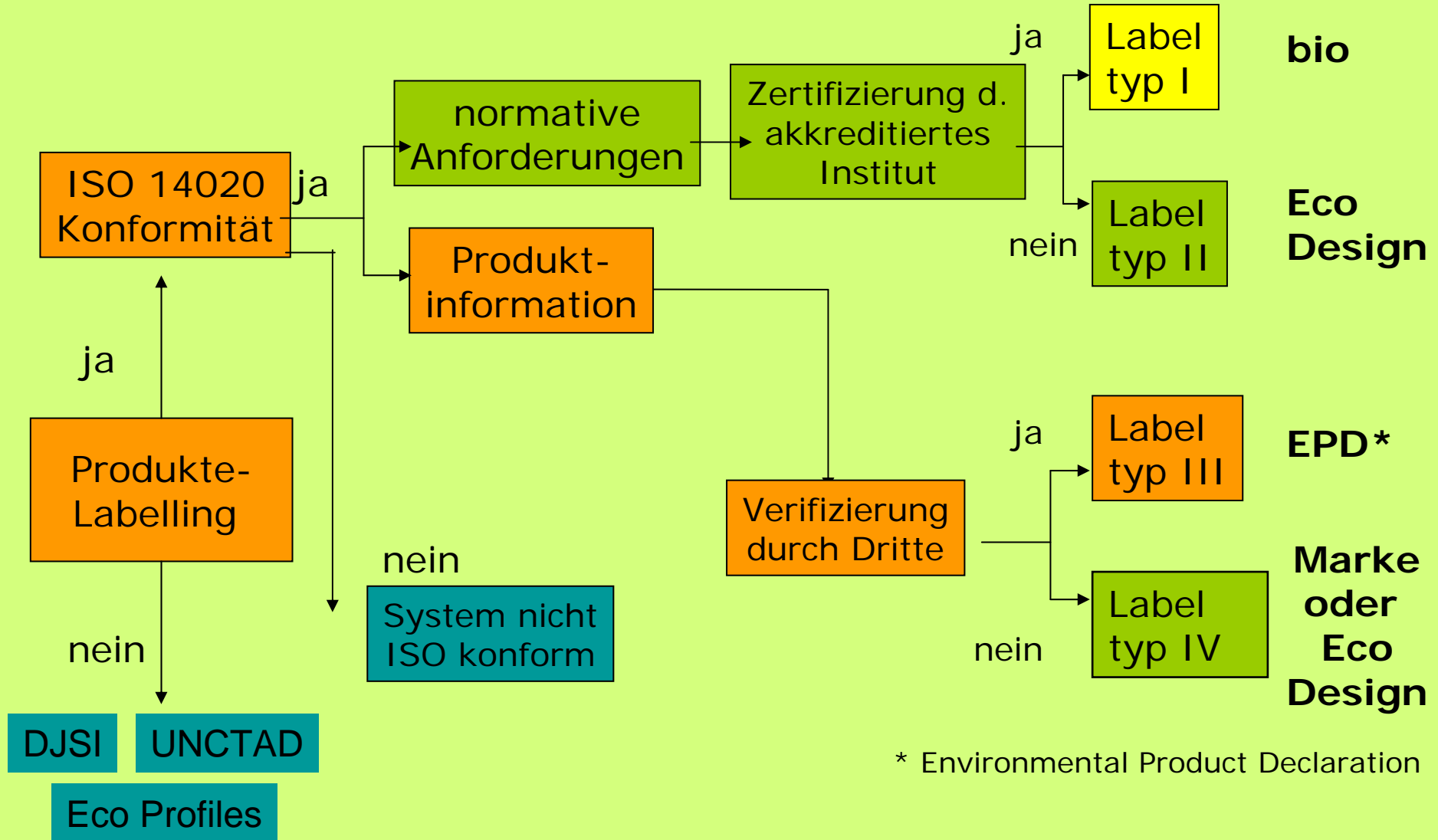


# ANFORDERUNGEN AN ECO DESIGN, LCA und EPD



DR. SC. NAT. MARION TOBLER

# PRODUKTE LABELS NACH ISO

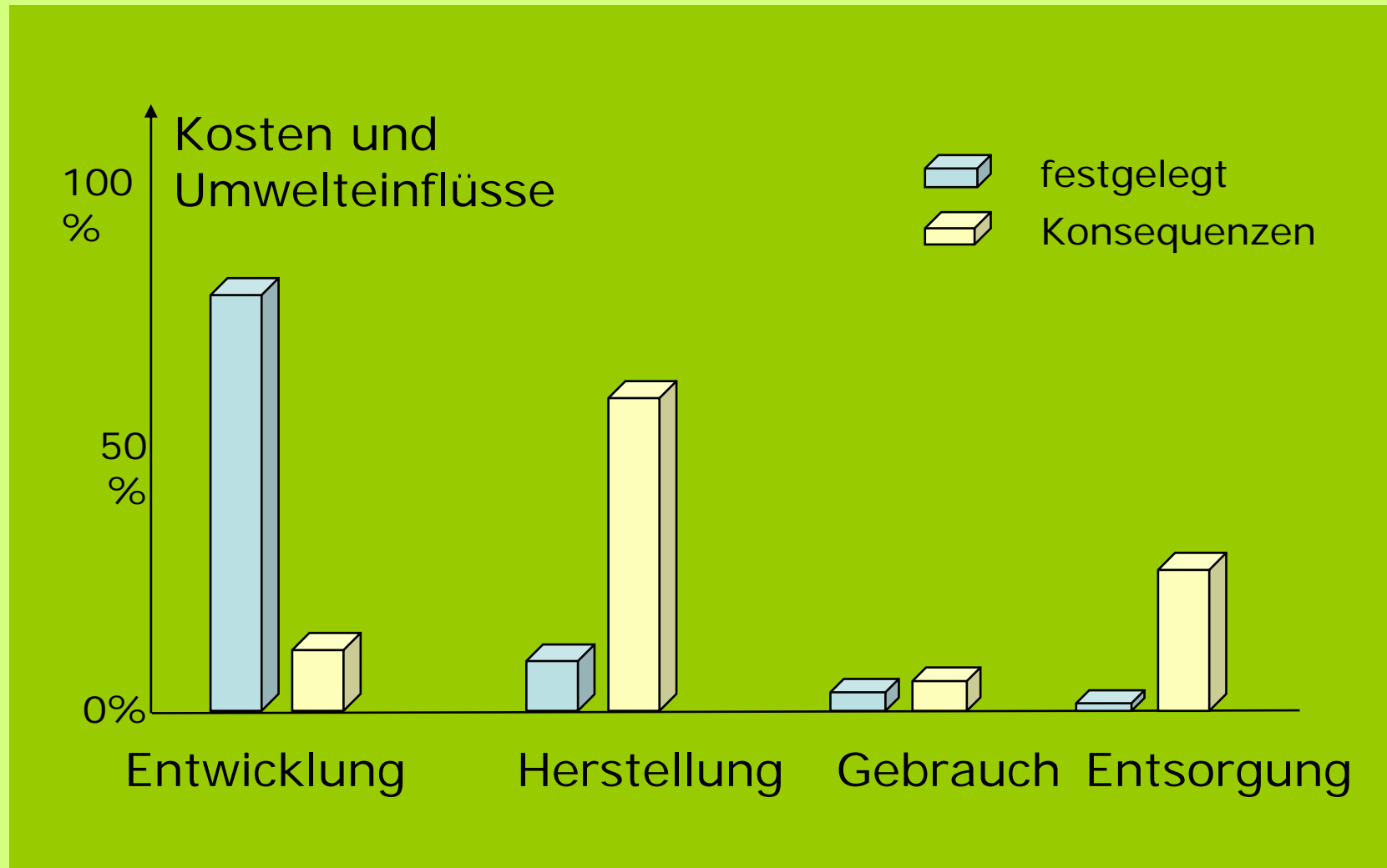


\* Environmental Product Declaration

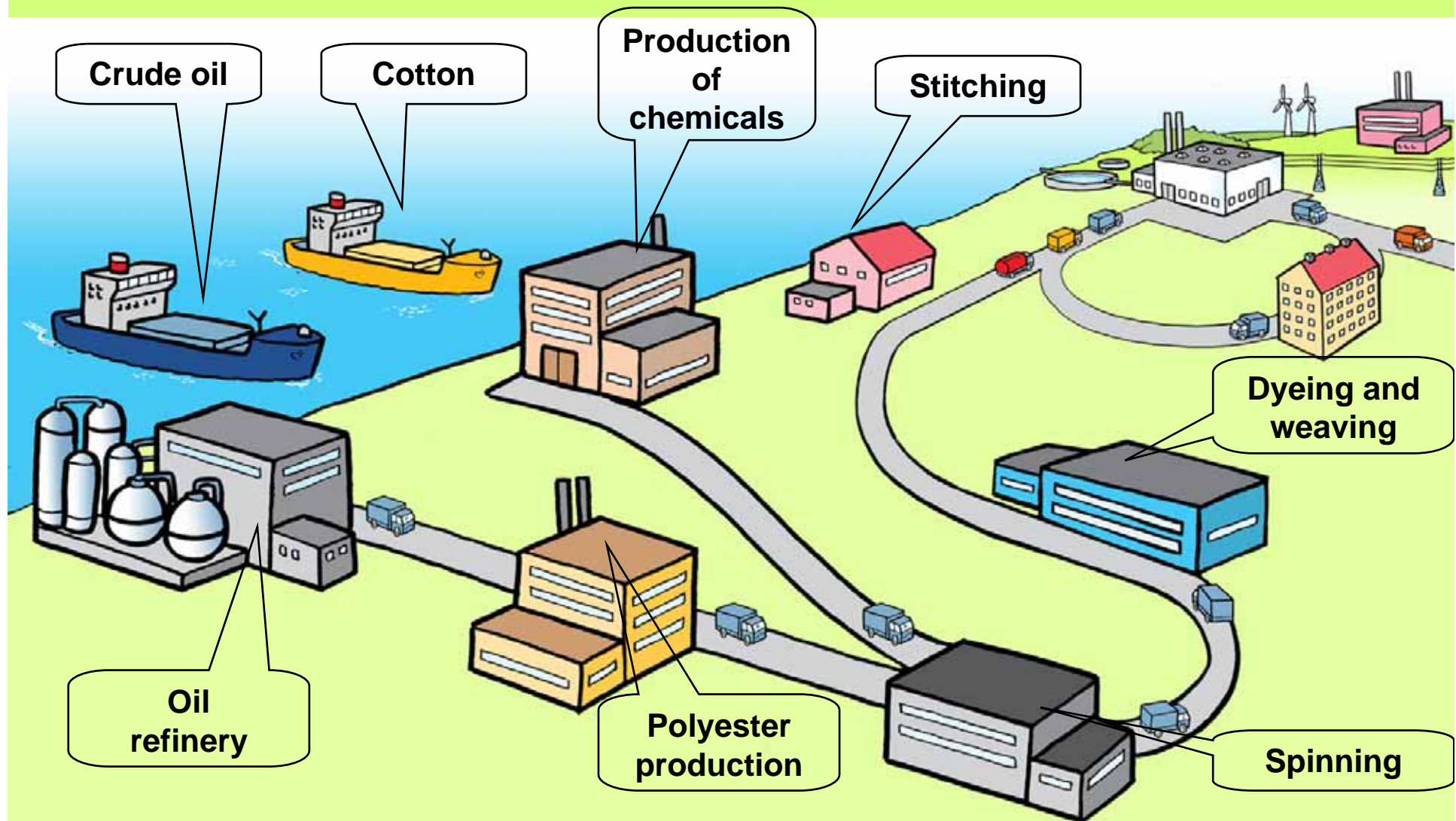
# ECO DESIGN: WIESO ?

- Markt
  - **Forderung des Marktes**
  - Kundenanfragen bezüglich Schadstoffen und anderen Umweltthemen
  - Profilierung im Markt
- Gesetzgebung
  - **Verantwortung** VREG, WEEE, EU – RoHS, Cina RoHS, EuP
  - **Kombination** mit BIO VERORDNUNG
- ISO 14001
  - **Nachweis** der Gesetzeskonformität
  - Kontinuierliche Verbesserung (Nachweis)
- Politik der Firma
  - Verantwortung gegenüber Umwelt (**Umweltpolitik**, Strategie)
  - Künftige Risikominimierung

