

The logo for ZAG, consisting of the letters 'ZAG' in a bold, blue, sans-serif font.

ZAVOD ZA  
GRADBENIŠTVO  
SLOVENIJE

SLOVENIAN  
NATIONAL BUILDING  
AND CIVIL ENGINEERING  
INSTITUTE

# Experience in environmental declarations programme ZAG EPD

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The logo for COST (European Cooperation in Science and Technology), featuring a stylized blue hexagon icon to the left of the text 'cost' in a bold, blue, sans-serif font. Below 'cost' is the text 'EUROPEAN COOPERATION IN SCIENCE AND TECHNOLOGY' in a smaller, blue, sans-serif font.

cost  
EUROPEAN COOPERATION  
IN SCIENCE AND TECHNOLOGY



Koper, 25. August 2015  
COST FP 1407

# 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

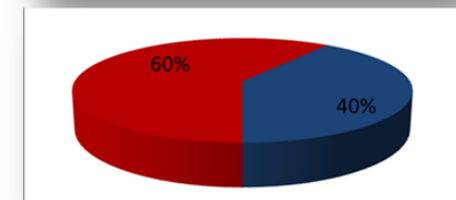
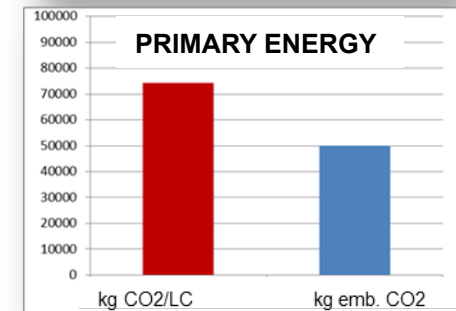
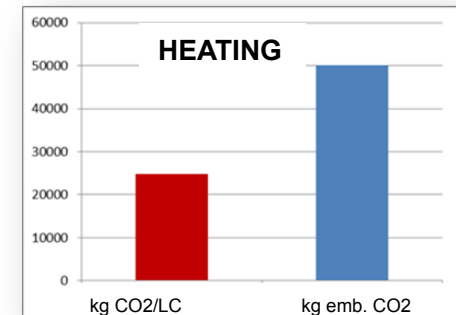
- All presented rules apply also to wood
- Wooden industry in Slovenia does not yet recognize the possibilities
- Main obstacles:
  - Mainly small companies, not capable to deal with the
    - High effort in data gathering
    - Financial effort needed
  - The process can be lengthy (data gathering phase)
- 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<sub>100</sub>, 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)

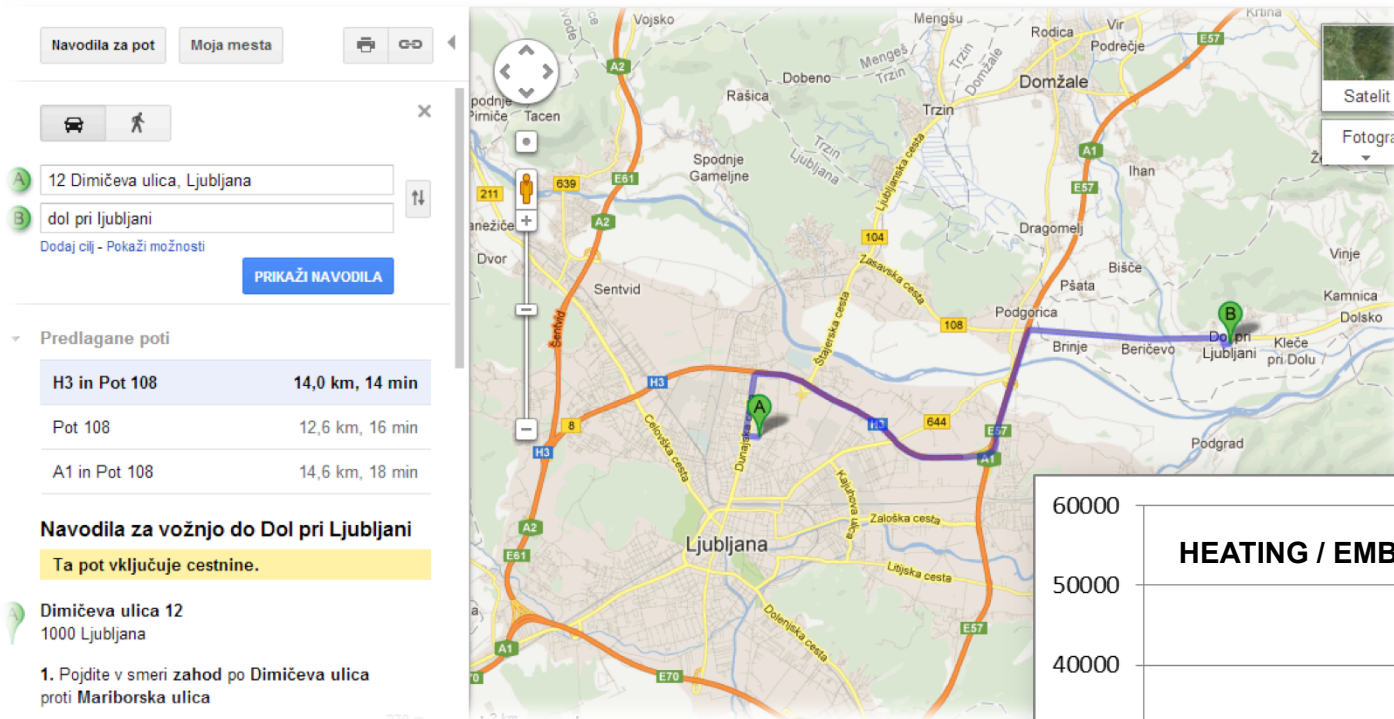
# Buildings – relative importance of emissions

