

# Sustainable Management as a Part of Business Excellence of DEM

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## *Abstract:*

The role and significance of sustainable management, as a part of business excellence, becoming ever more important in the future. The increasingly limited environment resources demand managers of organisational systems to perform alternative measures in managing organisational systems. One of the techniques being developed for this purpose is Business Excellence Model. The article focuses on Sustainable Management as a part of Business Excellence of Dravske Elektrarne Maribor (DEM).

*Key words:* business excellence, environment, management, sustainable management,

## 1 Introduction

The future landscape of European energy supply and demand will have to make much greater use of new renewable energy sources and focus more upon energy-efficient methods. Today, we can be proud of the fact that Europe is already a leading advocate in the fight to halt the depletion of natural resources and prevent climate change. It is in the context of the EU commitment to change the landscape of energy that the Sustainable Energy Europe 2005-2008 Campaign has been launched. Set for a period of 4 years, the Campaign will contribute to the achievement of EU energy policy goals and targets in the fields of renewable energy sources, energy efficiency, clean transport and alternative fuels. The specific objectives of the Sustainable Energy Europe 2005-2008 Campaign are to:

- Raise the awareness of decision-makers at local, regional, national and European level
- Spread best-practice

- Ensure a strong level of public awareness, understanding and support
- Stimulate the necessary trends towards an increase in private investment in sustainable energy technologies [1]

According to this, producing as much as possible is no more a central issue that should affect or change the economic course of development or improve quality of life [10]. Sustainable management with innovation is of vital importance not only for those who want to increase or sustain economic growth in a given area (region, state and the like) but also for those who benefit(in) directly. According to this, producing as much as possible is no more a central issue that should affect or change the economic course of development or improve quality of life [10]. The role and significance of sustainable management, as a part of business excellence, becoming ever more important in the future. It is about a new approach in managing the organisation and environment resource planning in society. Integrated production processes innovation model which promotes production processes innovation was derived from the model of managing

company policy following the interest theory and business excellence [6]. It was conceived in the frame and interdependence of both objective and subjective starting points of initial change agents as well as from process knowledge of process managers. The successful development and implementation of processes innovation in an organizational system can produce a significant saving in the amount of business and environment resources and therefore a smaller environmental impact. The natural environment is a limited production factor and not, as had previously been considered, only the supplier of raw materials. These have previously been free goods without an assigned market value, while the environment has been an agent for the neutralisation of wastes and emissions of production and consumption [3].

## 2 Business Excellence and Quality Policy of DEM

One of the most important thing in business excellence is leadership. Leaders establish utility of purpose and direction of the organisation. They should create and maintain the internal environment in which people can become fully involved in achieving the organization's objectives [11]. Figure 1 presents Leadership with PDCA approach.

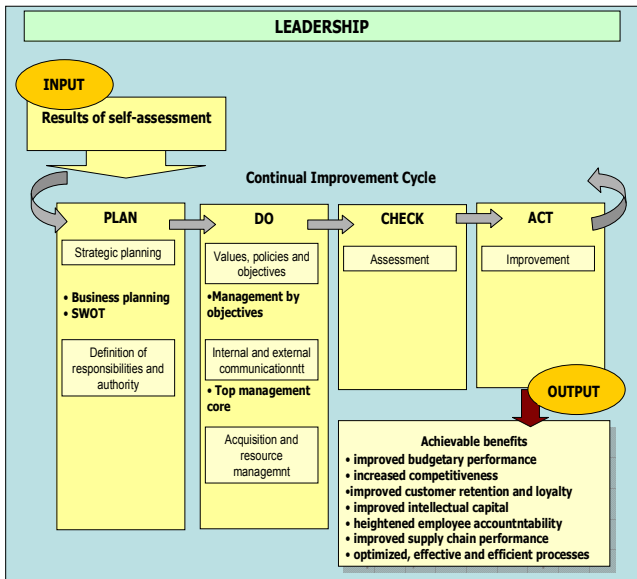


Figure 1: Leadership [11]

For an organisation to maximise the benefits of adopting the Business Excellence Model, a management team must first ensure that it is

comfortable with these concepts. Clearly if these Concepts are not fully understood and accepted then progress with adopting the Model will be difficult and potentially meaningless. There is no significance intended in the order of the concepts. The list is not meant to be exhaustive and they will change as excellent organisations develop and improve. The Fundamental Concepts are:

- **Results Orientation;** Excellence is achieving results that delight all the organisation's stakeholders.
- **Customer Focus;** Excellence is creating sustainable customer value.
- **Leadership and Constancy of Purpose;** Excellence is visionary and inspirational leadership, coupled with constancy of purpose.
- **Management by Processes and Facts;** Excellence is managing the organisation through a set of interdependent and interrelated systems, processes and facts.
- **People Development and Involvement;** Excellence is maximising the contribution of employees through their development and involvement. Figure 2 presents Involvement of People with PDCA approach.

