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**ISO 14031 and EU Rec. On  
Environmental Performance Indicators**

# Reference documents

- ISO 14031 Environmental Performance Indicators
- Commission Recommendation of 10 July 2003 on guidance for the implementation of Reg. CE No. 761/2001 (EMAS Regulation) concerning the selection and use of environmental performance indicators

In selecting environmental performance indicators for a particular environmental aspect and organisation should ask itself:

- What are the organisations main environmental aspects and impacts?
- Where can most improvements be achieved?
- Where can environmental improvements also lead to cost reduction?
- How does the organisation affect the local or regional environmental situation?
- What environmental problems dominate the current political discussions?
- Are the indicators proposed understandable and unambiguous?
- Do they allow for a year on ear comparison?
- Don they allow for comparison with sector, national or regional benchmarks and regulatory requirements?

If the answer of any of the above is NO then an organisation should give further consideration to the design of that environmental indicator. Indicators should however be regularly reviewed to ensure their relevance and to take account of new information and developments.

# Basic principles of indicator systems

- comparability: indicators should enable a comparison and show changes in the environmental performance,
- balance between problematic (bad) and prospective (good) areas,
- continuity: indicators should be based on the same criteria and should be taken over comparable time sections or
- units,
- timeliness: indicators should be updated frequently enough to allow action to be taken,
- clarity: indicators should be clear and understandable.

# Types of KPIs

- Absolute or relative indicators
- Indicators for different system boundaries (company, site, processes, products)
- Indicators in volumes and money
- Aggregated (e.g. COS along Life Cycle)
- Indexed (percentage distribution)
- Weighted in relation to significance

# Setting targets

- Absolute goal definition:
- Reduction of water consumption in the restaurant from 6.000 m<sup>3</sup> to 4.500 m<sup>3</sup> till 2011
- Relative goal definition:
- Reduction of water consumption from 3 Liters per meal to 2,5 Liters per meal till 2011
- What is more ambitious? What is better?

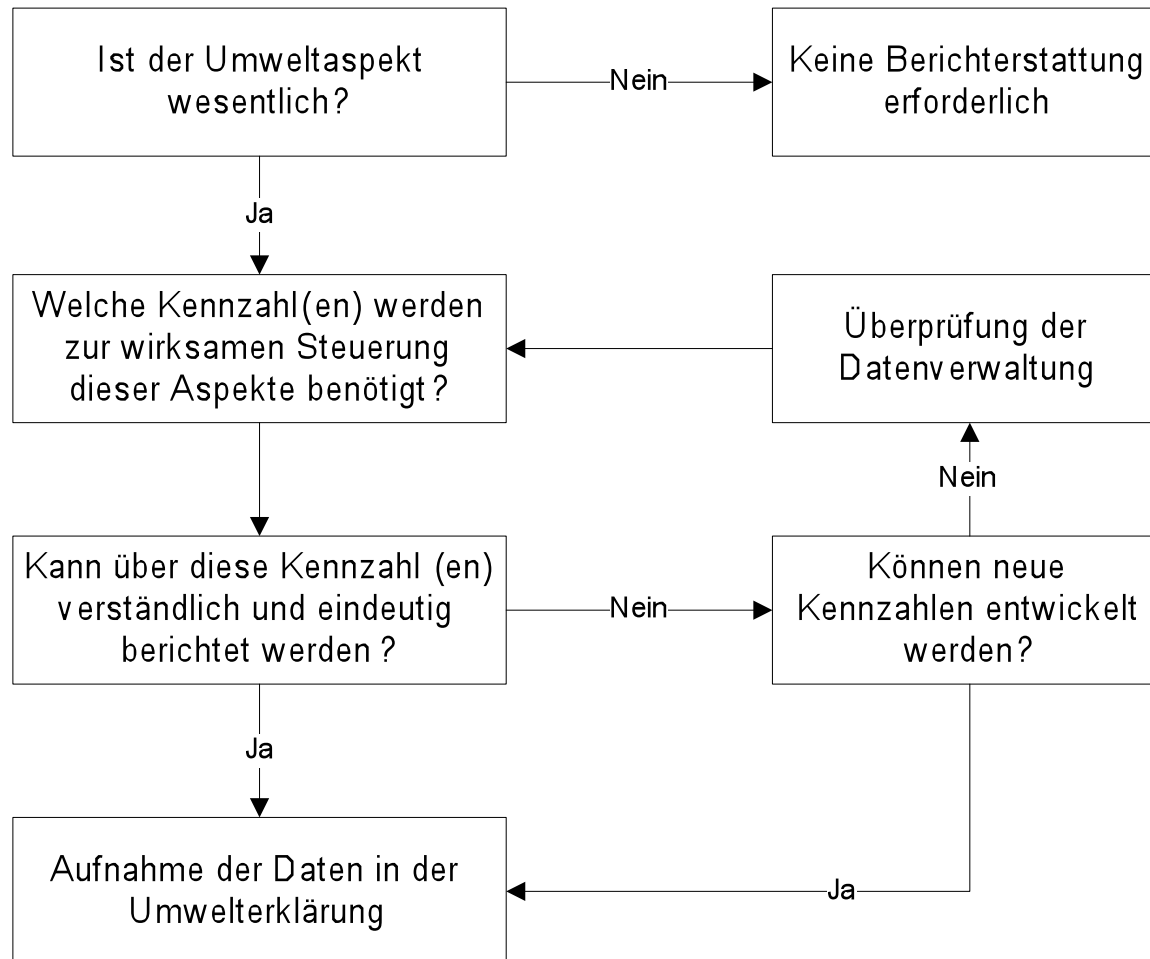
# Answer: It depends!

