

May 20, 2014

Energy policy and investments in the chemical industry

Dr. Jörg Rothermel, VCI, May 20, 2014

VERBAND DER
CHEMISCHEN INDUSTRIE e.V.
WIR GESTALTEN ZUKUNFT.



VCI

Energy policies in a glance

Rest of the World

- Light or no climate change policy
- Industry friendly energy policy using all potential to minimize energy prices

Europe

- ambitious climate change policy: minus 20% until 2020, minus 40 until 2030, emissions trading, decarbonization of the economy
- energy policy dominated by climate Change policy : renewable share 2020 of 20%, 2030 of 27% energy consumption reduction

Germany

Forerunner in Europe

„Energiewende“:

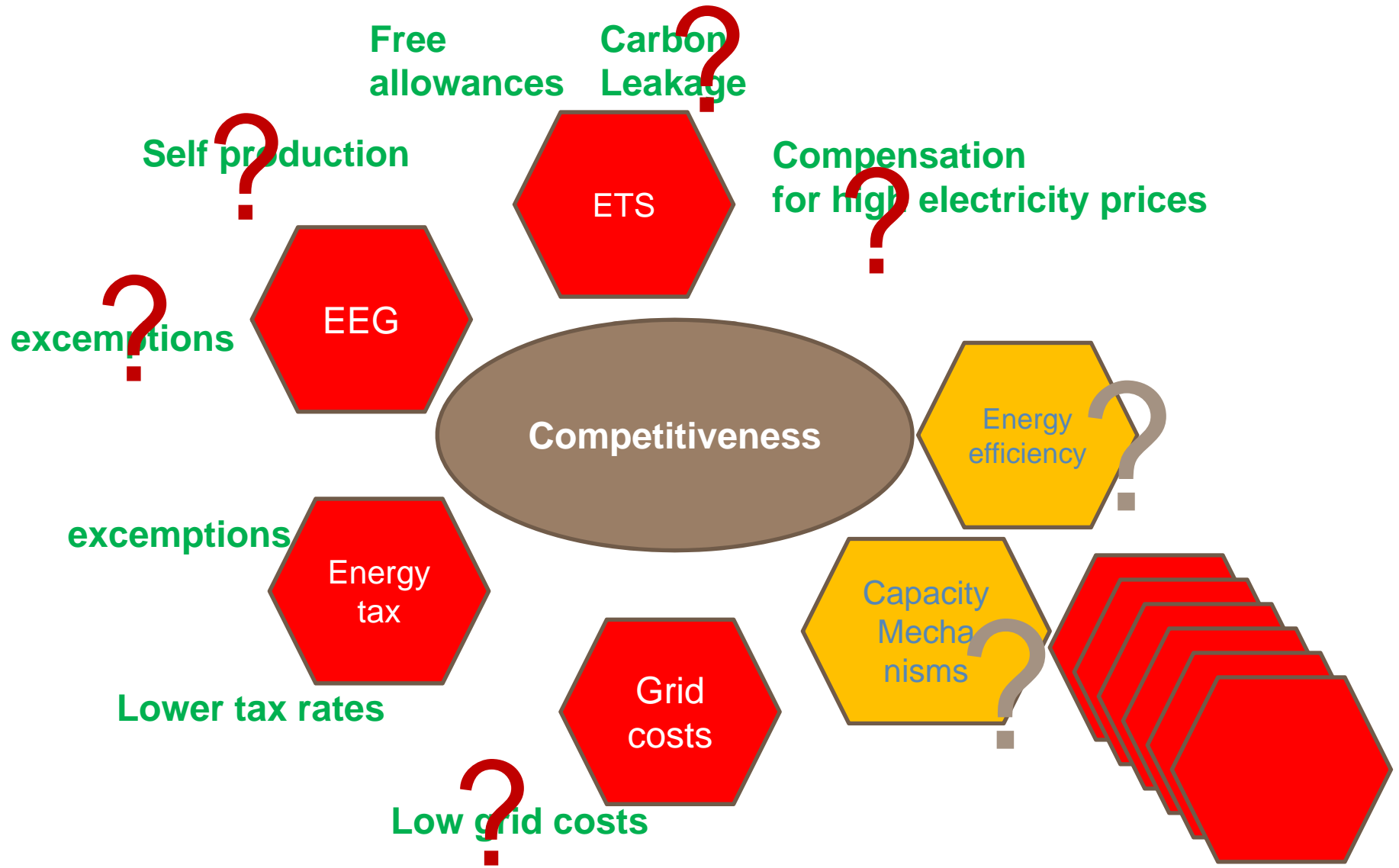
minus 40% until 2020

35% renewables until 2020

80% renewables until 2050

minus 10% electricity consumption until 2020

166 energy – and climate change regulations in Europe are influencing the competitiveness of the industry

