

Green Accounting for Corporate Sustainability

BETTINA HÓDI HERNÁDI
ASSISTANT LECTURER

e-mail: vgtbetti@uni-miskolc.hu

SUMMARY

Today, corporate sustainability is one of the greatest challenges facing companies. Therefore, this study aims to show how accounting, as the language of business and the source of information, can meet the criteria of sustainability. This article starts out by analysing the different approaches to corporate sustainability, then it proposes the reinterpretation of the most important accounting principle, the 'going concern' principle. In the following section it outlines the characteristics of accounting from the point of view of sustainability. Finally, it proposes ways of transforming green accounting, both in name and content, into sustainability accounting.

*Keywords: corporate sustainability; the 'going concern' principle; green accounting (environmental accounting); sustainability accounting
Journal of Economic Literature (JEL) code: M41*

INTRODUCTION

According to the Brundtland Commission (1987, p. 43), "Sustainable development is development that meets the needs of present generations without compromising the similar needs of future generations. The concept interprets sustainable economic, ecological and social development as a unity." Today's companies must also comply with the challenges stemming from this approach, and therefore they must also implement economic, social and environmental goals. The reduction of pollution, the equitable distribution of wealth and improved social services pose a challenge to management, as the value of the company has to be increased for the stakeholders in such a manner that social and environmental responsibility should not be neglected.

CORPORATE SUSTAINABILITY

The concept of sustainable development is generally understood at the global level, which is the most difficult to apply at the organizational level (Gray and Milne, 2002). As far as corporate sustainability is concerned, its interpretation poses a problem, due to the fact that the academic literature during the last decades (for example: Reed and DeFillippi, 1990) has interpreted the concept of sustainable as continuity. Consequently, we have to re-interpret the accounting principle of continuing the enterprise, since now the realisation of the ideal of sustainability is a necessary but not sufficient condition for a company's survival.

First, however, we have to clarify what is meant by corporate sustainability and determine if there is a precise definition which applies to all companies. On a company level it is not necessary to distinguish between sustainability and sustainable development. The reason the word sustainability is used in this context is because it is the commonly used term.

In the literature, there is currently no unified position on corporate sustainability, so we can group the approaches as follows.

a) John Elkington's (1997) name is linked to the triple optimisation of corporate sustainability, or the essence of the three-legged approach (Triple Bottom Line), according

to which there are three pillars of sustainability: economic, social and environmental sustainability. Corporate sustainability is defined as a situation in which the organization has to achieve the highest performance in all three – economic, social and environmental – areas. However, two problems arise with this approach; firstly there is no clear balance between the performance achieved in the separate areas, and secondly, it is difficult to assess the acceptability and sustainability of social and environmental performance (Gray, 2006).

- b) According to the Professional Accountants in Business Committee (2006), corporate sustainability and corporate social responsibility (CSR) are very commonly considered equivalent, and the two terms are often used interchangeably, because it is believed that CSR is the corporate approach to sustainability (Bansal 2005, Ransburg 2011). However, while the first term suggests a long-term perspective in order to increase the base capital of corporations along the three dimensions, CSR is seen as a short-term concept, i.e. the operationalisation of corporate sustainability. However, the problem with this approach is that while the company can strive to be responsible, it is not certain that the company will be sustainable. In practice, however, for many companies this is what is meant by corporate sustainability.
- c) Wilson (2003) combined the above two approaches and, expanding the concept of corporate sustainability, defined it using the following four factors:
- > the concept of sustainable development, which designates corporate targets along economic, social, and environmental dimensions;
 - > corporate social responsibility (CSR), which provides an ethical motivation as to why we need to achieve sustainability objectives;
 - > the involvement of stakeholders (stakeholder theory), which takes into account the business-orientated reasons why the company must seek to achieve sustainability;
 - > the company's reporting obligations, which set out the ethical reasons why companies have to report on sustainability performance.