**Beispiel: Umweltkennzahlen im Jahresvergleich**  
**Darlegung der kontinuierlichen Verbesserung einer Spinnerei von gefärbten Garnen**

| Kennzahl              | Einheit            | 1993      | 1994      | 1995      | Tendenz |
|-----------------------|--------------------|-----------|-----------|-----------|---------|
| Produktion            | kg                 | 4.075.000 | 3.640.000 | 2.940.000 | ☹☹      |
| Wasserverbrauch       | m <sup>3</sup>     | 249.670   | 241.450   | 219.010   | ☺☺      |
| Wasserverbrauch /Garn | m <sup>3</sup> /kg | 61        | 66        | 66        | ☹☺      |

# Auswahl von Umweltleistungskennzahlen

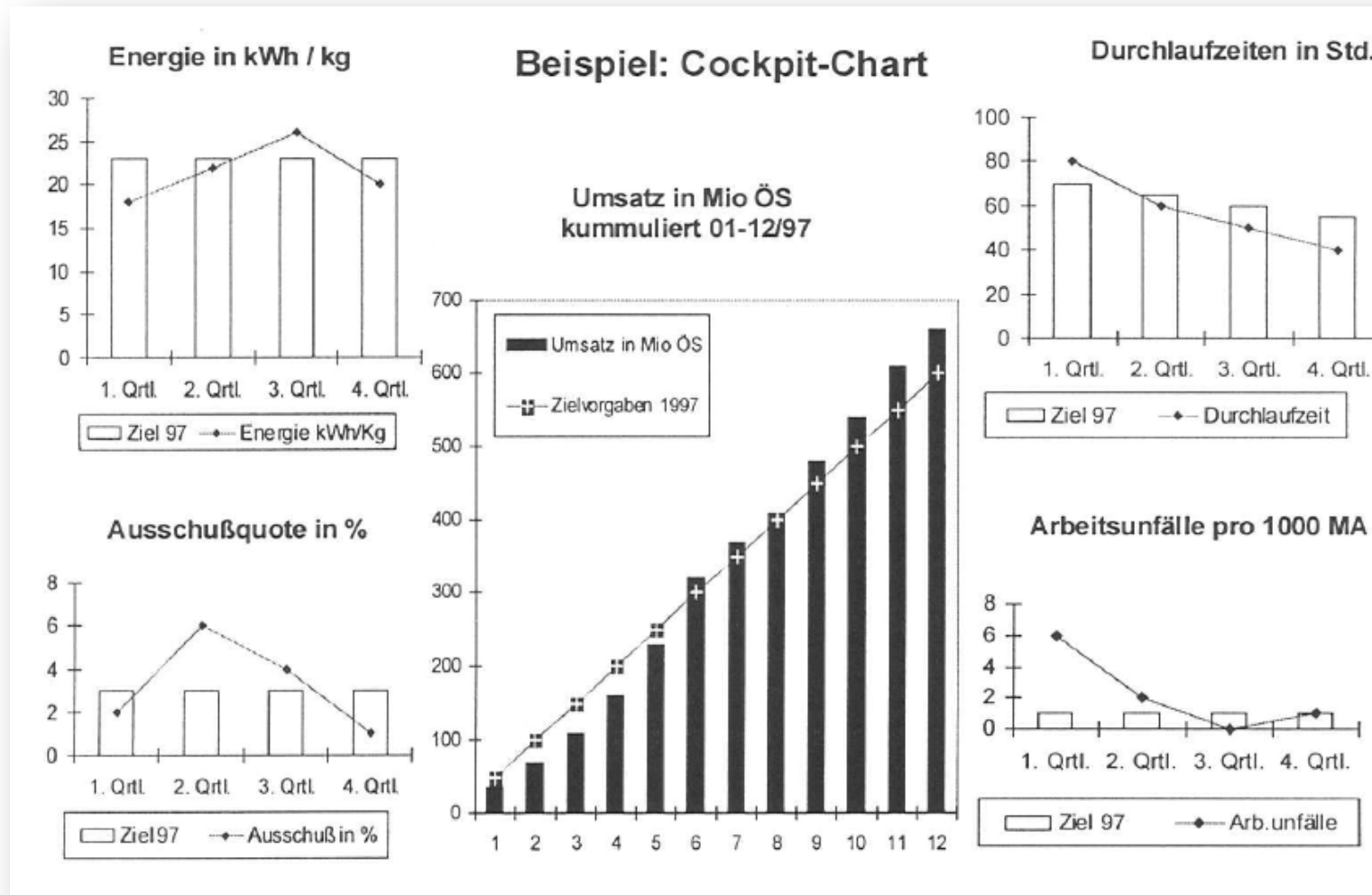
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# Cockpit - Chart

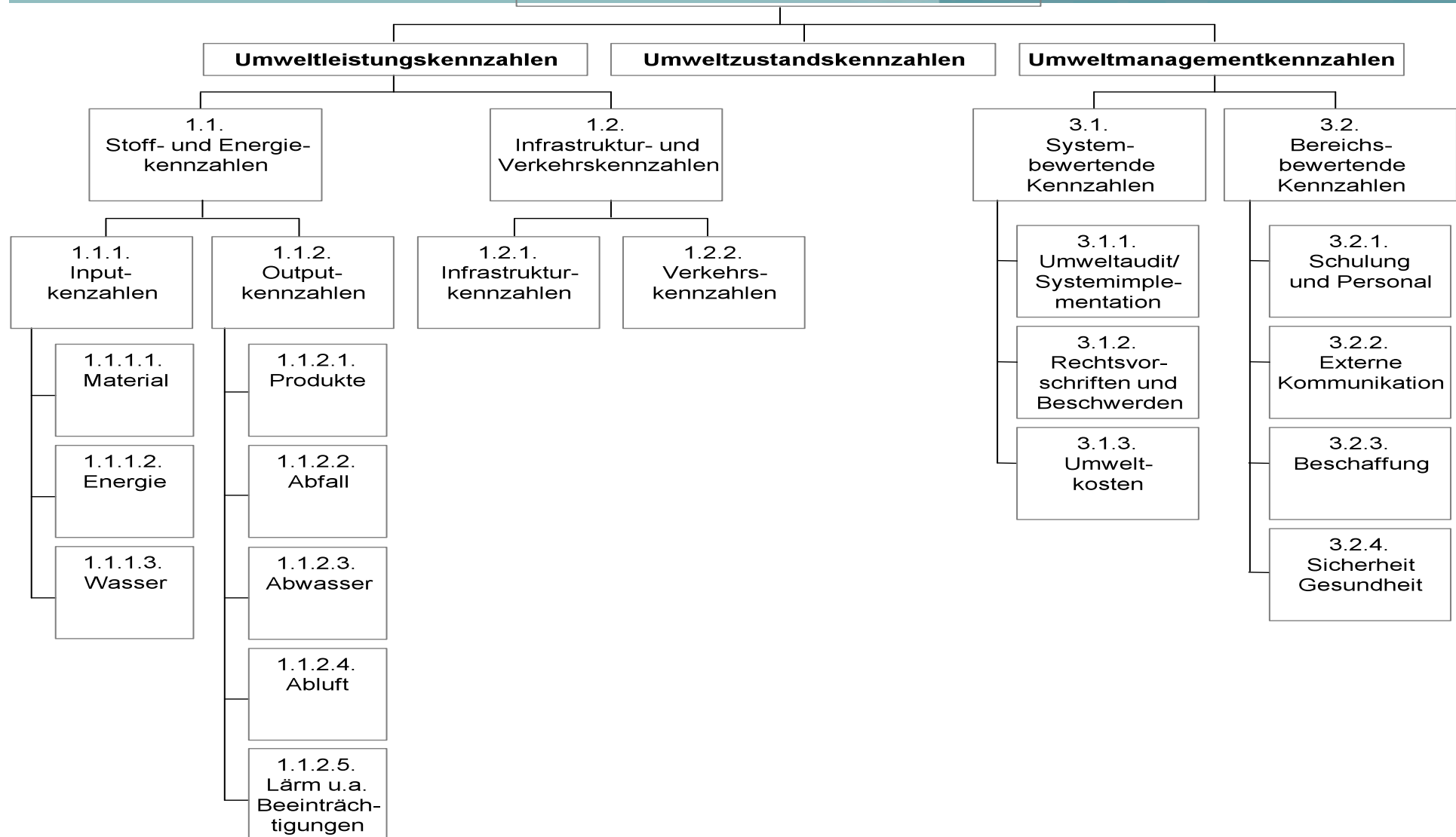
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## Aufbau eines Umweltkennzahlensystems

