

# **THE HUNGARIAN ECO-INNOVATIONAL PERFORMANCE IN EUROPE**

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## **ABSTRACT**

After the end of the late '90s, when the innovational processes was tending to be a more and more important part of the economy, the new millennium brought a real boom in this section. These innovational processes became one of the main drivers of the economy, especially in the corporate sector. In these decades, a new challenge appeared and widened on the market: the implementation of the sustainable, environmental a social friendly management.

A few years after the financial crisis, some experts claim, that the innovative ecological developments could be one of the best chances to increase the performance of the enterprises – in the SME sector also – and of the national and international markets too.

In this situation, when the EU plans to support eco-innovation as one of the main topics of the new financial period, it is excessively interesting, how Hungary can turn these opportunities for benefits – based on a very unique-structured, but not so independent local market.

## **1. Introduction**

In our days the innovation is one of the most important parts of the economy, it is redounding the development, motivating the decision-makers to the way of the continuous improvement. However, innovation is not a new concept, Baumol already claimed innovation, as the device to cease the inequailty on the markets [Baumol, W.J. [1968]: Entrepreneurship in economic theory. American Economic Review, pp: 64-71.]. In these days, the innovation based mainly on technological, productional and commercial processes [Goulding és Kennedy, 1968].

In the 1970-80 years a new challenge appeared. After Rachel Carson published her book Silent Spring, the environmental and social awareness got much more attention. The Bruntland Reports were the first international documents which summarized the biggest problems of the humanity according to the nature and ecology.

Thanks to these new theories, the innovation had a new focus: the social and environmental development. Even so, the sustainable development could spread around the global market only in the past decades [Berényi, 2007].

Nowadays, the eco-innovation has several trends: corporational sustainability, CSR processes, environmental standardization. These tasks got an unavoidable task for the corporational organizations.

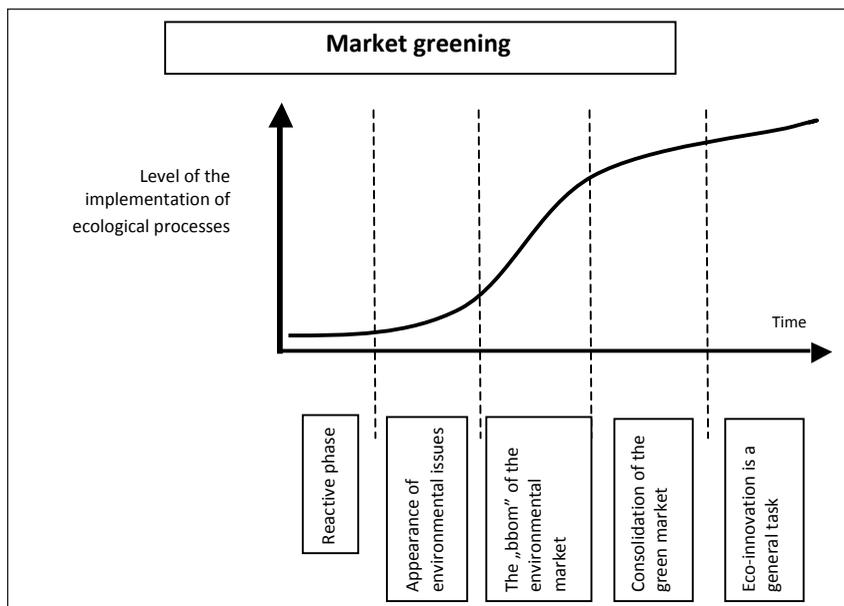
## 2. Eco-innovation in the practice

The first implemented eco-innovational steps were the establishments of the environmental management into the corporate structure and culture. Mainly the international companies made these steps to fit the expectations of the society – they published their environmental performance, and used these processes for PR issues [Kovács, 2000]. Unfortunately, the multinational and large companies remained the most eco-innovational enterprises since then [Tóth, 2003].

Since the early years of the eco-innovation, there is huge difference in the performance level of the developed and developing countries. In the countries with great prosperity and welfare, the eco-innovation could easily spread: that is why the West-European countries are leading the performance levels.

The spread of the ecologic-based processes, the so-called market greening progress has a specific characteristic, illustrated by the Figure 1.

