

# IS IT WORTH GOING GREEN IN CROATIA? EMPIRICAL EVIDENCE FROM SMEs

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# IS IT WORTH GOING GREEN IN CROATIA? EMPIRICAL EVIDENCE FROM SMEs

## ABSTRACT

Technological progress and innovations in production are the basis for increasing productivity and reducing operating costs. On the other hand, rapid development accompanied by neglected environmental issues has resulted in adverse effects on the environment, and thus on the entire society. The consequences on the environment occur in the form of natural disasters, climate change and global warming. In order to reduce the adverse effects on the environment, states have introduced legal provisions, such as pollution charges. Such charges represent the costs incurred by the company that consequently burden its financial result. On the other hand, those charges can be lower for companies that apply more efficient production methods. The question is whether it is worth for a company to be “green” and hence pay a lower charge, or not to take into account “green business” and pay a higher charge for using inefficient production methods. This paper will explore whether it is worth being green, i.e. whether improving production efficiency results in a reduction of production costs. The emphasis is thereby placed on small and medium-sized enterprises as generators of economic growth and green jobs. In order to give an adequate review of green business and green market in Croatia, authors will analyse the Eurobarometer survey Flash Eurobarometer 426, focusing on Croatian data (n=502). It is evident that “green business” is one of the main business areas in the context of sustainable and socially responsible business.

**Keywords:** Green business, green markets, resource efficiency, costs, Eurobarometer survey

## 1. Introduction

Green economy is considered a new environmentally friendly engine for economic development in the 21st century. It generates environmental benefits, such as the reduction of harmful emissions and thereby global warming, or conservation of natural

resources while using renewable energy sources. Cosbey (2011: 41) asserts that in addition to environmental, green economy also has economic benefits (new export markets, new employment, new products, new technologies, innovations, etc.). On the other hand, green production is more expensive than non-green production. The reason for this is

the introduction of new technologies and resources that must be based on environmental standards. Stefan and Paul (2008: 49) note that in this case, the extra cost can likely be transferred to consumers who are willing to pay more for more environmentally friendly products or services. As more people are willing to spend their money for environmentally friendly products or services, green marketing is becoming more popular. According to Kilbourne (1998: 642), green marketing is associated with the greening of traditional marketing and it involves the production of "green" products for sale to "green" consumers who are admonished to recycle the waste from their consumption. On the other hand, non-green producers have higher costs in terms of payment of charges such as taxation, pollution permits, or regulations prescribed by the government. Which type of production a company will choose ultimately depends on what is more profitable for each company.

Large companies have recognized the importance of green economy as a driver of new business opportunities and economic development, while most SMEs are still in the process of transition to it. Lin and Ho (2010: 694) note that large companies tend to adopt green practices more easily than small ones because they have sufficient resources and strong infrastructures. The main advantage of SMEs when compared to large companies is their flexibility, which helps them in the adoption of green innovation, and thereby in the reduction of product charges. According to Chen et al. (2006) investment in the green innovations innovation is helpful to businesses. Green business is an organization that is committed to the principles of environmental sustainability in its operations, strives to use renewable resources, and tries to minimize the negative environmental impact of its activities (Čekanavičius et al., 2014: 76). Kabiraj et al. (2010) note that the basic concept of a green business lies in business sustainability.

Sustainable development implies that renewable resources should be used wherever possible and that non-renewable resources should be husbanded (e.g., reduced and recycled) to extend their viability for generations to come (Hall et al., 2010: 440). Yozgat and Karatas (2011) state that companies that are going green are considered to be socially

responsible companies. This also refers to sustainable development. Green business, which is considered socially responsible, is still in its development phase in Croatia. Pekanov Starčević et al. (2016) investigated the relationship between the level of corporate social responsibility and financial performance of Croatian listed companies and found that it is a positive one. It can be concluded that there is an incentive to behave green, or to act in a socially responsible manner.

According to the European Parliament (2015)<sup>1</sup>, SMEs should adopt the concept of green business just like large companies in particular to increase their market competitiveness. Weng and Lin (2011: 9159) concluded that SMEs will be apt to adopt a green innovation when they perceive that the green innovation is simple and easy to learn and use, compatible with their existing business operations, and helpful for improving environmental and economic performance.

SMEs in Croatia are the main drivers of economic development (Bistričić et al., 2011). According to Alpeza et al. (2015: 14)<sup>2</sup>, in the overall enterprise structure, SMEs represent 99.7%, while large companies account for only 0.3%.<sup>3</sup> Adopting green business and its impact on SMEs in Croatia is insufficiently researched, particularly its impact on operating costs and resource efficiency. Starting from such a premise, the study of "green" businesses for Croatian companies is focused on different levels of resource efficiency actions, primarily taking into account production costs and turnover. Based on the Flash Eurobarometer 426 data, authors will investigate whether SMEs in Croatia have a tendency to behave "green". The selected data is a part of the original primary data, which has been made available as open access (GESIS<sup>4</sup>), and which is gathered in the field by applying the highest methodological standards. This data enables each researcher to test their own hypotheses that create his or her scientific and methodological contribution in analysing and interpreting the data.

The paper is structured as follows: after the introduction, literature review describing the terminology and concept of green business and green economy is given in Section 2. It also discusses the impact of green business on the production costs of the company with a particular emphasis on SMEs

in Croatia. After the description of the methodological steps using primary Eurobarometer data, the paper brings research results and conclusions of the research hypotheses.