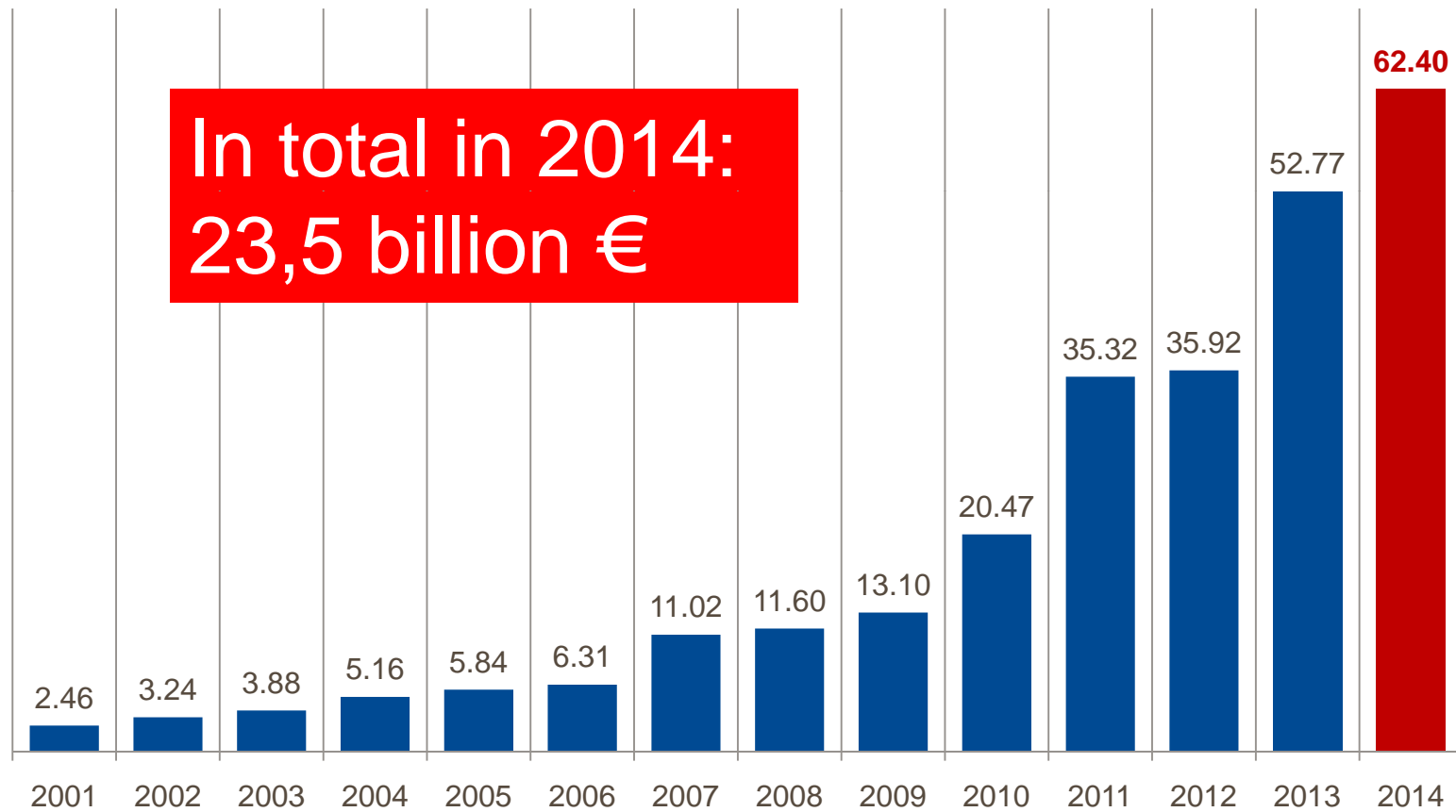


Climate change policy and the resulting energy policy is (one of) the most important competitiveness factor(s)

