

DECOUPLING AND GREEN TECHNOLOGIES: CASES IN LATIN AMERICA AND THE BRAZILIAN EXPERIENCE

LUCIANA TOGEIRO DE ALMEIDA*¹; MARIA AMÉLIA ENRÍQUEZ²

1.UNESP; 2.UFPA.

In 2050 the world will have nine billion people, according to the UN, two billion more than 2011. According to the World Business Council of Sustainable Development to, continuing the current rate of consumption, the "business as usual" model, will require 2.3 planets to meet this additional demand (WBCSD, 2010).

Thus, population growth, on the one hand, and the consequent pressure on the resource base in a finite planet, on the other, point out the urgent need to promote actions for changing this route. For the United Nations Environment Programme (UNEP), the proposed green economy is the primary means for facing this challenge, more specifically, the "green technologies" that are presented objectively as an alternative to reduce the intensity and to increase the productivity of natural resources so that more people can enjoy the same base in a sustainable manner. UNEP calls decoupling the process of breaking the link between economic growth and inefficient use of resources and environmental degradation. Thus, green economy, green technologies and decoupling are closely associated as new concepts and tools to support the construction of a new model of economic growth less intensive in the use of materials and generation of externalities and more efficient and productive in order to materialize as dreamed sustainability.

According to a report of the International Resource Panel (IRP, UNEP) –“Decoupling of Natural Resources Use and Environmental Impact from Economic Growth”, the extraction of natural resources (fossil fuels, metals, minerals, biota and biomass) increased from 40 billion tons in 1980 to 60 billion in 2006. This scale has accelerated processes that can lead to the exhaustion of renewable resources and an early depletion of exhaustible resources. Thus, considering the dynamics of population and economic growth, the main message of the report is the urgent need to promote actions that can decouple the economic welfare from the intensive consumption of materials and environmental externalities, that is, decoupling the economic development from environmental degradation.

In order to explore this theme, this article is structured in four sections besides this introduction and closing remarks. Section two presents a brief description of the context in which the idea of green economy was introduced and highlights the strategic importance of decoupling and green technologies. Section three outlines some case studies of Latin American countries where it was possible to increase efficiency in the use of natural resources without compromising the welfare and even raising the level of economic growth, which may be associated with green technologies. The fourth section deals with the Brazilian experience, noting that because the country is a signatory to the Framework Convention on Climate Change and having a National Plan on Climate Change, it has stimulated a series of "initiatives for green innovations". Section five summarizes the main instruments and policies for boosting the adoption of green technologies, from the Latin American experiences reported in the previous sections.

Scientific works on decoupling from the perspective of green economy are still limited. The report "Eficiencia en el uso de los recursos en América Latina: Perspectivas e implicaciones económicas: Estudios de caso Mercosur, Chile y México" (UNEP, 2011)

presents some ongoing initiatives in Latin America. The cases illustrate some experiments on the use of water, energy and agribusiness.

In Brazil, there is little available literature focusing on decoupling and green technologies, from the perspective of the green economy as proposed by UNEP. There are some studies on low-carbon economy addressing the climate change issue (McKinsey & Company, 2010; World Bank Report, 2010; IPEA, 2011). Brazil is a Party to the Kyoto Protocol to the United Nations Convention Framework on Climate Change (UNFCCC), having put in place a National Plan on Climate Change since 2008. So, at the institutional level, controlling emissions of greenhouse gases (GHG) emerges today as one of the key drivers, at least indirectly, for the adoption of green technologies in Brazil.

In addition to eco-efficiency strategies and adoption of green technologies for decoupling and responsible use of natural resources, actions aiming at managing environmental quality are required. It involves capacity building for an effective regulatory framework providing efficient mechanisms and tools to better regulate the use of natural resources. This means that the mere incorporation of technology, though necessary, is not enough to face this challenge.

However, beyond the change of the legal and institutional order, for a real change of attitude towards the more sustainable practices it is crucial a cultural change, which requires a widespread program of education at all levels, including environmental education.