

Circular Economy and 3Rs - Reduce, Reuse, Recycle, for efficient use of resources in the Asia and the Pacific

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Abstract

For the first time in history, over 50 per cent of the world's population resides in urban areas. Continued urbanisation and overall demographic growth is projected to add another 2.5 billion people to the urban population by 2050. As the concept of sustainability becomes more deeply embedded in the fabric of society and the economy, the notion of the circular economy has started gaining momentum worldwide. The current economy can largely be described as linear where virgin materials are taken from nature, used to making products, which are then put in use and eventually disposed of. This model gives rise to chronically high levels of waste and creates dependence between economic development and inputs of new virgin materials. In a world of finite resources, this model cannot work in the long run and there are indications that it is reaching its limits. In the contrast, a circular economy is a global economic and industrial model that is restorative by intent and design aiming to decouple economic growth and development from the consumption of finite resources. This new systemic perspective replaces the concept of waste with the one of restoration. Circular economy is defined as, "restorative and regenerative by design, keeping products, components and materials at their highest utility and value, at all times and ultimately eliminating the concept of waste, with materials ultimately re-entering the economy at end of use as defined, valuable technical or biological nutrients". Studies show that up to 80% savings in materials, energy use and emissions could be achievable in the energy, building, transport and food sectors as well as in heavy industry and manufacturing by implementing the concept of circular economy and resource efficiency. Guided by circular economy principles, technological advances can create ever-greater opportunities for society. Information and industrial technologies are now coming online or being deployed at scale, which allow the creation of circular economy business approaches that were previously not possible. These advances allow more efficient collaboration and knowledge sharing, better tracking of materials, improved forward and reverse logistics set-ups, and increased use of renewable energy. Faster economic growth should be coupled with effective system to promote sustainable consumption and production for proper management of wastes. A fundamental challenge to long-term global wealth creation is the set of negative environmental consequences related to the linear model. Depletion of low-cost reserves, and increasingly, the degradation of natural capital are affecting the productivity of economies. Presently Asia and the Pacific has been the most dynamic region globally where most of the growth in resource use has been triggered by rapid urbanization and industrial transformation whereas the status of most of the European countries is matured enough towards the resource efficiency. This study discusses various aspects of waste management referring to some of the case studies in the Asia and the Pacific supporting the implementation of circular economy and the 3R Concept (Reduce, Reuse, Recycle) in tandem for resource circulation and efficient use of resources. The study will definitely encourage and advocates the resource circulation thus efficient use of resources.

Keywords : Circular Economy, 3R, Resource Circulation, Resource Efficiency