



Implications of climate change on the manufacturing sector in Slovenia: with particular reference to summer heat

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Europe is warming up due to climate change more than the other parts of the Northern hemisphere and Slovenia is no exception. Therefore, occupational heat stress in temperate regions is expected to aggravate. The climatological analysis of summer heat is thus of great importance, especially in combination with the occupational heat stress, in our example in manufacturing sector. Basic meteorological variables like mean and maximum air temperatures, and number of hot days (Tmax above 30°C), can give us an idea about the conditions. Wet Bulb Globe Temperature index (WBGT) was included in the study to broaden the information, following the recommendation of the Heat-Shield project. A positive trend (1961–2011) of summer temperatures was observed, climate change projections showed largely increase by the end of the 21st century. The increase in WBGT was slightly smaller, but still increasing the number of days with possible heat stress for workers. The second part of the study showed already worrisome working conditions in the Slovenian manufacturing plant during the summer of 2016 that was not even very hot (one short heat wave). According to self-assessment, 96% of 400 workers perceived the temperature conditions as unsuitable, which is indicating a serious problem, especially with the prognosis of escalating heat stress in the future. Among other health and well-being issues, 56% workers experienced a headache and exhaustion. In the frame of Horizon 2020, the Heat-Shield project is already developing heat warning system for European workers and employers, and in its next stage preparing and testing case-specific solutions to mitigate heat stress. Some preliminary results of the project will be represented.