## 2. Literature review

The modern world is faced with the problem of degradation and destruction of the ecosystem. Jacobs (2012: 11) notes that resources such as energy and materials are used inefficiently, with an excessive generation of waste (and therefore pollution). Such carelessness for the environment is characteristic of the brown economy in which economic growth is based only on resources, such as fossil fuels and petrochemicals. As opposite to brown economy, resource constraints and increasing climate changes have led to the development of the green economy. Cai et al. (2011: 5994) present that green economy conceptually refers to improved human well-being, reduced inequalities, and protecting future generations from significant environmental risks and ecological scarcities. Borel-Saladin and Turok (2013: 219) note that green economy is offering solutions from psychology (to adjust behaviours to more efficient energy use) to technological innovation (to produce energy from renewable sources). According to Aghion et al. (2009: 3), the benefit from supporting cleaner technologies will bring about greener (and therefore more sustainable) growth. The importance of green growth reflects to the entire production system, which also achieves significant environmental protection and resource-saving processes and products (Jänicke, 2011; Machiba, 2011; Zsyman et al., 2012). At the same time, the European Commission (2010)<sup>5</sup> identified the plan for achieving sustainable growth through promoting a more resource efficient, greener and more competitive economy. Herrmann (2004) asserts that a potential solution for achieving sustainable development is corporate social responsibility. On the other hand, corporate social responsibility (CSR) can contribute to sustainable development through the corporate interest in ecological issues (Hussain and Hussain, 2015; Moon, 2007). Companies endeavor to minimize ecological issues by switching to a green business. Green business as an environmentally responsible and sustainable business is an inseparable part of CSR (Karagülle, 2012; Čekanavičius, 2010; Babiak, Trendafilova, 2011). This means that companies that implement green business are triggered from financial, but also social benefits. In order to

eliminate the problems of environmental pollution activities such as green management, green marketing, green production and green innovation, etc. are now being pursued (Chen, 2008: 531). Each of these areas is equally important and is being developed by a greening process. Greening process is a broad term that refers to the transformation of awareness into an environmentally friendly way of thinking. It does not solely include producing green products and services. Going green is of particular importance for companies because their business depends on the efficient use of resources and technology. Kabiraj et al. (2010) point out that the competitive markets and rise in energy prices contributed to the adoption of ecological thinking and acceptance of greener products. According to Knoskova (2014: 375), green products are having less negative impact on the environment during production, use and disposal compared to other products (with the same functionality, addressing the same need, etc.). For many green products, one such compensatory advantage is lower operating costs due to reductions in energy consumption (Olson, 2013: 8). Despite their advantages and the increasing development, green products are sometimes considered radical. Dangelico and Pujari (2010: 477)<sup>6</sup> point out that green product innovations are characterized as radical if it is new to the market or is based on a radically new technology, and/or has been patented by the firm. Apart from green products, companies can also produce green services. According to Djeljal and Gallouj (2016), because of their immateriality, services can be less harmful to the environment (greener) than material goods. Development of green products and services is strongly connected with green marketing. According to Nadaf and Nadaf (2014: 92), "green marketing is the process of developing products and services and promoting them to satisfy the customers who prefer products of good quality, performance and convenience at affordable cost, which at the same time do not have a detrimental impact on the environment". Polonsky (2008) notes that green marketing incorporates a broad range of activities such as product modifications, changes to the production process, packaging changes and modifying advertising. Green marketing is a vital component in achieving competitive advantages of green companies. (Cherian, Jacob, 2012; Prakash, 2002; Yazdanifard, Mercy, 2011). Green product innovations and generally green business create equal business opportunities for large companies and SMEs. Hoogendoorn et al.

(2015) observe that the majority of SMEs (91%) are involved in greening processes to some extent, 9% of all SMEs are not engaged in greening their processes, whereas 29% of SMEs offer green products and services.

The green eco-efficiency perspective argues that pollution is a form of economic inefficiency, whereby pollution reduction is beneficial to productivity (Karagülle, 2012: 459). This implies that green companies are more productive than non-green ones. Farinelli et al. (2011: 44) note that green enterprises are increasingly successful in proving to shareholders and stakeholders that sustainability is an opportunity to increase revenues and customer loyalty while protecting the environment. Furthermore, green enterprises create green jobs. Martinez-Fernandez et al. (2010: 18) asserted that green jobs are a result of increased climate change regulation and the need to develop energy-efficient products to replace traditional high-carbon goods and services. According to Colijn (2014), only 3.25% of total jobs in European economies are green jobs. Scully-Russ (2012) determines that it is hard to count green jobs because they use new green technologies and practices that are too new and unrecognized in past labour market studies, while Bowen (2012) notes that it is difficult to identify which jobs are green ones, even in countries with relatively good labour market data.

