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The new core indicators of EMAS III

Six key areas for presenting environmental performance

The environmental performance improvement was and is a major concern of EMAS. The whole environmental management scheme is focused on improvement. There were always statistics which report on energy and resource consumption as well as waste and emissions with each environmental statement. The new EMAS III regulation makes this information more precise by standardising the indicators. Thus the environmental performance of the participating organisations shall be homogeneously and clearly illustrated in the future.

These performance indicators refer to total annual input/impact, overall annual output and the ratio for a coherent benchmark in order to allow for a reasonable comparison of improvements and trends over several years – despite changing external circumstances.

These new requirements are sometimes considered to be an unnecessary tightening. But having a closer look at it you will find that it is not the case especially for those participants which have already assessed and illustrated their environmental aspects appropriately. Fundamentally new is just the way of how indicators are presented.

The six core indicators cover aspects - which are considered in nearly all organisations and enterprises following a systematic environmental protection approach. They have also already been mentioned in EMAS II (Annex VI, 6.2) with regard to direct environmental aspects:

- Natural resource and raw material consumption (including energy)
- Prevention, recycling, reuse and disposal of solid and other waste, especially hazardous waste
- Land use and soil contamination
- Emissions into the atmosphere

The core indicators refer only to direct environmental aspects and have to be considered only if they are are relevant to the significant direct environmental aspects of the organisation. (EMAS III, Annex. IV C, No 2a).

The new core indicators for environmental reporting (compiled from EMAS III Annex IV C):

Key Areas	Input or Impacts
Energy efficiency	**Total direct energy use** Expressed in MWh or GJ **Total renewable energy use** Percentage of total annual energy consumption (electricity and heat) from renewable energy sources
Material efficiency	**Annual mass-flow of different materials used** (Excl. energy carriers and water) Expressed in tonnes
Water	**Total annual water consumption** Expressed in m^3
Waste	**Total annual generation of waste** Broken down by type, Expressed in tonnes **Total annual generation of hazardous waste** Expressed in kg or tonnes
Biodiversity	**Land use** Expressed in m^2 of built-up area
Emissions	**Total annual emission of greenhouse gases** Incl. at least emissions of CO_2, CH_4, N_2O, HFCs, PFCs and SF_6 Expressed in tonnes of CO_2 equivalent **Total annual air emission** Incl. at least emissions of SO_2, NOX and PM, Expressed in kg or tonnes

Insofar there are no major changes compared to current practice. Up to now the significant environmental aspects have been “a basis for setting its environmental objectives and targets” and therefore have been measurable as well.

Likewise the criteria for assessing the significance of the environmental aspects are nearly identical in EMAS III compared to EMAS II (EMAS II Annex VI No. 6.4 “Significance” and EMAS III, Annex I No 3. “Description of the criteria for assessing the significance of the environmental impact”).

The indicator "emissions" has to be interpreted with respect to its significance: CO_2-emissions or CO_2-equivalents are currently reported in most environmental statements. The greenhouse gases and emissions mentioned above are relevant, only if they are actually produced and account for significant amounts. If this is not the case, it should be explained shortly why not.

The reference figures

EMAS III provides standardised reference figures for all six indicators which differ only in accordance with the type of organisation.

Industrial enterprises shall refer either to gross value added (simplified: sum of revenues minus non-labour costs of inputs) or output (in tonnes), small sized enterprises may also refer to the number of employees. (Annex, IV C 2d):

"*for organisations working in the production sector (industry), it shall indicate the total annual gross value added expressed in million Euro (EUR Mio) or total annual physical output expressed in tonnes or, in the case of small organisation the total annual turnover or number of employees."*

The total gross value added can easily be calculated with the help of the instruction provided by the German Federal Statistical Office referring to the cost structure survey "Assessment of gross value added" (German) and the data from the organisation's accounting department.

The reference figures of non-production companies (administration / services) shall be expressed by the number of employees.

If these information affect company secrets or confidential data, information can be indexed to one year as a base line (e.g. 2005 = 100).

"If disclosure would adversely affect the confidentiality of commercial or industrial information of the organisation where such confidentiality is provided for by national or Community law to protect a legitimate economic interest, the organisation may be permitted to index this information in its reporting, e.g. by establishing a base line year (with the index number 100) from which the development of the actual input/ impact would appear." (Annex IV C 1, sentence 3).

This ensures that the EMAS requirement of environmental performance improvement can be presented transparently without providing an undue insight into confidential data.

Planned Assistance

The European Commission imposed the task on itself to develop "*in consultation with Member States and other stakeholders, (…) reference documents that shall include best environmental management practice (and) environmental performance indicators for specific sectors*" (Article 46, paragraph 1) in order to ensure the significance of these indicators.

The reference documents will be an assistance for EMAS participants. Insights into best-practice organisations will establish clarification about the usage of these indicators and may lead to new impulses for one's own management system.

However, it is not predictable when these reference documents will be available and how detailed they will be regarding process-relevant indicators.

Currently the European Commission works on the reference documents for the sectors "public authorities", "retail industry", "building industry" and "tourism".

Increasing experience will show how the environmental reporting after EMAS III will be put into practice in detail.

Conclusion

The six "new" key areas (energy, water, waste, materials, emissions, and land use) are basic topics of an environmental management. Only the way of presenting them with predefined reference figures is new. Confidential data do not have to be published.

The new EMAS core indicators:

- are in vogue of increasing energy and material efficiency as well as decreasing CO_2 emissions. Only things that can be measured can be improved.
- shall provide assistance for those organisations which experienced difficulties in illustrating the environmental impacts transparently and clearly.
- shall add comparability to hitherto different information in environmental reporting (truly comparable are only indicators on process level – which normally are not published, but can be used for calculating the comprehensive EMAS indicators).
- prompt questions about its implementation, which will be hopefully resolved with increasing experience.