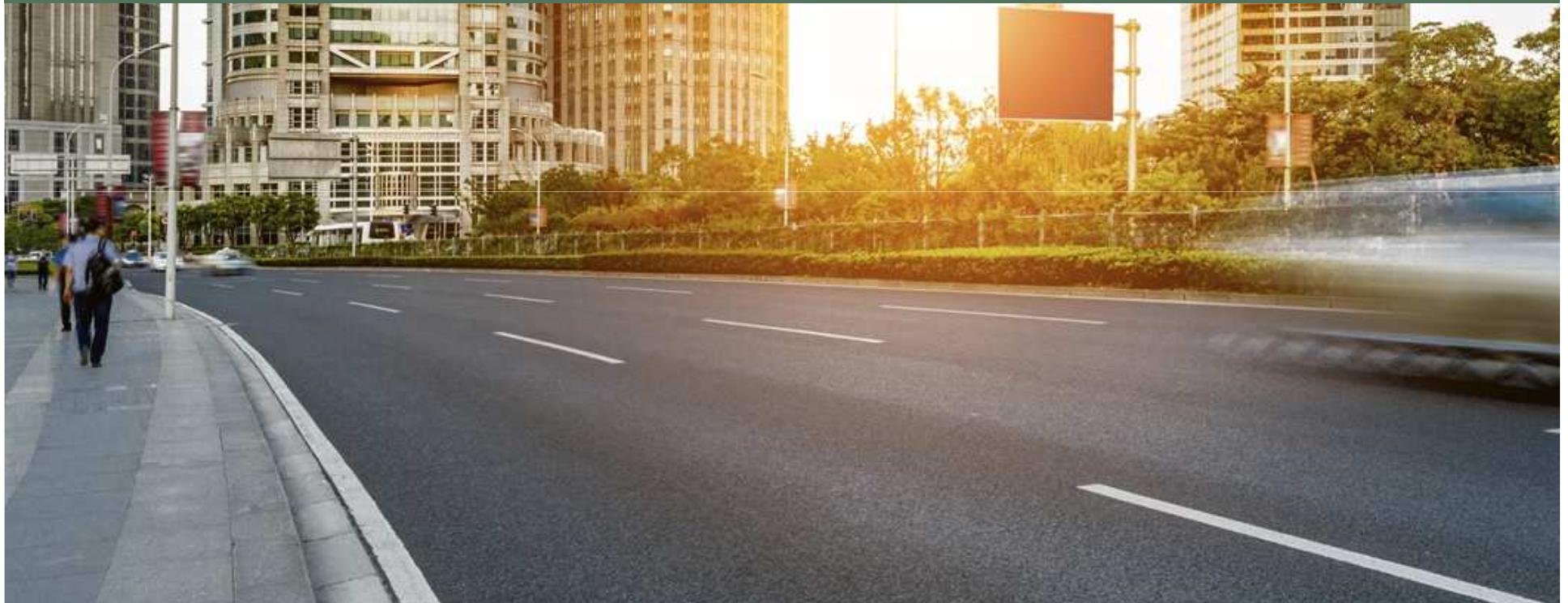


# Authorization of TRI for Asphalt Quality Analysis

Best Practice Stakeholder Collaboration and  
Implementation of Chemical Leasing



**dav**

**asphalt**

**dai**

**EUROVIA**  
VINCI

**DOW**

**SAFECHEM**   
be responsible

## The Speakers



# Joint industry approach for sustainable future

### Dr. Knut Johannsen

- Head of material testing at EUROVIA Services GmbH, Germany
- Head of the working group „asphalt technology“ within the German Asphalt Pavement Association (DAV) and chairman of the German Asphalt Institute (DAI)



### Steffen Saecker

- Business Manager at SAFECHEM Europe GmbH, Germany, a subsidiary of The Dow Chemical Company
- SAFECHEM provides Chemical Product Services for the safe and sustainable use of solvents