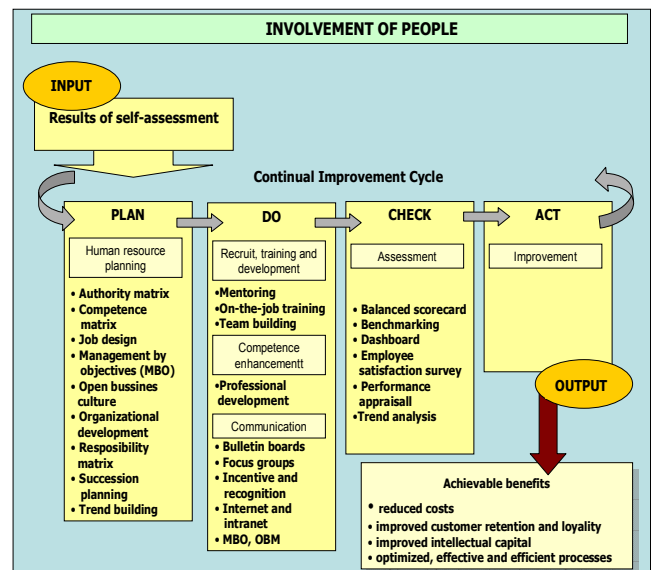


Figure 2: Involvement of people [11]

- **Continuous Learning, Innovation and Improvement;** Excellence is challenging the status quo and effecting change by utilising learning to create innovation and improvement opportunities.
- **Partnership Development;** Excellence is developing and maintaining value-adding partnerships.
- **Corporate Social Responsibility;** Excellence is exceeding the minimum regulatory framework in which the organisation operates and to strive to understand and respond to the expectations of their stakeholders in society [13]. Figure 3 presents Business Excellence Model.



Figure 3: Business Excellence Model [12].

The inclusion of enterprises in the international market, the care for reputation, that the enterprise profit with the environment protection and permanent development, places the politics of environment protection and business excellence to the base of the professional politics [7]. The current position of an organization with regard to the environment can be established by means of an initial processes operations and quality policy[3]. This is why the integration of environmental goals into the system of entrepreneurial policy is so vital. In theory, we can distinguish the ones, which pertain to the inflow (rational use of raw materials, materials, energy, etc.), and those, that relate to the outflow (absolute limitation of waste and emissions), with the simultaneous maximisation of waste re-use [8]. All the activities of Dravske Elektrarne Maribor comply with quality management standards according to the ISO 9001:2000, ISO

14001:2004 and OHSAS 18001:1999 certificates. All the processes within the company are carried out so as to ensure the quality of all the company’s major activities, including the generation of electric energy in hydroelectric power plants, the maintenance of energy facilities and equipment, the development and management of investment projects and the operations of the company as a whole. A comprehensive system combines the assurance of quality with the responsible treatment of the environment while also ensuring safety at work and the health of employees. The quality system implementation in all areas is defined by the specific rules of governance and the meeting of principles and guidelines is proven by the appropriate systems documentation. At the Dravske Elektrarne Maribor company, all processes undergo continuous surveillance[12]. Achieving excellence is the fundamental guideline for the actions of the company and those of each individual in it. A significant part of the quality management system is the responsible treatment of the environment. Technological solutions are established and supervised so as to decrease their effects on the environment. All actions affecting the environment are carefully planned and implemented in accordance with the principles of the sustainable use of natural resources. The responsible treatment of the environment includes a planned encouragement of knowledge, awareness and actions which will allow for the preservation of nature as well as our technical and cultural heritage. The quality of operations and the efficiency and success of company depend on the knowledge and capabilities of employees. The management system directed at maintaining the health and safety of employees is based on the management of the risks associated with the company's operations [12].

### 3 Care for Sustainable Development

Where the water roars and where it ceases, sources of life can be found. The damming of water on the Drava River, the biggest river in Slovenia in terms of its energy potential, allows for the use of captured power. The newly created nesting islands for water birds and the developed embankments of the river and its lakes return back to the entire area its natural diversity of life. The generation of electric power, which in the past influenced and changed the life of the river, today represents a watercourse of natural coexistence. Renewable resources of energy will, through the well-deliberated management of the environment, remain available for many generations to come [12]. Figure 4 presents Maribor Lake.



