Virtuelle Akademie Nachhaltigkeit

Wuppertal Institut
für Klima, Umwelt, Energie
GmbH

Transition Management XI: Chemie-Branche

Episode 2: Chemie in Transition

Vorlesung: Transition Management
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Universität Bremen

ZMML
Zentrum für Multimedia in der Lehre

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Chemie-Industrie und Cleantec

Zwei Dimensionen von Chemie in Transition:

- Transition innerhalb der Chemie-Industrie: Selbsttransformation der Branche
  - Das Beispiel Henkel – „Faktor 3“
- Transition ausgehend von der Chemie-Industrie: Chemie als Nachhaltigkeits-Motor in anderen Branchen
  - Das Beispiel „Cleantech“

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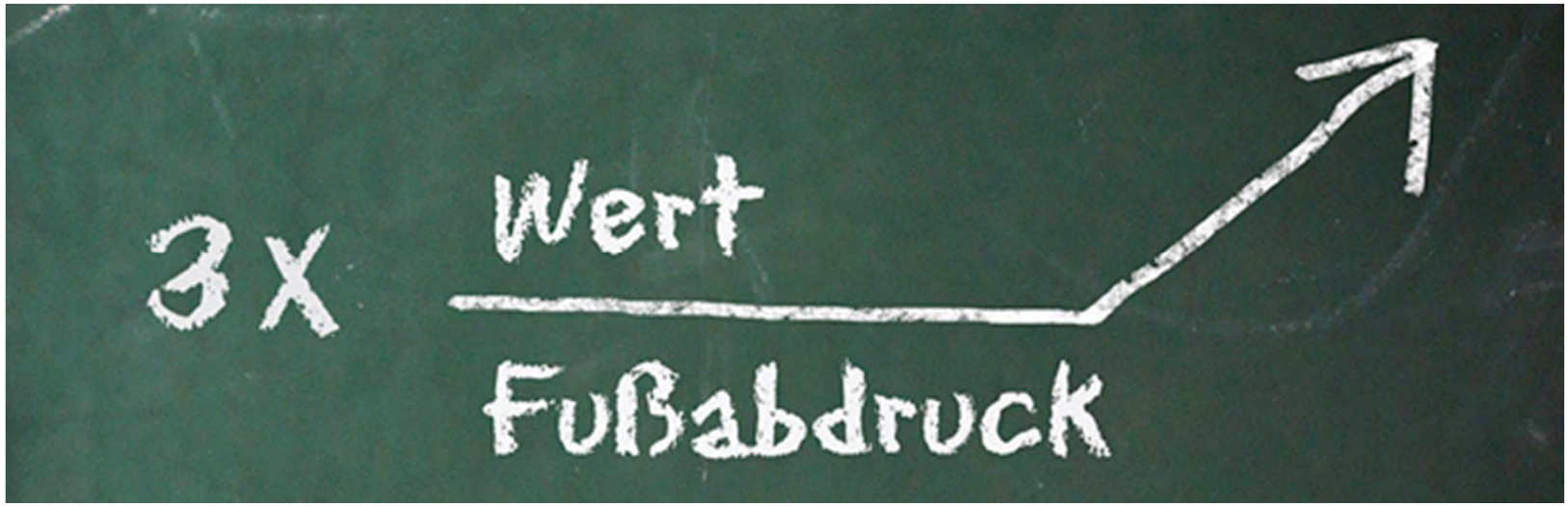
Das Beispiel Henkel: Strategie 2030 – Faktor 3



20-Jahres-Ziel: Faktor 3

„Wir haben einen langfristigen Anspruch für das Jahr 2030 formuliert, der heißt: Wir wollen das Verhältnis zwischen dem Wert, den wir schaffen, und unserem ökologischem Fußabdruck um den Faktor 3 verbessern.“ (Henkel 2011)

