

For our Environment

## Webinar on RMC

# Using RMC for guiding resource efficiency policies

Dr. Harry Lehmann<sup>1</sup>

General Director

Division Environmental Planning and Sustainability Strategies, Federal Environment Agency, Germany

*<sup>1)</sup>With major contributions by Judith Kanthak and Christopher Manstein*

## Main questions of resource efficiency policies

- Which global material flows are related to final consumption in a country?
- Which are the policy hot-spots for resource management measures along the whole international supply-chain of products (sectors, source countries, etc.)?

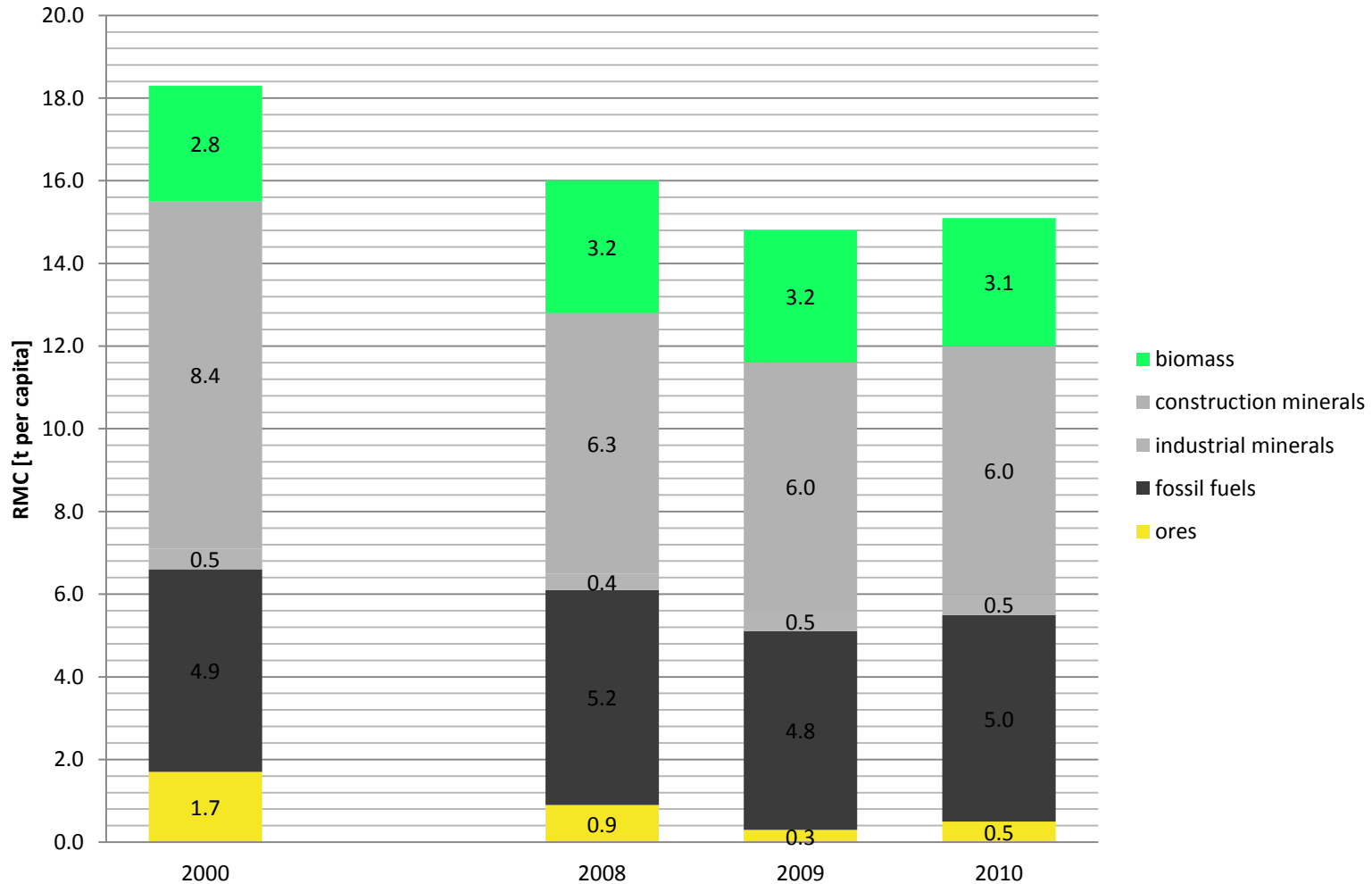
## Indicator Raw Material Consumption RMC

