POLITECNICO MILANO 1863 | DIPARTIMENTO DI ARCHITETTURA, INGEGNERIA DELLE COSTRUZIONI E AMBIENTE COSTRUITO

AUSTRALIAN STEEL INSTITUTE

BEST PRACTICE LIFE CYCLE ANALYSIS FOR STEEL CONSTRUCTION

Australian Steel Institute (ASI) training
7-8 May 2025

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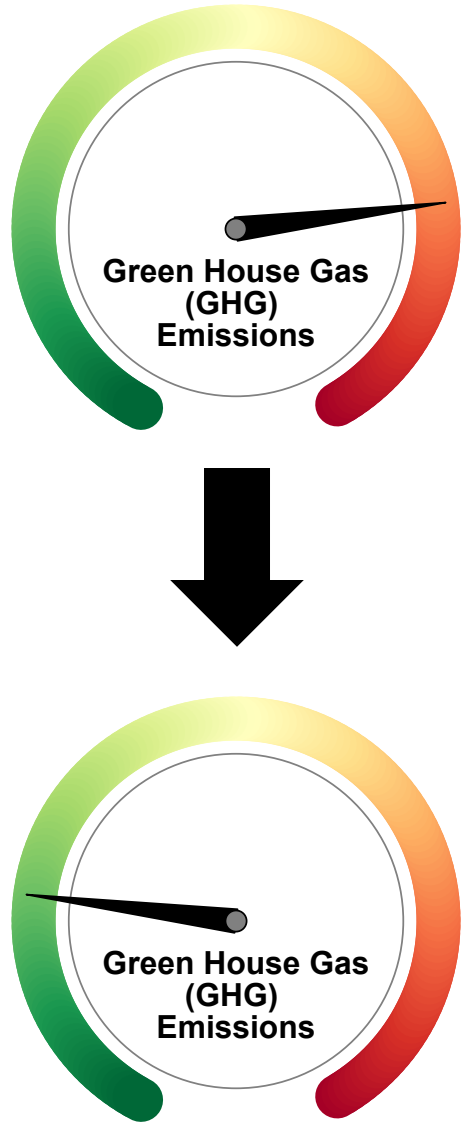
Housing
Bridges
Data centers
Energy infrastructure
…

A challenge & opportunity for:

Steel Construction Industry!

How can steel construction community reduce its Green House Gas (GHG) emissions?



Training overview

Session 1

- ❑ Challenges and opportunities for the steel community during the climate crisis at the European and Australian contexts, current regulations
- ❑ Detailed definition of life-cycle stages of a steel structure
  - Product stage “raw materials” (A1)
  - Product stage “transport” (A2) and “manufacturing” (A3), construction stage “transport” (A4) and “installation” (A5)
  - End-of-life (C1, C2, C3, C4) and beyond-life (D) stages.
- ❑ What are EPDs? How to use them.

Session 2

- ❑ How to calculate the embodied carbon of a building structural system?
- ❑ **4 Strategies** to reduce the upfront carbon-footprint during design
- ❑ Hands-on exercise
- ❑ Case studies

Strategies to reduce the embodied GHG of steel construction

- ❑ Composite (or hybrid) construction
- ❑ High Strength Steel
- ❑ Design for circularity
- ❑ High-tech methods (e.g. AI, robotics)

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Politecnico di Milano, Italy

- **Instructor** of Life Cycle Driven Structures
- **Expert Advisor for European Commission Steel Advisory Group (SAG)** - Mandate 2025-2029
- **Expert** in Sustainable design of structures, 50+ top-tier articles, 1000+ citations
- **Principal Investigator** in R&D projects