

Sustainability and ICT – An overview of the field

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Abstract: Sustainable development requires the decoupling of economic growth from environmental impacts and from the use of natural resources. This article gives an overview of existing approaches to using Information and Communication Technology (ICT) in the service of sustainability: Environmental Informatics, Green ICT, and Sustainable Human-Computer Interaction (HCI). These approaches are then discussed in the context of the Jevons paradox, an economic argument implying that technological efficiency alone will not produce sustainability. This consideration leads to the conclusion that a combination of efficiency and sufficiency strategies is the most effective way to stimulate innovations which will unleash ICT's potential to support sustainability.

Keywords: Sustainable development, Environmental informatics, Green information technology, Sustainable human-computer interaction, Resource decoupling.