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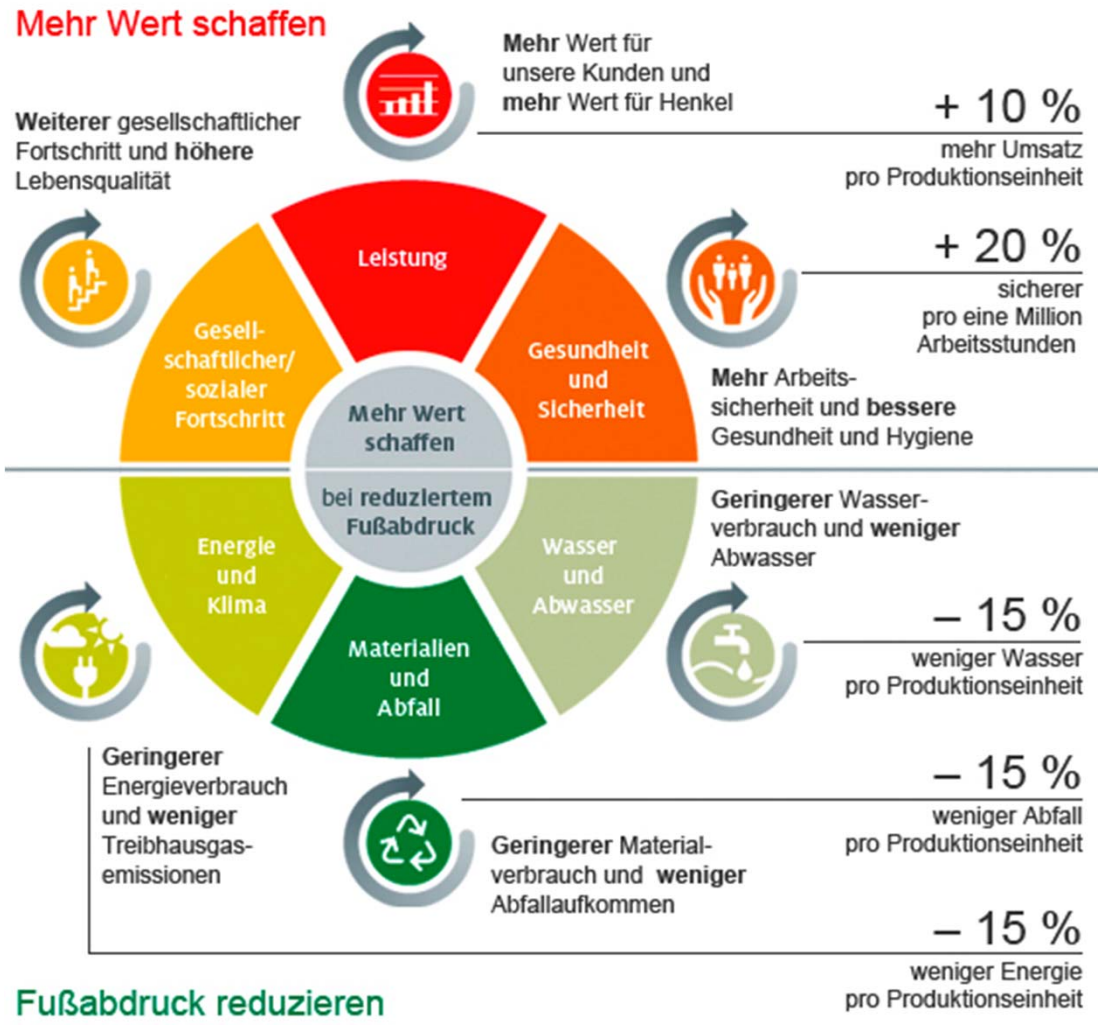
