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ENVIRONMENTAL MANAGEMENT SYSTEM - A WAY TO SUSTAINABLE DEVELOPMENT IN UNIVERSITIES

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Abstract: Traditionally EMSs are implemented across all operations at a facility simultaneously. This way of implementation works well for industry and smaller businesses and offices where operations are easily delineated and there is a simple chain of command structure in place. The University is able to implement the EMS strategy similarly. Environmental Management System is an integrated organized set of policies and procedures under which the University can remain compliant with applicable environmental regulations, and in addition, manage and lessen our impacts on the environment, thereby improving the University's overall environmental performance. The University's EMS will require continual evaluation of the University's activities to ensure the University is doing as much as possible to reduce its impact on the environment and to remain environmentally compliant. This paper describes present situation and approach of universities to implementation of EMSs in Slovakia and into university management in abroad. The main principles and key requirements of the organisation management in accordance with the sustainable development are not only safety and quality managing of all activities in organisation in both manufacturing and services (education) but also environmental appropriate access.

Keywords: Environmental Management System (EMS) strategy, continual evaluation, implementation

INTRODUCTION

The University is made up of a variety of under-graduate, graduate, and professional schools, each comprised of many departments with unique specialties. In addition to academics, the University maintains a large laboratories, a large educational and research departments, lecture halls and facilities maintenance staff that maintain the infrastructure of the University, such as utilities and building [7]. With so many diverse operations, University-wide implementation is exceedingly difficult. To more effectively communicate the tasks and goals of the environmental management system (EMS) to all the faculty, staff, and students, as well as getting the required support of the EMS from all departments, the EMS is being implemented incrementally on a much smaller scale [2].

ENVIRONMENTAL MANAGEMENT AS TOOL FOR SUSTAINABLE DEVELOPMENT

The main principles and key requirements of the organization management are not only safety and quality managing of all activities in organization in both manufacturing and services (i.e. education) but also environmental appropriate access in accordance with the sustainable development [5]. Modern pro-environmental oriented management approaches (as BS 8555 standard, EMS, EMAS etc.) emphasizes the principle of continuous improvement, based on the Deming Cycle, Figure 1.

Implementation of environmental management system influences the growing interest of the public, pressure from customers and business partners, and especially aware of own responsibility for the state of the environment. This system is implemented voluntarily and the enterprise can actively

monitor and manage the impact of its activities on the environment, enterprise can gradually reduce all its negative environmental impacts.

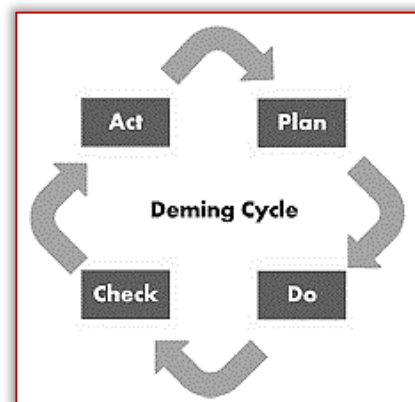


Figure 1. Deming cycle



Figure 2. Continual Improvement model [9]

The most commonly used framework for an EMS is ISO 14001 standard. An integral part of the EMS is the detailed systematic control of all documents including policies, procedures, training records, reports, permits, and all other relevant environmental information, Figure 2.

APPLICABLE OF ENVIRONMENTAL MANAGEMENT SYSTEM INTO UNIVERSITY ORGANIZATION

Environmental management system is an integrated organized set of policies and procedures under which the University can remain compliant with applicable environmental regulations, and in addition, control and lessen our impacts on the environment, thereby improving the University's overall environmental performance. This may sound complicated, but the concept is relatively simple. As coordinated teams, Environmental Health & Safety (EHS) and each department at the University systematically and regularly evaluate the department's operations for environmental regulatory compliance and environmental impacts. Operations are modified as necessary to meet the requirements of the regulations. Identified environmental impacts are ranked and investigated to find ways to prevent, lessen, or eliminate these impacts.

Policy and strategy

An EMS enables an organization to manage its environmental performance in a comprehensive, systematic and documented manner. It serves as a tool to reduce the impact, both immediate and long-term, of an organization's operations on the environment. It encourages the allocation of resources, assignment of responsibility, and ongoing evaluation of practices, procedures and processes with a view to continual improvement of the system [4].

For universities, the introduction of EMS mean improving the image of the public and it also may be proof of its quality and social responsibility. It can reform the education of the students to a better and also open up new opportunities for obtaining research grants and supporting cooperation between faculties [2].

Eco Campus

One of the schemes, which enables to colleges and universities to be recognized for addressing key issues of environmental sustainability is Eco Campus [1]. Eco Campus is a scheme which offers a flexible phased approach to implementing an environmental management system for the higher and further education sector.

Eco Campus provides a modular, phased, incremental approach to developing an EMS in line with both BS8555 & ISO 14001. Participants gain recognition at each stage of the process through a series of awards from bronze through silver, gold and platinum. The platinum award conforms to the requirements of the international environmental management standard ISO 14001 (see the Figure 3).