| Umwelkennzahlen                    | Einheit |                  |                              | Erhebungsgrundlagen                   |
|------------------------------------|---------|------------------|------------------------------|---------------------------------------|
|                                    | absolut | relativ          | Bezugsgröße                  |                                       |
| 1. Energie                         | MWh     | kWh/kg           | Produktion in kg             | aus betrieblicher Input-Outputanalyse |
| 2. Reinigungsmittel                | kg      | g/m <sup>2</sup> | Bürofläche in m <sup>2</sup> | nur Verwaltungsgebäude                |
| 3. Farben und Lacke                | kg      | kg/t             | Output Lackiererei in t      | Kostenstellenabrechnung               |
| 4. Produktverpackung               | t       | %                | Produktgewicht in t          | Einkauf                               |
| 5. Abfall gesamt                   | t       | kg/t             | Produktion in kg             | Abfallwirtschaftskonzept              |
| 6. Altstoffe                       | t       | %                | Abfall gesamt in t           | Abfallwirtschaftskonzept              |
| 7. Kohlendioxid (CO <sub>2</sub> ) | t       | kg/kg            | Produktion in kg             | Heizungs- und Prozeßemissionen        |
| 8. Durchgeführte Schulungen        | h       | h/MA             | Mitarbeiter (MA)             | inkl. Arbeitssicherheit               |
| 9. Arbeitsunfälle                  | Anzahl  | Anzahl/1.000 MA  | 1.000 MA                     | Aufzeichnung Betriebsarzt             |

## Betriebliche Umweltkennzahlen



# OPIs Operational Performance Indicator = Input/Output Massbalance

- These concentrate on the aspects associated with an organisation's operations
- including activities, products or services and can cover such topics as emissions, product and raw material recycling, fuel consumption of vehicle fleet, or energy usage.

