

ECO-INNOVATION IN ENTERPRISES PRODUCING ELECTRIC AND ELECTRONIC EQUIPMENT

1. Introduction

The term 'innovation' comes from Latin 'innovare' which means "creating something new" and prefix 'eco' indicates that it must be something new but in accordance with principles of the rational management for benefits to natural environment protection. Innovative enterprises are important elements of economy since few decades. Main reason for the popularity of innovation and eco-innovation of manufacturing companies as well as production and its goods is current condition of natural environment and gradually worsening process of its degradation. It is caused by pollution emitted by manufacturing companies and mining activities of raw materials which, in most cases, are essential structural elements in constructing of electric and electronic equipment.

Implementation of innovative solutions enables to reduce significantly costs of production, increase the quality of offered products, reduce consumption of non-renewable resources, energy and, what is most important, reduce toxic harmfulness of production in favour of eco-friendly production.

Presentation of positive influence of research and development as creative work, whose aim is to collect data systematically and taking actions in order to develop knowledge, as well as implementing this knowledge in practice and, above all, shaping innovative activity [2, p.37]. Innovative idea, knowledge has a major impact on increasing level of eco-innovation in electronics production due to its contribution to the improvement of the natural environment but also public perception of products and actions described as 'eco'.

Nowadays, it is expected from enterprises to do their business in a way, which takes into consideration not only sale of produced goods and generation of profit but also joining production and profits with protection of the environment from further degradation.

2. The essence and importance of eco-innovation

Innovation is understood as entrepreneurs' ability and motivation to obtain continually and use research and development work, new concepts, ideas and inventions in practice. Additionally, innovation means development and advancement of existing manufacturing and operating technologies, improvement of the service sector, implementation of new solutions in organisation and management, improvement and development of infrastructure, functioning of education, health and general organisations. It is, first of all, the process which raises competitiveness of the region by generation of innovation and implementation of its effects [1, p.186]. Innovation which is understood as ability to implement changes in the economy leading to positive technical-economic or social effects and bringing beneficial economic effects, is a necessary precondition for development [3, p.1]. Rapid technological progress, development of production, international competition and the pursuit of better quality and modernity obviously require introduction of eco-innovation to business and production. With no doubt, they are stimulus for economic development [6, p.26] and guarantee many benefits for economy, including economic growth, positive perception of the company, reducing impact on environment.

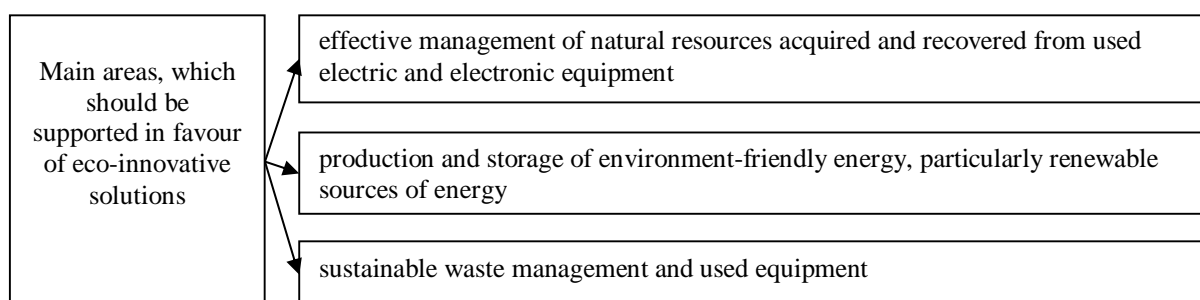
Referring to presented ways of understanding of innovation, a conclusion can be drawn, that every policy of innovation which is pursued actively, as well as eco-innovation in production of electric and electronic equipment, should take into account [4, p.101-102]:

- improvement of education level (encouraging scholars, engineers and other participants of innovative process to create innovation in actions for its further development),
- stimulating economy to maximisation of participation of development works connected with manufacturing of new products.

It is important to produce from recycled raw materials by the use of modern technologies, particularly those, which are low-waste technologies and the most preferable – waste-free technologies.

3. Supporting of eco-innovation in favour of competitiveness

Strong support of actions in raising awareness of entrepreneurs of the benefits resulting from implementing of eco-innovation for the company, as well as natural environment protection, are undoubted priorities. It is important to encourage entrepreneurs to set-up business which subject will be innovative-pro-ecological actions. Simplified access to public grants and help in fundraising from European Union can be significant elements in supporting of eco-innovation.



Scheme 1. Areas of support for eco-innovative actions for used electric and electronic equipment
Source: own elaboration based on [5, p. 12].

With regard to Scheme , it should be emphasized how important role plays application of full-value, non-renewable resources in production of electric and electronic equipment, which works properly regardless of the types of used components. Savings, in construction and operations of modern, hazardous waste landfills, where unmanaged, reasonable unused wasted electrical and electronic equipment can go, also will be marked.

4. Summary

Eco-innovation is a significant sector of today's economy in terms of manufacturing of electric and electronic equipment. But through implementation of ecological innovations at the stage of designing and then during production of electronic devices, it is possible to bring many benefits mainly connected with reducing costs of enterprise's operations as a result of using recycled materials. By doing so, an enterprise is more competitive on the market.

Giving a customer the possibility to choose when buying electrical and electronic devices, which were manufactured from recycled elements, will make more environmentally-minded customer. Such actions and promoting such consumer behaviour can stop progressive degradation of the environment.

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