**RMC (Raw Material Consumption)** is the indicator for the domestic primary raw material use.

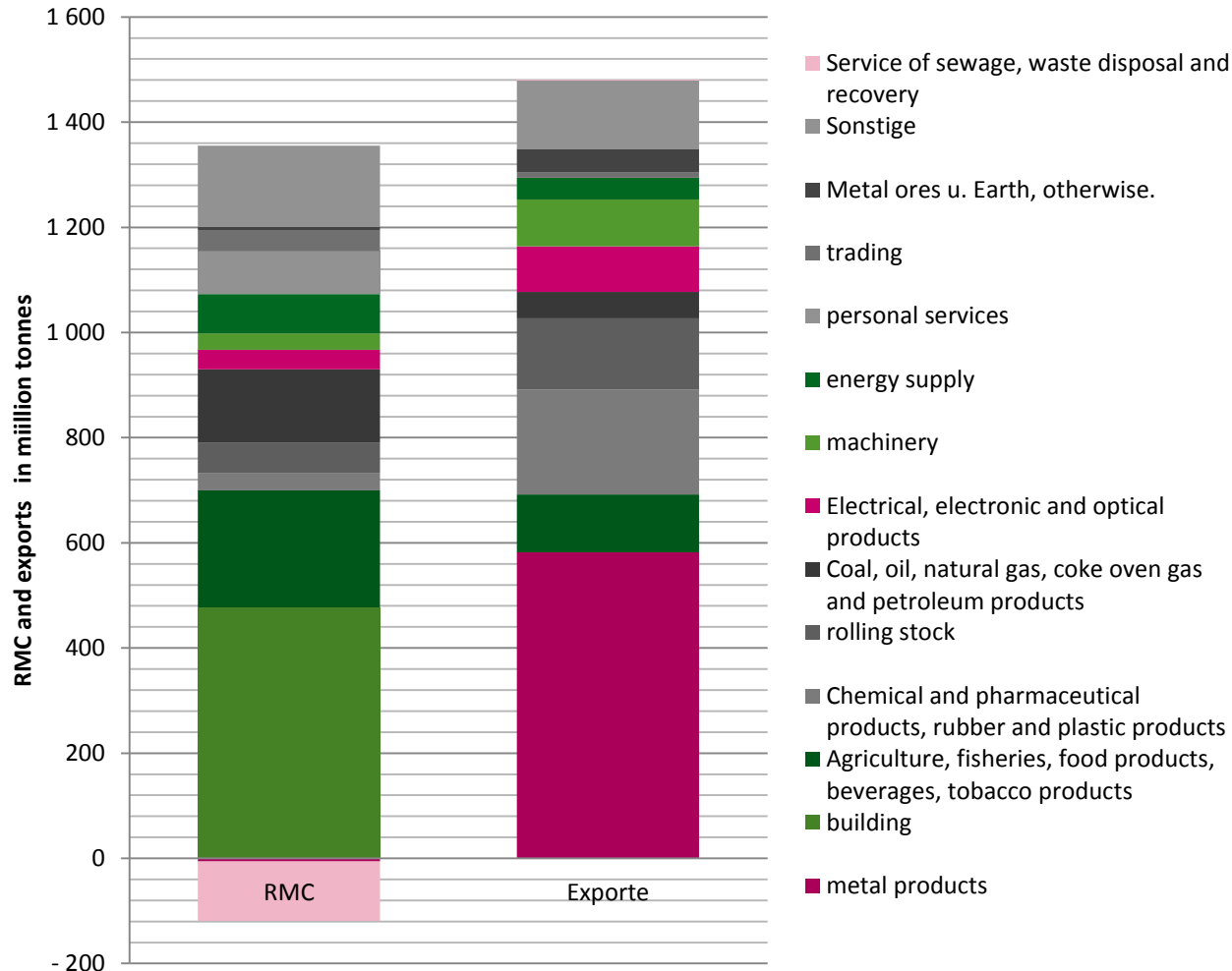
Raw Material Consumption (RMC) deducts the export plus the RMEs of exports ( $EXP_{RME}$ ) from RMI