## Asphalt Industry



# German asphalt industry at a glance



**613**

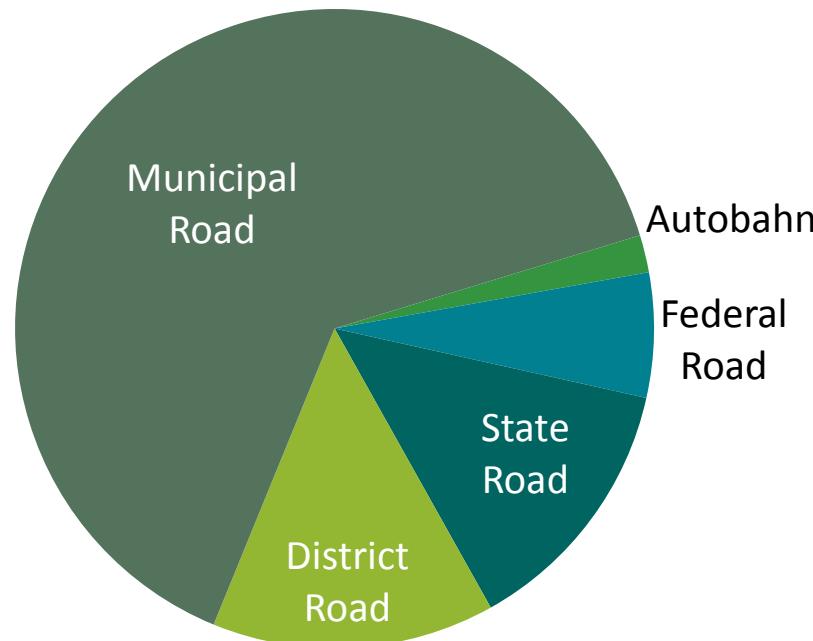
Asphalt Mixing  
Plants



**39 mio. tons**

Total Production  
of Asphalt Mix

## German Road Network



**687,548 km**

Total German  
Road Network



Appr.

**19,000**

Related Jobs

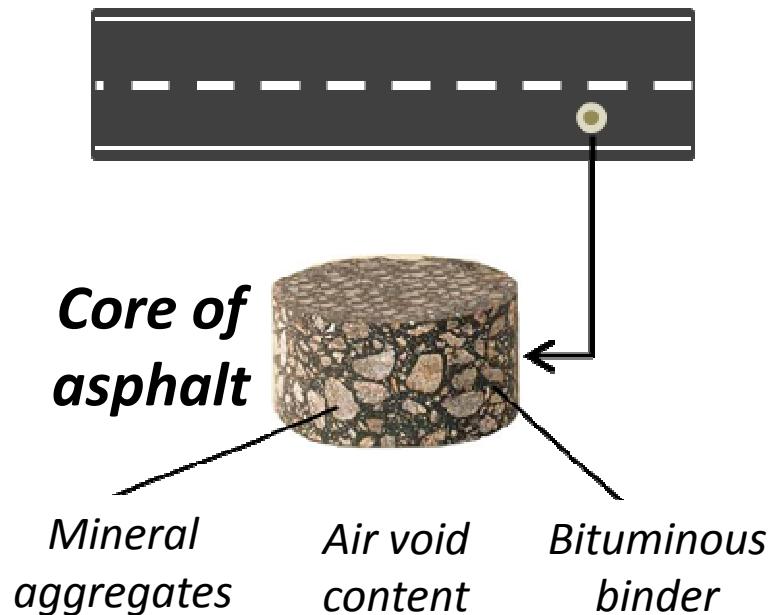


## Asphalt Extraction



# Asphalt quality assurance requires analysis

- Asphalt defined by composition
- Composition to be tested:
  - Prior to production
  - During production
  - Control after paving
- Trichloroethylene (TCE) as proven product of choice for asphalt extraction to analyse asphalt quality