- d) Doyle (2000), Vágási (2004) and the Dow Jones Sustainability Indexes - Dow Jones Sustainability World Indexes Guide (2011) issued by the Sustainable Asset Management AG use a commercially viable approach to corporate sustainability, with the aim of increasing shareholder value (enterprise value) in the long term by companies exploiting their opportunities and reducing the risks in the areas of economic, social and environmental development. "Corporate sustainability leaders achieve long-term shareholder value by gearing their strategies and management to harness the market's potential for sustainability products and services while at the same time successfully reducing and avoiding sustainability costs and risks (Dow Jones Sustainability Indexes, 2011, p. 9). "However, the realisation of sustainability principles would mean that while there would be a reduction in our ecological footprint and social inequalities would become fairer, most of the companies listed on the stock exchange would be destroyed, because for the shareholders this is not attractive business behaviour, because it could lead to the reduction of their dividends. Since this only emphasises the interests of the shareholders, the following approach already takes into consideration the future needs of shareholders and other stakeholders.
- e) Dyllick and Hockerts (2002), Danchev (2006), Ebner and Baumgartner (2006), and the Professional Accountants in Business Committee (2006) derive corporate sustainability from total sustainability, from sustainable development. They are convinced that the organizational approach to sustainable development is corporate sustainability, and, that just like sustainable development, it has three dimensions – economic, social and environmental – which interact with each other. In addition, according to Dyllick and Hockerts (2002), all the needs of the corporation's internal and external stakeholders (such as shareholders, employees, clients, pressure groups, communities, etc.) must be met in such a way that the similar needs of future stakeholders are not compromised. Furthermore, organisations must retain and increase their economic, social and environmental capital in such a way as to help the country's as well as the Earth's sustainability.
- f) Marrewijk and Were (2003) argue that there is no precise definition of corporate sustainability, that is, every company has to decide what it means in order to meet its goals and objectives. Examining the for-profit companies listed on the Hungarian stock exchange three basic key factors can be highlighted in the interpretation of corporate sustainability: long-term shareholder value creation, corporate social responsibility and taking into consideration the interests of all the stakeholders together. The different approaches to corporate sustainability are summarised in Table 1, illustrated by a corporate example.
- g) The heuristic multi-dimensional approach of Schaltegger and Burritt (2005) discusses corporate sustainability alongside the traditional three dimensions (economic, social, environmental), but focuses on their interaction. I believe that this is the most complex approach to corporate sustainability, as this describes in best way the essence of corporate sustainability; therefore, in the following sections I use 'corporate sustainability' in this sense. Since corporate sustainability is at issue, essentially we are dealing with profit-making companies, therefore, the harmonisation of the three dimensions can only be realised through the sustainability aspects of corporate sustainability.

The Multi-dimensional Model of Corporate Sustainability

A company will be considered economically sustainable if, firstly, it fulfils the principle of continuity, and secondly, there are no liquidity problems in the long run, and thirdly, as Illés (2002) expresses it: in addition to the fixed costs the owners' profit expectation (return requirement) is not only met, but moreover, additional earnings are also generated. In this regard, the company is economically sustainable if it maintains, or increases, both its own value and the shareholders' value. Of course, the company does not only need financial capital for long-term survival, but also the intangible assets (knowledge, reputation, corporate culture) that contribute to financial capital must be integrated into the concept (Kaldschmidt, 2011). The fundamental purposes of the operation of traditional for-profit businesses are economic considerations such as increasing shareholder value, increasing the profitability of products, or cost reduction. However, companies wishing to meet criteria imposed by social and environmental sustainability have to fulfill additional requirements. That is, the maximum economic results have to be achieved while also taking into account the principles of sustainable development. In practice the concept of an economically sustainable enterprise is derived from economic efficiency, which has two components. Environmental efficiency (eco-efficiency) has to be increased, while social efficiency has to be improved.

Table 1
Corporate sustainability as it is interpreted in practice

Approaches to corporate sustainability	Interpretation of corporate sustainability	Corporate Example
Long-term shareholder value creation	Sustainable Development, for us, means a corporate commitment to the balanced integration of economic, environmental and social factors into our everyday business operations, to maximise long-term stakeholder value and to safeguard our licence to operate." (MOL)	MOL Nyrt.
Corporate social responsibility (CSR)	"The key part of the Richter's strategy is the sustainable development: its long-term plans are formed regard to economic, environmental and social expectations, thereby creating security for its investors, environment and employees. The part of the corporate social responsibility is continuous dialogue with the partners, investors, representatives of civil society and the various authorities" (Richter) "Besides its business success OTP Bank, as the largest bank in Hungary pays special attention to the financial support of activities and events that serve the improvement of social values by the responsible operations, and contributes to the realization of important social goals. Our goal is to convert risks into opportunities, reinforcing the Group's long-term sustainability and the strengthening of trust." (OTP)	Audi Kft., CIB Zrt., E. ON Hungária Zrt., K&H Bank Nyrt., Gedeon Nyrt., Richter, OTP Nyrt., Vodafone Zrt., Zwack Unicum Nyrt.
Taking into consideration the interests of all the stakeholders together	"The key element of the company's strategy is the sustainability. For the Company, this management approach means striking a long-term balance between the interests of stakeholders in the course of implementing the company's strategy and operation. Based on this, it does not wish to make interests of any one group of stakeholders dominant to the detriment of the others." (E-Star Alternatív Nyrt)	E-Star Alternatív Nyrt.