Development of the EEG levy

EEG-Levy

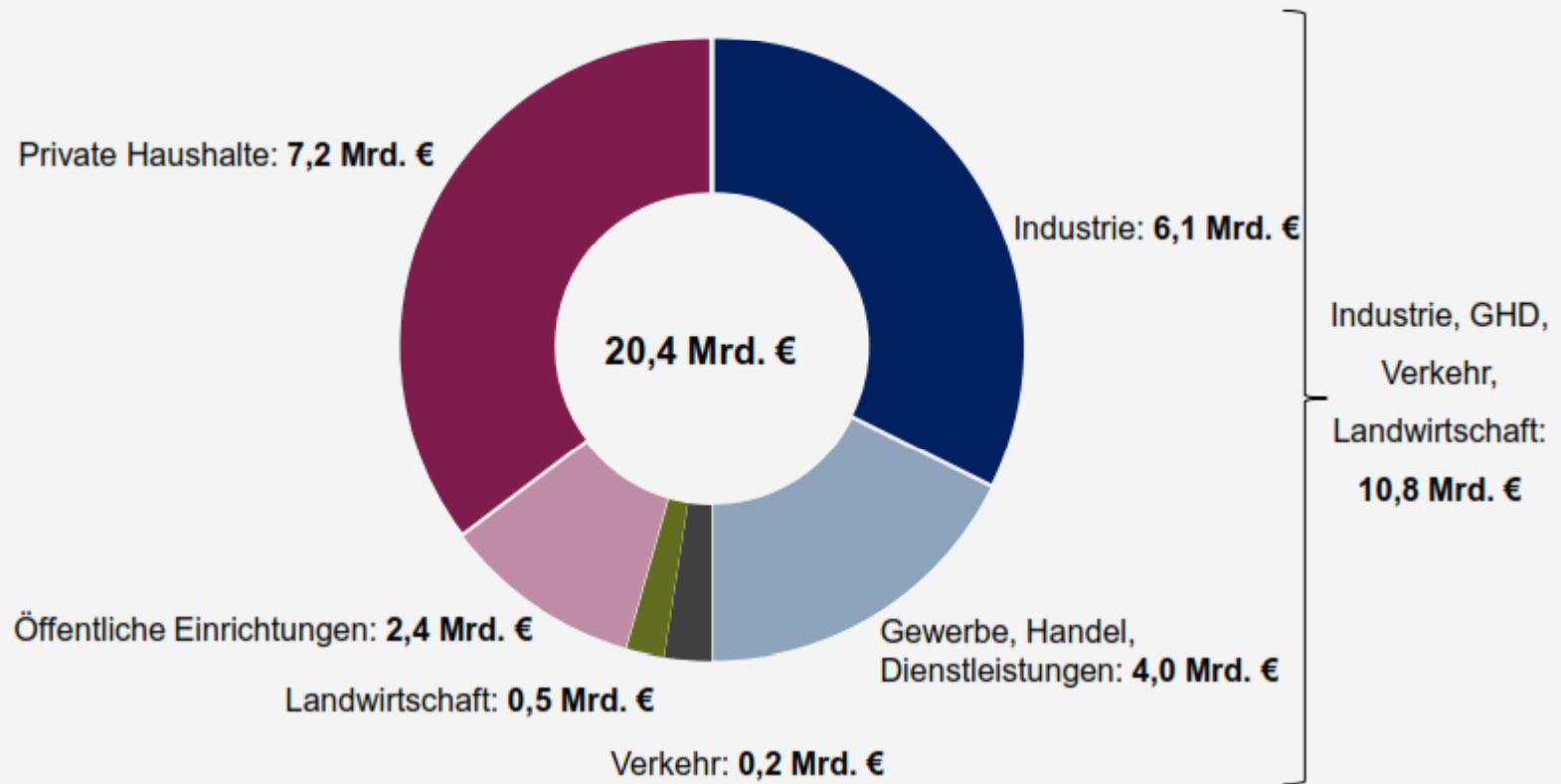
Euro per Megawatt-hour



Quelle: VCI

Who pays what

Von den Verbrauchern zu tragende Kosten für das EEG 2013: **20,4 Mrd. €**

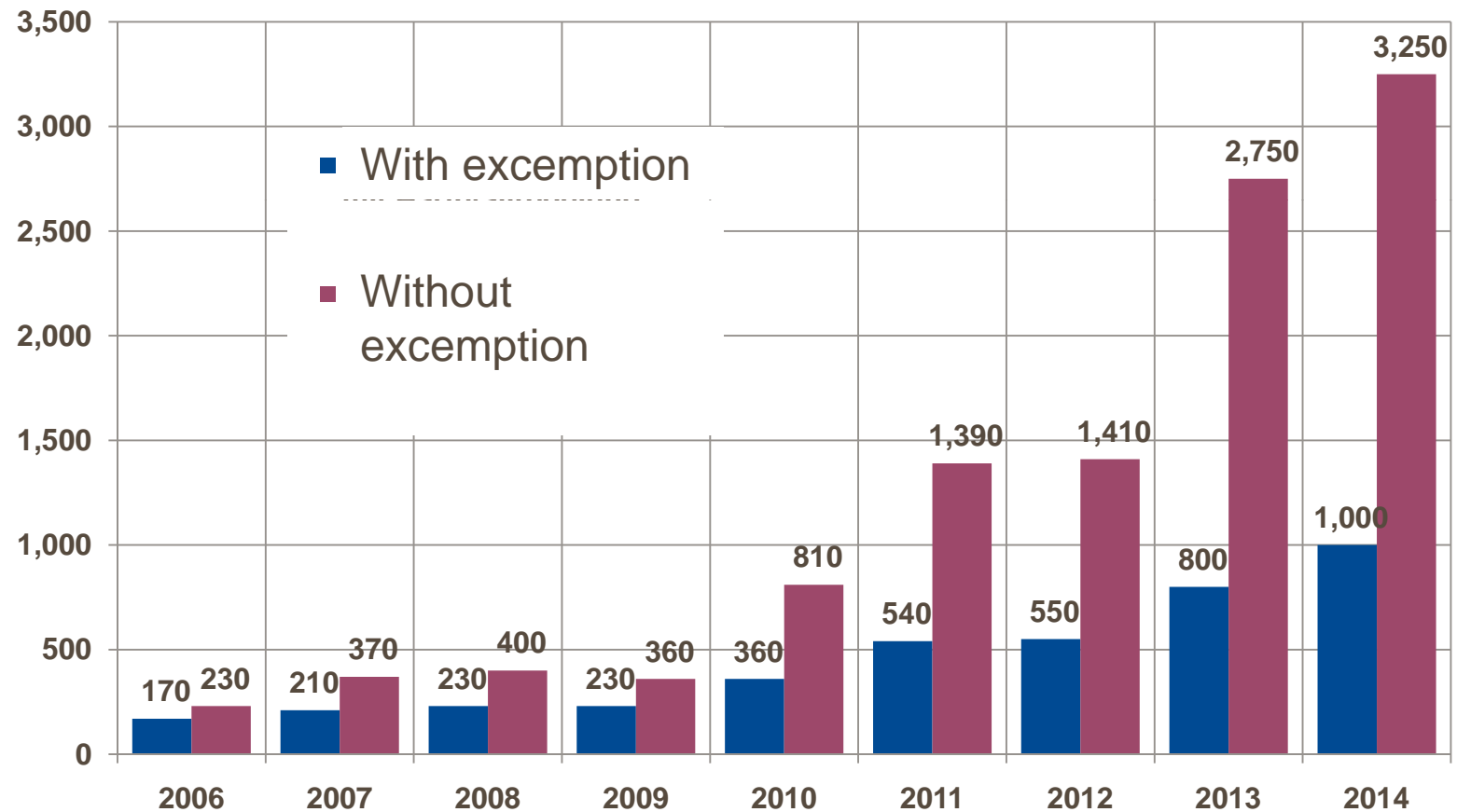


Source: BDEW

Chemical industry is partly exempted