Environmental issues influence both costs and income of a company and consequently their business results (Schaltegger, Synnestvedt, 2002; Molina-Azorin et al., 2009). In order to achieve better results, companies are using environmental and sustainability measures. According to Brand (2012: 29) some of those measures are: low-carbon economy, resource efficiency, green investments, technological innovation and more recycling, green jobs, poverty eradication, and social inclusion. According to Chen et al. (2006), when using green innovation, businesses can affect the environmental costs, as well as increase resource productivity. In order to motivate companies, particularly SMEs, to become more effective in reducing their production costs and increase their resource efficiency, governments can use many types of economic instruments. For example, environmental taxation (or ecotax) has become an important tool to encourage energy savings (Deichmann, Zhang, 2013). Mieszajkina (2016: 167) has proved that 51% of businesses believe that tax credits, grants and loans are the best measures

to encourage investments in energy efficiency. Delmas and Pekovic (2015) concluded that cost strategy oriented firms will be more likely to adopt resource efficiency as compared to those that are not cost leadership oriented in terms of downturn market activities. Kuceba and Jędrzejczyk (2015) note that reduced cost of basic activity is the main motive for using pro-ecological activities for 71% of EU enterprises. Selection and use of certain instruments and strategies depends on the environmental condition of a country, its level of environmental awareness, its ecological development and ultimately on the profitability of the company.

After reviewing previous studies, the authors have formed the following hypotheses:

H1: Companies taking more resource efficiency actions have lower production cost

H2: Companies taking resource efficiency actions offer more green products and services

H3: Companies offering more green products and services have a higher turnover.

### 3. Methodology

The Eurobarometer is a measurement instrument that regularly collects data from European residents across EU members and applicants. Moreover, the Eurobarometer survey results are publicly available through official reports that are published on a regular basis by the European Commission, and the usage of the collected data for further analysis has relevant impact on scientific research. Thus the GESIS data archive department has available primary data on microdata level and the related documentation placed at the disposal of the scientific community for research and training since the 1970s<sup>7</sup>.

Bearing in mind the research hypotheses of this paper and data available through the GESIS data archive department, the authors have chosen a national research based on the business-to-business methodology. Consequently, authors have chosen Flash Eurobarometer 426 (FL426)<sup>8</sup> titled *SMEs, Resource Efficiency and Green Markets*<sup>9</sup> that has been conducted in the 28 Member States of the European Union and in Albania, Iceland, FYROM, Moldova, Montenegro, Norway, Serbia, Turkey and USA, with 13,167 respondents. The study provides an overview of current levels of resource efficiency actions and the state of the green market among SMEs. The research was carried out between the

1st and 18th of September 2015 through telephone interviews (landline and mobile phone), which were conducted in the appropriate national language of the respondent. When the researcher contacted the company, a special request for a conversation with the person who makes business decisions was made. The survey based on FL426<sup>10</sup> included businesses that employ one or more people and that are active

in one of the following sectors (according to NACE codes): B, C, D, E, F, G, H, I, J, K, L, and M<sup>11</sup>. The sample for each country was selected from an international business database where sample quotas were applied on both company size and sectors. For the purpose of this study, only Croatian companies were analysed (n=502). Table 1 gives an overview of the main characteristics of the analysed companies.

**Table 1 Sample description**

Sector of activity (NACE)	n	%	Number of employees	n	%
Manufacturing (NACE category C)	102	20.3	1 to 9 employees	196	40.2
Retail (NACE category G)	202	40.2	10 to 49 employees	169	34.7
Services (NACE categories H/I/J/K/L/M)	147	29.3	50 to 249 employees	89	18.3
Industry (NACE categories B/D/E/F)	51	10.2	250 employees or more	33	6.8
Total	502	100.0	Total	487	100.0

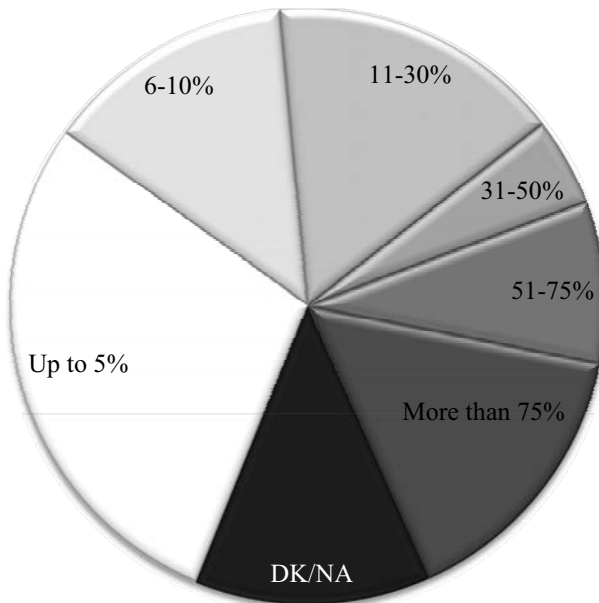
What was your turnover last year?	n	%	Does your company offer green products or services?	n	%
EUR 100,000 or less	43	8.6	Yes	125	24.9
More than EUR 100,000 to EUR 500,000	120	23.9	No, but you are planning to do so in the next 2 years	59	11.8
More than EUR 500,000 to EUR 2 million	111	22.1	No, and you are not planning to do so	270	53.8
More than EUR 2 million to EUR 10 million	69	13.7	Total	454	100.0
More than EUR 10 million to EUR 50 million	23	4.6			
More than EUR 50 million	10	2.0			
Total	376	100.0			

Source: Authors' calculation

Analysing companies by the number of employees, it is evident that the focus of this research is put on micro, small and medium enterprises (93.2%), of which 40.2% of the analysed companies belong to the retail sector, and 29.3% are part of the service sector. Analysed companies in the previous year have usually earned between EUR 100,000 and EUR 500,000 (23.9%) and between EUR 500,000 and EUR 2 million (22.1%). Given the focus of this paper, it is important to point out that 24.9% of companies

offer *green products and services* in their tender. However, troubling data, that over half of the companies (53.8%) have no intention to offer this type of product and service in the future, has been revealed. If the responses from only those companies that offer green products or services (n=125) are analysed, it can be observed that their percentage in annual turnover of the previous fiscal year is significant, with room for further improvement.

