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Using TRACI for Sustainability Metrics

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Abstract

TRACI, the Tool for the Reduction and Assessment of Chemical and other environmental Impacts, has been developed for sustainability metrics, life cycle impact assessment, and product and process design impact assessment for developing increasingly sustainable products, processes, facilities, companies, and communities. TRACI allows the quantification of stressors that have potential effects, including ozone depletion, global warming, acidification, eutrophication, tropospheric ozone (smog) formation, human health criteria-related effects, human health cancer, human health noncancer, ecotoxicity, and fossil fuel depletion effects. An overview of the impact categories will be followed by several examples of how TRACI is used in: the US Green Building Council's LEED Certification, the National Institute of Standards and Technology's BEES (Building for Environment and Economic Sustainability) which is used by US EPA for Environmentally Preferable Purchasing, the US Marine Corps' EKAT (Environmental Knowledge and Assessment Tool) for military and non-military uses, SimaPro (LCA software), GaBi (LCA software), various case studies, including remediation and biofuels, and within college curriculum in engineering and design departments.

Keywords: Life Cycle Assessment (LCA), Life Cycle Impact Assessment (LCIA), Sustainability Metrics, Environmental Standards, Impact Assessment.