

REFINING THE INCLUSION OF THE TEMPORAL DIMENSIONS IN LIFE CYCLE ASSESSMENT BASED DECISION SUPPORT

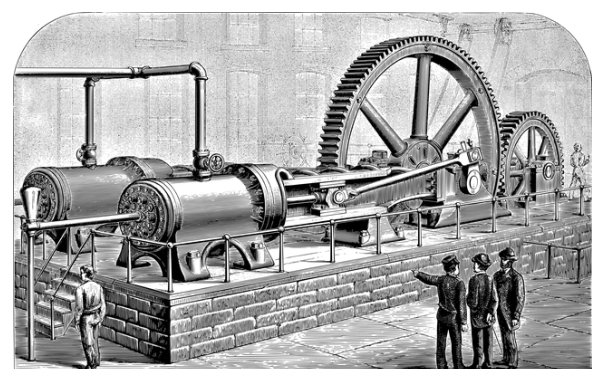
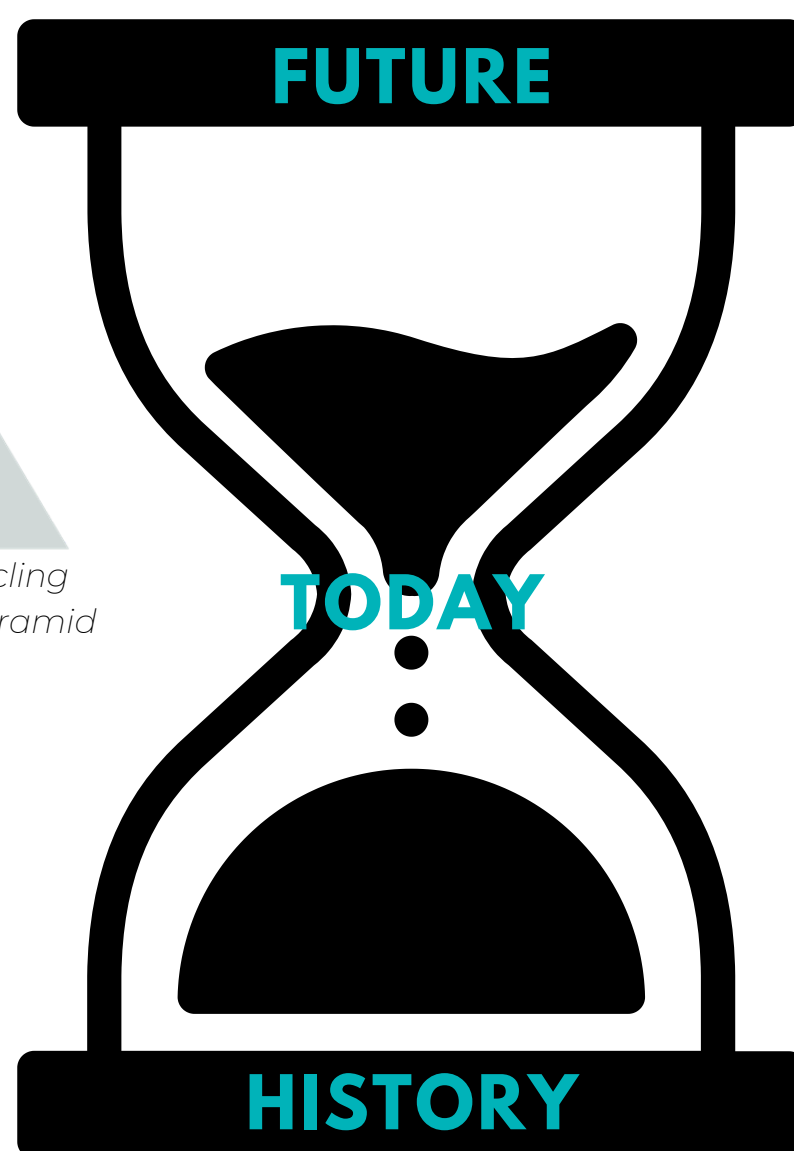


TAKE-OFF: PROSPECTIVE LCA OF FUTURE JET FUEL

"New EU project funded to develop cost-effective sustainable aviation fuel using CO2 emissions and renewable energy". The PhD will contribute to the project by assessing the potential environmental impacts in varying scenarios of different future contexts. The research field "prospective LCA" attempts to estimate the potential of emerging technologies.

CIRCLE BANK: INNOVATING THE FUTURE OF CIRCULAR ECONOMY IN BUILDING MATERIALS

Circle Bank is an innovative joint business venture, funded by Grand Solutions, which aims to develop a commercial platform for recirculation of building materials. The PhD contributes to Circle Bank by developing tools and methods for decision support, eg. quantification of environmental impact, and which materials to prioritize for circular economy in varying future contexts



BYLIVETS SORTE OMSTILLING: HISTORIC CLIMATE BURDEN AND ITS DEVELOPMENT SINCE THE 1800'S

Since the industrial revolution, huge leaps of technological advancements have happened, eg. going electricity production by coal and steam, with as low efficiency as 2%. At the same time, the population size has grown substantially. Along with increasing affluence and consumerism, environmental burdens could have increased significantly - or does the technological advancements outweigh this?. Bylivets Sorte Omstilling aims at quantifying the development in the personal climate burden considering five consumption segments of danish urban citizen. The decades of 1860, 1890, 1920, 1970 and 2010's are analysed in collaboration with different museums.

PROJECTS & RESEARCH

The PhD position is funded by three projects, which all address the temporal dimensions of life cycle assessment (LCA).

Traditional LCA has a static approach, that is often cited as a limitation. Technological and socio-economic contexts can have great influence on environmental impacts of the analysed system. This kind of estimations for the future can be difficult without a crystal ball.

In the context of historical assessment, the form and availability of data is varying. The academic content of the PhD will revolve around consistent and systematic implementation of scenarios to estimate data for LCA in both historical and future contexts.

