

OECD-UNEP Conference on Resource Efficiency

EFA-Toolbox for Resource Efficiency in SME

an initiative of the Ministry of the Environment of
North-Rhine Westphalia, Germany

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Facts about North-Rhine Westphalia, Germany

NRW.

Capital city: Duesseldorf

Population: 18 m
Area: 34,084 km²

GDP: 462 Euro bn
Rank 14 in the world

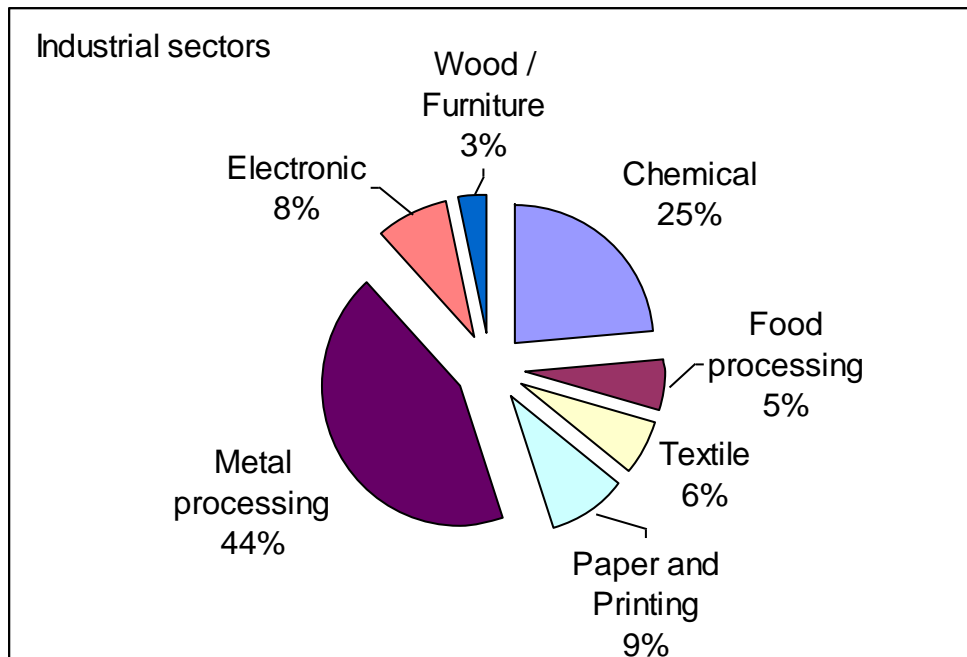
Foreign Trade:
Imports: 122 Euro bn
Exports: 119 Euro bn



Operating Industries of SMEs in NRW

Small and medium-sized enterprises: 600,000

in industrial production: 12,000
(20 up to 500 employees)



Who is the Effizienz-Agentur NRW?

Foundation of EFA NRW:

- as a Public-Private-Partnership on the initiative of the Ministry of the Environment of NRW
- as a centre of excellence for Sustainable Production
- now with 18 employees in Duisburg and 4 regional offices

Objective:

- improve Competitiveness of Small and Medium sized Enterprises (SMEs) through implementation of Cleaner Production

Approach:

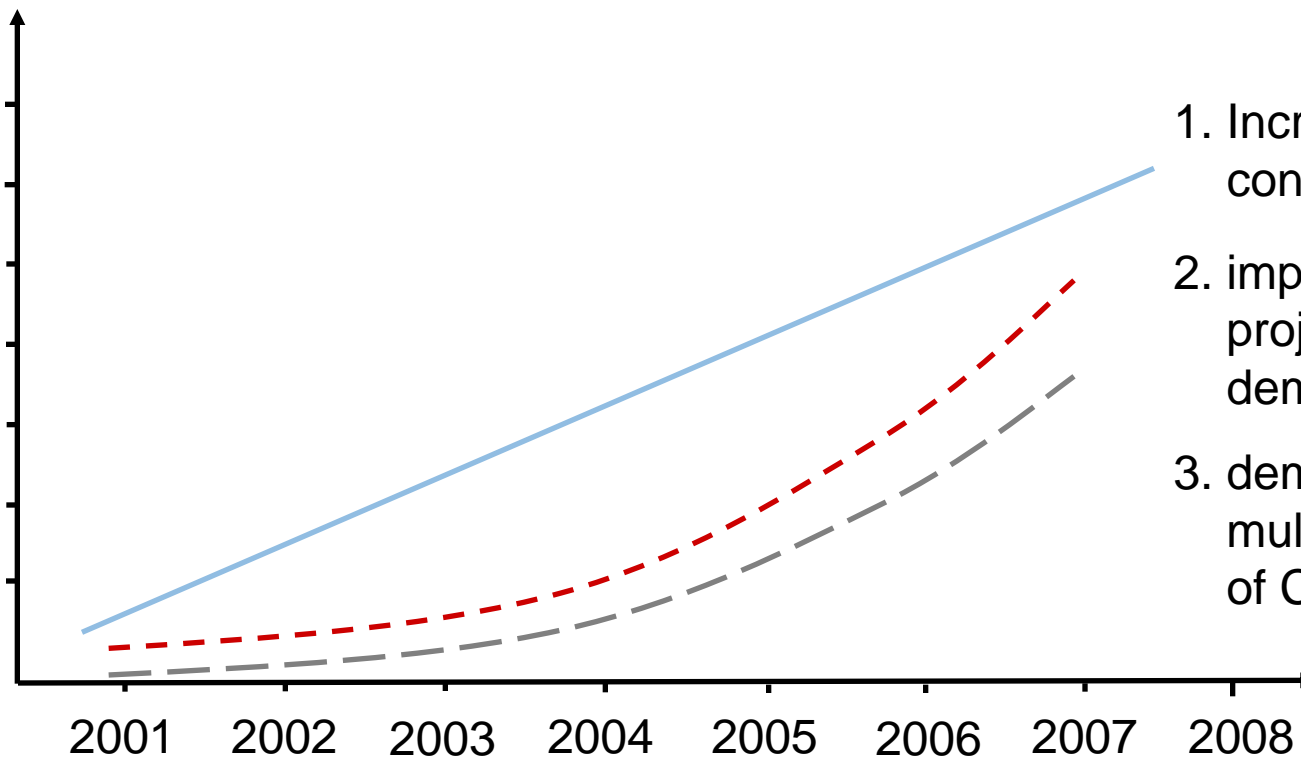
- introduce innovative technologies to SMEs that improve resource efficiency in production to reduce resource input and avoid waste & hazardous emissions



What is the Ministry of the Environment's strategy?

objective of the German federal government till 2020:
 doubling of resource productivity (relating to 1994)