RMC is produced by Eurostat for the EU-28 and on national level so far by only a few Member States, e.g. by Austria, Germany, Italy and the Netherlands

## RMC per capita in Germany



## RMC and exports in Germany



## Use of RMC for Improved Policy Decisions

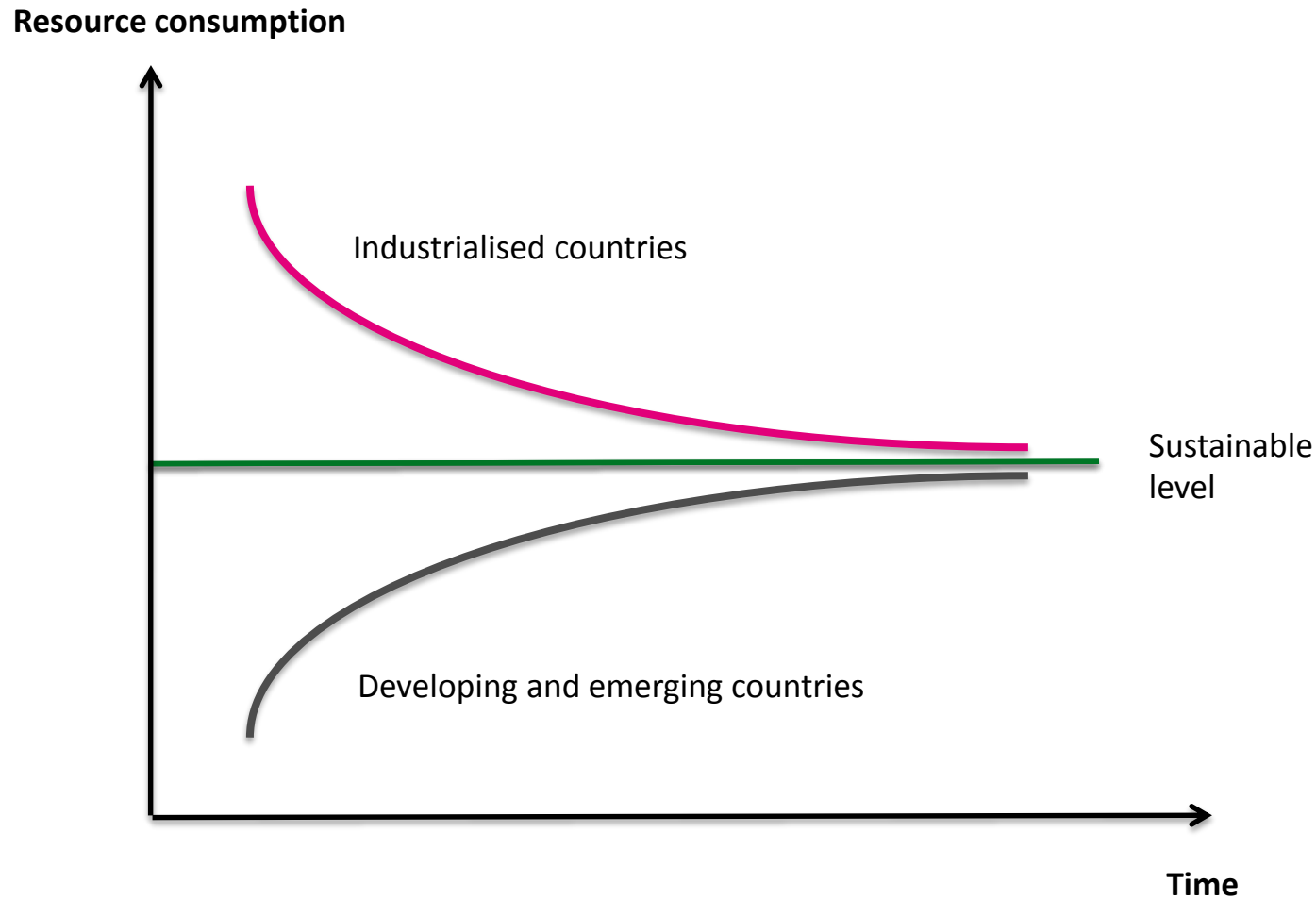
The RMC decreased by 18%.

