

## THE ROLE OF RECYCLING IN A GREEN ECONOMY

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A green economy balances economic goals with a focus on social equity and maintaining environmental systems. The United Nations Environment Programme (UNEP) has recently helped structure and inform discussions by elaborating a working definition of the green economy. According to UNEP (2011a): «A green economy is one that results in improved human wellbeing and social equity, while significantly reducing environmental risks and ecological scarcities. In its simplest expression, a green economy can be thought of as one which is low carbon, resource efficient and socially inclusive. The development path should maintain, enhance and, where necessary, rebuild natural capital as a critical economic asset and as a source of public benefits, especially for poor people whose livelihoods and security depend on nature». [1]

Key elements of the green economy:

- internalising externalities;
- improving material and energy efficiency and ultimately decoupling material and energy use from economic growth;

- shifting from a linear economy to a circular economy;
- shifting from non-renewable to renewable resources. [1]

Recycling contributes in several ways to each of these four principles.

The recycling sector is growing and developing but it is currently dominated by seven core groups of materials: glass, paper and cardboard, plastic, iron and steel, copper, aluminium and nickel, precious metals, other metals. The turnover of seven core groups of recyclables almost doubled from 2004 to 2008. [1]

Transforming the “waste sector” into a “materials management sector” will create more jobs, reduce greenhouse gas emissions that cause climate change, and lower other types of pollution and related public health consequences. [2] Recycling creates more jobs at higher income levels than landfilling or incinerating waste. Dumping 10,000 tons of waste in a landfill creates six jobs while recycling 10,000 tons of waste creates 36 jobs. [3]

Other than creating new businesses and jobs, recycling benefits the economy and generates revenue through material sales as well. In most cases recycling has lower environmental impacts compared to producing virgin materials. As such, recycling is ranked third in the waste hierarchy: it is less desirable than preventing and reusing waste but preferable to energy recovery and disposal. [1]

There is definitely a market for recyclable materials and the returns on investments in the recycling industry can be quite high. Communities can make money by selling some of their recyclable materials. There are countries that do not have their own natural resources and forests, but import waste material, such as paper, as raw material for their manufacturing industries. For example, countries like China, South Korea and Japan import recycled paper or waste paper, and are able to depend upon the low-cost, economically viable options of recycling to cope with the storage of natural resources in some regions. And as the market for recyclable materials increases, the revenue generated within the industry increases as well. [3]

It is cheaper to make products using recycled materials. For example, using fresh aluminum costs twice as much as using recycled aluminum. This is because a lot more energy (ie. 90% more) is needed to extract aluminum from its raw forms. Subsequently, products that are made from recycled materials can also be purchased at a cheaper price. [3]

As more items are reduced, the amount of waste that needs to go to the landfill or incinerator is also reduced. Through recycling, communities can save on their waste disposal costs, which can be very expensive. In addition, through the sale of the recycled materials, communities can also offset the cost of their waste disposal, thereby further reducing their expenditure. [3]

Recycling ensures that resources remain in the economy via a closed-loop process. It contributes to a shift to a circular economy and away from a linear economy model characterised by resource depletion and waste. [1] Nevertheless, recycling can't meet all the resource demands partly because the growing economy accumulates goods, for example in construction sector. This accumulation acts as long-term storage for materials that will not be available for recycling for many years. In addition, there are technical limits for recycling, which vary depending on the material, and the quality of recycled materials often does not fully match demand. As a result, some materials are considered to be 'downcycled' rather than recycled. [1]

This way numerous opportunities exist for eco-innovation and development of new technologies in the recycling sector, potentially creating markets for new products and services. [1]

Moreover, as a promising eco-industry sub-sector recycling is increasingly important for the economy, contributing to total economic output (GDP). [1]

Recycling benefits the environment by diverting waste away from landfill, thereby avoiding pollutant emissions. It also helps meet the material demands of economic production, preventing the environmental impacts associated with extracting and refining virgin materials. [1]

Economical mechanisms are the unreplacable tools for making changes in the modern system of production and waste disposal. The basic economical approaches are based on the natural patterns of existence of the natural resources. It is well-known that what is ecologically that is economically. Recycling is beneficial from the ecological dimension of sustainable development pattern as well as economical. And without the mechanisms of one of these two driving forces of Sustainable development the situation would not change. Social dimension and the social

mechanisms are of the same importance and the changes in economical and ecological parts will influence it as well.

***References:***

1. «Earnings, jobs and innovation: the role of recycling in a green economy» (European Environment Agency).
2. «More Jobs, Less Pollution: Growing the Recycling Economy in the U.S.» Prepared by: Tellus Institute with Sound Resource Management.
3. «Recycling benefits to the economy» (<http://www.all-recycling-facts.com>).