



>> PERSPECTIVES_2012

THE FUTURE OF CHEMICAL AND PHARMACEUTICAL
PRODUCTION IN GERMANY

>> A FINANCIAL MARKETS PERSPECTIVE.

GLOBAL TRENDS FACILITATE INDUSTRY CONSOLIDATION IN EUROPE

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ACHEMA PERSPECTIVES 2012

BERGMANN ■ ZUR HAUSEN & CIE.

Global Trends facilitate Industry Consolidation in Europe

Achema June 2012

Agenda

- SECTION 1: Global Trends
- SECTION 2: Industry Consolidation in Europe (“exemplified within the Chemical Industry”)
- SECTION 3: Future Perspectives and potential Impact

SECTION 1:

Global Trends

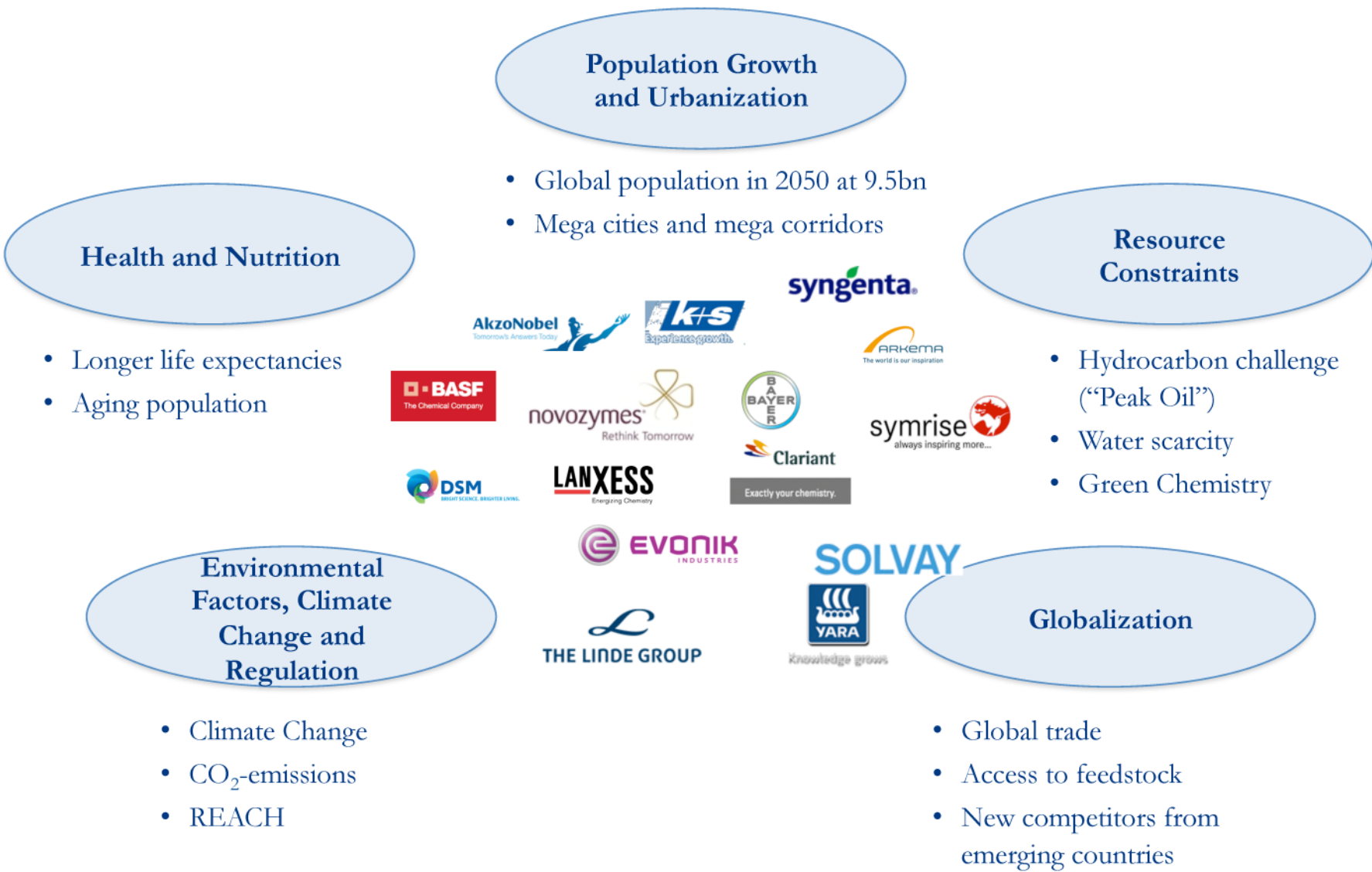
Enormous Forces will determine our Future