Source: own elaboration based on company reports, 2012

Eco-efficiency (the efficiency of the use of natural resources) is a relative indicator, which is the ratio between the added value and environmental damage (with added ecological impact). The added value can, for instance, be the difference between the sales and acquisition costs of the purchased inputs, whereas the added ecological impacts can be the natural resources, energy, or water consumption of a product or activity, the amount of waste or pollution generated by them, i.e. the resulting adverse environmental effects generated during the company's entire product lifecycle or the environmental damage induced by corporate operation (such as the delivery process).

Social efficiency is a relative indicator by which we understand the social effects projected onto the company's added value. While environmental impacts are always negative, social impacts can be negative (work-related accidents, violations of human rights) or positive (job creation, business grants, donations) as well. Thus social efficiency can be increased by reducing the negative social impacts and increasing the positive potential of the company.

Economic efficiency can thus be improved by both increasing environmental efficiency (by increasing value added and/or environmental damage mitigation), and by improving social efficiency (increasing value added and/or negative social impact reduction, combined with increasing added value and/or positive social impacts). It is important to note that the efficiency indicators can consist not only of economic (financial) and natural ratios, since a financial relationship may not be necessary to establish indicators.

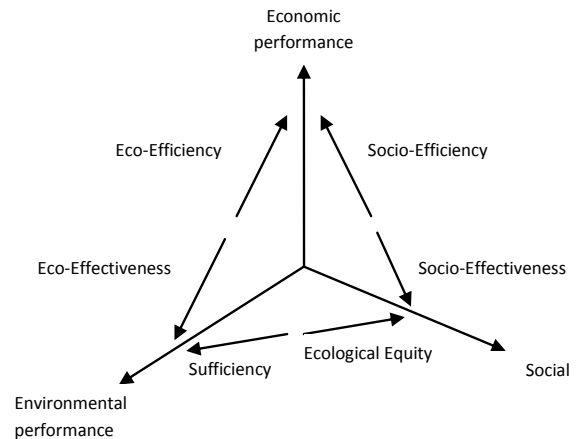
Through its operations the socially sustainable company contributes to the creation of social value by increasing individual human capital as well as by supporting social goals (Dyllick and Hockerts, 2002). The company's goal in this regard is to reduce socially undesirable impacts and to enhance positive social impacts. It is in this way that a company sensitive to sustainable development attains social acceptance and legitimacy (equity, justice, fairness), which may, indeed will, have economic consequences. Accordingly, we can talk about social efficacy (social performance), which shows the company's ability to reduce the negative social impacts in absolute terms, and the extent to which it can increase its positive social impact in the light of society's expectations. In this case we can also think of the different stakeholders.

Environmentally sustainable companies are characterised by rational use of natural (exhaustible) resources, the minimisation of the polluting effects (such as waste) of the enterprise's activities and the use of renewable natural resources by taking into account their renewable capacity (Állami Számvevőszék Fejlesztési és Módszertani Intézet, 2005). In addition to this there is the maintenance of biodiversity, namely the preservation of fauna and flora. In this context, environmental efficacy should be kept in mind. The concept of eco-efficiency (environmental performance) is understood to mean the company's absolute environmental performance, which is the most fundamental measure of the minimisation of its environmental impact. After all, an essential feature of environmental capital is that it is difficult or impossible to replace and it is finite, hence the need to examine the state of the environment in absolute terms. From the viewpoint of environmental sustainability the company must consider and mitigate both direct and indirect effects. Specifically, it is not enough to carry out its activities in an environmentally sustainable way, since in this sense a product or service it produces should by itself be increasingly environmentally sustainable.

Corporate sustainability therefore can only be achieved if the company is sustainable along all three of the above-mentioned dimensions. Thus integrating economic, social and

environmental sustainability is essential; a challenge, which actually means the combination of economic, social and environmental aspects, as well as simultaneous compliance with this triple system of requirements; it is also an issue of methodological integration. For the realization of this integration the Sustainability Balanced Scorecard (SBSC) is an appropriate tool. Of course, this stage – achieving integration – is considered the most difficult according to Malovics (2009).

In this light we can talk about corporate sustainability if we take into account the interaction between both the economy (the company) and the environment, and the relationship between the economy (the company) and society. Figure 1 illustrates these relationships.



Source: own elaboration, based on Almeida (2006)

Figure 1. The multi-dimensional model of corporate sustainability

However we interpret corporate sustainability, it can only be attained if the owners and management of the company are committed to sustainability, and to achieve this a sustainability strategy is established and implemented (Fülöp and Hódi 2012). In the growth of the social and environmental activity of the company the role of accounting information – especially social and environmental information – takes on greater significance. The most important element in information related to corporate sustainability, which acts as a basis of the sustainability strategy, is information provided by green accounting and sustainability accounting.

CHANGES IN TRADITIONAL ACCOUNTING METHODS

The above-mentioned corporate sustainability, as the latest company objective, requires that companies are in possession of – among other things – a sustainability strategy and the kind of accounting information that can satisfy the new requirements and help the company's management to make decisions in the interests of the company's sustainability in a responsible framework. In other words the accountancy process, as the language of business and the source of information, must meet sustainability requirements.