**Graph 1** Percentage of green products or services represented in annual turnover of the previous fiscal year (n=125)



Source: Authors' calculation

The Flash Eurobarometer 426 questionnaire is designed with the intention to compare companies across Europe regarding their views on current green business. Although the questionnaire is divided into six units in the sequel the following three units are analysed in this paper:

- Current and planned resource efficiency actions, and the reasons for taking them (Q1 – Q4)
- Barriers when implementing resource efficiency actions (Q5, Q6)
- The current state of the green market (Q14 – Q22).

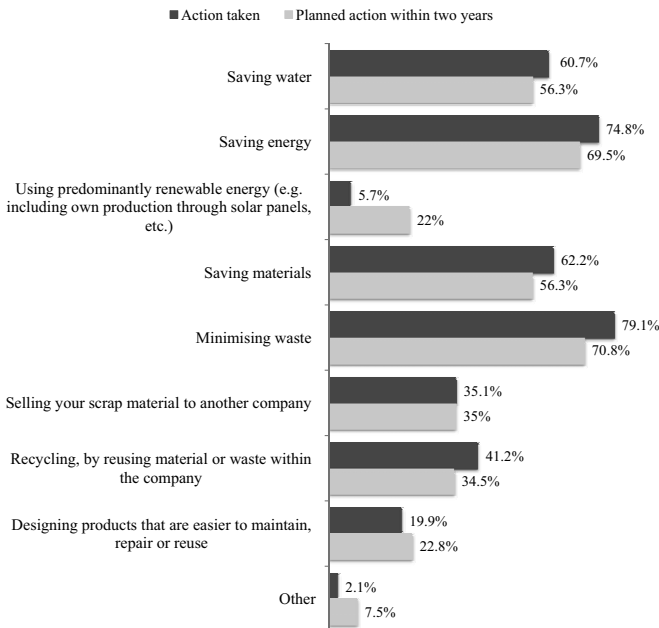
In order to test the research hypotheses, two statistical methods were applied, using statistical software IBM SPSS 23.0. One of the applied methods was one-way ANOVA. The ANOVA was deployed to test the differences in the intensity of taking resource efficiency actions (three groups) and reduction of companies' production costs. The chi-square test was used to test the relationship between the companies that are taking resource efficiency ac-

tions and companies that are offering green product and services. Finally, chi-square was used to test the last hypothesis of the paper (H3).

#### 4. Results

Before the research hypotheses have been tested, it was necessary to identify a sample of "green" companies, or to determine which companies have their activities oriented towards more frequent use of resource efficiency actions. Variables Q1, in which the respondents chose which actions their company is undertaking to be more resource efficient, and Q2, over the next two years, what are the additional resource efficiency actions that their company is planning to implement; will be used to describe a "green" business. These variables are used to access the frequency of selection of certain activities in Croatian companies, as well as a comparative overview of the behaviour and planning which have been compared to actual behaviour (action taken) and planned behaviour (planned action within two years) of the companies. For both variables, subjects were given the multiple choice option and Graph 2 shows the percentage of cases.

## Graph 2 Resource efficiency actions in companies



Source: Authors' calculation

When it comes to resource efficiency actions, companies largely use *minimising waste* (79.1%) and *energy saving* (74.8%), while the activity *using predominantly renewable energy* (5.7%) has been chosen the least. If the percentages of enterprise responses with undertaken and planned actions are compared, they do not show significant difference, and in addition to the most of the activities, the *action taken* column is in small advantage in relation to the *planned action* column. However, one activity differs from the pattern of other responses – *using predominantly renewable energy*. In their future plans, although they have shown a low level of current use and activities, companies are without any doubt planning to focus precisely on this activity (5.7% action taken vs. 22% planned action).

The analysed activities (Graph 1) are possible selections in their enterprise resource efficiency actions enabling the identification of non-“green” businesses. The Q1 variable was used to create the dependent variable that would distinguish companies with regard to the intensity of application of resource efficiency activities. Companies that have selected 1 or 2 responses out of the nine statements offered (Figure 1) are marked as “few actions”, those with 3 or 4 responses are marked as “some actions”, companies with more than 5 selected activities are

marked as “many actions”, while companies that have not chosen any activity are marked with “no actions” (Table 2).

Table 2 Companies according to the degree of use of resource efficiency actions

Resource efficiency actions	n	%
Many actions	168	33.7
Some actions	194	39.0
Few actions	111	22.3
No actions	25	5.0
Total	498	100.0

Source: Authors' calculation

The research hypotheses of this paper are focused on those companies that are taking resource efficiency actions (33.7%), and the companies in this group can be considered “green” businesses. Moreover, a low percentage of companies that are not taking any resource efficiency activities (5%) is encouraging. The reasons for using these activities are shown in Table 3, where respondents chose the statements that best describe the main reasons why company is taking actions to be more resource efficient (Q3).