What is a Global Trend?

- **Global trends** or **megatrends** are **massive forces** in **societal development** that will **affect all areas** - state, market and civil society - for **many years** to come.
- **Megatrends** are our **knowledge** about the **probable future**. Megatrends are the **forces** that **define** our **present** and **future world**. The interaction between them is as important as each individual megatrend. That is why futures researchers, companies and others **use megatrends** when they develop and work with **scenarios**. Megatrends can be a starting point for analyzing our world.
- The future is never a given, and any one of us can **affect** or **create the future**. **Megatrends** have **different meanings** for different **companies, organizations** and **individuals**, because we react, consciously or not, differently to trends such as globalization (vs. anti-globalization movements) or the increasing pace of change (vs. slow movement).

SECTION 1:

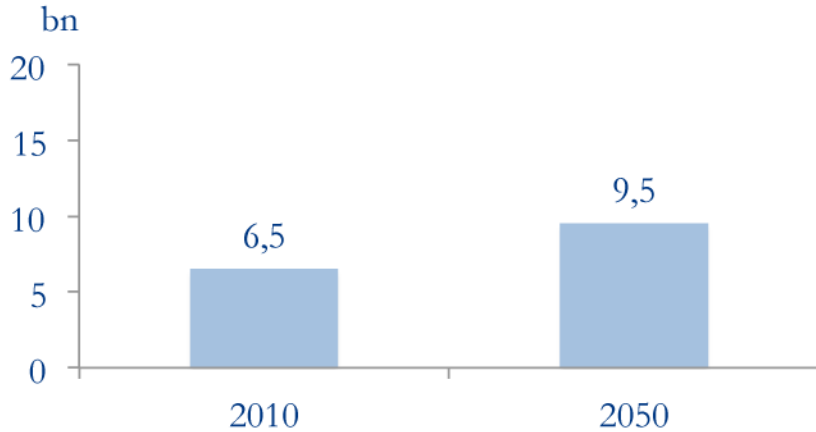
Selected Megatrends to impact the World of Chemical Companies



SECTION 1:

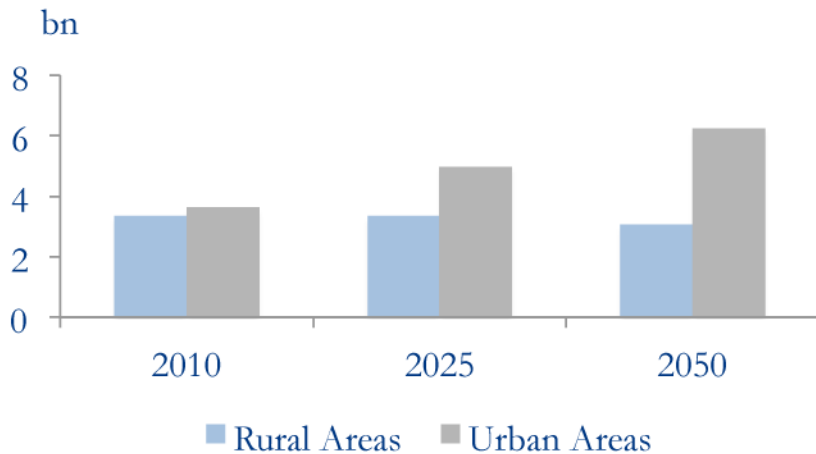
Population Growth and Urbanization are Key Drivers