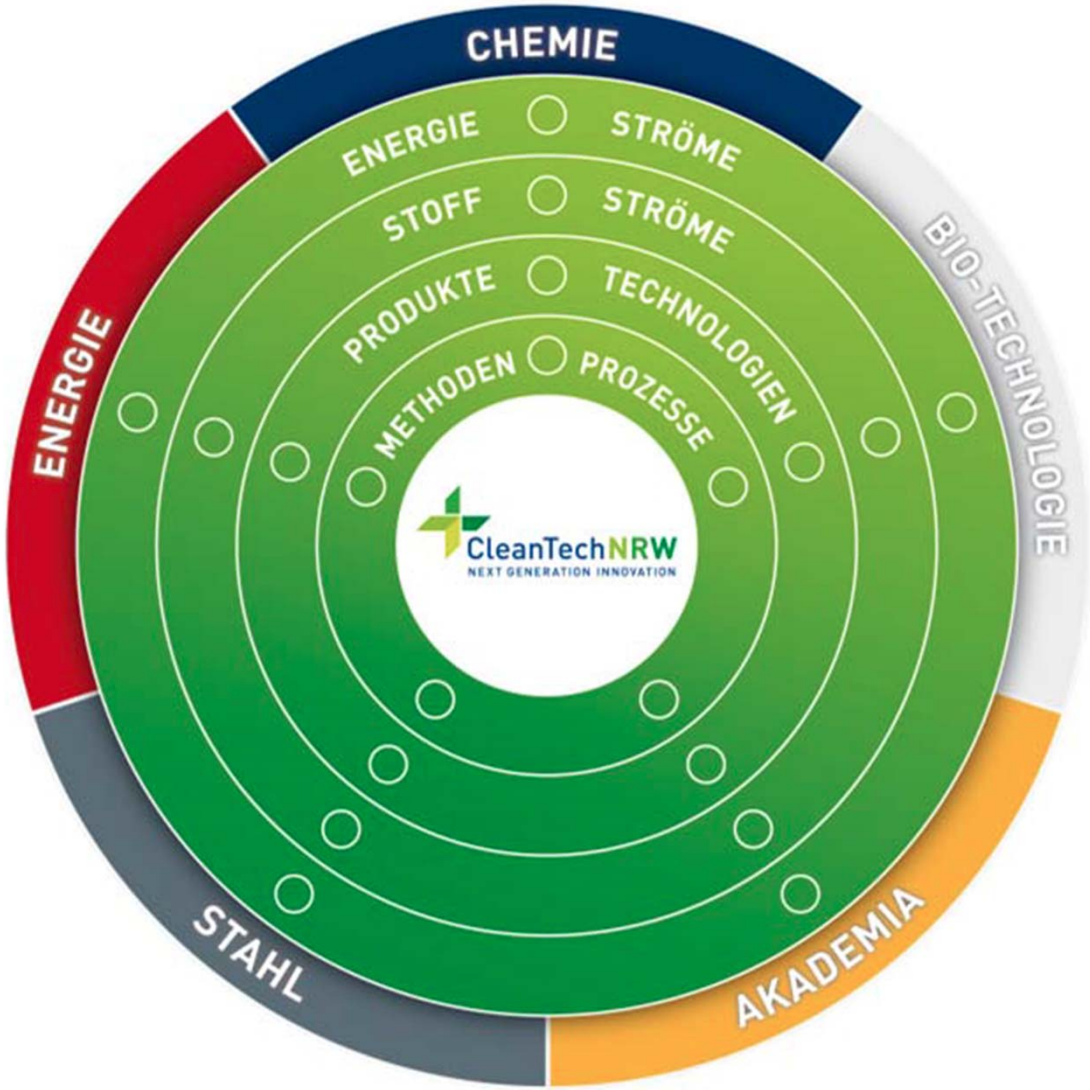
Das Beispiel Henkel: Strategie 2030 – Faktor 3