**Table 3 Reasons why company is taking actions to be more resource efficient**

Reasons	Responses		% of Cases
	n	%	
Financial and fiscal incentives or other forms of public support	35	3.4	7.40
Anticipation of future changes in legislation	93	8.9	19.80
Anticipation of future changes to the standards of products or processes	45	4.3	9.60
Demand from customers or providers	77	7.4	16.40
Creation of a competitive advantage or business opportunity	57	5.5	12.10
Catching up with main competitors who have already taken action	34	3.3	7.20
Cost savings	339	32.6	72.10
The environment is one of your company's top priorities	345	33.2	73.40
Other	.7	.7	1.50
None	.8	.8	1.70
Total	1040	100.0	221.3

Source: Authors' calculation

Statements *the environment is one of their company's top priorities* (73.4%) and *cost savings* (72.10%) were chosen as the most prominent reasons by the respondents. For these reasons, reasonable grounds to test the hypothesis H1 can be derived. One-way ANOVA was conducted on the three groups in order to make a comparison between groups of resource efficiency actions according to production cost.

Prior to conducting the analysis, variable Q4 was recoded, where 1 means *significantly increased*, and 5 *significantly decreased*, which means that higher ratings stand for bigger reduction in production costs in the last two years. The results of ANOVA procedure are shown in Table 4.

**Table 4 One-way between groups ANOVA**

Resource efficiency actions	N	Mean	Standard deviation	ANOVA
Many actions	142	3.754	.901	F = 3.081 df (2, 405) p = .047*
Some actions	165	3.539	.808	
Few actions	101	3.525	.856	
Total	408	3.610	.857	

\* Significant at 5% level

Source: Authors' calculation

After the verification of statistically significant differences between the observed groups (resource efficiency actions) according to the variable *production costs* ( $p < 0.05$ ), the conducted Bonferroni post-hoc test indicated a statistically significant difference between groups *many actions* and *some actions* ( $p = 0.029$ ), as well as between groups *many actions* and *few actions* ( $p = 0.040$ ). Following the aforementioned results, enough evidence has been presented for the H1 hypothesis not to be rejected, and it is possible to argue that the companies dif-

fer in the intensity of reduction in production costs depending on the intensity of the implementation of resource efficiency actions in the company. In other words, significant reductions in production costs in the last two years were recorded in companies that have taken the most resource activity actions.

In addition to lower production costs, the premise of this paper is that companies that are leaders in taking resource efficiency actions are providing more green products and services (H2). The results of nonparametric chi-square test are shown in Table 5.

Table 5 Chi-square test

Does your company offer green products or services? (Q14)		Taking resource efficiency actions				Total	
		Many	Some	Few	No		
Yes	n	59	37	24	5	125	
	% Q14	47.2%	29.6%	19.2%	4.0%	100%	
No	but planning in the next 2 years	n	15	32	10	1	58
		% Q14	25.9%	55.2%	17.2%	1.7%	100%
	not planning to do so	n	77	110	64	16	267
		% Q14	28.8%	41.2%	24.0%	6.0%	100%
Test statistics $\chi^2 = 20.149$ , $df = 6$ , $p = .003^{**}$							

\*\* Significant at 1% level

Source: Authors' calculation

The conducted chi-square test shows that within companies, there is dependence between intensive use of resource efficiency actions and their focus on offering green product and services ( $\chi^2 = 20.149$ ,  $df = 6$ ,  $p = .003$ ). Companies that offer green products and services are taking significantly more resource efficiency actions (47.2%) than those that do not offer green products and services (25.9% and 28.8%).

This indicates that it is possible not to reject the research hypothesis H2 because of the found interdependence between the variables *taking resource efficiency actions* and *offer green products or services*. Given the statistically significant difference before testing the research hypothesis H3, companies that responded to Q14 with *No* were placed in one category.

Table 6 Chi-square test

Last year turnover		Company offers green products or services		Total
		Yes	No	
EUR 100,000 or less	n	3	36	39
	% within turnover	7.7%	92.3%	100%
More than EUR 100,000 to EUR 500,000	n	26	86	112
	% within turnover	23.2%	76.8%	100%
More than EUR 500,000 to EUR 2 million	n	29	75	104
	% within turnover	27.9%	72.1%	100%
More than EUR 2 million to EUR 10 million	n	25	38	63
	% within turnover	39.7%	60.3%	100%
More than EUR 10 million	n	14	16	30
	% within turnover	46.7%	53.3%	100%
Test statistics $\chi^2 = 18.750$ , $df = 4$ , $p = 0.001^{**}$				

\*\* Significant at 1% level

Source: Authors' calculation

The results (Table 6) indicate the existence of dependence between the companies' amount of last year's earnings and their "green" range ( $p < 0.01$ ). It can also imply that green behaviour is not only socially desirable, but also financially profitable.

## 5. Conclusion

Green business represents a new way of thinking and opportunities in the markets, particularly for SMEs. Although large companies have recognized the importance of "going green", the concept of green business is equally important in SMEs. Especially important is the influence of green business on companies' costs and revenues, i.e. their business results, which is not sufficiently investigated, particularly in Croatia.