EEG costs of the chemical/pharmaceutical industry

In Mio Euro



Quelle: Statistisches Bundesamt, ÜNB, Prognos, VCI

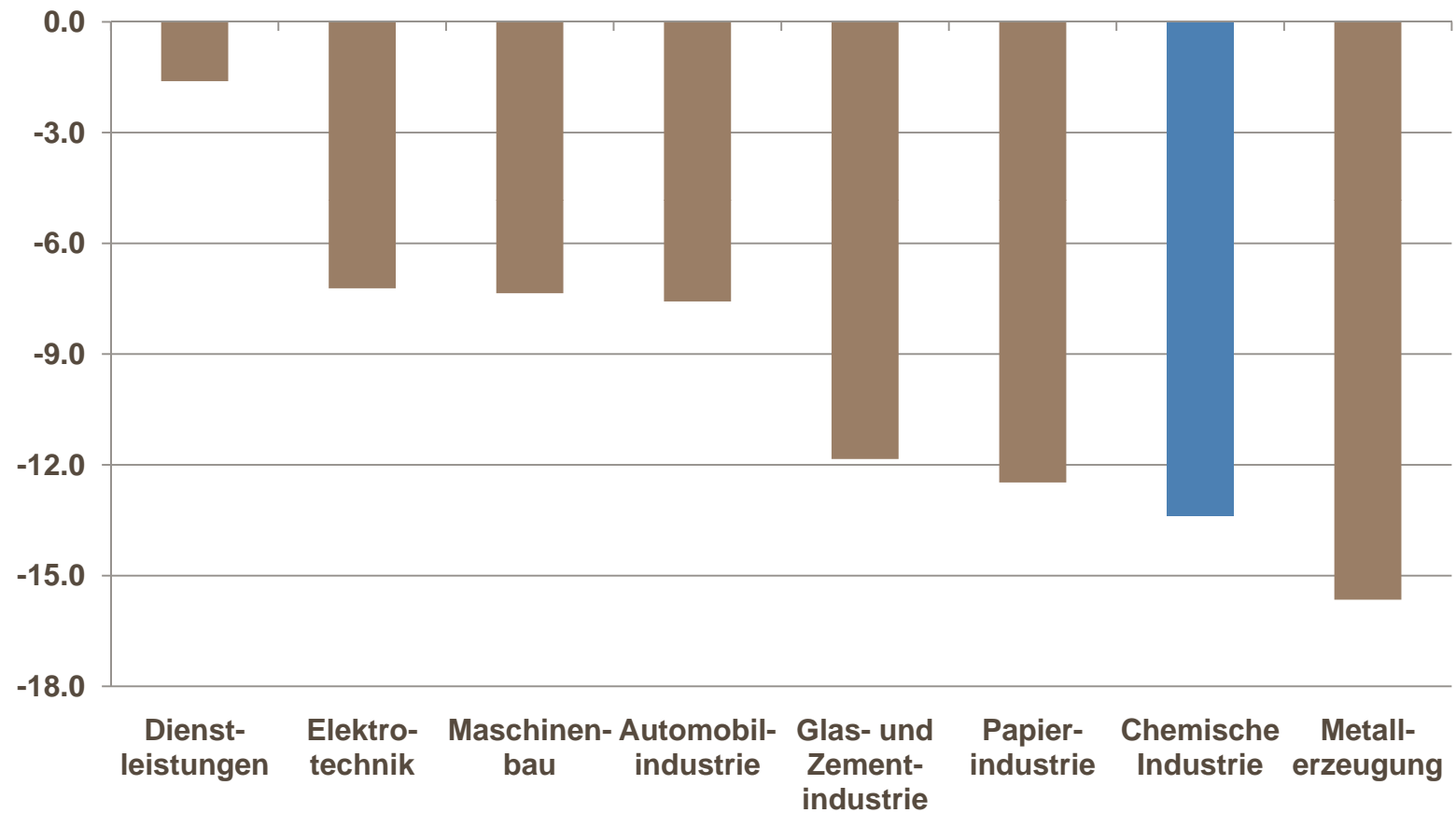
Ab 2013 EEG Mehrkosten ohne Härtefallregel und ohne Befreiung der Eigenerzeugung

Serious consequences for Germany in a system without exemptions

