

# **Public policies on ICTs for dematerialization: How to plan, monitor and assess the outcomes**

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*Abstract:* Dematerialization consists of replacing “material intensive” physical products and services with virtual equivalents, and information and communication technologies (ICTs) are the main drivers of this. An effective ICT-based dematerialization policy needs an assessment of the net environmental impacts, taking into consideration all kinds of effects, both positive and negative, that have to be analyzed and quantified. Information and communication technology (ICT) services for dematerialization also have a direct impact on the environment, consuming energy, materials and producing e-waste. ICTs can contribute to achieving more sustainable lifestyles, consumption and production. But potential benefits have to be quantified in order to be fostered and planned. Policies can support the application of ICTs across the economy, and dematerialization is pivotal to tackle the challenges of sustainability. After a short overview related to the assessment of ICTs’ effects on the environment, we will focus on dematerialization and on how citizens can play a role, both contributing to achieving the goals and building a bottom-up, continuous assessment of the policy target. The enabling factor of this “empowered citizenship” is a collective situational awareness that can make green behavior easier.

*Keywords:* Dematerialization, Environmental collective situational awareness, ICT for sustainability, Sustainable ICT.