

# Resolving the Grey Energy Paradox

**An international conference on giving embodied carbon its adequate weight in the building sector**

**8<sup>th</sup> May 2023**

**15:00–18:30**

**Zoom ID 630 7384 9805**

Grey energy is a buzzword in many discussions today – but nearly nobody seems to know what it really means. How can something so important be still so mysterious and difficult to apply? The reasons behind the grey energy paradox are complex and multi-layered:

1. The name 'grey energy' is misleading our focus – away from embodied carbon towards energy saving.
2. The established calculation methods are quite complex, and easily accessible data or tools are missing.
3. The way grey energy is evaluated today – in kWh/m<sup>2</sup>a – leads to its minimization and disappearance over time. For us it is a paradox, that – according to a scientific convention – a building from 1960 has mathematically no grey energy content anymore – since this energy is 'written off' during its theoretical lifespan. This convention might have some practical advantages – but surely no scientific justification: the CO<sub>2</sub> emitted in the atmosphere in 1960 did unfortunately not disappear and the usual assumptions of lifespans for buildings are blatant misconceptions with no relation to reality.

With our conference we want to resolve this paradox by questioning and discussing together all these layers:

- 1. Would it make sense to 'rebrand' grey energy? And what could be an alternative to the only recently established term? How can we make grey energy more visible and tangible?**
- 2. What is the 'real' embodied energy or CO<sub>2</sub> content of an existing building? How can we give grey energy its adequate weight – helping to make the right decisions on refurbishment or demolition and replacement?**
- 3. Can we establish a validated database of typical grey energy values for existing buildings of different typologies and years of construction? How can we make this available in the easiest applicable way?**
- 4. Which legal or financial regulations and levers could be installed to take grey energy into full account?**

We hope that together we can find valid answers to all these questions.

The conference will be organized as a sequence of lectures by international researchers and players in the field of evaluating / assessing grey energy and the accompanying political framework – formulating answers to the questions raised above – and an intense discussion with the participants to create a final communiqué.

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| <b>15:00–15:15</b> | <b>Introduction</b><br><b>Prof. Muck Petzet</b><br>Sustainable Design, USI-ARC Mendrisio<br><b>Dipl. Arch. Mathieu Wellner, Mediator</b>                             |
| <b>15:15–15:30</b> | <b>Status quo</b><br><b>Ing. Andrea Roscetti</b><br>USI-ARC Mendrisio  |
| <b>15:30–16:00</b> | <b>Values and potentials of grey energy</b><br><b>Prof. Thomas Auer</b><br>Transsolar / Building Technology and Climate Responsive Design, TU Munich                 |
| <b>16:00–16:30</b> | <b>The Swiss Success Story</b><br><b>Prof. Daniel Kellenberger</b><br>Nachhaltiges Bauen - Ökobilanzierung, FHNW Muttenz   |
| <b>16:30–17:00</b> | <b>Drawing Energy</b><br><b>Prof. David Benjamin</b><br>The Living / Columbia GSAPP New York   |
| <b>17:00–17:30</b> | <b>Climate-neutral building. Opportunities of the challenge</b><br><b>Prof. Elisabeth Endres</b><br>Building Climatology and Energy of Architecture, TU Braunschweig |
| <b>17:30–18:15</b> | <b>Q&amp;A, resolving the grey energy paradox</b><br><b>Moderation by Mathieu Wellner</b>  |
| <b>18:15–18:30</b> | <b>Conclusions and communiqué</b>  |