PUNCHLunch –

the online lunch seminar of the PUNCH4NFDI Consortium
Every third Thursday, 12:30-13:30 hrs: keynote and discussion

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Thursday, 10 April 2025, 12:30 hrs:

Mattias Wadenstein (High Performance Computing Center North, Umeå University)

Lifecycle Carbon Analysis of Scientific Computing

A model for total emissions carbon emissions for scientific computing clusters

Abstract:

We propose a model to assist with the life cycle analysis of emissions of scientific computing centres. The model takes into account both the embodied carbon and emissions from use, as well as other factors such as data centre power usage efficiency, increase in energy efficiency of next-generation hardware, reduction in carbon intensity of the electricity supply and potential for heat reuse. We apply the model to a number of real-life HPC centres in different countries to illustrate how the trade-offs depend on the various factors.
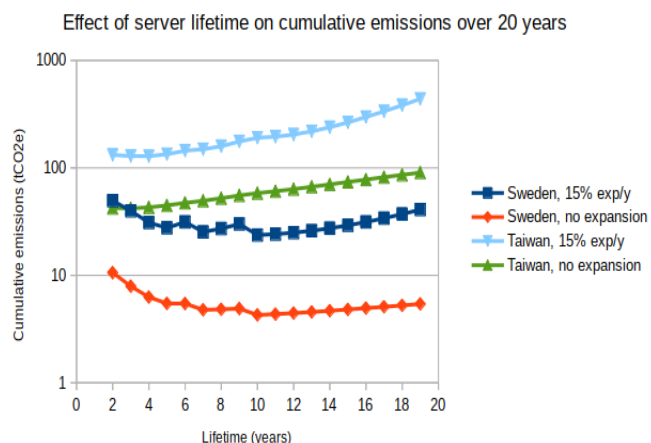
Co-author: Professor Wim Vanderbauwhede (School of Computing Science, University of Glasgow)

Effect of server lifetime on cumulative emissions over 20 years

Connection details:

ZOOM Meeting "PUNCHLunch seminar": https://indico.desy.de/event/48727/

Webinar ID: 919 1665 4877, passcode: 481572

Next event: The Next event, 15 May 2025

Connect to PUNCH4NFDI:

Mastodon: https://nfdi.social@punch4nfdi   Mail: punch4nfdi@desy.de   Web: www.punch4nfdi.de