Figure 4: Maribor Lake [12].

Our care for sustainable development safeguards the quality of life for current and future generations. For it is only right that we are close to nature, which allows the existence of both ourselves and the people with whom we live together. We want to responsibly and creatively co-shape the environment in which we operate, and thus our attention is directed towards numerous projects in all areas of Dravske elektrarne Maribor's activities, from Dravograd to Formin. Within the scope of economic possibilities, we support a number of humanitarian, sports, cultural, educational and other projects, as well as socially advantageous activities on the local, regional and national level [12].

## 4 Environmental projects

Unceasing circulation of matter is ensured through constant maintenance, redirection and return to its original form. Dravske Elektrarne Maribor is taking every effort to preserve water's natural characteristics by maintenance of the Drava's reservoirs and embankments, ensuring living space for vegetation, wildlife and people, through well-planned environmental projects. Not only is their implementation important, but so is the manner of planning works that must be designed so that new ecological burdens are not placed on the environment [12]. Follow projects are:

### 4.1 Maribor Lake (Reservoir)

The Maribor Lake is an attractive recreational area. In the last decade, Dravske Elektrarne Maribor has successfully improved a number of tourist-recreational points on the lake. These include deeper moorings and the deepening of the lake floor for the boathouse and tourist facilities, the repair of tributary outlet, the creation of artificial islands, and the maintenance and expansion of tourism possibilities on the lake. During the maintenance work both here and at Ptuj Lake, the possibilities for water-related tourism and recreational use were taken into account.

### 4.2 Ptuj Lake (Reservoir)

The Ptuj Lake is an important refuge for migrating, rare and endangered species of birds, which have found a replacement habitat here. The lake also offers interesting recreational opportunities. Dravske Elektrarne Maribor has, through the thoughtful maintenance of valuable natural assets, set up a pilot program that includes the lining of banks and their landscaping.

### 4.3 Depot for Floating Debris

The current of the Drava River brings with it various types of floating debris, which can, during periods of high water, cause the blockage of turbine trash-racks and cause a decrease or even standstill in the generation of electric power (in short, also influencing the ecological status of the waters downstream). Therefore, Dravske Elektrarne Maribor cares about the effective removal of floating debris. Somewhere between 3000 and 8000 m<sup>3</sup> of floating debris is removed annually and is taken to a temporary depot within the fence area of the Zlatoličje Power Plant. Organic debris is treated like raw materials for additional processing – the ground up debris is used as humus.

### 4.4 Wild Sail

For the maintenance of hydroelectric facilities, inspection of dykes along all flows of the Drava River and for maintenance of parts of hydroelectric power plants and regarding ecologically significant works on reservoirs, Dravske elektrarne Maribor maintains a special working vessel, which already through its name draws attention to its ecological purpose. The Wild Sail (Anemone Sylvestris) is named after the vegetation found in wet regions. The environment of the boat are the reservoirs, potential growing spaces of plants bearing the same name and the Maribor otok

where the flowers of the buttercup family had already bloomed for centuries.

#### 4.5. Development Opportunity

Pumped storage hydroelectric power plant on the Drava river in the region of Kozjak is the most important development opportunity. The basic concept of a pumped storage power plant (PSPP) on the River Drava is to make use of natural conditions to produce electrical energy at a time of peak usage, also known as peak energy, as well as to enable better capacity utilization of power plants that produce band energy. PSPP will also serve as reserve power in case of a larger generation unit outage in the electro-energy system of Slovenia, while enabling control over network power and frequency at the same time. Basic technical data are:

Reservoir - useful volume	3 million m <sup>3</sup>
Penstock	2400 m
Gross head	713,2 m
Net capacity	2 x 220 MW
Rated No. of revolutions	600 rev./min
Turbine	Francis - reversible
Annual generation	860 GWh
Connection of the hydroelectric power plant to the 400 kV Maribor substation	

### 5 Conclusion

Sustainable Management as a part of Business Excellence of Dravske Elektrarne Maribor (DEM) dictate the redefining of economic interests in the wake of the recognition, that the natural environment is a limited production factor. The activities are orientated to the whole proceeding. In a world where markets, products, technologies, competitors, regulations and even societies change rapidly, continuous innovation and have become important sources of sustainable competitive advantage [4]. It is about a new approach in managing the organisation

and environment resource planning in society [5]. By the combination of inspections, assessments and improvements of processes, training and ongoing information for employees and ensuring that appropriate materials and other resources are available for the successful operation, the company guarantees the conformity of its activities with all the legal requirements and international standards so as to achieve all around business excellence[12].

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