Indicator	Effects until 2030
GDP	- 174 billion Euro (- 4,9 %)
Total exports	- 290 billion Euro
Income per capita	- 812 Euro
employees	- 1,1 Millionen

Significant reduction of number of employees in a system without exemptions

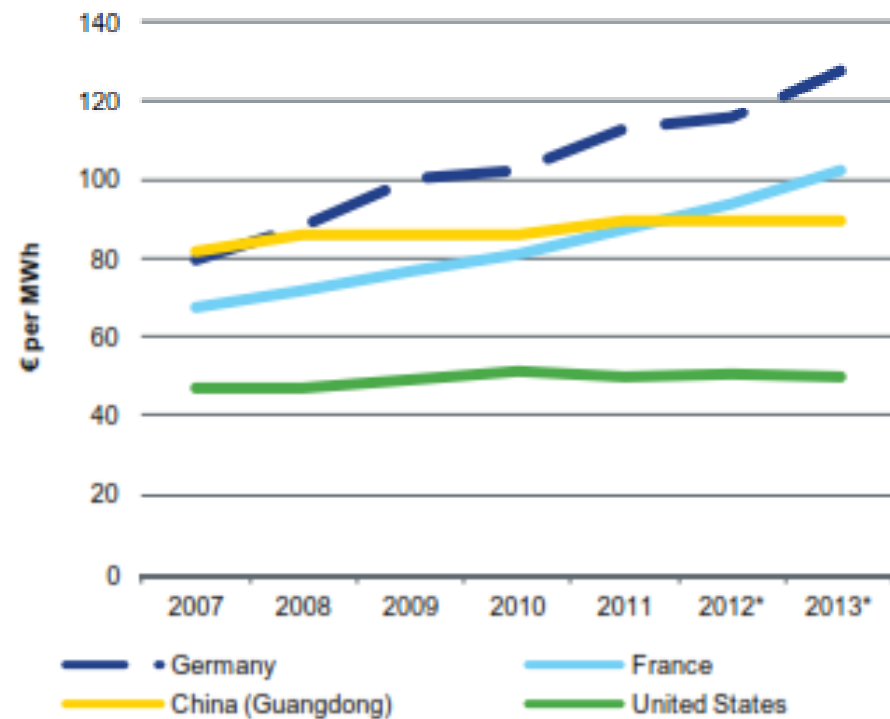
Effects in 2030 (%)