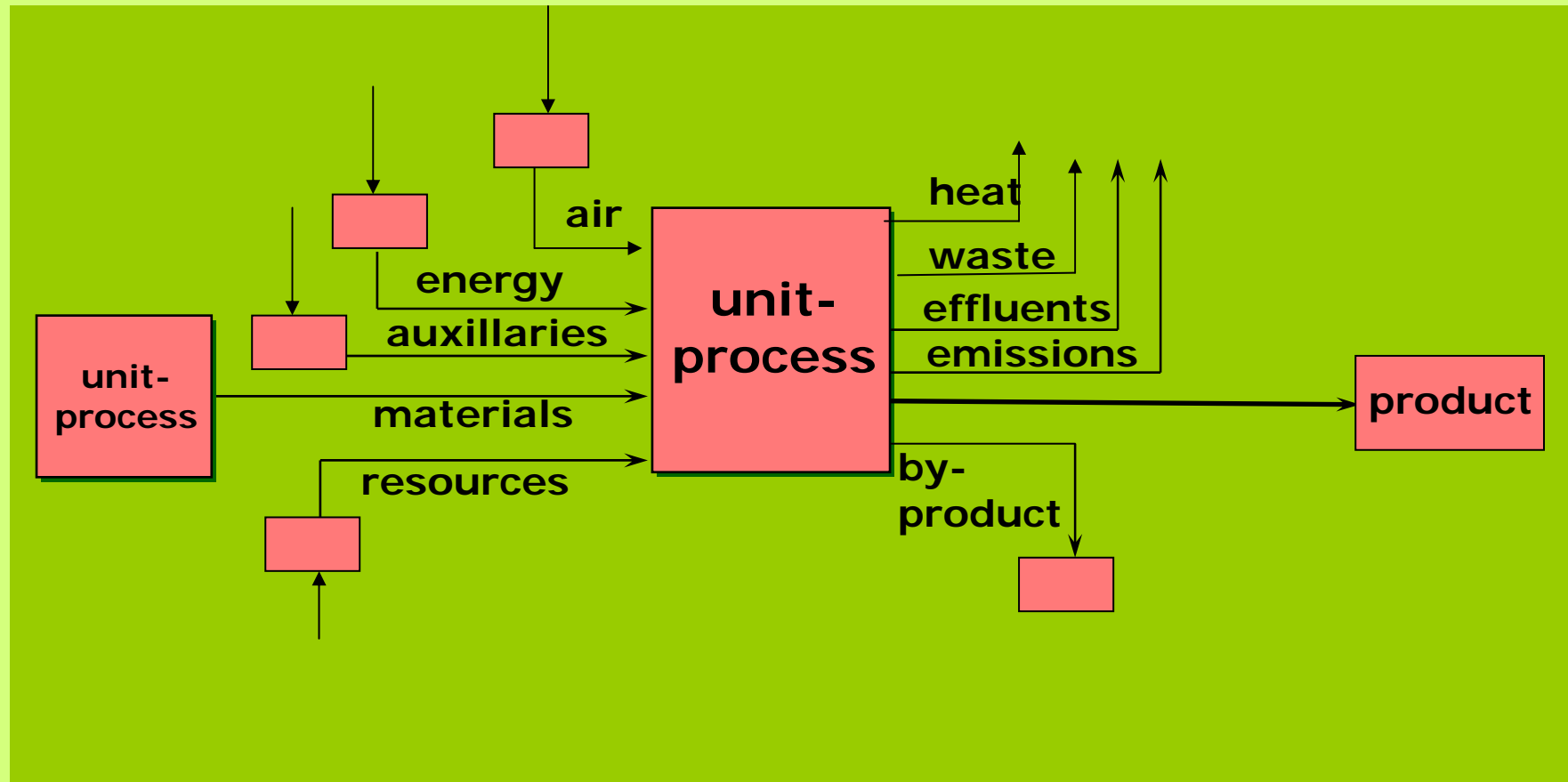
# NUTZEN VON ECO-DESIGN



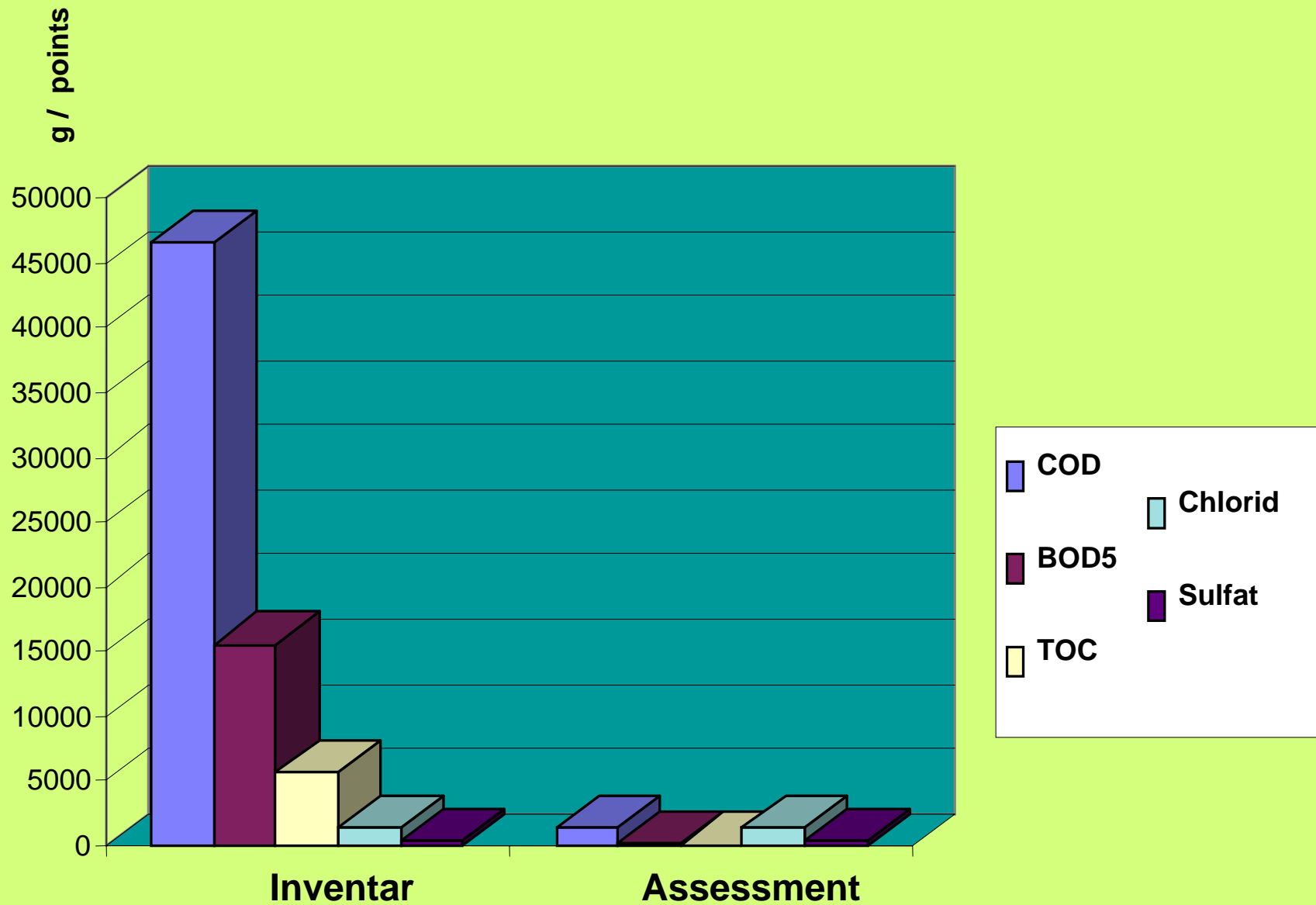
# LIFE CYCLE PERSPECTIVE



# UNIT PROCESS



# LC-INVENTAR- LC-ASSESSMENT



# ENVIRONMENTAL PRODUCT DECLARATION (EPD) NACH ISO

## ABB

- introduction
- organization
- discription of product and production
- **scale and scope / functional unit**
- **resources**
- **environmental significance in product Life Cycle**
- **impact assessment and weighting**
- **environmental instructions**
- **certification of EPD**
- **referencens / literatur**
- remarks





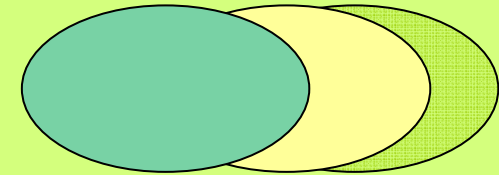
**ECO  
DESIGN**

**EPD**

**LCA**

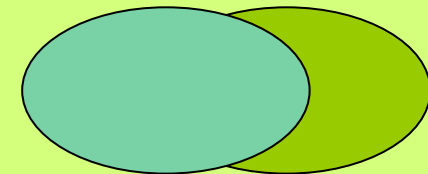
MARKT

Funktion (Lifestyle)  
Produkte- Lebensdauer  
Service



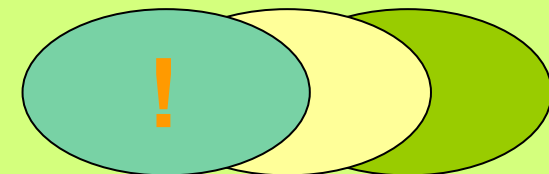
STARTEGIE

Ressourcen, Energie.....  
Ökotox.....  
Recycling, Reuse.....  
.....



DATENBASIS

LCA  
Simplified LCA  
Umweltrelevanz



# INTEGRATED PRODUCT POLICY (IPP)

- Integrated Product Policy applies to all products.
- There is no single policy tool that can be used to encourage the greening of all products at all stages of the **life cycle**, but a combination of a number of policy instruments.
- These policy tools construct the IPP toolbox.
- They should be used in coherence with each other, in a way that they **reinforce each others' effect**.