The Principle of Corporate Continuity Versus Sustainability

One of the most important accounting principles is the 'going concern' principle, which declares that "the preparation

of the company report and company accounts must start from the principle that the operator of the business will also be able to maintain its operation in the foreseeable future, to continue its activities, and that the cessation of the business, or a significant reduction in its operations for whatever reason, is not expected.” (Accounting Law C. 15. § (1), 2000). This means that the company does not intend to, and/or does not feel the need to, wind up or drastically cut down on its business activities. If the principle of continuity is not achieved, then several basic principles of accounting cannot be realised. For this reason it must be given great attention, since it is the basis of accounting regulations. The principle of accounting deals with the creation of the conditions for economic operations, and traditional accounting conceives of the economic organisation as a closed system, existing independently of its social and natural environment (Almássy, 2006). In contrast, corporate sustainability declares that the company can only have long term profitability if it does not ignore its effects on society and the environment and – reciprocally – the effects of society and the environment on the company.

So the problem lies in the understanding of the concept, since this suggests the idea that an unchanged external environment makes it possible for the company to continue its activities in an unchanged form, and this supposes that if the principle of corporate continuity is maintained, then the activities will also themselves be sustainable. In reality, however, according to Aras and Crowther (2008), companies just confuse continuity with sustainability. Therefore the external environment of the company must be part of the business environment in which the company operates, the local social environment in which the company finds itself, and the natural environment which restricts the company’s operations.

In my view the principle of corporate continuity can be modified in the light of sustainable development. In other words companies must reform their activities in such a way that long-term operation is not just manifest in economic performance, but alongside economic (financial) considerations, the company, taking into account social and economic factors, ensures that the effects it has on society and the environment also make it possible to operate in the long term. Of course, this change will have an effect on all the basic principles of accounting.

What, in my opinion, might postpone (or at least slow down) the legislation necessary to change the company accounting system in favour of sustainability is probably the idea that market competition will eventually force companies to operate in a sustainable way, since otherwise they will not be viable in the long term. Therefore, at the moment this is a form of voluntary behaviour, with which companies can extract competitive advantage, but in the future those who do not conduct their activities in this spirit will be at a disadvantage.

Those Needing Accounting Information, and its Content

Since accounting is the source of information, and thus is used to prepare and carry out decisions, it is important that those needing information have the right kind at their disposal. In this sense two questions must be answered: who needs to be provided with accounting information, or in other words, who is it that makes up the group who can request information? And what should be the content of this information? Of course, traditional accounting answers these questions, it is just that with the spread of the concept of sustainability and the significant changes it brings, these questions must be examined again.

Accounting information must be provided to stakeholders, i.e. individuals or groups who have a mutual relationship with the operations of the company, and are in some way affected by

the company’s activities. Internal stakeholders are the owners, the management and the employees; external stakeholders are the government, professional or occupational organisations, social organisations and other individuals or organisations (auditors, tax advisors, legal representatives), etc. So the company must not only create value for the shareholders and the owners but must also take into consideration the interests of other stakeholders when making decisions, and thus provide them with the information they require.

In my opinion the group of external stakeholders could be expanded by at least two, but maybe even three, other affected parties, namely the general population or public opinion – which in effect is the same as society, the natural environment – above all at a local level, and the third element, which could be seen as internal as well as external, is no other than the FUTURE stakeholders: the future owners and employees, or the next generation, and the natural environment, since sustainability places emphasis on the coming generation, or the demands of future owners, such that they also are provided with the same decision-making opportunities which are given to those alive today. The future stands at the centre of corporate sustainability, which declares that decisions taken today should not restrict similar opportunities in the future. Companies’ sustainable activities themselves influence organisations in the future; in other words the good social and environmental performance of a company really is an investment in the future. As Aras and Crowther state in relation to this, “the acceptance of any costs involved in the present as an investment for the future” (2008, p. 23).

According to the accounting law, “to achieve the operation of a market economy, it is essential that objective information about the current state and future development of assets, finances and the income situation of entrepreneurs and non-profit organisations, as well as other organisations conducting economic activity be available for actors in the market in order that they may make decisions.” (Accounting Law C, 2000).

Thus the basic task of accounting is to provide reliable and true information regarding the operation of economic organisations in their reports for affected interest groups and actors in the market. Information contained in financial reports can serve current and potential investors, creditors and other individuals and organisations so that they can evaluate the future performance of investments and the value of the company. Companies often understand this to be sustainability (corporate sustainability), and show this in their reports, while omitting social and environmental considerations.