**Figure 1.: The phases of the market greening**



*Source: Andersen, 2010*

The first phase is the reactive period, when company’s only goal is to avoid the environmental fines, and fit the limits implemented by the government

or the ecological norms. After that, the second phase is the appearance of the environmental politics and strategy – Andersen [2010] dated this period between 1980-2000.

The third section is the boom of the green market, when the ecological and eco-innovational processes can step forward to an independent part of the market. Andersen positioned Europe as a member of these phase, directing to the next one, which the consolidation of the market is greening.

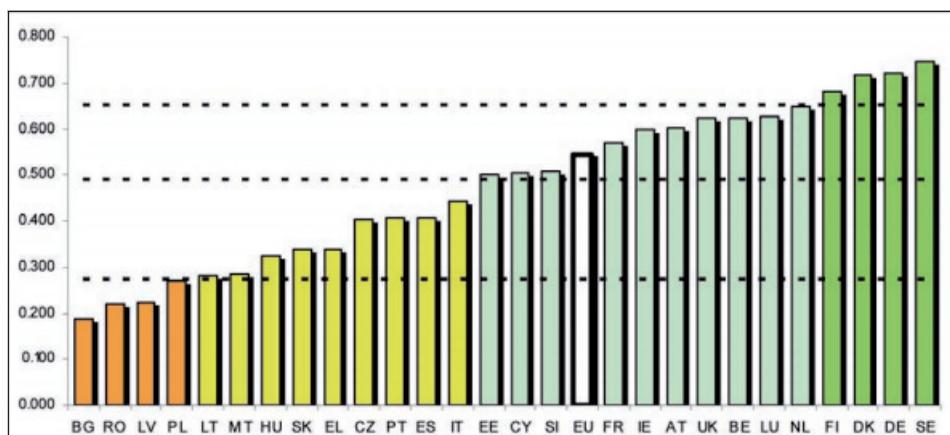
However, only the most developed regions in Europe can reach this elite membership. In Middle-East Europe these levels of environmental awareness seems far away, despite these local markets need to catch up to Western-Europe and eco-innovation is a significant possibility for it. Meanwhile 27% of the German companies could improve their environmental performance without direct eco-innovation [EIO, 2010], 50-55% of European enterprises use innovational processes – but only every third apply eco-innovation.

According to the research of the Eco-innovational Observatory, eco-innovation can be an important and notable part of the national product: that means, in Bulgaria and Slovenia it was 9-11%, this time in Hungary this number was only 2,5%.

### 3. Eco-innovation in Hungary

As an official partner of the European Union, the Eco-innovational Observatory publishes a workbook according to the member country's eco-innovational performance. This result shows that the Hungarian performance level is decreasing.

**Figure 2.: Innovational performance in the EU**



*Source: EU Commission [2010]*

As Figure 2. shows, Hungary stands in the last third of the members – below the EU-27 average. Another problem is, that four of the regional nations stands before

us. Not just the performance level stays low, but the development of the innovation performance was only 1,5% between 2008 and 2011 [EU Commission, 2011].

Just one of the seven Hungarian NUTS II. regions could improve the innovational performance from 2007 to 2011, Western-Transdanubia, however this cannot be surprising, when the GDP-based rate of the corporation R&D expenditure stays under 1,2% in these four years [KSH, 2013]. This performance is mainly produced by the large enterprises: only 40% of the innovator enterprises came from the SME sector [KSH, 2013]. Nevertheless, the large companies can neither show much improvement: under 1% of the corporate ecological-connected expenditures supported R&D processes [KSH, 2011].

The Middle-East European local or national markets are tightly connected with the developed countries, based and supported by the investments from them. The keen competition between the regional countries just got higher after the financial crisis: it shows some threats and possibilities at the same time. From this point of view it is really interesting, what the Table 1. shows about the Hungarian and regional country's eco-innovational performance [EIO, 2013].