# IPP TOOLBOX

## Standardisation

[Integration of environmental aspects into standardisation](#)

Environmental Management System

[EMAS](#)

## Eco-design

[Eco-design of Energy-using Products \(EuP\)](#)

[EuP methodology study prepared for the European Commission](#)

[Workshops on eco-design for SMEs](#)

[DG Joint Research Centre study on eco-design of television devices](#)

[Projects to develop environmental performance indicators for PCs and other ICT products](#)

[Contract Notice for preparatory studies on eco-design requirement of energy using products](#)

[Call for applications to the Eco-design Consultation Forum under the EuP directive](#)

## Labelling and Product Declarations

[Eco-label](#)

[Energy labelling](#)

## Greening Public Procurement

[Green Public Procurement homepage](#)

[European Green Procurement Database](#)

## Green Technology

[Environmental Technology Action Plan \(ETAP\) homepage](#)

[Performance targets for products, services and processes](#)

## Legislation

[Waste legislation](#)

[Chemicals](#)

# UNCTAD CRITERIA FOR SUSTAINABILITY

Water

Energy use

Global warming potential (Kyoto protocol)

Ozone depletion potential (Montreal protocol)

Waste ( = Basel convention)

Example Water:

Disclosure

- Water consumption / net value added
- Policy of water management
- Specification per source
- Qualitative information of wastewater treatment

# DJSI: COMPANY PERFORMANCE

## Economy

Long term entrepreneurship  
Employee's  
Customer' satisfaction  
Economical development, community development

## Environment

Use of resources (quantity)  
Treatment of resources (quality)  
Airborne emissions  
Waste & waste water impacts  
Ecological responsibility

## Society

HRM and culture  
Safety and health  
Insensitive and continuing education  
Human rights and non discrimination  
Regional and global social development

## Integrated

Key figures  
Eco efficiency

Recycling  
Packaging  
Substitution  
Alternative energy sources  
Renewable energy  
Energy efficiency  
Logistics  
Goal setting and documentation

Global warming potential (Kyoto)  
Specific emissions (SO<sub>2</sub>, NO<sub>x</sub>, VOC )  
Ozone depletion (Montreal)  
Hazardous waste  
Waste management (quantities)  
Recycling, w. treatment and disposal  
Hazardous incidents  
Products & services with significant env. impact  
Problems with environmental legislations  
Biodiversity  
Expenses for environmental measures  
Planning of initiatives, actions & projects  
Goal setting and documentation

# DJSI: KRITISCHE BEMERKUNGEN

Eco Performance:

CO2 (t)

Wasser (m3)

Energie (GJ)

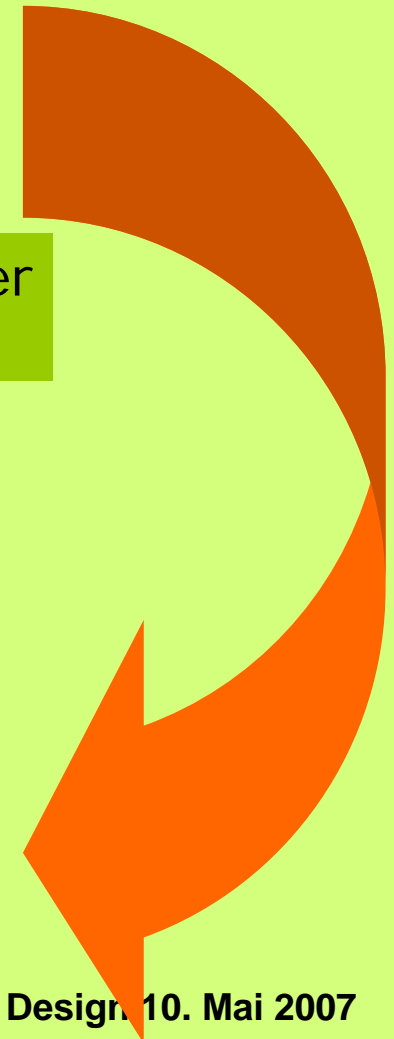
Abfall (t)