Population Growth until 2050



- World population will balloon to **9.5bn** in 2050
- **Developing countries** will grow nearly **7x** faster than the developed countries
- Major issues for the population are **nutrition, water and health**

Rural and Urban Population until 2050



- **Urban areas** are expected to **absorb** world population growth
- World population living in urban areas expected to pass **6.3bn** in 2050
- **Mega cities** will grow and become **mega corridors**
- Population living in rural areas will **decrease**

SECTION 1:

Resource Constraints will be the largest challenge for the Chemical Industry

Global Material Flow

- The Chemical Industry is only a minor consumer of global energy, as nearly 97% of global Oil Equivalents are utilized to produce energy (electricity, fuel, heat etc.)
- But more than 60% of the Oil Equivalents in the Chemical Industry are utilized as feedstock
- All three major feedstock reserves have limited availability

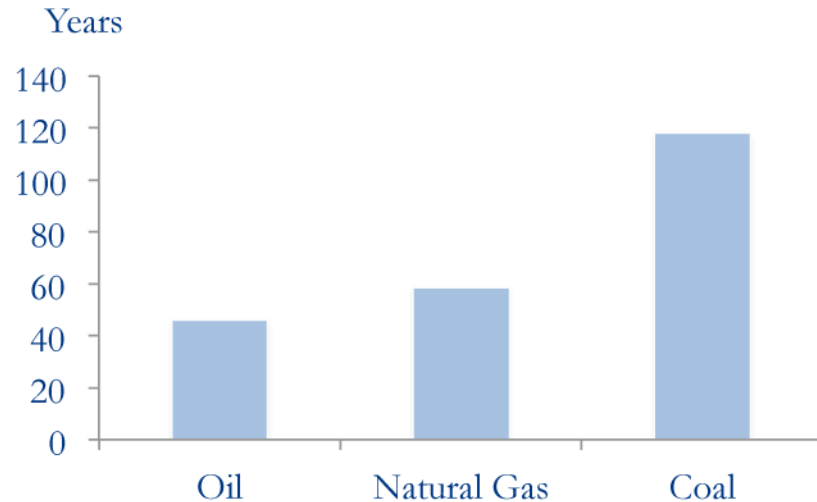
Crude Oil
Coal
Natural Gas

Apr. 10 bn tons Oil Equivalent per year⁽¹⁾

97% to energy

Reserves-to-Production Ratio⁽²⁾

3% to the global chemical industry



(1) Source: VCI

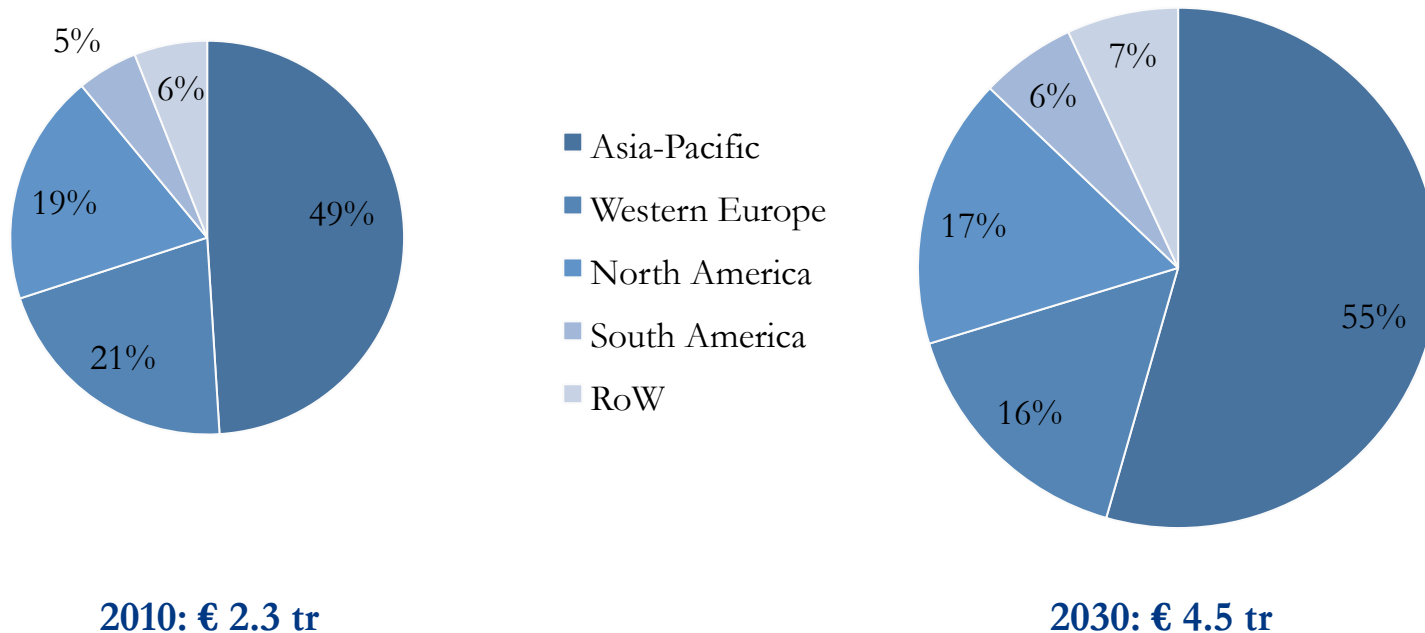
(2) Source: BP, R/P Ratio: Reserves-to-Production ratio

SECTION X:

Megatrends will lead to a Shift of Demand for Chemicals to Asia-Pacific

Global Chemical Demand in 2010 and 2030⁽¹⁾

- Asia-Pacific will contribute over 60% to the total growth in chemical demand until 2050, whereas North America and West Europe will contribute only 24% to the total growth



(1) Source: BCG, VCI, Morgan Stanley

SECTION 1:

Consequently Megatrends are an integral Part of Corporate Strategies