Substitution Required



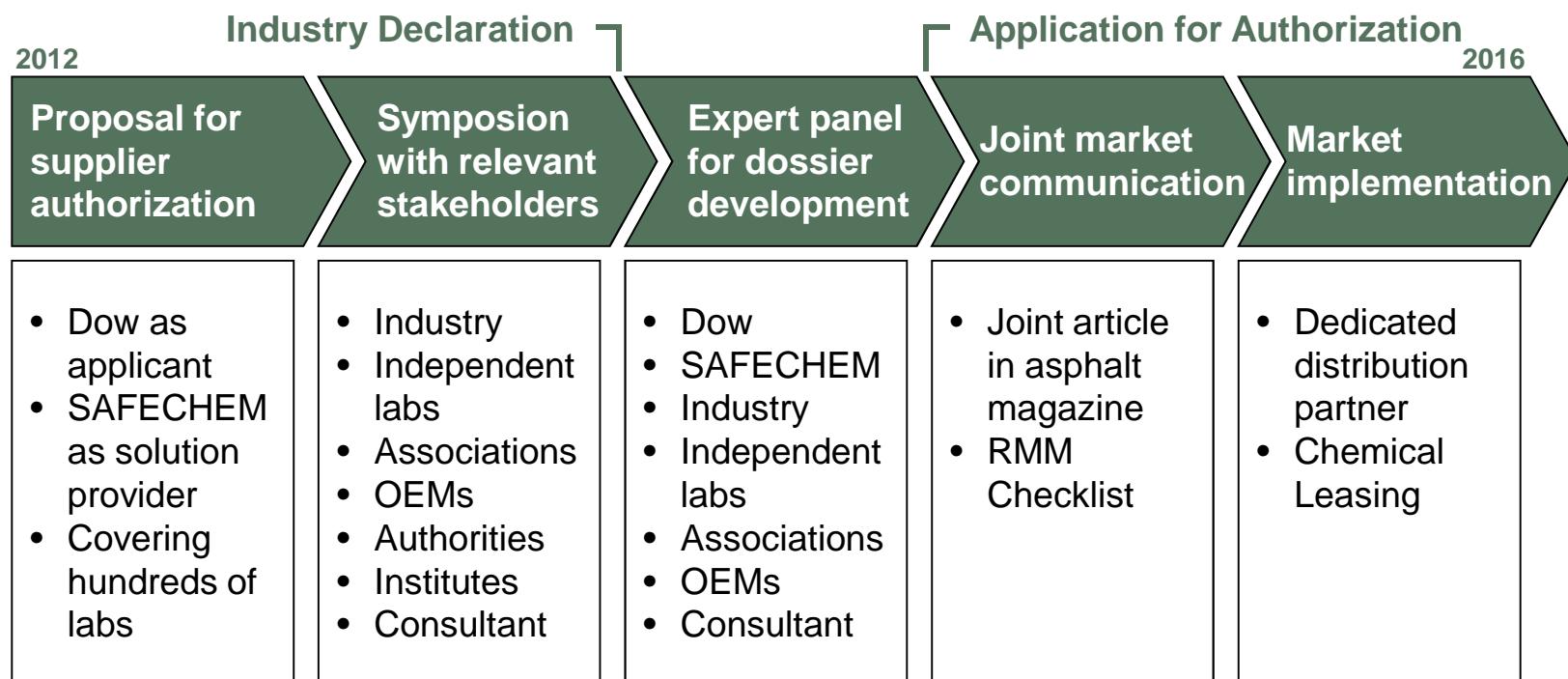
## Substitution of TRI needs time

- TRI
  - Substance of Very High Concern (SVHC) – substitution required
  - Subject to Authorization under REACH (sunset date April 2016)
  - Specified in German Industry Norm for asphalt extraction
- Substitution
  - Research project supported by German government
  - Caprylic acid methylester as renewable solvent
  - Estimated implementation time of 10 years





