**Presentation Title**

Eco−efficiency limits of product technologies towards achieving science-based targets

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**Abstract:**

Science-based-targets (SBTs) have been introduced to guide companies to reduce their Greenhouse Gas emissions in line with the level of decarbonization required to keep average global atmospheric temperature increase well below 2°C compared to pre-industrial levels. SBTs seeks to decouple economic growth and emissions to achieve the greenhouse gas emission target of zero by 2050. This paper first investigates the eco−efficiency improvement required for various product technologies to achieve SBTs, considering market growth. Afterwards, it investigates the eco−efficiency limits of these product technologies and identifies where system innovation is required to achieve the required emission reduction while providing product functionality.

**Biography of presenting author** (should not exceed 100 words)

Ms. Sepideh Moshrefi studied Manufacturing Engineering and Management at the University of New South Wales, Australia and graduated as MS in 2017. She then joined the Sustainability is Manufacturing and Life Cycle Engineering research group (SMLCE) of Prof. Sami Kara at the Mechanical and Manufacturing Engineering school, University of New South Wale to start her PhD journey in 2018. She is now in the final year of her PhD.

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