Chemical companies have incorporated megatrends into their corporate strategies and have taken corporate action including M&A, restructuring and greenfield investments to capitalize on megatrends



Demographic challenges set the stage for the future of the chemical industry

Nine billion people in 2050 but only one earth

Resources, Environment & Climate | Food & Nutrition | Quality of Life

Chemistry as enabler



Premium products and technologies for global megatrends

LANXESS



Product profile
Hostacerin® – Eco solution for Personal Care

Hostacerin® SFD is a sunflower oil based coemulsifier for creams, lotions and sun care products

- ECologically**
 - Low tox, low eco-tox
 - Low-VOC
 - ED free
- ECOnomically**
 - Very cost efficient because less UV absorber needed in the formulation
- susTAINable**
 - Low emission potential
 - Biodegradable
 - Replaces silicones in skin feel



Global societal trends drive DSM's markets

Health & Well-being | Global shifts | Climate & Energy

Ageing population | Population growth | Resources constraints

Healthcare costs | Urbanization | Energy security

Food security | Wealth | Sustainability

Health | Nutrition | Materials

DSM

Corporate Activity of Chemical Companies

- Buying technologies for differentiation and innovation
- Segment leadership through consolidation
- Cost savings through economies of scale
- Expand exposure to emerging markets due to superior growth
- Acquisition of high margin businesses
- Reducing exposure to “the cycle”

Source: Companies' IR presentations

SECTION 2:

Industry Consolidation in Europe (“exemplified within the Chemical Industry”)

There are many good Reasons to do M&A.....



