DÉL–KELET EURÓPA – SOUTH-EAST EUROPE
INTERNATIONAL RELATIONS QUARTERLY, Vol. 1. No. 4 (Winter 2010/4 tél)

ACCOUNTING FOR CLIMATE CHANGE - WHAT AND HOW TO MEASURE

– A report on the 14th EMAN conference–

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The 14th EMAN conference, was hosted by the Corvinus University of Budapest between 24-25 January, 2011. The conference was the annual conference of the *Environmental and Sustainability Management Accounting Network* (EMAN), which has been set up in 1997, and since then it has organised annual conferences and published annual books, where relevant research questions concerning environmental accounting are discussed. Environmental and sustainability management accounting is understood here as environmental and sustainability accounting which is specifically addressed to support the information needs of the organisation's own management.

The main topic of the 14th conference focused on the assessment of business costs and benefits of climate change, as well as mitigation options. Conference topics included: Costs of climate change for companies, Accounting as support for the development of carbon business opportunities, Input-output cost analysis and emission accounting approaches, Accounting for credits in emission trading schemes, Accounting for emission leaking in emission trading schemes, Sectoral analysis on the economic consequences of climate change (e.g. insurance companies, agriculture, etc.). Both theoretical studies and empirical case studies were presented during the conference, contributing to support environmental and sustainability management.

The conference chair was Mária Csutora, associate professor of the Corvinus University of Budapest, who is the member of the Steering Comitte of EMAN. The conference was opened on 24 January, 2011 by the plenary speech of Stefan Schaltegger, the Chairman of the EMAN-EU, from the University of Luneburg, Germany. Stefan Schaltegger has highlighted the need for sustainability accounting especially concerning the climate change.

There is wide knowledge of the climate related costs (Stern review 2006) and mitigation costs (McKinsey report 2007) at an economic level. The above-mentioned studies, however, focus mainly on the macroeconomic level. Surprisingly little coverage can be found of the costs to business of climate change or mitigation policy.

This conference was the first to provide a forum for systematically accounting for the business costs of these challenges and for analyzing the role of accounting to develop economic business potential.

In his speech, *Stefan Schaltegger* gave an overview on the historical development of the environmental and sustainability accounting and controlling. While in the ’70-80’s the management control was based on conventional financial figures and the KPI- (Key Performance Indicator) based navigation was the core process of the company, in the ‘90’s the goal orientation came to the focus and more recently the reflection orientated management is spreading. Though, there is a need for sustainability management, the concept of the sustainability is still missing from the management of most of the firms. He spoke about the concept of the eco-control, by which the environmental issues could be integrated to the management control of the companies.

The concept of the Sustainability Balanced Scorecard (SBSC) was introduced in his speech, as a management and structuring method for better integration of the environmental, social and economic aspects of corporate sustainability measurement and management.

In the SBSC the non-market aspects are integrated to the balanced scorecard. Sustainability management control can act as a process to take on a coordination and integration function that does justice to the interdisciplinary character of sustainability management. If the logic of the SBSC, which serves to break down and implement corporate strategy and support the elements of sustainability relevant to business success, is followed then it becomes apparent that, if elements of sustainability relevant to business success are to be systematically accounted for, management control should be closely involved (Schaltegger, 2011).

Sándor Kerekes, the Vice-Rector of the Corvinus University of Budapest, in his plenary speech has highlighted the possibilities and institutional barriers of the present climate policy of the EU and commented on the efforts to combat climate change. He outlined the difference, shown on a historical example, between a comprehensive reform and an incremental one. According to him, strong interest groups, contributing to centralised, partial and slow reforms are not so desirable, as there is a need for comprehensive reforms in order to reach the targets of the climate policy and the challenge of the sustainability. The creation of social trust, instead of overregulation would help much more.

The third keynote speaker in the morning session was *Edeltraud Guenther* (Technische Universitaet Dresden) who presented a detailed literature review carried out about the term 'Carbon Accounting'. Her research is really a great contribution, as she structured the existing definitions after a systematic literature review to provide an appropriate definition for the term: Carbon Accounting. It is a widely used term by many scientists from various research fields, there are different understanding regarding the disclosed gases (CO_2, Kyoto-Gases or all GHG), the system boundary (global, national, organization) and valuation of disclosed gases (non-monetary or monetary). The findings were the following, the literature of the 'Carbon Accounting' can be divided into four sections: 1. Physical carbon accounting with focus on global and national area, 2. Physical carbon accounting in terms of Carbon Footprint(ing), 3. Monetary carbon accounting with focus on management accounting, 4. Monetary carbon accounting with focus on financial accounting. (Gunether et al. 2011). So when using the term of Carbon Accounting, one has to specify the scope and what is meant by that.

During the first day there were parallel sessions about conceptual issues of the climate and environmental accounting and also about supply chain approaches. A second plenary session was also held in the afternoon focusing on company-related issues.

Christine Jasch (IOEW, Vienna) held an interesting presentation on the qualification of auditors under the EU CO_2 Emission Trading Scheme (EU-ETS). She has highlighted the need for the proper emission audition of companies, as being part of the EU-ETS, the application of the basics of environmental accounting systems are fairly essential.

A common exploratory and empirical research of *Martin Bennett, Stefan Schaltegger and Dimitar Zvezdov* has been carried and presented about the corporate practice of sustainability accounting. The aim of the research was to receive insight how practice is developing in leading companies, what role the accountants have, and what challenges are being encountered. Results have shown that it is not trivial who collects sustainability information in a company, it can be someone from the human resources department, but also the sustainability manager, if that exists in the company. As for the use of the sustainability information, it is Sustainability manager or the general management by whom the information collected is used. An important observation is that sustainability managers do often keep the information and only pass it on to higher management. Concerning the data collection and information creation, it became clear from the research, that many information and accounting systems are used in order to manage the sustainability information. There were only a few companies with centralised approaches.

On the second day of the conference *Mária Csutora* (Corvinus University of Budapest) and *Imre Dobos* (Corvinus University of Budapest) presented their research in the plenary session on the carbon cost vulnerability of various economic sectors. They introduced a theoretical model using environmentally extended input-output tables and the calculation of the Leontief inverse matrix, which makes possible to calculate the spill-over effects of the different economic sectors. They argue that the cost of climate change will not be significant only for the great carbon emitters but also for the purchasers of the carbon intensive sectors. The input prices may generate additional costs on these industries or the demand for carbon neutral substitutes could increase. They pointed out that the carbon costs of climate change could be high and be a greater burden for industries such as furniture industry and printing. Because of the market structure and heavy competition companies of these industries might even be more affected than the companies, which operate under more oligo-or monopolistic conditions, such as the oil and gas industry.

During the second day, after the plenary session, parallel sessions were held. One of the parallel sessions was an Innovation workshop organised by the Hungarian Cleaner Production Centre. In the other parallel session participants presented and discussed issues from Corporate Sustainability Accounting to the Global Reporting Initiative on greenhouse gas emissions.

Participants came for the conference from various countries, from Greece to Finland, from the USA to Malaysia. The total number of the participants was 70. As EMAN organises its conferences annually, the next conference will be held in Helsinki, Finland in September, 2012.

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