Quellen: IHS Economics, VCI

Electricity and natural gas prices

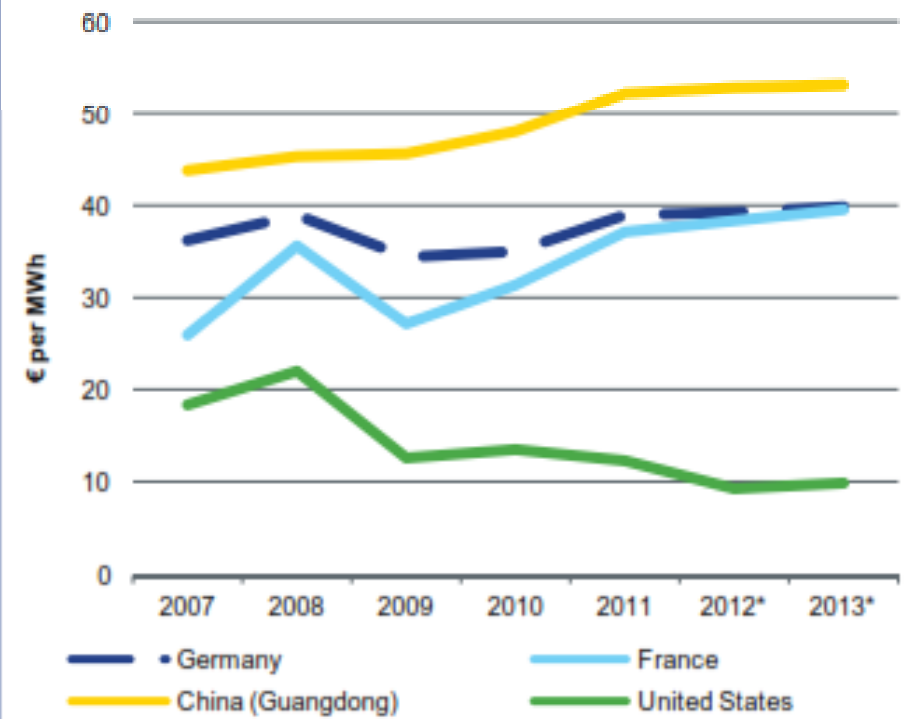
Industrial electricity prices by country



Note: *2012 and 2013 IHS estimate from national sources
Source: International Energy Agency (IEA), IHS Energy