At the same time, by analysing economic organisations’ financial, income and asset situations different kinds of information are required for the different interested parties. For market actors and authorities financial data is usually sufficient. For different environmental protection interest groups and the general population, information relating to environmental issues (pollution, protection) and social responsibility is required. Decision makers on the other hand can make the best decisions if they have all relevant and necessary information for that particular decision, including information about the environment and society.

For this reason an accounting system must be created where the environmental and social information necessary for various decisions can be collected, organised and reliably and faithfully interpreted in an appropriate form for internal and external stakeholders.

As we have seen, the spread of a changed conception of sustainability brings with it a change in the circle of those requiring information as well as in the content of the information itself. Accounting itself has also changed accordingly.

GREEN ACCOUNTING

Accounting which also takes social and/or environmental factors into consideration has been given several names over the last few years, including, for example, environmental accounting, triple bottom line accounting, and sustainable accounting. This in itself represents a kind of development in the history of accounting. The first research and publications to deal with the relationship between accounting and sustainability appeared two decades ago – at the same time drawing attention to the inadequacies of traditional accounting – and included Gray (1992), Schaltegger and Burritt (2000) and Almássy (2006).

Environmental Accounting

The name and concept of environmental accounting first appeared in the specialist literature about a decade ago. According to the definition made by Schaltegger and Burritt (2000, p. 30.), “Environmental accounting is a branch of accounting that deals with activities, methods and systems; recording, analysis and reporting; and environmentally induced financial impacts and ecological impacts of a defined economic system.” Environmental accounting is that part of the development of accounting where non-monetary, physical and quality factors already receive great emphasis. Environmental (green) accounting comprises two sub-systems, one of them (environmental accounting) deals with the financial effects induced by environmental protection, i.e., environmental expenditures and savings, and the other one (ecological accounting) deals with the environmental impact of the economic activities of a company, i.e., with figuring out what extent the natural environment undergoes change as a result of the operation and activities of a company (Pál, 2011). The sub-systems of environmental accounting are the following (Csutora and Kerekes, 2004): in the focus of environmental management accounting is the collection and analysis of pieces of information derived from environmental costs and other costs and the preparation of internal analyses as well as the supporting of the rational decision making of management. Internal ecological accounting emphasises the analysis of changes that occur in nature as a result of corporate activities. Environment financial accounting prepares reports for external interested parties about environmental obligations and expenditures of the company that have an effect on the financial position of the company. External ecological accounting, similarly to internal ecological accounting, takes into consideration the environmental impact and prepares reports from these data.

Environmental accounting, while examining the economic (company) and environmental dimensions, leaves out the social ones. There are, however, approaches which consider society as a part of the natural environment and state that natural sustainability is the basis of human well-being (Yakhou and Dorweiler, 2004), and as such the two concepts do not need to be treated separately.

There is now a relatively wide range of literature dealing with environmental accounting, and many researchers have studied the subject from a variety of perspectives, including the elements which make up environmental accounting and the methods and tools used, for example Csutora (2001), Ván (2008) and Lee (2011).

Triple Bottom Line Accounting

A new type of accounting, Triple Bottom Line accounting (TBL accounting) can also be found in the specialist literature,

or more frequently encountered as the Triple Bottom Line concept, which shows separately the economic, social and environmental effects of the company’s operations. The emphasis, however, is on the financial indicators and measurable factors, and it publishes the social and environmental results separately, in a non-integrated form (Gray and Milne, 2002). This approach is supported by the thinking in Wiedmann and Lenzen’s (2006) work, according to which the objective of TBL accounting is, in addition to the growth of shareholder value, the attainment of social and environmental goals, and that TBL accounting is primarily concerned with quantitative, financially-expressed indicators, rather than qualitative, non-monetary economic, social and environmental ones, since according to them, for decision makers only information expressed in financial terms represents the development of sustainable performance.

Sustainability Accounting

In my opinion, if such things as corporate sustainability and sustainability strategy exist, then of necessity sustainability accounting must also exist, since if the objective of the company changes, this induces the introduction of new methods; despite this, the specialist literature only features a few publications dealing comprehensively with this concept.

Burritt and Schaltegger’s (2010) principle of sustainability accounting represents the peak of accounting at the current time. Sustainability accounting goes beyond the two previously mentioned types by examining all three dimensions as well as corporate operations, and, what is most important, it emphasises the interaction between them to produce a heuristic, multi-dimensional approach to corporate sustainability.

From the changes of recent decades it is clear that traditional accounting does not offer sufficient relevant information for stakeholders about the creation of corporate sustainability, and thus it needs to be reformulated and expanded. This also leads to the development of accounting, but what is different about sustainability accounting compared to the earlier accounting types?

In the specialist literature we can find examples which attempt to establish the essence of sustainability accounting. Given that this is a new area in the process of development, there is no common agreement, but neither is there any widely accepted approach.