Concern for the environment and the community has changed the paradigm of doing business, the basis for the development and classification of green markets has been created, and green business is increasingly becoming an imperative for doing business in the Republic of Croatia. This paper gave an overview of green business and green market in Croatia by using Eurobarometer primary data. For the purpose of the paper, the authors identified green businesses as those that use 5 or more (out of 9) resource efficiency actions. Those companies represent one third of the sample. For companies that are practicing that behaviour, a significant re-

duction in production costs in the last two years has been observed. Within the same companies in the sample, a greater willingness to implement green products or services in the product range is recorded. On the other hand, when we talk about the profitability of green business, it was observed that companies with green products and services do generate a higher turnover. However, in future research, it would be desirable to set the profits of the enterprise as a continuous (scale) variable instead of ordinal variable, which would open the possibility of predictive analysis. Predictive testing of financial cost effectiveness of "green" behaviour of enterprises could be further motivated with greater application of resource efficiency actions, but also with the introduction of more green products and services in the "green" range. Due to the existence of two previous Eurobarometer datasets, a new research question about the analysis of the trend of green corporate behaviour can be set.

In addition to making management decisions concerning the development of green business, the environment in which companies operate should be stimulating, with the aim to increase the volume of green activities, green business and ultimately green growth. Thereby, the government should also help SMEs by providing them with more resources or by taking incentive measures for adhering to green business principles.

## REFERENCES

1. Babiak, K., Trendafilova, S. (2011), "CSR and environmental responsibility: motives and pressures to adopt green management practices", *Corporate social responsibility and environmental management*, Vol. 18, No. 1, pp. 11-24.
2. Becken, S., Dolnicar, S. (2016), "Uptake of resource efficiency measures among European small and medium-sized accommodation and food service providers", *Journal of Hospitality and Tourism Management*, Vol. 26, pp. 45-49.
3. Brand, U. (2012), "Green Economy – The Next Oxymoron? No Lessons Learned from Failures of Implementing Sustainable Development", *GAIA – Ecological Perspectives for Science and Society*, Vol. 21, No. 1, pp. 28-32.
4. Borel-Saladin, J. M., Turok, I. N. (2013), "The Green Economy: Incremental Change or Transformation?", *Environmental Policy and Governance*, Vol. 23, No. 4, pp. 209-220.
5. Bowen, A. (2012), "Green' growth, 'green' jobs and labor markets", Working Paper No. 5990, World Bank Policy Research, London, March 2012.
6. Cai, W., Wang, C., Chen, J., Wang, S. (2011), "Green economy and green jobs: Myth or reality? The case of China's power generation sector", *Energy*, Vol. 36, No. 10, pp. 5994-6003.
7. Cekanavicius, L., Bazyté, R., Dicmonaitė, A. (2014), "Green business: challenges and practices", *Ekonomika*, Vol. 93, No. 1, pp. 74-88.
8. Cherian, J., Jacob, J. (2012), "Green marketing: A study of consumers' attitude towards environment friendly products", *Asian Social Science*, Vol. 8, No. 12, pp. 117-126.
9. Chen, Y. S. (2008), "The driver of green innovation and green image—green core competence", *Journal of Business Ethics*, Vol. 81, No. 3, pp. 531-543.
10. Chen, Y. S., Lai, S. B., Wen, C. T. (2006), "The Influence of Green Innovation Performance on Corporate Advantage in Taiwan", *Journal of Business Ethics*, Vol. 67, No. 4, pp. 331-339.
11. Colijn, B. (2014), "Green Jobs in Europe and the Increasing Demand for Technical Skills", Working Paper No. 4.2, NEUJOBS, Brussels, February 2014.
12. Cosbey, A. (2011), "Trade, Sustainable Development and a Green Economy: Benefits, Challenges and Risks", in UNCTAD, *The Transition to a Green Economy: Benefits, Challenges and Risks from a Sustainable Development Perspective*, pp. 40-61.
13. Deichmann, U., Zhang, F. (2013). *Growing Green: The Economic Benefits of Climate Action*. Washington, DC: World Bank Publications.
14. Delmas, M. A., Pekovic, S. (2015), "Resource Efficiency Strategies and Market Conditions", *Long Range Planning*, Vol. 48, No. 2, pp. 80-94.
15. Dienes, C. (2015). *Energy and Material Efficiency Improvements, Compliance Strategies, and Investments in Resource Efficiency: A Cross-Country Study*. Wuppertal: Universitätsbibliothek Wuppertal.
16. Djellal, F., Gallouj, F. (2016), "Service Innovation for Sustainability: Paths for Greening Through Service Innovation", in Toivonen, M., *Service Innovation*, Springer Japan, Tokyo, pp. 187-215.
17. Farinelli, F., Bottini, M., Akkoyunlu, S., Aerni, P. (2011), "Green entrepreneurship: the missing link towards a greener economy", *ATDF Journal*, Vol. 8, No. 3/4, pp. 42-48.
18. Hall, J. K., Daneke, G. A., Lenox, M. J. (2010), "Sustainable development and entrepreneurship: Past contributions and future directions", *Journal of Business Venturing*, Vol. 25, No. 5, pp. 439-448.
19. Herrmann, K. K. (2004), "Corporate social responsibility and sustainable development: The European Union initiative as a case study", *Indiana Journal of Global Legal Studies*, Vol. 11, No. 2, pp. 205-232.
20. Hoogendoorn, B., Guerra, D., van der Zwan, P. (2015), "What drives environmental practices of SMEs?", *Small Business Economics*, Vol. 44, No. 4, pp. 759-781.