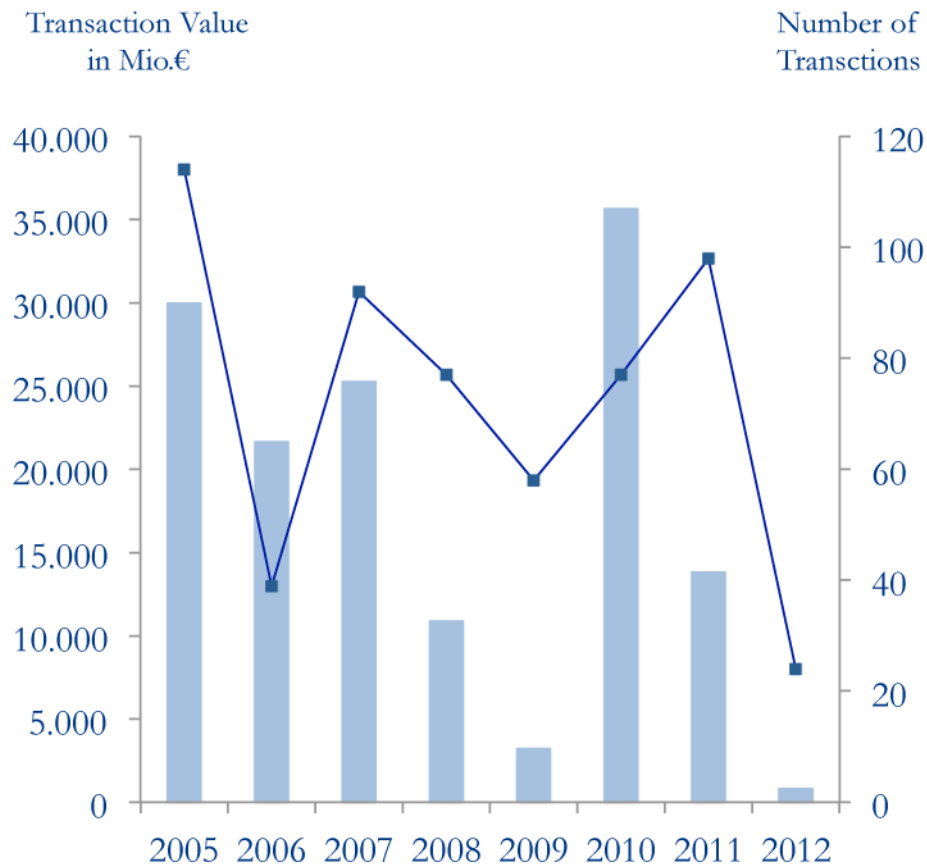
- to **strengthen an existing product line** by **adding capabilities** or **extending geographic markets**
- to **add new product lines**
- to **obtain new technological capabilities** or a needed **presence in local markets**
- to **divest underperforming activities**
- to **harvest successful operations in advance of competitor programs** to expand capacity and outputs
- to **round out product lines**
- to **strengthen distribution systems**
- to **move the firm into new growth areas**
- to **expand the critical mass** required for effective utilization of large investment outlays
- to **create a broader technology platform**
- to **achieve vertical integration**

... but buying **technology** and achieving **dominance in market segments** are by far the most observed reasons

SECTION 2:

M&A in the European Chemical Industry

Intra-European M&A Transactions⁽¹⁾



Selected Comments

- US-Subprime crisis led to decline in chemical M&A transactions in Europe
- 2010 transaction values include consolidation in the fertilizer sector in Russia (Uralkali/Silvinit, etc.)
- BASF's acquisition of Cognis and Lanxess' acquisition of DSM Elastormes represent "typical" European Chemical M&A transactions
- 2011 M&A transaction decline due to Euro debt crisis
- Major deals in 2011 include Solvay's takeover of Rhodia, Clariant's acquisition of Süd-Chemie and BASF's disposal of its fertilizer production facility in Antwerp
- YTD 2012 with further decrease due to uncertain development of the European Union (Greece, Spain, etc.)