- New building, 149 m<sup>2</sup> passive standards, Heat pump (electrical) SCOP = 2,5 ::: RSL = **60** years
- Heating (**15 kWh/m<sup>2</sup>a**):
  - 413 (kg CO<sub>2</sub> ekv./a)
  - **24.804 (kg CO<sub>2</sub> ekv./LC)**
  - **2,77 kg CO<sub>2</sub> ekv./am<sup>2</sup>**
- Primary energy without appliances (45kWh/a):
  - 1.240 (kg CO<sub>2</sub> ekv./a)
  - **74.412 (kg CO<sub>2</sub> ekv./LC)**
  - **8,32 kg CO<sub>2</sub> ekv./am<sup>2</sup>**
- Embodied emissions (GWP)
  - 50.031 kg CO<sub>2</sub> ekv.
  - **5,59 kg CO<sub>2</sub> ekv./am<sup>2</sup>**
- **Material selection matters!**

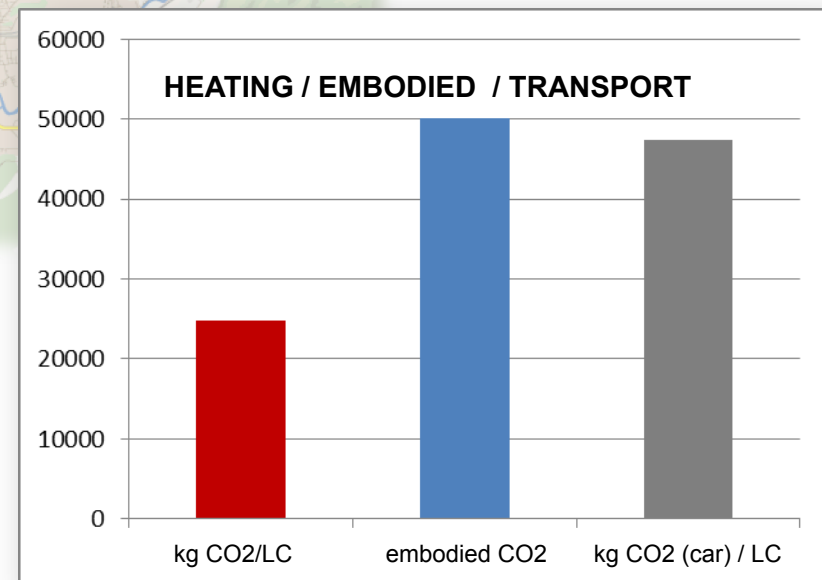




# CO<sub>2</sub> – emissions importance of factors



- Yearly cca. 7900 km
- Specifične emmisions 100 g CO<sub>2</sub>/km
- 60 years: 47.400 kg CO<sub>2</sub>
- Location – is it dominant?
- **Yes, in buildings of the future location footprint is dominant**
- **Scenarios of use matter**



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THANK YOU FOR YOUR ATTENTION