© 2014 IHS

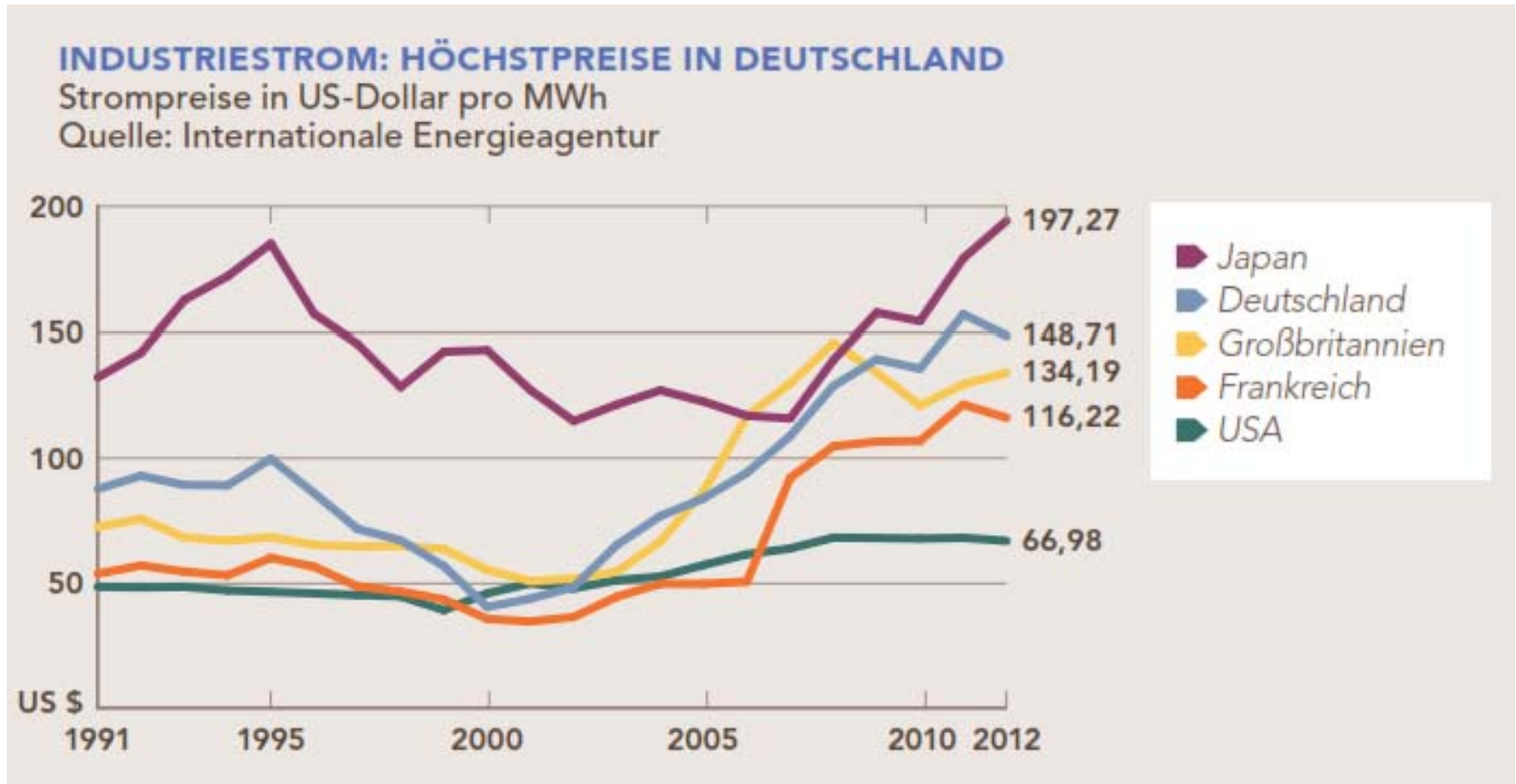
Industrial gas prices by country



Note: *2012 and 2013 IHS estimate from national sources
Source: IEA, IHS Energy

© 2014 IHS

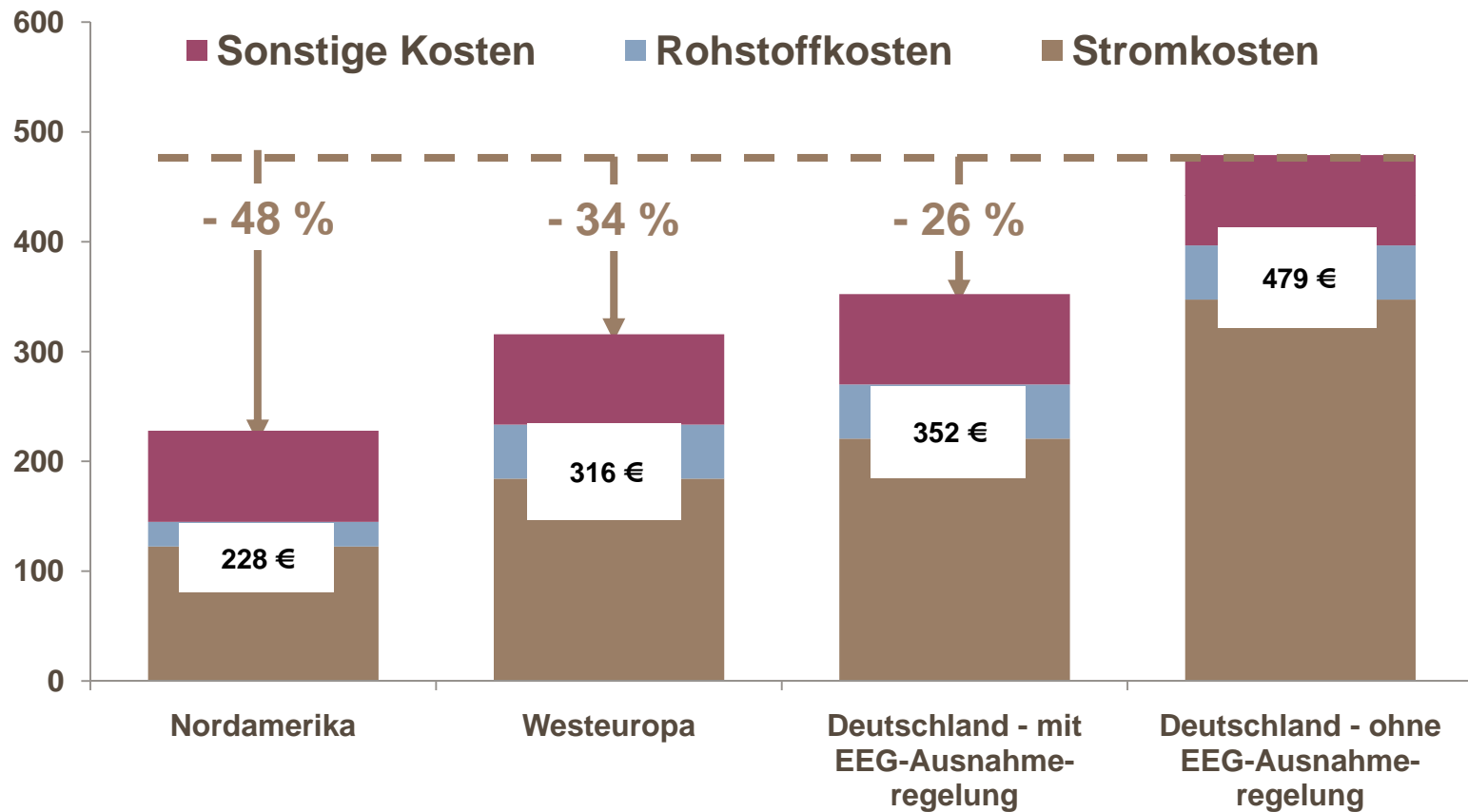
Electricity prices