Schaltegger and Burritt (2010) begin their article by pointing out that there are several definitions of sustainability accounting; often different articles use the expression in the title, despite the fact that the authors use it in a different sense. One publication by Lambertson (2005) for example, gives a brief history of sustainability accounting, despite the fact that the author uses the term sustainability accounting in the sense of environmental accounting. We can also find examples of sustainability accounting in the TBL sense of the term, in Henriques and Richardson (2004) and from the Professional Accountants in Business Committee (2006), which maintains sustainability accounting is a tool with which the effects of corporate activity on social communities and natural environments can be rendered in numerical terms; in other words sustainability is expressed in financial terms. What causes these different uses of this concept? We only need to think back to the narrower and wider definitions of sustainability, in which the former only includes environmental sustainability, while the latter covers complete sustainability, or the three dimensions. In my opinion this can be one reason why the term is not clearly understood; the other reason being the differing conceptions of corporate sustainability. This problem is understandable, since if sustainability accounting is a tool to achieve corporate

sustainability, then the two concepts must be in harmony, and sustainability must mean the same in both cases. Consequently, we consider the broadest, most acceptable definition to be that of Schaltegger and Burritt (2010, p. 377):

“Sustainability accounting describes a subset of accounting that deals with activities, methods and systems to record, analyse and report:

- > First, environmentally and socially induced financial impacts,
- > Second, ecological and social impacts of a defined economic system (e.g., the company, production site, nation, etc.), and
- > Third, and perhaps most important, the interactions and linkages between social, environmental and economic issues constituting the three dimensions of sustainability.”

Traditional accounting deals with the financial aspects of corporate activity, as laid down by the law. In contrast, what is demonstrated from the perspective of the sustainability of corporate operations deals with sustainability accounting, which has no rules of application laid down in law, but which is, instead, a voluntary activity. At the same time the demand from stakeholders for information about companies’ social and environmental performance is growing all the time. Companies that are willing to meet these demands have an interest in developing and operating a sustainability accounting system.

However, we are dealing with a new management and accounting system, which provides high quality, relevant information to help the company to achieve corporate sustainability (Schaltegger and Burritt 2010). It is, in other words, a tool to realise corporate sustainability. In addition, it makes it possible to reach decisions related to sustainability on the basis of information related to sustainability. It is a financial language for decision makers which can be used to ensure the success of efforts to achieve corporate sustainability. According

to SIGMA (2003), sustainability accounting is a bridge which can carry the company to the shore of sustainable operations and behaviour.

We are entitled to ask the question whether sustainability accounting needs to be dealt with as a completely new, independent accounting system, or whether it should be a part or an extension of traditional accounting (financial accounting, management accounting). According to Schaltegger et al. (2006), the first option would be preferable, since it would offer the possibility of building the relevant economic, social and environmental advantages and risks, and the interaction between these dimensions, into the corporate accounting system. In practice, however, the authors believe that the second option is more realistic; the gradual modification and expansion of the existing accounting system represents a less drastic transformation for corporate management.

I believe that for this very reason it is useful and informative to compare the concepts of traditional, environmental and sustainability accounting, as is shown in Table 2. Since these three types of accounting examine different dimensions of the company, their information content is also different, as are the tasks the systems have to fulfil. The changed range of the tasks can be seen in elements of the accounting systems. The least developed area, which even today provides subjects for research in both traditional and environmental sustainability, is methodology. The methodology of sustainability accounting is still in its infancy. Since the accounting types mentioned above are built on each other, we believe that environmental accounting should be considered a part of sustainability accounting, and the methods applied there could be incorporated into sustainability accounting too. However, this is not enough, since because of the interaction between the three dimensions, it is likely that methods used by other branches of science will need to be introduced.

Table 2
Comparison of traditional, environmental and sustainability Accounting

	Traditional accounting	Environmental accounting	Sustainability accounting
Perspective	Corporate economic (financial) aspects	Link between the economy and the environment	Integration of the economy, society and the environment
Task	Show the general economic situation; Cost management	Show environmental performance; Show environmental liabilities and environmental costs	Show sustainability performance (economic, social and environmental performance)
Elements	Financial accounting Management accounting	Environmental financial accounting External ecological accounting Environmental management accounting Internal ecological accounting	Sustainability financial accounting Sustainability management accounting
Tools	Financial and accounting statements Internal reports, reports	Environmental reports	Sustainability reports
Methodology	Assessment procedures, Cost accounting	Environmental performance evaluation, Life-cycle analysis, Environmental cost-savings analysis	Other disciplines’ (biology, sociology) methods; Sustainability Balanced Scorecard
Unit	Basically, financial units (excluding inventory)	Financial and natural units	Financial and natural units
Regulation	Legal regulation (financial accounting) Voluntary (management accounting)	Legal regulations require reporting of some elements of environmental performance	Not regulated
Obligational characteristics	Compulsory	Some elements are required	Voluntary