21. Hussain, J. S., Hussain, J. (2015), "A Conceptual Framework on the Power of Consumers in Pushing Corporate Social Responsibility Towards Sustainable Development", *Indian Journal of Corporate Governance*, Vol. 8, No. 1, pp. 68-83.
22. Jacobs, M. (2012), "Green Growth: Economic Theory and Political Discourse", Working Paper No. 108, Centre for Climate Change Economics and Policy, London, October 2012.
23. Jänicke, M. (2012), "'Green growth': From a growing eco-industry to economic sustainability", *Energy Policy*, Vol. 48, September, pp. 13-21.
24. Kabiraj, S., Topkar, V., Walke, R. C. (2010). "Going Green: A Holistic Approach to Transform Business", *International Journal of Managing Information Technology*, Vol. 2, No. 3, pp. 22-31.
25. Karagülle, A. Ö. (2012), "Green business for sustainable development and competitiveness: an overview of Turkish logistics industry", *Procedia – Social and Behavioral Sciences*, Vol. 41, pp. 456-460.
26. Kilbourne, W. E. (1998), "Green marketing: A theoretical perspective", *Journal of Marketing Management*, Vol. 14, No. 6, pp. 641-655.
27. Knoskova, L. (2014), "Consumer Attitudes to Sustainability and Eco-Innovations", *International Journal of Economic Practices and Theories*, Vol. 4, No. 3, pp. 374-382.
28. Kuceba, R., Jedrzejczyk, W. (2015), "Pro-ecological activities of SMEs barriers, determinants, financial support mechanisms", in Dunay, A., *Proceedings of the 5th International Conference on Management 2015: Management, leadership and strategy for SMEs' competitiveness*, Szent István University Publishing House, Gödöllő, pp. 40-44.
29. Lin, C. Y., Ho, Y. H. (2010), "The Influences of Environmental Uncertainty on Corporate Green Behavior: An Empirical Study with Small and Medium-size Enterprises", *Social Behavior and Personality: an international journal*, Vol. 38, No. 5, pp. 691-696.
30. Machiba, T. (2010), "Eco-innovation for enabling resource efficiency and green growth: development of an analytical framework and preliminary analysis of industry and policy practices", *International Economics and Economic Policy*, Vol. 7, No. 2-3, pp. 357-370.
31. Martinez-Fernandez, C., Hinojosa, C., Miranda, G. (2010), "Green jobs and skills: the local labour market implications of addressing climate change", Working Document, CFE/LEED, OECD, February 2010, available at: [www.oecd.org/cfe/leed/44683169.pdf](http://www.oecd.org/cfe/leed/44683169.pdf) (Accessed on: August 25, 2016)
32. Mieszajkina, E. (2016), "Ecological Entrepreneurship and Sustainable Development", *Problemy ekorozwoju*, Vol. 12, No. 1, pp. 163-171.
33. Molina-Azorín, J. F., Claver-Cortés, E., López-Gamero, M. D., Tari, J. J. (2009), "Green management and financial performance: a literature review", *Management Decision*, Vol. 47, No. 7, pp. 1080-1100.
34. Moon, J. (2007), "The contribution of corporate social responsibility to sustainable development", *Sustainable Development*, Vol. 15, No. 5, pp. 296-306.
35. Nadaf, Y. B. R., Nadaf, S. M. (2014), "Green marketing: challenges and strategies for Indian companies in 21st century", *International Journal of Research in Business Management*, Vol. 2, No. 5, pp. 91-104.
36. Olson, E. L. (2013), "It's not easy being green: the effects of attribute tradeoffs on green product preference and choice", *Journal of the Academy of Marketing Science*, Vol. 41, No. 2, pp. 171-184.
37. Prakash, A. (2002), "Green marketing, public policy and managerial strategies", *Business Strategy and the Environment*, Vol. 11, No. 5, pp. 285-297.
38. Pekanov Starčević, D., Mijoč, J., Mijoč, I. (2016), "Does it Pay Off to be Socially Responsible? Empirical Evidence from Listed Companies", *Ekonomski pregled*, Vol. 67, No. 4, *in press*.
39. Perić, M., Jurčić, D. (2015), "Green Business as a Part of Hotel's Strategy", in 23. tradicionalno savjetovanje "Ekonomska politika Hrvatske u 2016.", Croatian Economic Association, Zagreb, pp. 222-233.
40. Polonsky, M. (2008), "An introduction to green marketing", *Global Environment: Problems and Policies*, Vol. 2, No. 1, pp. 1-10.

41. Schaltegger, S., Synnestvedt, T. (2002), "The link between 'green' and economic success: environmental management as the crucial trigger between environmental and economic performance", *Journal of Environmental Management*, Vol. 65, No. 4, pp. 339-346.
42. Scully-Russ, E. (2012). *Green Jobs and Career Pathways: An Arranged Marriage in Service to a 21st-Century Workforce Development System*. Washington, DC: US Department of Labor, Employment and Training Administration.
43. Smulders, S., Toman, M., Withagen, C. (2014), "Growth theory and 'green growth'", *Oxford Review of Economic Policy*, Vol. 30, No. 3, pp. 423-446.
44. Stefan, A., Paul, L. (2008), "Does it Pay to be Green? A Systematic Overview", *The Academy of Management Perspectives*, Vol. 22, No. 4, pp. 45-62.
45. Weng, M. H., Lin, C. Y. (2011), "Determinants of green innovation adoption for small and medium-size enterprises (SMES)", *African Journal of Business Management*, Vol. 5, No. 22, pp. 9154-9163.
46. Yazdanifard, R., Mercy, I. E. (2011), "The impact of green marketing on customer satisfaction and environmental safety", *2011 International Conference on Computer Communication and Management*, May 2-4, Sidney, pp. 637-641.
47. Yozgat, U., Karataş, N. (2011), "Going green of mission and vision statements: ethical, social, and environmental concerns across organizations", *Procedia-Social and Behavioral Sciences*, Vol. 24, pp. 1359-1366.
48. Zsyman, J., Huberty, M., Behrens, A., Colijn, B., Tol, R. S., Núñez Ferrer, J., Aglietta, M., Hourcade, J. C. (2012), "Green growth", *Intereconomics*, Vol. 47, No. 3, pp. 140-164.