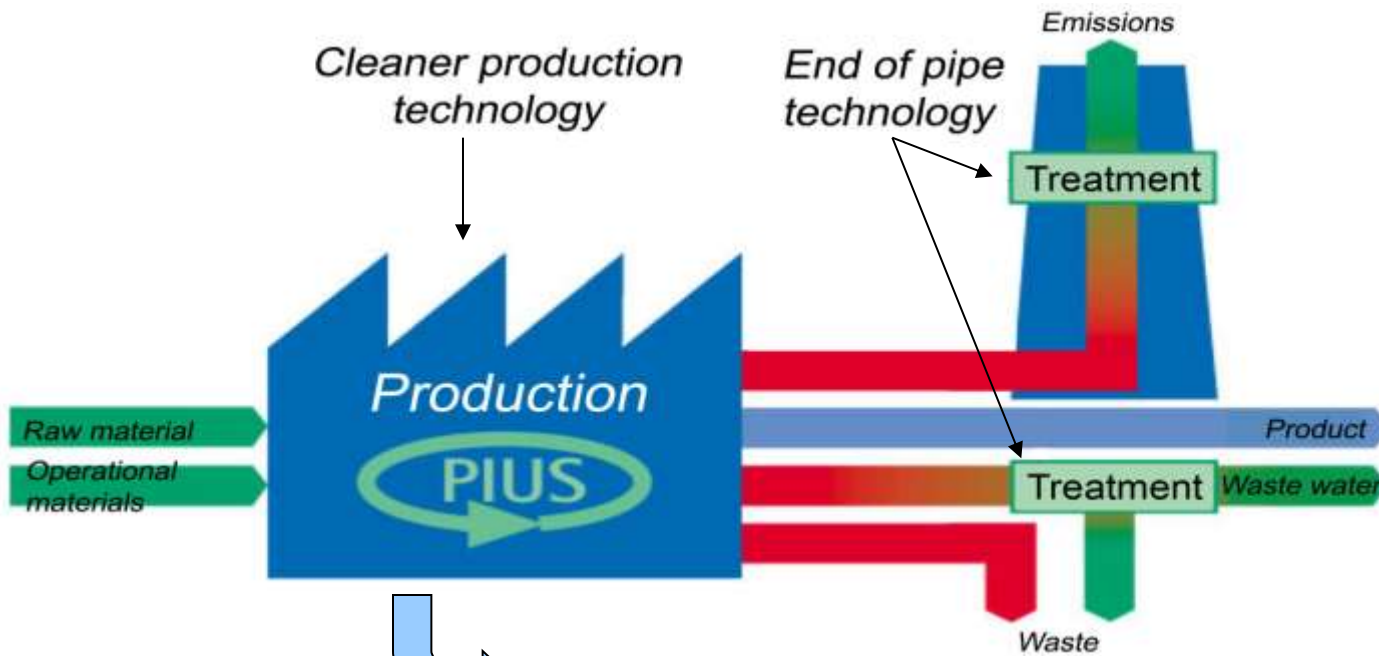
quantity



1. Increase number of consulting projects
2. implemented projects stimulate demand for CP
3. demand stimulates multiplicity of supply of CP technology

Resource Efficiency: Cleaner Production vs. End-of-Pipe

- increases the Resource Efficiency in the production
- reduces the input of resources, the need for end-of-pipe-technology and the mass of waste



**process optimisation +
innovative and future-oriented technology**

EFA-Toolbox for Resource Efficiency in SME

Production



Process-oriented material flow analysis for the formulation and implementation of resource efficiency measures



Optimising the use of operational resources in trade

Product



Optimising the product development process in terms of eco-design

Costs



Identifying resource-related cost reduction potentials

Five steps of the consulting project

3 Partners – 1 Project:

- an **industrial producer as client**
- and **Effizienz-Agentur NRW as a coach, knowledge provider and funding partner**
- a **consulting company as contractor**

- duration: 9 consulting days, EFA pays 50 % of consulting fee
- after 9 months: EFA checks whether goals have been achieved (visit)

Initial Meeting

Check relevance of Cleaner Production (e.g. technologies)

Macro-Analysis

Material flow analysis within company

Intermediate Meeting

Definition of further action

Micro-Analysis

Develop alternative manufacturing concepts

Concept Planning

Start program introduction with management

Current results

PIUS-Checks (since 2000)	449	
Implemented projects	40%	
	total	per SME*
Investment amounts to	€ 27.6 m	€ 155,000
Annual savings in the production processes	€ 8.7 m	€ 50,000
Annual savings of the resource water/waste water	1.069 m m³	6,000 m³
Annual savings of the resource energy	50.5 GWh	300 MWh
Annual savings of CO ₂	20,000 t	113 t

PIUS-Check Example: Dirostahl Karl Diedrichs KG, Remscheid

Industry : Steel, forge and rolling mill

Employees : 470

Products: forgings, seamless rolled rings

Focus: Reduction of material Input

Solution: Self-programmed software for planning accuracy regarding material input.

Cost: ½ man-year internal work

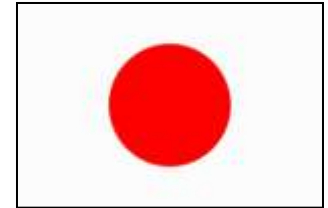
Savings: **3% of the Material Input** regarding the product range
seamless rolled rings
1,000 t/a of Steel
€ 1,000.000 per year



International cooperation: examples

Japan

- German-Japanese CP-Conferences since 2000
 - 8th conference: „Resource Efficiency in Production“, autumn 2008, Duesseldorf
- ®PIUS-Check in Japan
 - 5 projects in cooperation with Japanese experts (2005-2007)
 - concrete planning of Japanese support program similar to PIUS-Check (2008)



Argentina

- province of Santa Fe
 - first Contact: on international technology-transfer-exhibition in Buenos Aires (2006)
 - technical support of a delegation of German SMEs to Santa Fe (2008)
 - substantial interest in assembling a resource efficiency institution similar to the EFA (2008)



Thank you very much for your attention

Further information about Effizienz-Agentur NRW:
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