Source: own elaboration, 2012

CONCLUSIONS

Companies have a key role in achieving sustainability. Their current activities not only have an effect on today’s world but on the future, too. Now, companies themselves are slowly beginning to understand this; however, relatively few know how to achieve corporate sustainability, and through this to contribute to total, global sustainability. Accounting can

offer help in this endeavour. However, traditional accounting systems do not deal with accounting for social and environmental effects and are not capable of demonstrating them. For this reason, sustainability accounting, going beyond green accounting, must be emphasised, both by researchers – searching increasingly for methods and procedures applicable in practical life – and by companies, so that decisions based on the information provided by sustainability accounting contribute to economic, social and environmental

- sustainability, and make it possible for the company to survive in the long term. The following research tasks are needed to achieve these goals:
- > to provide proposals to discover and further develop the basic principles, tools and methods which are most likely to allow the successful creation of environmental and sustainability accounting systems;
 - > to carry out empirical research with Hungarian companies to find the answer to the central question of whether they use environmental or sustainability accounting, and in which form, and to what extent, they analyse the information provided to them;
 - > to prepare a case study to show how a sustainability accounting system should be operated in practice.

Acknowledgements

The described work was carried out as part of the TÁMOP-4.2.2/B-10/1-2010-0008 project in the framework of the New Hungarian Development Plan. The realization of this project is supported by the European Union, co-financed by the European Social Fund.

REFERENCES

- ACCOUNTING LAW C., 2000, Hungary
- ÁLLAMI SZÁMVEVŐSZÉK FEJLESZTÉSI ÉS MÓDSZERTANI INTÉZET (2005): A környezettudatos gazdálkodás és a fenntartható fejlődés a szabályozás és az ellenőrzés tapasztalatainak tükrében (Environment-friendly management and sustainable development in relation to regulation and control). Kézirat, ÁSZ FEMI
- ALMÁSSY, D. (2006): Zöld számvitel (Green accounting). In: Pál, T. (ed.): Számviteli rendszerek (pp. 69-106). Economix Kiadó, Miskolc
- ALMEIDA, M.F. (2006): Sustentabilidade Corporativa, inovação tecnológica e planejamento adaptativo, Rio de Janeiro, Pontifícia Universidade Católica
- ARAS, G. & CROWTHER, D. (2008): Evaluating Sustainability: a Need for Standards. *Social and Environmental Accounting*, 2(1), 19-35
- BANSAL, P. (2005): Evolving sustainably: a longitudinal study of corporate sustainable development. *Strategic Management Journal*, 26, 197-218
- BRUNDTLAND REPORT (1987): Our Common Future, Oxford: Oxford University Press, pp. 43. Retrieved: July 2012: <http://www.un-documents.net/wced-ocf.htm>
- BURRITT, R. & SCHALTEGGER, S. (2010): Sustainability Accounting and Reporting: Fad or Trend?, *Accounting, Auditing & Accountability Journal*, 23(7), 829-846.
- CSUTORA, M. (2001): Vállalati környezetvédelmi költségek számbavétele (Measuring corporate level environmental costs). III. kötet, TTMK Kiskönyvtár
- CSUTORA, M. & KERÉKES, S. (2004): A környezetbarát vállalatirányítás eszközei (Measures of environment-friendly management). KJK-KERSZÖV, Budapest
- DANCHEV, A. (2006): Social capital and sustainable behaviour of the firm. *Industrial Management & Data Systems*, 106(7), 953-965.
- DOW JONES SUSTAINABILITY INDEXES – SUSTAINABLE ASSET MANAGEMENT AG (SAM) (2011): Dow Jones Sustainability World Indexes Guide Book, Version 11.6, 7 September 2011, pp. 9.
- DOYLE, P. (2000): Value-Based Marketing, Marketing Strategies for Corporate Growth and Shareholder Value. Chichester: John Wiley and Sons.
- DYLLICK, T. & HOCKERTS, K. (2002): Beyond the business case of corporate sustainability. *Business Strategy and the Environment*, 11, 130-141.
- EBNER, D. & BAUMGARTNER, R.J. (2006): The Relationship Between Sustainable Development and Corporate Social Responsibility. www.crcconference.org
- ELKINGTON, J. (1997): Cannibals with Forks: The Triple Bottom Line of 21st Century Business. Oxford: Capstone Publishing
- FÜLÖP GY. & HÓDI H. B. (2012): Corporate Sustainability – Strategic Alternatives And Methodology – Implementation. Management, Knowledge and Learning International Conference, 20-22 June 2012, Celje, Slovenia, pp. 109-120,
- GRAY, R. (1992): Accounting and environmentalism. An exploration of the challenge of gently accounting for accountability, transparency and sustainability. *Accounting, Organizations and Society*, 17(5), 399-425.
- GRAY, R., & MILNE, M. (2002): Sustainability reporting: Who's kidding whom? *Chartered Accountants Journal of New Zealand*, 81(6), 66-70.
- GRAY, R. (2006): Does sustainability reporting improve corporate behaviour? Wrong question? Right time? *Accounting and Business Research*, International Accounting Policy Forum, pp.65-88
- HENRIQUES, A. & RICHARDSON, J. (2004): The Triple Bottom Line: Does It All Add Up. Assessing the Sustainability of Business and CSR. London: .
- ILLÉS, M. (2002): Vezetői gazdaságtan (Economic Management). Budapest: Kossuth Kiadó.
- KALDSCHMIDT, S. (2011): The Values of Sustainability: The Influence of Leaders' Personal Values on Sustainability Strategies. PhD dissertation, University of St. Gallen, Germany
- LAMBERTON, G. (2005): Sustainability accounting—A brief history and conceptual framework. *Accounting Forum*, 29(1), 7–26.
- LEE, K.-H. (2011): Motivations, barriers, and incentives for adopting environmental management (cost) accounting and related guidelines: a study of the republic of Korea. *Corporate Social Responsibility and Environmental Management*, 18, pp. 39–49
- MALOVICS, GY. (2009): A vállalati fenntarthatóság érintettközpontú vizsgálata (Value-centred analysis of corporate level sustainability), Doktori értekezés, Szeged
- MARREWIK, M. VAN & WERE, M (2003): Multiple levels of corporate sustainability. *Journal of Business Ethics*, Vol. 44, No. 2/3, pp. 107-119
- PÁL, T. (2011): A környezeti kérdések megválaszolásának támogatása a számvitel eszközrendszerével (Answering environmental questions with the help of accounting). In: Kocziszky Gy, Bihari Á (ed.): Jubileumi tanulmánykötet Nagy Aladár professzor 70. születésnapjára. Miskolc: Miskolci Egyetem Gazdaságtudományi Kar, pp. 231-242
- PROFESSIONAL ACCOUNTANTS IN BUSINESS COMMITTEE (2006): Why Sustainability Counts for Professional Accountants in Business, International Federation of Accountants, New York