Reduktionsziele  
pro Kompartiment

Umweltverantwortlicher  
Management Review

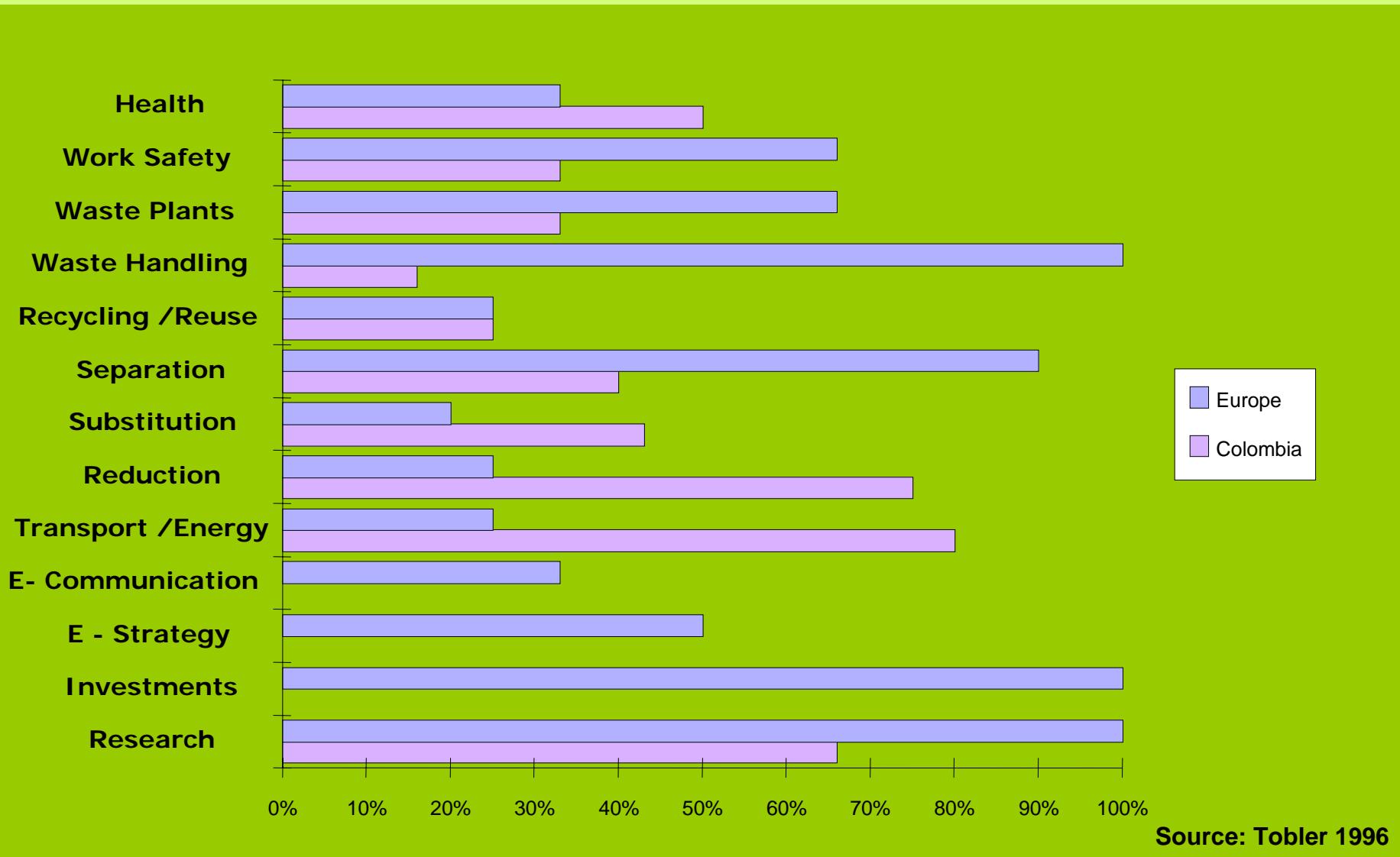
Luft:	Emissionen?
Wasser:	Verhältnis zu Ressourcen?
Energie:	Ressourcen?
Abfall:	Klassifizierung?

Firmeninterne Massnahmen ?