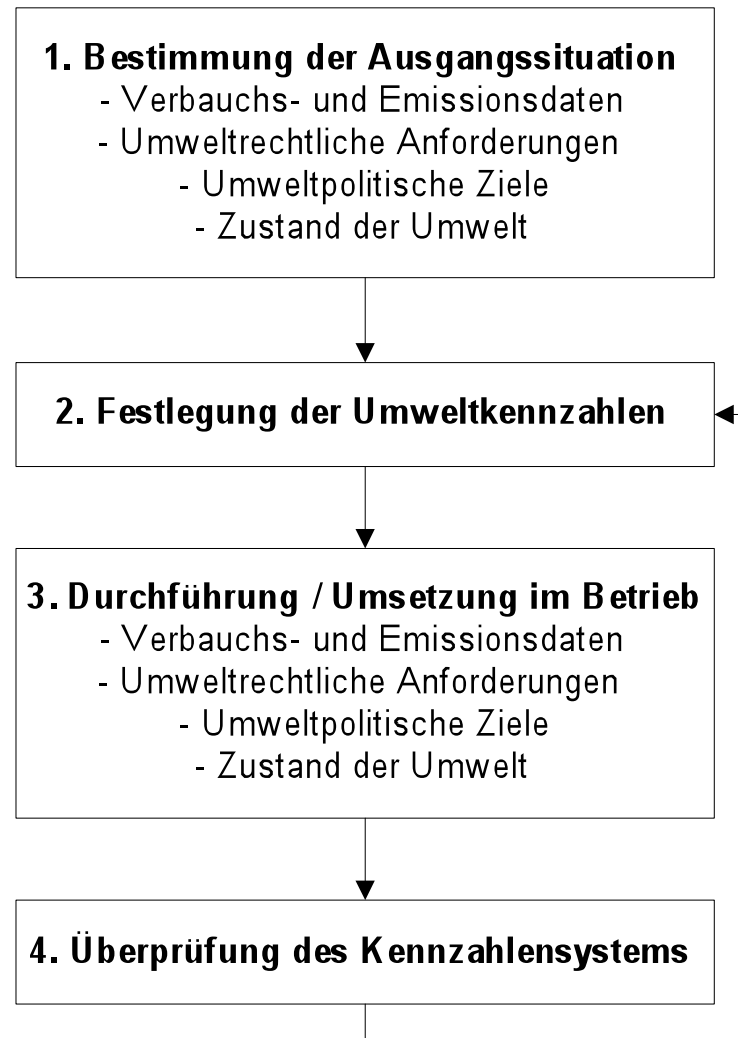
# MPIS Management Performance Ind.

- These concentrate on the efforts of management to provide the infrastructure for environmental management to succeed and can, among others, cover environmental programmes, objectives and targets, training, incentive schemes, audit frequency, site inspections, administration and community relations.
- These indicators serve primarily as internal control and information measurements, but do not by themselves provide sufficient information to give an accurate picture of the organisation's environmental performance.

# ECIs Environmental Condition Indicator

NACHHALIGE WIRTSCHAFTEN

- These give information on the quality of the environment surrounding the organisation or the local, regional or global state of the environment. Examples include the water quality of a nearby lake, the regional air quality, concentrations of greenhouse gases or the concentration of certain pollutants in the soil.
- While they may be quite wide-ranging they can be used to focus the attention of the organisation on the management of the environmental aspects associated with significant environmental impacts.
- The condition of environmental media (air, water, land) and the environmental problems that arise from it depend often on a variety of influences. Examples are emissions from different organisations, private households or transport. Data about the condition of environmental media are usually measured and recorded by governmental institutions.



# Literature and Links

- ISO 14031 Environmental Performance Indicators
- Commission Recommendation of 10 July 2003 on guidance for the implementation of Reg. CE No. 761/2001 (EMAS Regulation) concerning the selection and use of environmental performance indicators
- Jasch Ch. (Institut für ökologische Wirtschaftsforschung), Rauberger R., Wagner B. (Institut für Umwelt und Wirtschaft), 1997; **Leitfaden betriebliche Umweltkennzahlen**. Beiträge von Rainer Rauberger und Prof. Bernd Wagner, Institut für Management und Umwelt Berlin, Christine Jasch, Institut für ökologische Wirtschaftsforschung, Bonn; Hrsg. Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit (BMU) Bonn [www.ioew.at](http://www.ioew.at)



# Examination questions

- How can environmental performance indicators be classified?
- What is the link between ISO 14031 and ISO 14051?
- What aspects have to be considered for benchmarking?