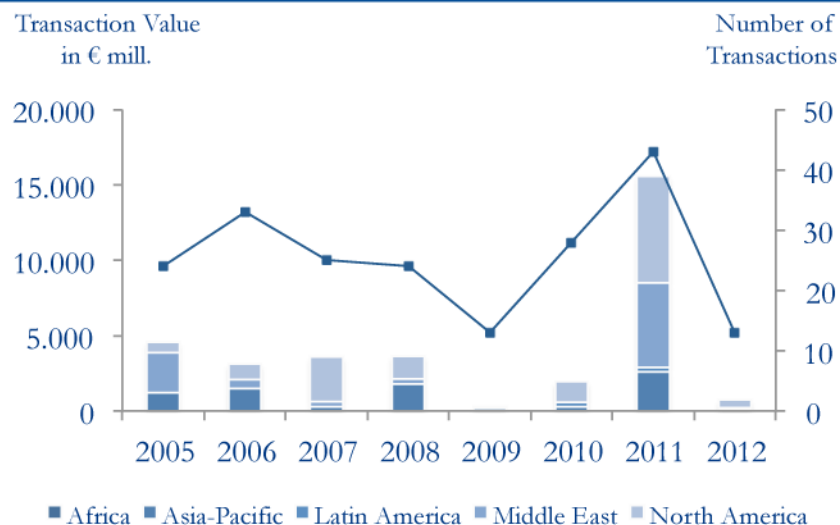
Source: mergermarket, including transactions with undisclosed values

(1) European target and European acquirer

SECTION 2:

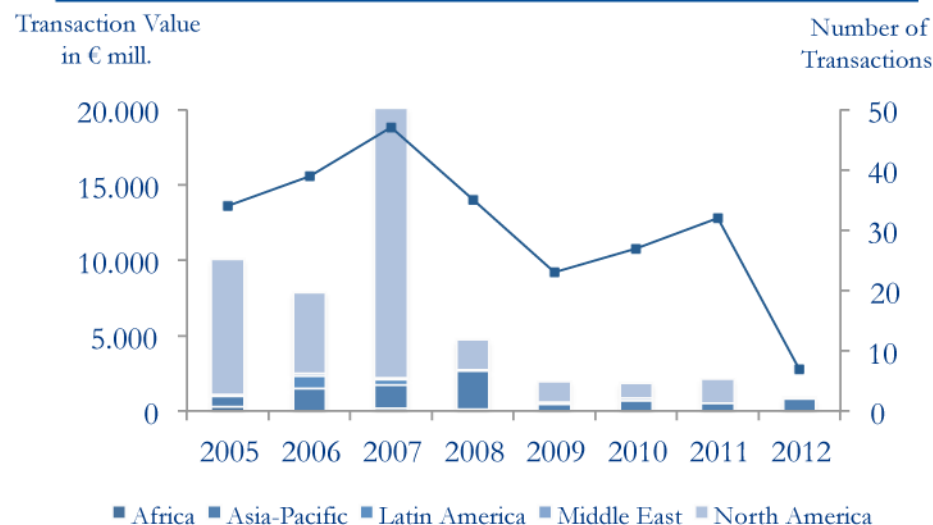
Selected Inbound and Outbound M&A Activities

Inbound M&A Transactions⁽¹⁾



- Inbound transaction value for North American acquirer peaked in 2011, with DuPont’s acquisition of Danisco as major transaction
- Remarkable Middle East transactions include IPIC’s acquisition of Spanish CEPSA, SABIC acquisition of DSM Petrochemical and Huntsman UK petrochemical assets

Outbound M&A Transactions⁽²⁾



- 2007 largest outbound M&A transaction value includes Basell’s acquisition of Lyondell
- North America is favored by European chemical companies to acquire companies or businesses
- Selected transactions in Africa and Asia-Pacific

Inbound transactions are dominated by North American companies, but companies from Emerging Markets and the Middle East are gaining traction in the M&A space and increasingly compete with European chemical companies on targets

(1) European Target
 (2) European Acquirer
 Source: mergermarket

SECTION 2:

Consolidation / De-consolidation in the European Chemical Industry

Selected Consolidation Activities

Linde/ BOC	BASF / Ciba
Akzo/ ICI	BASF / Cognis
Ineos / Innovene	Clariant / BTP
Degussa / Laporte	Clariant/ Süd-Chemie
Sandoz/ Ciba-Geigy	Solvay/ Rhodia
Rhone-Poulenc/ Hoechst	Bayer / AventisSchering
Astra / Zeneca	