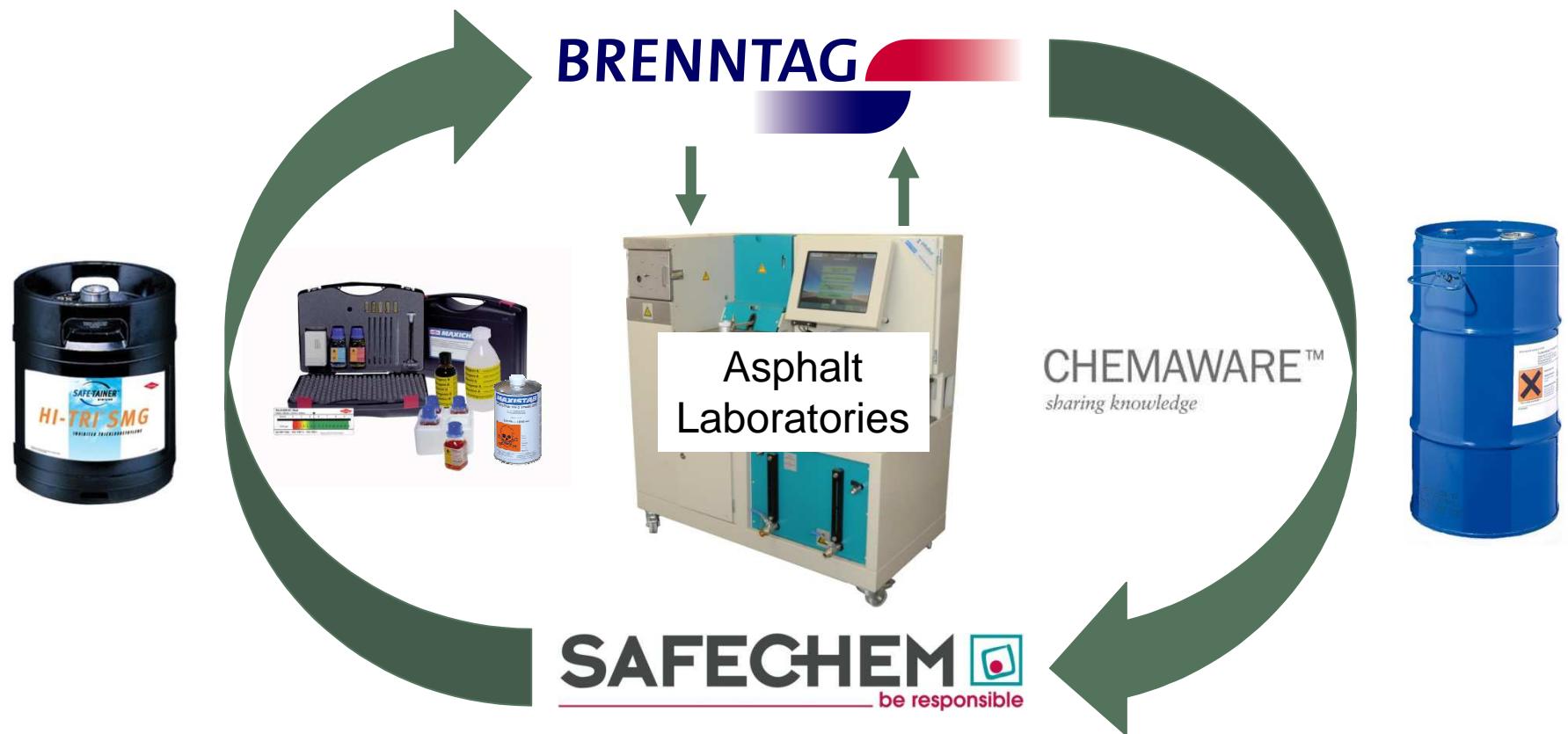
# Joint development of sustainable strategy