Ebene	Zielkriterien	Strategieansatz
Produktion	Ökologische Produktionseffizienz	Prozessinnovationen

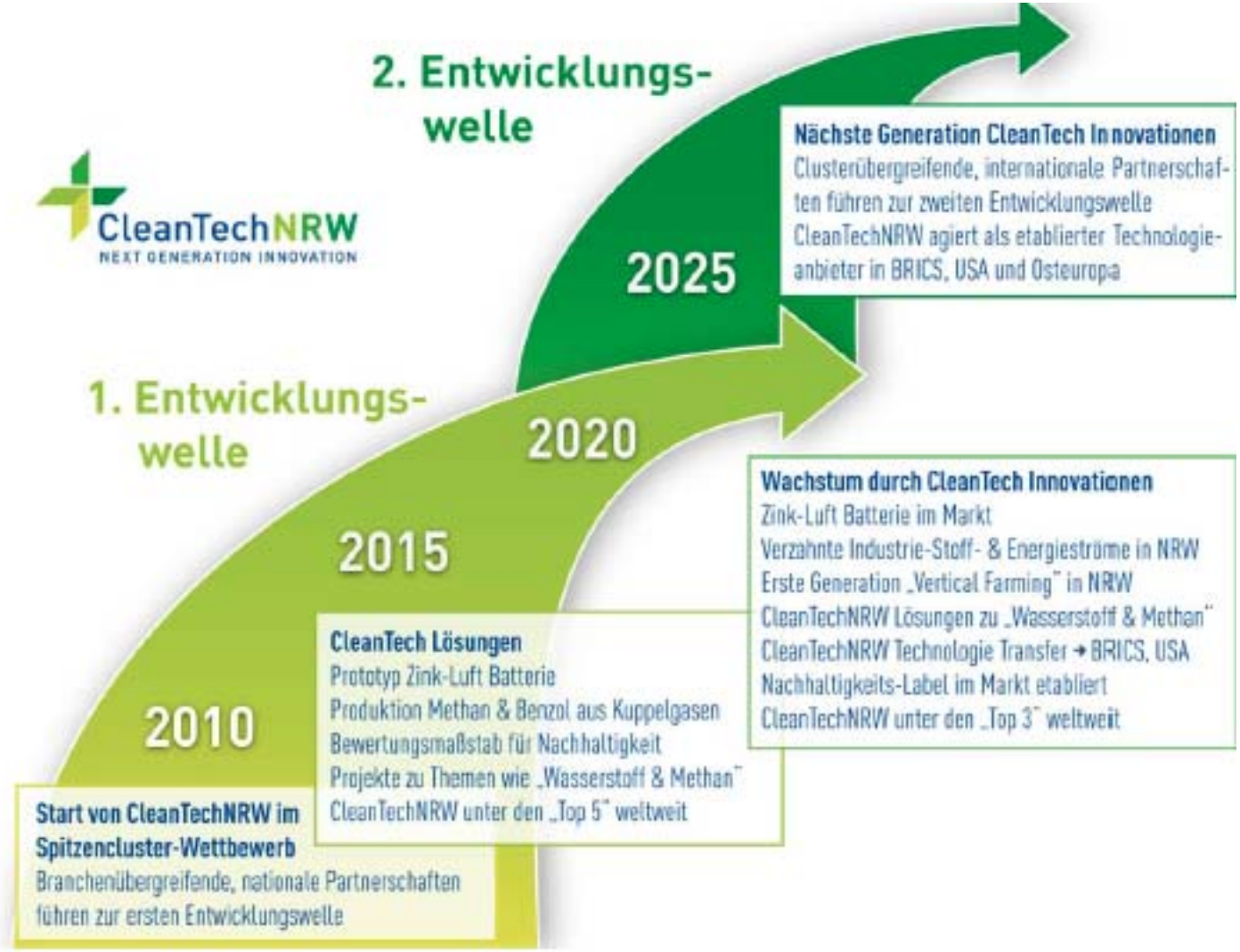
Das Beispiel Henkel: Strategie 2030 – Faktor 3