From RMC in 2010 were approximately two-thirds of the consumption of households and government (777 million tonnes) and about one-third (674 million tonnes) on investments.

The per capita primary raw material use declined between 2000 and 2010 by about 18 to 15 t.

Comparing the development of the RMI to the RMC, so there is a clear difference, because the RMI increased between 2000 and 2010 by about 3%. This is due to the fact that in this period, exports have grown much faster than imports.

# Increasing resource productivity - Contraction and convergence



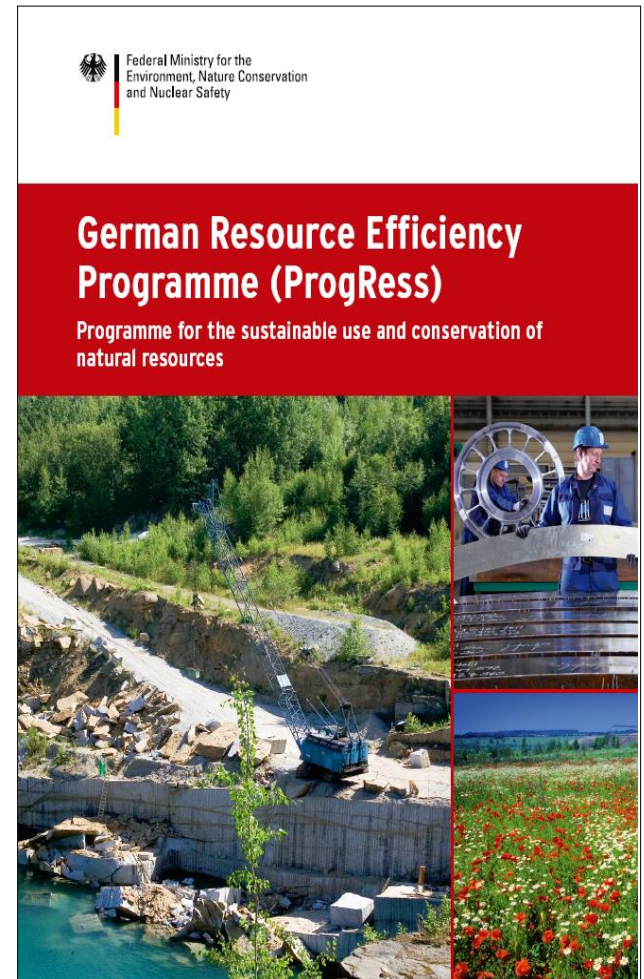
# The German Resource Efficiency Programme (ProgRes)

Adopted 29 February 2012 by entire government Goals:

- ❖ **Decouple** economic growth from resource use
- ❖ **Reduce** environmental impacts of resource use
- ❖ **Improve** the sustainability and competitiveness of the German industry