Closed-loop Solution



## Best practice risk management measures



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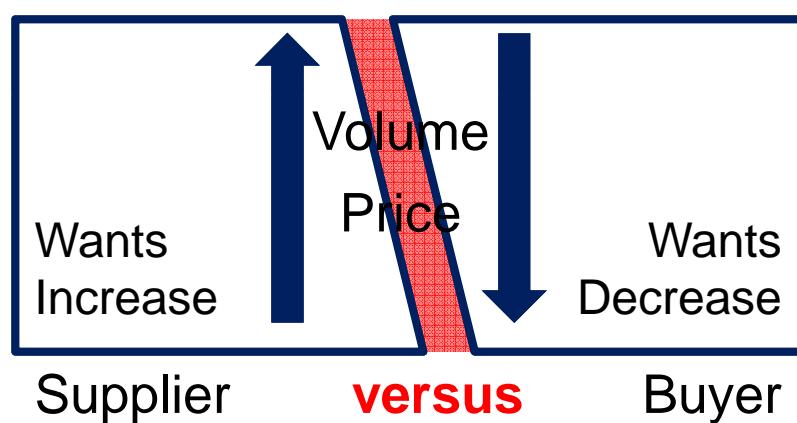
## Chemical Leasing



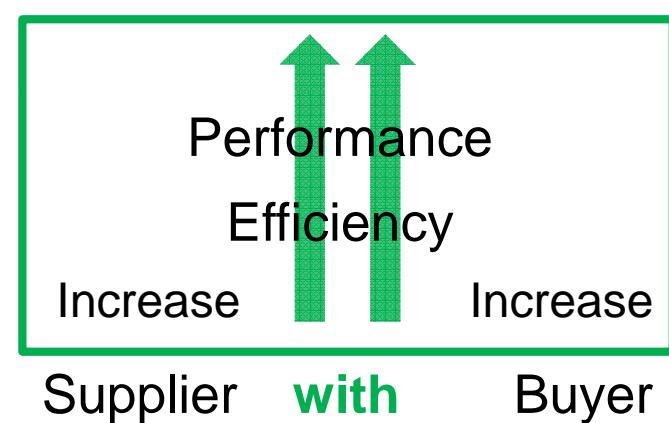
# Performance-oriented business model



### Business as usual



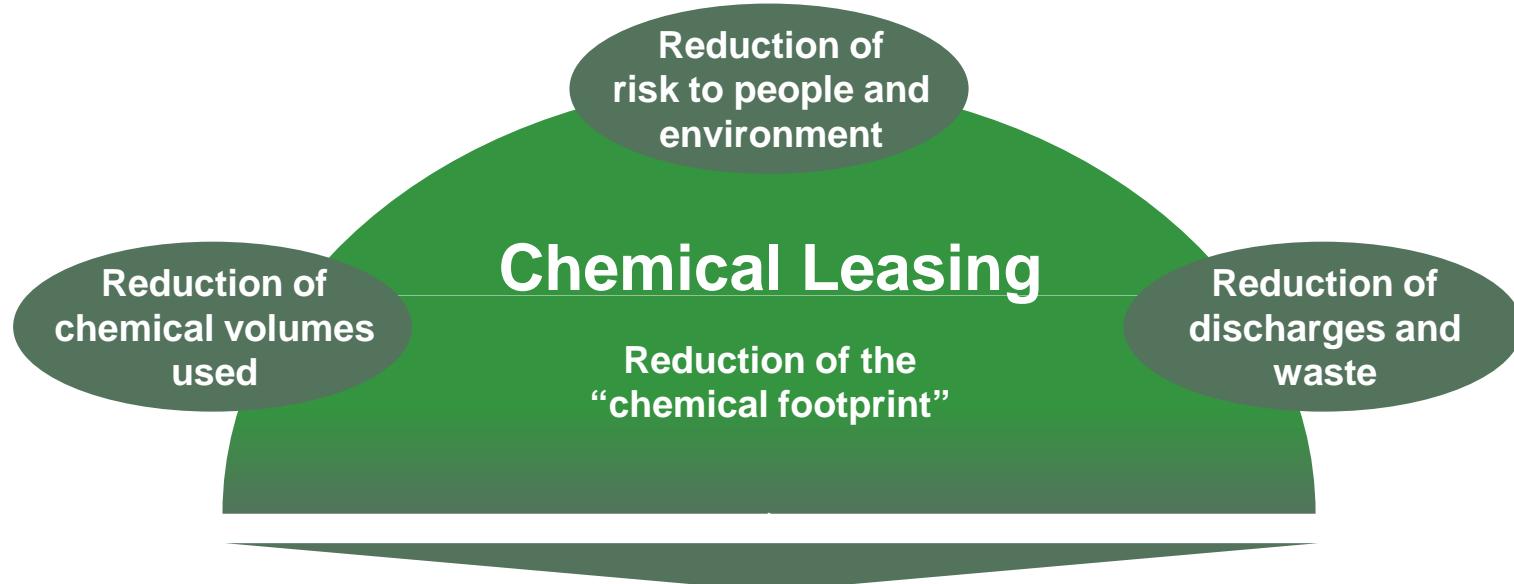
### Chemical Leasing



## Chemical Leasing



# Common goals of supplier and user





# Common goals with REACH



- Both intend to reduce the risks resulting from the use of chemicals
- Both intend to improve the industry's competitiveness through responsible manufacture and application of chemicals