## (ENDNOTES)

- 1 European Parliament (2015), "Resolution of 19 May 2015 on green growth opportunities for SMEs (2014/2209(INI))", available at: <http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//NONSGML+TA+P8-TA-2015-0198+0+DOC+PDF+Vo//EN> (Accessed on: August 24, 2016)
- 2 Alpeza, M., Biškupić, N., Eterović, D., Gucić, E. M., Oberman Peterka, S., Singer, S., Šarlija, N. (2015), "Small and Medium Enterprises Report – Croatia 2014 including the results of GEM – Global Entrepreneurship Monitor research for Croatia for 2013", Zagreb: CEPOR – SMEs and Entrepreneurship Policy Center, available at: <http://www.cepor.hr/wp-content/uploads/2015/03/Cepor-godisnje-izvjesce-ENG-web-2014.pdf> (Accessed on: August 8, 2016)
- 3 As Croatia is the 28th member of the European Union, the classification of SMEs used in the Republic of Croatia is regulated by the laws and code of the European Union. SMEs are defined by the European Commission as having less than 250 persons employed. They should also have an annual turnover of up to EUR 50 million, or a balance sheet total of no more than EUR 43 million (<http://ec.europa.eu/eurostat/web/structural-business-statistics/structural-business-statistics/sme>)
- 4 <http://www.gesis.org/eurobarometer-data-service/home/>
- 5 European Commission (2010), "Europe 2020: A Strategy for Smart, Sustainable and Inclusive Growth: Communication from the Commission", Publications Office of the European Union.
- 6 Dangelico, R. M., Pujari, D. (2010), "Mainstreaming Green Product Innovation: Why and How Companies Integrate Environmental Sustainability", *Journal of Business Ethics*, Vol. 95, No. 3, pp. 471-486.
- 7 <http://www.gesis.org/eurobarometer-data-service/home>
- 8 European Commission (2016), "Flash Eurobarometer 426 (Small and Medium Enterprises, Resource Efficiency and Green Markets, wave 3)", TNS Political & Social, GESIS Data Archive, Cologne, ZA6648 Data file Version 1.00.
- 9 Survey follows Eurobarometers from 2012 (342) and from 2013 (381 in 2013)
- 10 European Commission (2015), "Flash Eurobarometer 426: Country Questionnaire".
- 11 B Mining and quarrying; C Manufacturing; D Electricity, gas, steam and air conditioning supply; E Water supply; sewerage, waste management and remediation activities; F Construction; G Wholesale and retail trade, repair of motor vehicles and motorcycles; H Transportation and storage; I Accommodation and food service activities; J Information and communication; K Financial and insurance activities; L Real estate activities; M Professional, scientific and technical activities.

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## ISPLATI LI SE “BITI ZELEN” U HRVATSKOJ? EMPIRIJSKI DOKAZI NA MALIM I SREDNJIM PODUZEĆIMA

### SAŽETAK

Tehnološki napredak i inovacije u proizvodnji temelj su za povećanje produktivnosti i smanjenje troškova poslovanja. S druge strane, brzi razvoj popraćen zanemarivanjem zaštite okoliša rezultirao je štetnim učincima na okoliš, a time i na društvo u cjelini. Posljedice na okoliš javljaju se u obliku elementarnih nepogoda, klimatskih promjena i globalnog zatopljenja. Kako bi smanjile negativne učinke na okoliš, države su uvele zakonske odredbe kao što su naknade za zagađenje. Takve naknade predstavljaju troškove, nastale od strane poduzeća, koji posljedično opterećuju njegov financijski rezultat. S druge strane, ti troškovi mogu biti niži za poduzeća koja primjenjuju učinkovitije metode proizvodnje. Pitanje je isplati li s poduzeću biti „zelen“, a time i platiti nižu naknadu, ili ne uzeti u obzir „zeleno poslovanje“ i platiti višu naknadu za korištenje neučinkovitih metoda proizvodnje. U ovom će se radu istražiti isplati li se biti zelen, tj. rezultira li poboljšanje učinkovitosti proizvodnje smanjenjem troškova proizvodnje. Pritom je naglasak stavljen na mala i srednja poduzeća kao generatore gospodarskog rasta i zelenih poslova. Kako bi se dao primjeren pregled zelenog poslovanja i zelenog tržišta u Hrvatskoj, autori će analizirati anketni upitnik Eurobarometra, Flash Eurobarometer 426, fokusirajući se na podatke za Hrvatsku (n = 502). Očito je da je „zeleno poslovanje“ postalo jedno od glavnih poslovnih područja u kontekstu održivog i društveno odgovornog poslovanja.

**Ključne riječi:** zeleno poslovanje, zelena tržišta, učinkovitost resursa, troškovi, anketni upitnik Eurobarometra