Nachhaltige Chemie
Cleantech-Cluster NRW



Nachhaltige Chemie
Cleantech



Nachhaltige Chemie
McKinsey-Studie

ICCA/McKinsey-Studie

Hohe Effizienz der chemischen Industrie:

- Between 1990 and 2005, chemical production in the EU rose by 60 percent, while total energy consumption was stable. This meant that the chemical industry has cut its energy intensity by 3.6 percent annually. Absolute GHG emissions, meanwhile, fell by almost 30 percent;
- The Japanese chemical industry reduced unit energy consumption by 2002 to 90 percent of the 1990 fiscal year level – eight years ahead of target. By 2006, further improvements meant that the performance achieved was 82 percent of the 1990 level;
- Since 1974, the US chemical industry has reduced its fuel and power energy consumed per unit of output by nearly half. Since 1990 the US industry's absolute GHG emissions fell 13 percent, a reduction that exceeds the target of the Kyoto protocol;
- The Brazilian association members reduced specific overall energy consumption between 2001 and 2007 by 25 percent while increasing overall production by almost 30 percent. By 2007, more than 50 percent of energy came from renewable sources. Total CO_2 intensity declined by 16 percent between 2001 and 2007.

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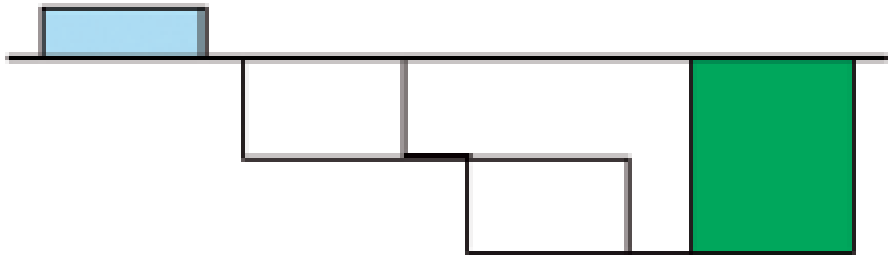
ICCA/McKinsey-Studie – CO_2-Einsparpotenziale

Calculation scheme for the CO_2e emissions from using a chemical industry product compared with a non-chemical industry product



Chemical products emissions over life cycle of chemical product

Non-chemical product emissions over life cycle of non-chemical alternative

Difference in in-use emissions due to performance difference between chemical and non-chemical product

Gross emissions savings

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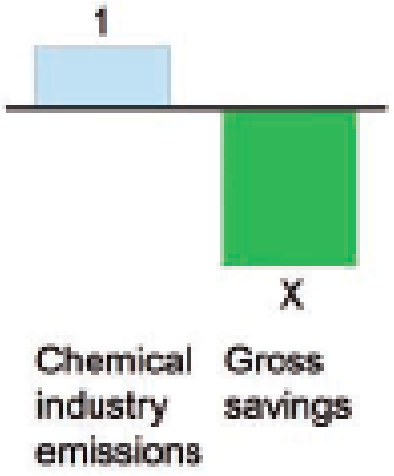
ICCA/McKinsey-Studie – CO_2-Einsparpotenziale

Gross savings (or X : 1) ratio

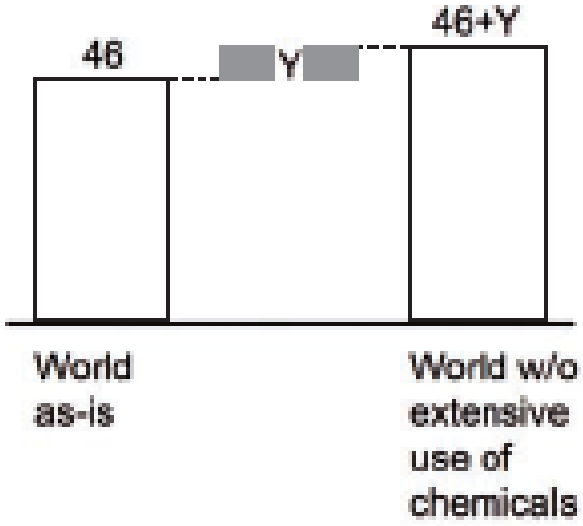
"Chemical industry saves X kgCO_2e for every 1 kg emitted"