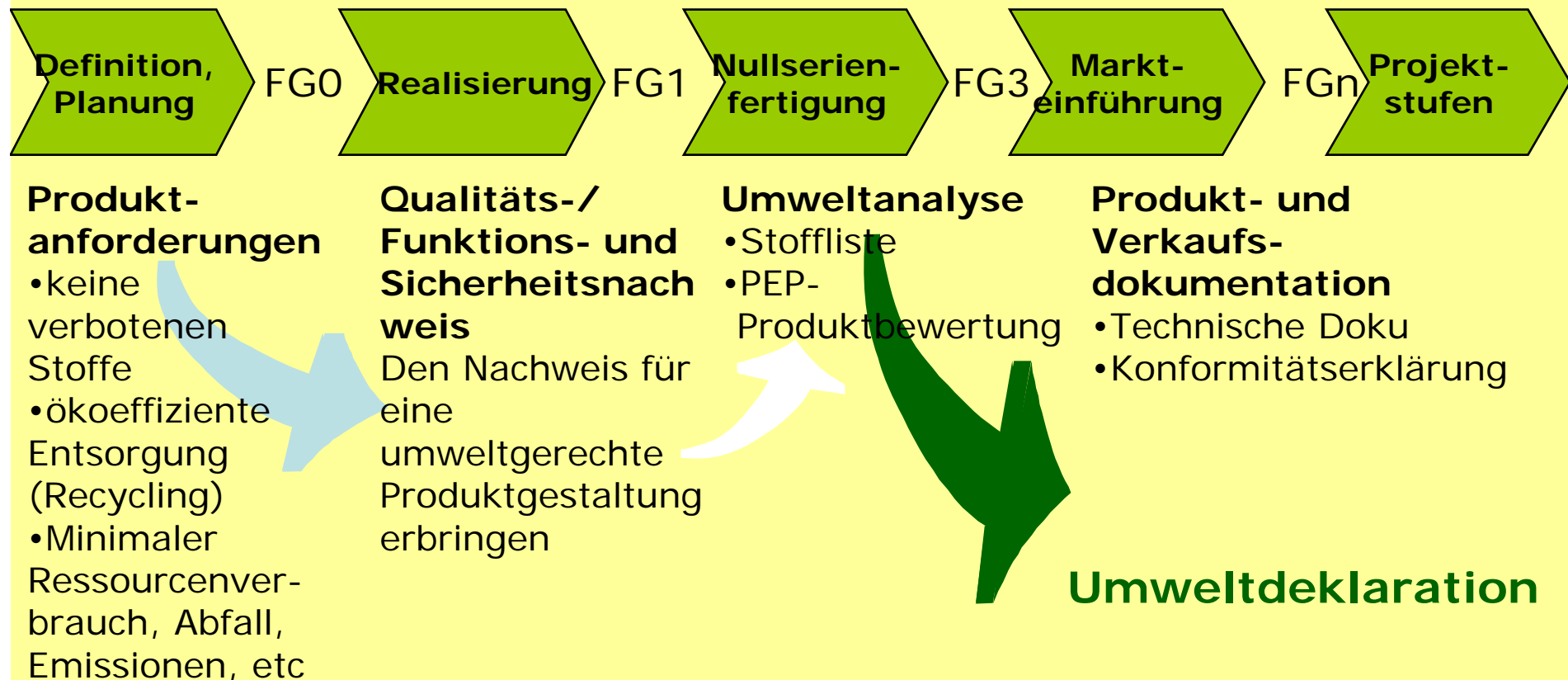


# ECO PROFILES



# ECO DESIGN IM PRODUKTENTSTEHUNGSPROZESS

- Heutiger Stand: punktuelle Aktivitäten, Ziel unbekannt (?)



# ENTWICKLUNGSRICHTLINIEN

## Konzerninterne Normen Siemens (SN 36350)

- Umweltgefährdende Stoffe, Materialwahl
  - Gehäuse: halogenfrei, schwermetallfrei
  - Leiterplatte bestückt: halogenfrei, schwermetallfrei (bleifreies Löten)
  - Spezielle Komponenten: Batterien/Akku, LCD, Kabel, Relais
  - Verpackung (BUWAL)
- Verantwortung für Entsorgung
  - Planung der Demontage
- Prozessbeherrschung, Lieferantenauswahl
  - UMS
- Produkt-Sicherheit
  - CE-Konformität (Niederspannung, Brandschutz, *EMV*)
- Optimaler Betrieb
  - Stromverbrauch
  - Ökoeffizienz in der Anwendung (Funktionen, Default-Werte)

Source: [www.igexact.ch](http://www.igexact.ch)

# UMWELTDEKLARATION BEISPIEL



bei Produktdatenblatt: Umwelt / Sicherheit f. Kopierer

- Elektrische Werte:
  - Leistungsaufnahme, Energieverbrauch, ...
- Sonstige Angaben:
  - Thema Kunststoff, Flammschutz, ...
- Emissionswerte:
  - Ozon, Staub, Schall, ...
- Verbrauchsmaterialien:
  - Toner, Recyclingpapier geeignet, ...
- Entsorgungshinweise:
  - Tonerentsorgung, Verpackungen, Geräterücknahme