**Table 1.: Eco-Innovational Scoreboard results in the regional countries**

	Score			Yearly change (%)	
	2010	2011	2012	2011	2012
Austria	130,97	125,29	111,6	-4,53%	-12,27%
Czech Rep.	73,2	91,46	90,46	19,97%	-1,11%
Hungary	69,64	82,57	73,3	15,66%	-12,65%
Poland	53,58	50,39	54,39	-6,33%	7,35%
Romania	51,68	67	78,15	22,87%	14,27%
Slovakia	48,15	51,93	54,43	7,28%	4,59%
Slovenia	74,51	108,97	114,56	31,62%	4,88%

*Source:* Own, based on EIO [2013]

The Nr.315. Eurobarometer research investigated the eco-innovational attitude and motivation of the European enterprises. According to the results, 35% of the attenders claimed that less than 10% of their development based on environmental goals. Only 6% of them declared that more than 50% of the improvements based on eco-innovation [Eurobarometer, 2011]. One third of the Hungarian managers said that they never started any projects connected with eco-innovation.

The research also shows the weakest points and the obstacles. In Hungary, the low financial possibilities and financial support, the uncertain market demand and return are the four main problems, as the responders said [Eurobarometer, 2011]. They mentioned the skilled and experienced manpower as one of the strengths.

The main motivations for the Hungarian managers are the tender possibilities in Hungary and in the EU, the implementation of the external knowledge and the possibility of new business connections. Counter to the attenders from other countries, they found the cooperation with R&D organizations, universities less important [Eurobarometer, 2011].

#### 4. The future of the eco-innovational possibilities in Hungary

The Hungarian eco-innovational willingness stayed on a decreasing path in the past few years. On one hand, this course is based on the negative effects of the financial crisis, on the other the governmental R&D&I support decisions can pull back the development. The Hungarian eco-innovation expenditures are on the level where they stood before 2008, meanwhile in Western Europe these inputs are increasing [Borbás, 2012].

The eco-innovational researches are mainly implemented by the large or multinational companies, the SME sector is significantly underfunded, and has no real opportunity to large-scale developments. However, the social-based eco-innovation intensified in the past years: the carpooling, the bicycle “revolution” are just two of this effects.

The market has great expectations to the following years, because of the new financial period in the EU, and the new National Environmental Technology Innovation Strategy, which two can grant new financial sources for the enterprises.

The following SWOT matrix summarizes the experiences of the research to draw up the possibilities of the Hungarian eco-innovation.

**Table 2.: SWOT matrix of the Hungarian eco-innovation**

Strengths	Possibilities
<ul style="list-style-type: none"> <li>• experienced manpower</li> <li>• cheap manpower, low payment levels</li> <li>• cooperation possibilities with R&amp;D centers, universities</li> <li>• spread of the environmental management</li> </ul>	<ul style="list-style-type: none"> <li>• new national strategy</li> <li>• financial support in the new financial period (EU)</li> <li>• low market competition in the sector</li> <li>• improving economy</li> <li>• new business partners in the sector</li> <li>• foreign investments</li> <li>• improving social awareness</li> </ul>
Weaknesses	Threats
<ul style="list-style-type: none"> <li>• low financial possibilities</li> <li>• low market needs</li> <li>• low trust from the investors</li> <li>• enterprises are trying to avoid risk</li> <li>• short-term plans</li> </ul>	<ul style="list-style-type: none"> <li>• decreasing financial support</li> <li>• spread of the re-active processes</li> <li>• unavailable financial sources</li> <li>• difficult bureaucracy</li> <li>• changing laws</li> </ul>

*Source: own edition*

## Conclusion

Based on the results of the research, the main key for the Hungarian eco-innovation is the financial support today. The Eurobarometer claimed, that the enterprises in Hungary cannot make such great investments on their own, like a new eco-innovational project.

After the National Environmental Technology Strategy starts, and the EU 2020 Strategy places the eco-innovation as a main task for the future, the financial possibilities seems much more wider.

The most powerful strength in Hungary is the well-educated and experienced manpower. Unfortunately, the government is lowering the support to the higher education, but, as a result, they need to be more active in the R&D sector, to find their own financial sources. A more direct connection between the science and private sector could also useful.

Hungary has to strengthen his regional position, to convince the foreign investors to choose this country. The cheap and good manpower is a great pro, but on the other hand, the usually complicated bureaucracy is an important weakness. The social awareness is just spreading around in Hungary. If this can reach higher levels, it can be a great motivation for the market aswell.

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