Net emission abatement

"Global CO_2e emissions would be Y Gt higher without chemical industry"

Emissions, GtCO_2e (2005 example)



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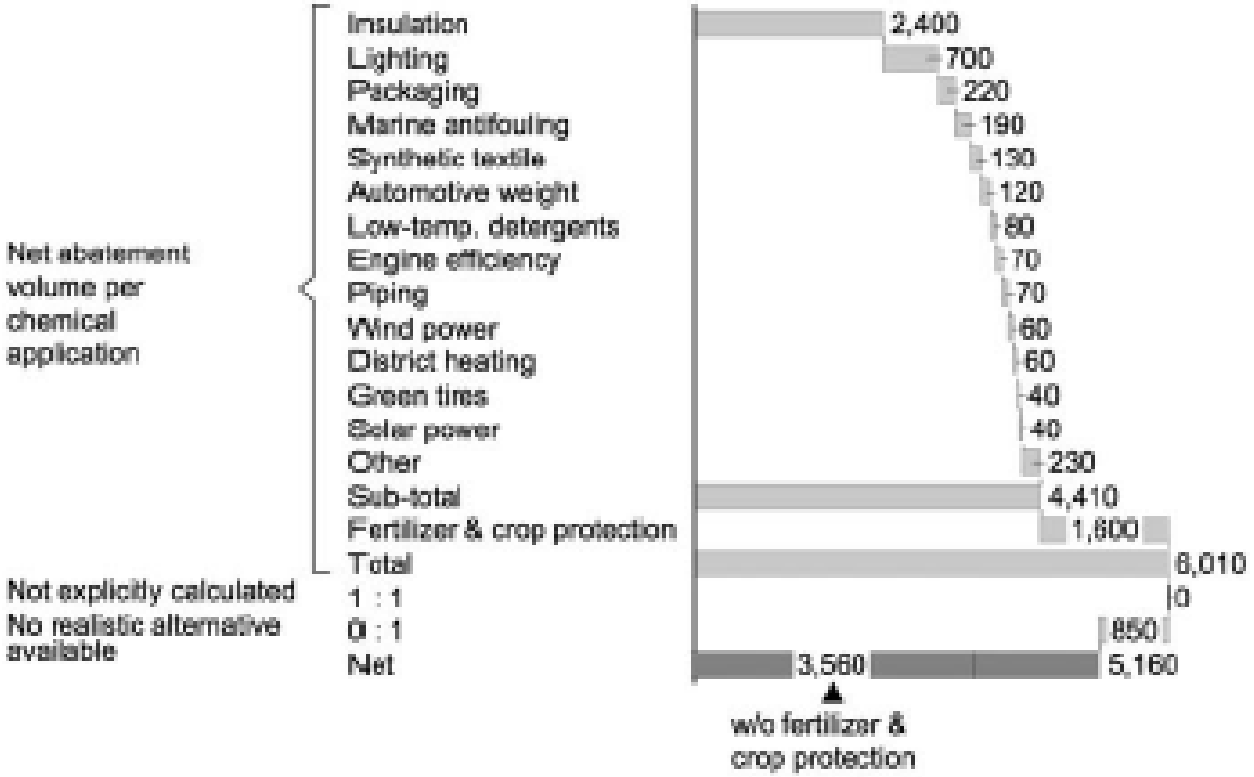
ICCA/McKinsey-Studie – CO_2-Einsparpotenziale

The main contributors are insulation, fertilizer & crop protection, and lighting
Net abatement 2005
$MtCO_2e$



Source: ICCA/ McKinsey analysis

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Vielen Dank für Ihre Aufmerksamkeit !

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