- RANSBURG, B. (2011): A fenntartható fejlődés vállalati integrációja a kommunikáció tükrében. A hazai nagyvállalati gyakorlat vizsgálata. (Corporate level integration of sustainable development. An analysis of Hungarian firm experience) PhD dissertation, Budapest University of Technology and Economics
- REED, R. & DEFILLIPPI, R. J. (1990): Causal ambiguity, barriers to imitation, and sustainable competitive advantage. *Academy of Management Review*, Vol. 15, No.1, pp. 88-102.
- SCHALTEGGER, S., BENNETT, M. & BURRITT, R. (2006): *Sustainability Accounting and Reporting*, Springer
- SCHALTEGGER, S. & BURRITT, R. L. (2000): *Contemporary environmental accounting: Issues, concepts and practice*. Sheffield: Greenleaf Publishing.
- SCHALTEGGER, S. & BURRITT, R. (2005): Corporate Sustainability, In Folmer, H. – Tietenberg, T. (ed): *The International Yearbook of Environmental and Resource Economics*. Edward Elgar, Cheltenham, pp. 185-232.
- SCHALTEGGER, S. & BURRITT, R. (2010): Sustainability accounting for companies: Catchphrase or decision support for business leaders? *Journal of World Business* 45: 375–384
- SIGMA. (2003): *The SIGMA guidelines—Toolkit. Stakeholder engagement tool*. London: The SIGMA Project
- YAKHOU, M. – DORWEILER, V.P. (2004): Environmental accounting: an essential component of business strategy. *Business Strategy and Environment*, Vol. 13, pp. 65-66.
- VÁGÁSI M. (2004): Integration of the Sustainability Concept into Strategy and Marketing, in: *Periodica Polytechnica Ser. Soc. Man. Sci.* Vol. 48(2): 245-260.
- VÁN, H. (2008): A környezeti számvitel regionális vonatkozásai (regional aspects of environment accounting). In: *Kérdőjelek a régiók gazdasági fejlődésében*. JATEPress, Szeged, pp. 288-296
- WIEDMANN, T. & LENZEN, M. (2006): Triple-Bottom-Line Accounting of Social, Economic and Environmental Indicators - A New Life-Cycle Software Tool for UK Businesses. *Third Annual International Sustainable Development Conference, Sustainability – Creating the Culture*, 15-16 November 2006, Perth, Scotland
- WILSON, M. (2003): Corporate Sustainability: What Is It and Where Does It Come From? *Ivey Business Journal*, No. 3 - 4.: 1-5.