

Nanotechnology, an exceptional opportunity for the sustainable economic development

Vullnet Haka

Albanian Manufacturers Union

vullnet.haka@everestie.com

Waste accumulation in the environment has unfortunately become an accompanying problem for Albania since the early 1990's. As in other European countries, the reduction of waste accumulation has been based so far on the limited implementation of the principles of integrated waste management. But time is telling that the reduction of waste accumulation requires above all the development of effective strategies to shift the paradigm of used materials from wastes to resources, where waste could become a valuable input to another processes, where products could be repaired, reused or upgraded instead of thrown them away.

Waste management according to the European Circular Economy Package of four amended directives, is seen so far as the most credible process, able to guarantee sustainable economic development if implemented in the largest part of the world, especially where the productive and economic activity is more dynamic. In this frame, producers in Albania and all around the world see scientific research in the field of nanotechnology and the new findings and the concrete applications in the economy related to nanotechnology, as an opportunity that will help addressing the many challenges that humanity is facing to achieve sustainable economic development. Nanotechnology is therefore one of the biggest expectation that we, the entrepreneurs, have towards scientists, the academic world and other relevant factors.

As far as "Circular Economy" is concerned, we think that nanotechnology will strongly influence the extraction of raw and auxiliary materials. The new innovative applications of nanotechnology will enable us to have a high efficiency in the use of these materials as well as energy, air or water that are needed in this process. Consequently, the impact on the environment will be much greater decreases, especially CO2 emissions.

We are hopeful that nanotechnology will help to re-dimension the process of mechanical and chemical recycling of waste, and especially plastic waste, in both size and efficiency. The method of chemical recycling of plastic waste that comes from human activity (post user), although still in experimental stage, promises radical changes to the challenges we face today including "marine liter". We are interested on the use of nano-additives to improve the properties of recycled plastics, on the fundamental aspects of colloid stabilization. Furthermore, the contribution of nanotechnology to the fabrication of effective catalysts for the depolymerization of plastics into the constituent monomers is very interesting.

Finally, we are open to cooperate, support the requests of the community of academic researchers who will work to make, adapt their scientific discoveries in instruments applicable in industrial technologies.