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The role of the EU HEAT-SHIELD project in mitigation of heat waves' impact on labor productivity

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Heat waves have significant impacts on both ecosystems and human beings. Future climate scenarios indicate more frequent and severe heat waves in certain locations. There are a range of impacts associated with heat waves: increased water consumption, disruptions to transport and other services, extra power consumption and power outages, community health, reduced business activity and productivity, fire occurrences, losses to agricultural enterprises through damaged crops and food spoilage, all leading to additional costs within the natural and built environments. We will present the HEAT-SHIELD project funded by the European Commission which started in 2016. It is focusing on labor productivity loss due to climate change, which is projected to reduce European GDP up to 0,5%, which is few times larger than at today's climate. The project is comprehensively addressing the thermal resilience of European workers in the context of global warming and rising workplace temperatures using a multidisciplinary approach. The HEAT-SHIELD project will create a sustainable inter-sectoral framework to promote health and prevent heat- induced illnesses of European workers and improve quality and productivity of strategic European industries. Project objectives are to forecast weather patterns in different European regions for various climate change scenarios to produce detailed information on workers' future conditions, to assess the effects of the above forecasts on the health and productivity of workers of strategic industries across Europe (e.g., manufacturing, construction, transportation, tourism, agriculture). The variations in age and gender distribution in different industries and the heat vulnerability of different population groups will be also assessed. Technical and biophysical solutions to reduce workers' heat stress will be screened and optimized and guidelines to promote health and prevent disease of workers formulated. Project objective is also to develop an online access service to help industry and society anticipate threats to workers' health and to disseminate adaptation guidelines to relevant stakeholders and to assess the efficacy of formulated strategies.