The scheme enables colleges and universities to be recognized for addressing key issues of environmental sustainability [6]. Eco Campus provides awards relating to 4

levels of achievement, linked to each stage of EMS development:

Phase 1: Planning (Bronze)

- Senior management commitment
- Environmental awareness training
- Baseline environmental review
- Draft environmental policy

Phase 2: Implementing (Silver)

- Legal & other requirements
- Significant environmental aspects
- Objectives, targets & programs
- Environmental policy

Phase 3: Operating (Gold)

- Resources, roles, responsibility & authority
- Competence, training & awareness
- Communication
- Documentation
- Control of documents
- Operational control
- Emergency preparedness and response

Phase 4: Checking & Correcting (Platinum)

- Monitoring & measurement
- Evaluation of compliance
- Nonconformity, corrective action & preventative action
- Control of records
- Internal audit
- Management review

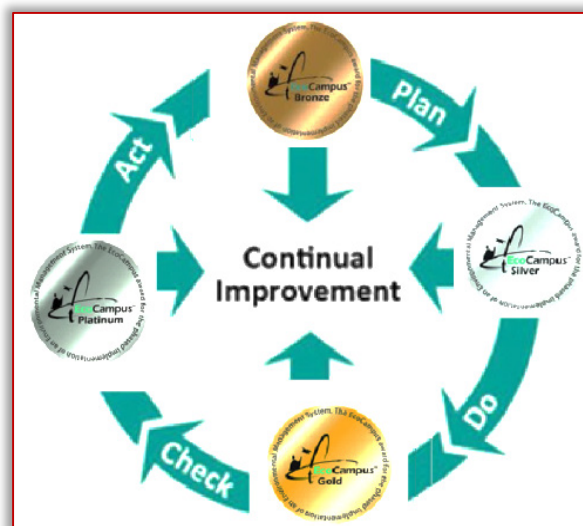


Figure 3. Stage of the process Eco Campus

BS 8555

Eco Campus is closely aligned to ISO 14001, the international environmental management standard, and BS 8555, the British guidance standard.

The British Standard BS8555 (full title: Guide to the phased implementation of an environmental management system including the use of environmental performance evaluation, Figure 4) describes how to implement a generic EMS and can be used as a route towards ISO14001 and EMAS.

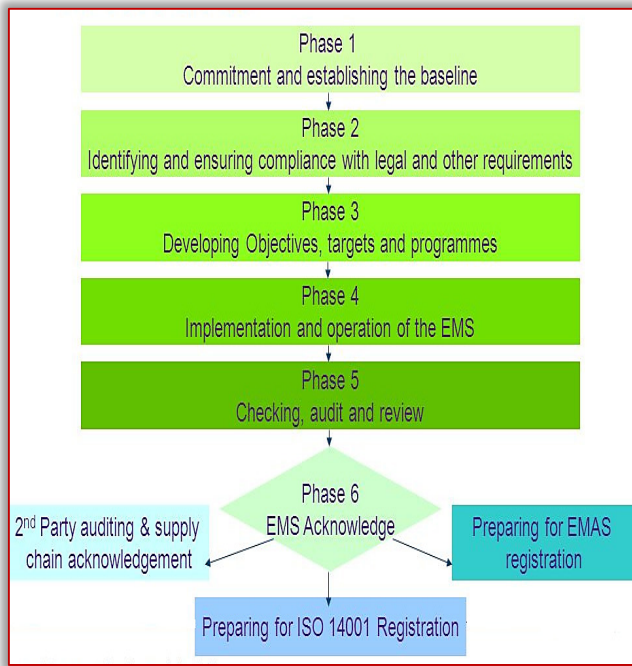


Figure 4. BS8555 Model

FOREIGN UNIVERSITY ENVIRONMENTAL MANAGEMENT SYSTEM

As an example of the existing EMS in foreign universities is Manchester Metropolitan University (MMU). This University has implemented an Environmental Management System that is certified by ISO14 001 and awarded Eco campus Platinum as one of only 28% of Eco Campus-registered Universities that have Eco Campus Platinum. The Environmental Management System is implemented by using the phased approach of the Eco Campus scheme, which provides a structured approach to work towards the ISO14001:2015 standard. In 2016, MMU was the first University to achieve the new and more challenging ISO14001:2015 standard. EMS incorporates all of the University's business activities, including estates and operations, leadership and governance, learning, teaching and research and engagement activities. Environmental Sustainability Strategy 2014–2020 sets out the actions MMU needs to take to achieve our aims and become a Sustainable University [8]:

- Placing environmental sustainability alongside graduate employability
- Use of sustainable modes of transport that minimize environmental impact
- Embed sustainable design principle
- Grow sustainability-themed research activity by 2020
- Ambitious targets to reduce carbon emissions by 50% by 2020
- Prevent, reduce, reuse and recycle
- Reuse and recycle 85% of waste by 2020
- Protect and enhance biodiversity across the university

- Offer opportunities to develop skills and knowledge to live and work sustainability
- Zero waste to landfill policy commitment
- Use alternative water sources and reduce water consumption by 25% by 2020.

MMU is an example for other universities which illustrates as to implement and realize the environmental policies and plans into university concept. It's vital that staff, students, trade union representatives should have the enthusiasm and interest to engage in the development of environmental policies, strategies and management plans of their university.

CONCLUSION

Currently, there is no university in Slovakia, which would have introduced a certified environmental management according ISO 14001. According scheme EMAS II, while efforts to introduce environmental education into university teaching process, especially in terms of sustainable development and the establishment of EMS in the next step. This scheme was planning to introduce the issue of sustainable development in relevant study program as well as the introduction of at least one subject on that topic at all levels of higher education.

The next phase is a scheme EMAS III, which is used in the step of introducing of environmental management system and schemes Green University of Slovakia and also for higher education of institutions [3]. The aim for the future is to certify the EMS in the Slovak universities the same as universities abroad that they have been successfully practiced with positive results already in the process of system integration

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