Along the whole value chain

- ❖ raw materials supply
- ❖ production and product design
- ❖ consumption
- ❖ closed cycle management





## Resource Efficiency at the Federal State level - Examples



### Energieeffizienzagentur NRW (EfA NRW)

- ❖ EfA NRW was founded 1998 through an initiative of the Ministry of Environment North Rhine Westphalia (NRW)
- ❖ Centre for manufacturing SME in NRW, 20 employees, several regional offices
- ❖ provides comprehensive strategies and technical improvements concerning the sustainable economy
- ❖ With the PIUS-Check (Cleaner Production), the Effizienz-Agentur NRW (EFA) supports companies with a tried and tested instrument for more resource efficiency

## Resource Efficiency Activities at Enterprise level

**Centre for Resource Efficiency (VDI-ZRE)**, founded in 2009, aims to reduce the resource consumption in German industries by promoting an integrated use of technologies protecting the environment and natural resources

**National Resource Efficiency Network** intends to bundle know-how and experience in economy, science and politics regarding resource protecting production, products and management

**Federal Association for Information Technology, Telecommunications and New Media** (Bundesverband Informationswirtschaft, Telekommunikation und neue Medien e. V. – BITKOM) established take-back structures for waste management of end-of-life electrical and electronic equipment and created a platform for green procurement of IT ([www.itk-beschaffung.de](http://www.itk-beschaffung.de))

**Federal Association of German Disposal, Water and Raw Materials Industries (BDE)**: Commitment to extension of product responsibility (“Berlin Declaration”)