Selected De-Consolidation Activities

- | | | |
|-------------|--------------------------|--------------|
| • Almatris | • Ineos | • Supresta |
| • Arkema | • Innophos | • Symrise |
| • Azelis | • Innovene | • Syngenta |
| • Basell | • Lanxess | • Taminco |
| • Borealis | • Lucite | • Tikkurilla |
| • Clariant | • Novacap | • Treofan |
| • Cognis | • Novartis | • Umicore |
| • Dynea | • Orica | • Vantico |
| • Dystar | • Polimeri
Europe | • Yara |
| • Elementis | • Rhodia | |
| • Elenac | • SolVin | |
| • Flexys | • Sovereign
Specialty | |
| | • Styrolution | |

The Chemical Industry is used to consolidation and deconsolidation activities. Given the highly fragmented Chemical landscape (>250 segments) and the aforementioned mega trends further consolidation will continue at an increasing pace

Examples – Clariant's Acquisition of Süd-Chemie



Transaction Details

- Announcement on February 16, 2011
- Enterprise Value of approx. € 1,9 bn
- EV/EBITDA 9.2x
- Approximately 90% of family shareholders agreed to swap their Süd-Chemie shares at a fixed ratio of 1 : 8.84 into Clariant shares
- Subsequent Squeeze-out executed

Strategic Rationale

- Adds two attractive businesses and a set of high-growth future technologies to the current Clariant portfolio
- **Well positioned to exploit megatrends with future technologies (i.e. Battery Materials, Second Generation Bioethanol, Fuel Cell technology)**
- Provides high quality earnings with higher EBITDA margins and growth, as well as lower cyclical, seasonality and dependence on raw material price swings than Clariant
- Will complement the Company's footprint in emerging markets and strengthen access to the Middle East

SECTION 2:

Examples – BASF's Acquisition of Cognis



Transaction Details

Cognis - 2010:

- Enterprise Value € 3.1bn
- EV/LTM EBITDA 7.3x
- 100% cash consideration

Strategic Rationale

Cognis:

- To become the **preferred partner** for leading **consumer goods companies**; achieve **world leading positions** in **personal and home care ingredients**
- Accelerate profitable and sustainable growth
- Leverage Verbund competence and operational excellence

SECTION 2:

Examples – Total’s Hedge on Alternative Fuel and bio-based Chemicals



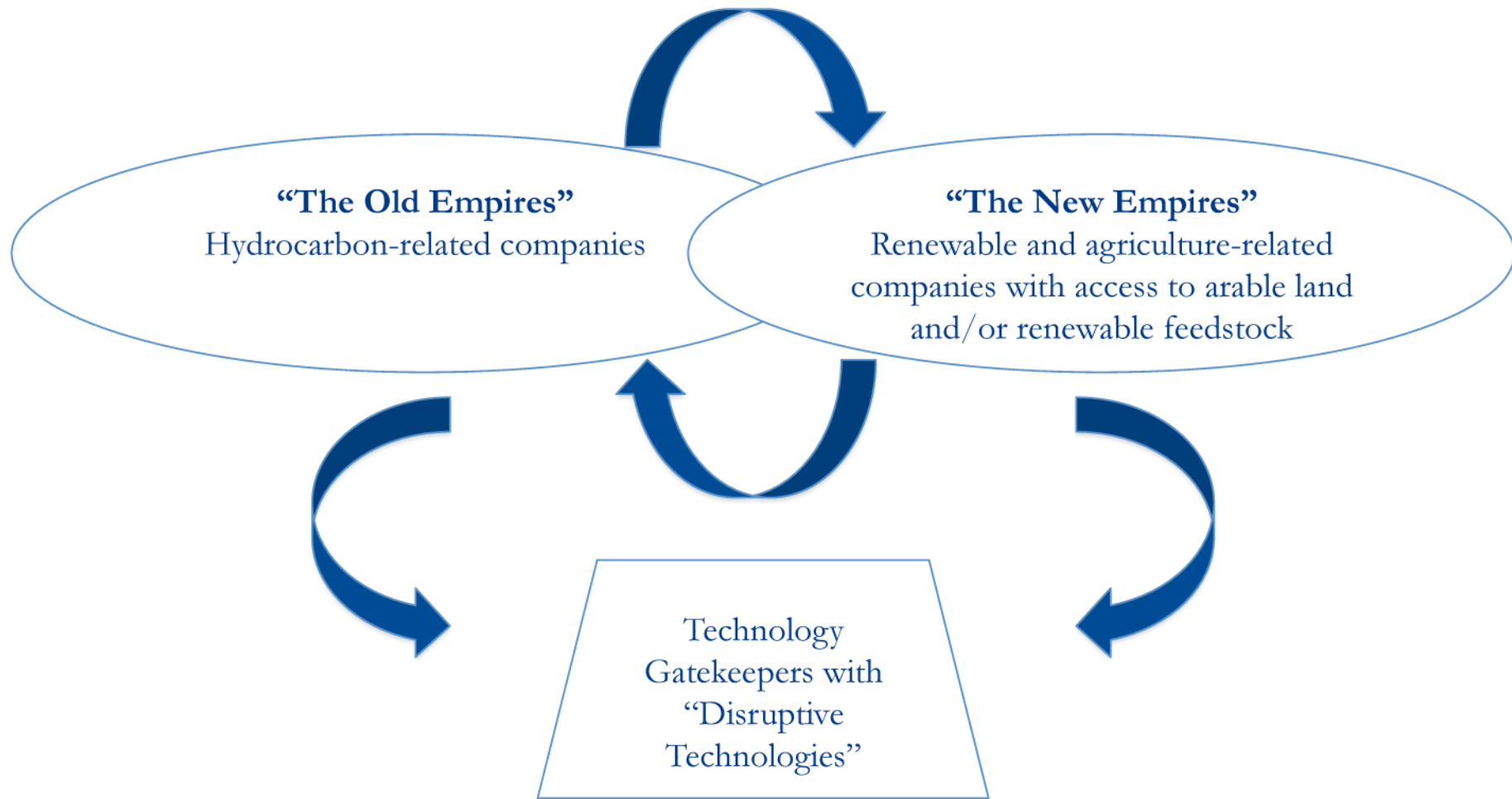
Technology	<ul style="list-style-type: none"> • A cutting-edge technology to produce yeast strains for renewable transportation fuels and chemicals 	<ul style="list-style-type: none"> • U.S. start-up that has developed an innovative process to convert waste plastics into synthetic crude oil (Pyrolysis) 	<ul style="list-style-type: none"> • Genome Engineering
Rationale	<ul style="list-style-type: none"> • Acquisition of a 17% equity stake in Amyris; Total is the only shareholder that is also an industrial partner • A strategic R&D co-operation to optimize yeast strains for production, commercialization and marketing 	<ul style="list-style-type: none"> • To decrease Total’s environmental footprint by reducing its waste and developing treatment, recycling and recovery solutions 	<ul style="list-style-type: none"> • Over the long term, the use of microalgae could help supplement the offering for the chemical and energy markets, while reducing its environmental impacts • To develop the technology’s potential in the field of oil product supplements
Investors	<ul style="list-style-type: none"> • NASDAQ-listed • Total 17% 	<ul style="list-style-type: none"> • Crysalix, Reference Capital, Saffron Hills Ventures, Kleiner Perkins, Waste Management, Total 	<ul style="list-style-type: none"> • Euronext-listed

SECTION 3:

Future Perspectives and potential Impact

SECTION 3:

“A Battle of Empires” will ensue to secure the Survival of hydrocarbon-related Businesses



We are entering an era of fierce consolidation in the hydrocarbon-related industry as not encountered before

Thank you very much for your attention – Any questions?



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