- Both intend to create benefits from an intensified sharing of know how and information.
- REACH will boost Chemical Leasing for different reasons:
  1. Promotion of information exchange
  2. Higher recognized value of solutions for risk management

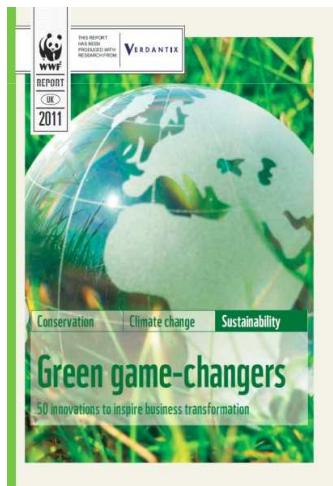
Source: [www.chemicalleasing.com](http://www.chemicalleasing.com)



## Awards and Studies



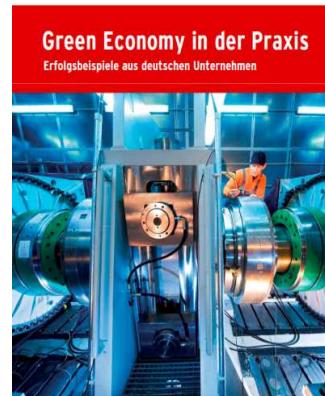
# Recognized as best practice model



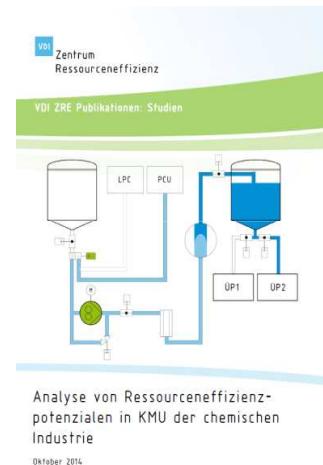
2011  
WWF



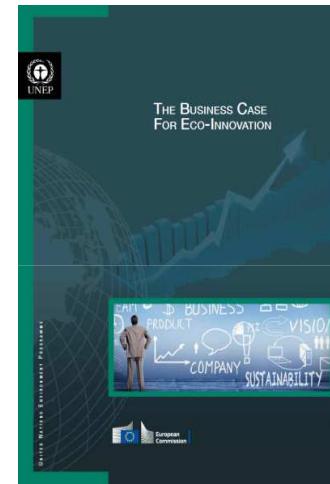
2012  
UNIDO/BMU



2013  
BMU/BDI



2014  
VDI



2014  
UNEP



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