# Good Example:

-80 % Material / -75% Energy / -30% Costs

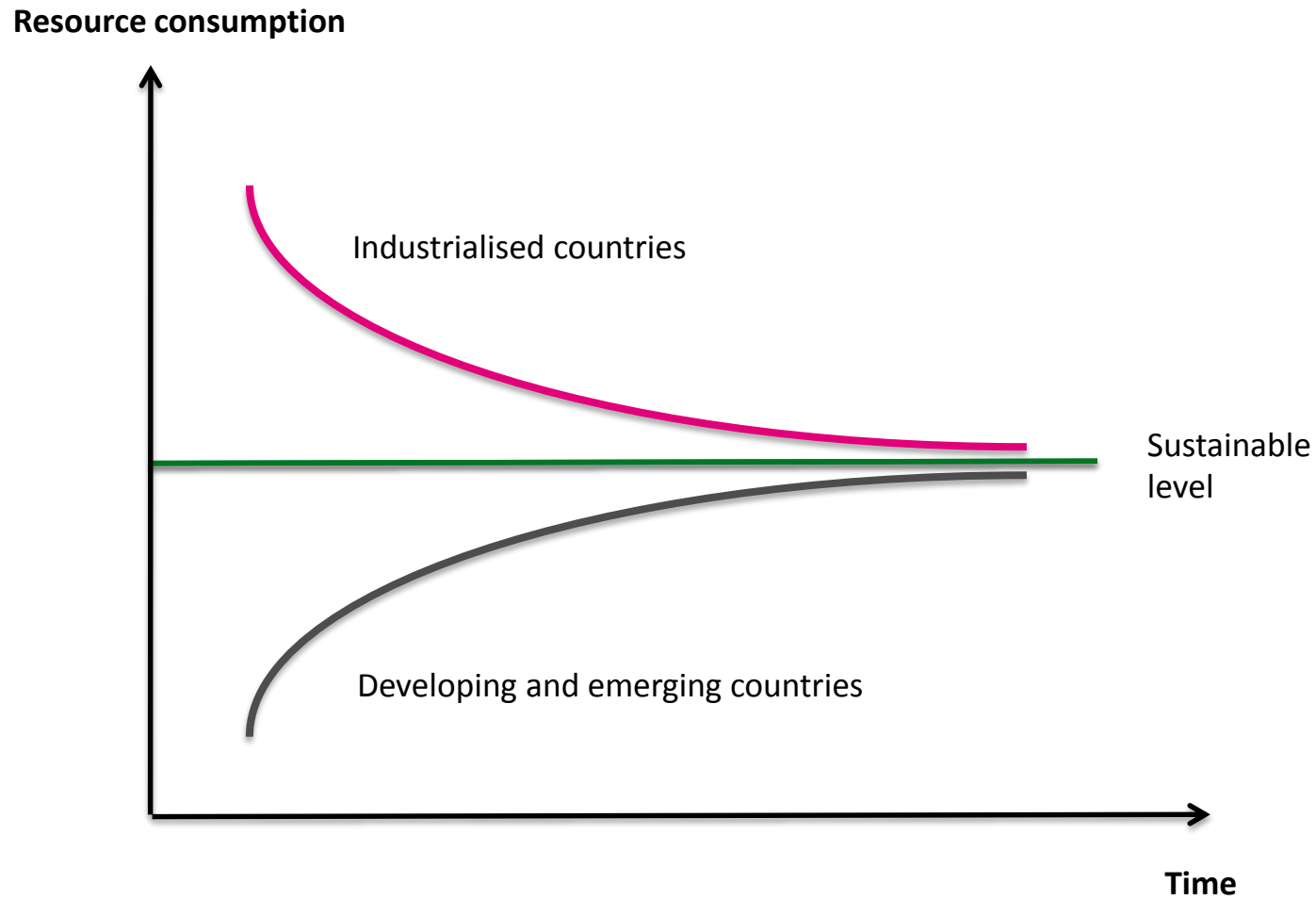
## Herstellung von Titangroßbauteilen

- Einsparprinzip: • Prozessauswahl
- Verlustquellen: • hohes Spanvolumen  
• hohe Zerspanungsabfälle
- Maßnahmen: • Gießen statt Fräsen aus Vollmaterial
- Ergebnisse: • 80 % Materialeinsparung je kg Fertigteil (2 kg statt 10 kg)  
• 75 % Energieeinsparung  
• 30 % Kosteneinsparung  
• weniger Werkzeugverschleiß



*Source: Effizienz-Agentur NRW (2009); Darstellung: VDI-ZRE (2011)*

# Next Steps



## Targets for raw material consumption in Germany

Raw material productivity (GDP/DMI)  
Double raw material productivity 1994 – 2020

RMC per capita reduction compared to 2010:

2020 - ?      2030 - ?      2050 - ?

Long Term – Faktor X

## Strategic approaches and fields of actions

### 1. Securing a sustainable raw material supply

(e. g. more environmental friendly extraction of mineral and fossil fuels; improving environmental and social standards during the extraction of raw materials; taking into account ecological limits when assessing the availability of raw materials; etc.)

### 2. Raising resource efficiency in production

(e. g. developing and disseminating resource-efficient including energy-efficient production and processing)

### 3. Making products and consumption more resource-efficient

(e. g. national programme sustainable consumption; establishing new product-service-systems through social innovation; etc.)

## Strategic approaches and fields of actions

4. **Enhancing resource-efficient closed-cycle management**  
(e. g. secondary raw materials from anthropogenic sources/urban mining; phosphorus recycling; etc.)
5. **Sustainable building and urban development**  
(e. g. resource efficient infrastructures; resource efficient development, construction, renovation und usage of buildings, etc.)
6. **Using overarching instruments**  
(e. g. using economic instruments and reducing environmentally harmful subsidies; resource efficient orientation of the financial sector and financial services; etc)
7. **Interfaces to other environmental policies and policy areas**  
– benefiting synergies and avoiding conflicts
8. **Information**

# Information: UBA Video "Beyond Climate Change – Flow“



[www.umweltbundesamt.de](http://www.umweltbundesamt.de)

[harry.lehmann@uba.de](mailto:harry.lehmann@uba.de)