_2$/km
- 60 years: 47.400 kg CO$_2$
- Location – is it dominant?
- **Yes, in buildings of the future location footprint is dominant**
- **Scenarios of use matter**
THANK YOU FOR YOUR ATTENTION