Consequences for the production cost example: chlorine production

Regional Cost comparison

Euro per Tonne „electrochemical unit“

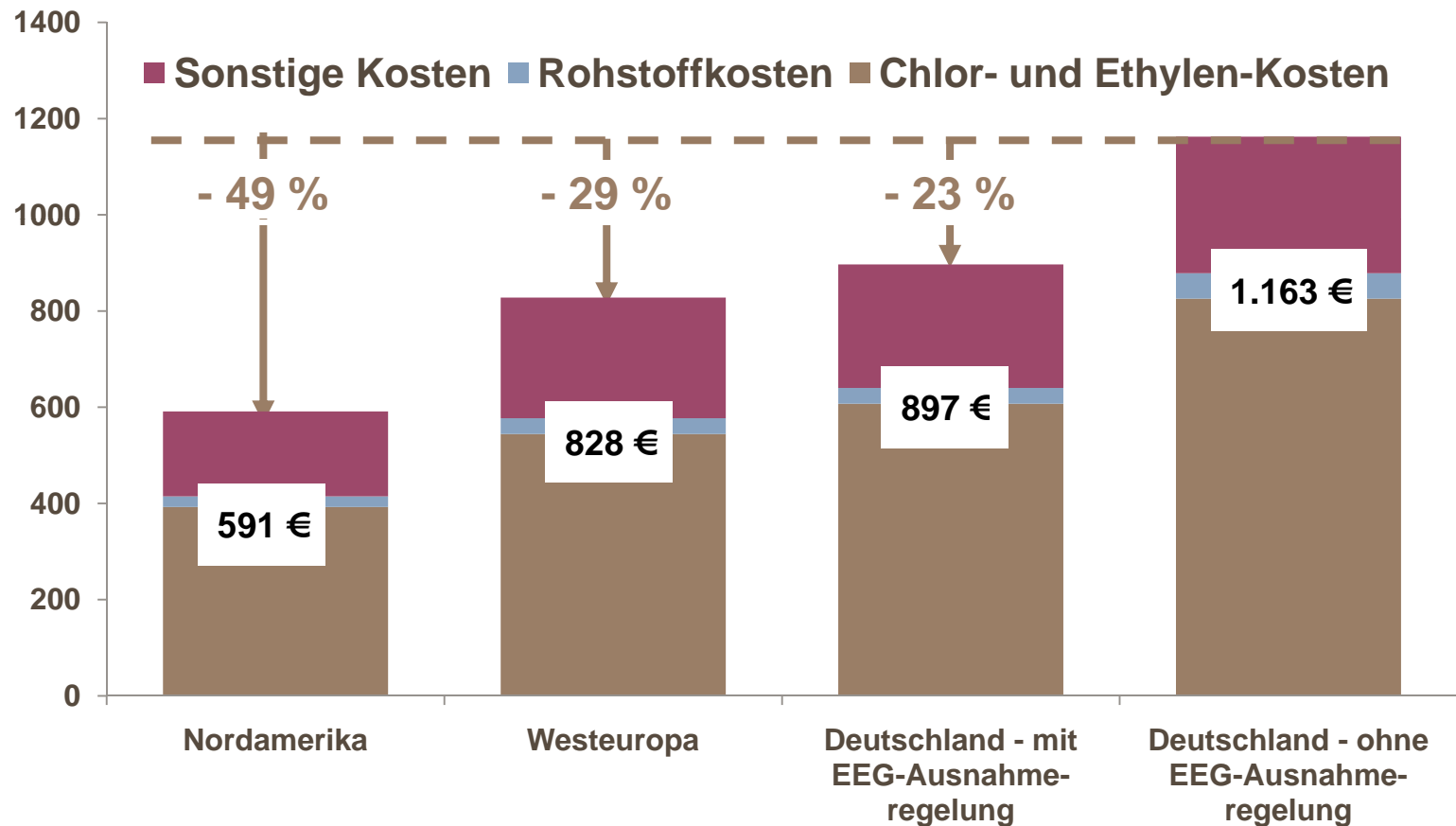


Quelle: IHS Chemical

Consequences for the production cost example: PVC production

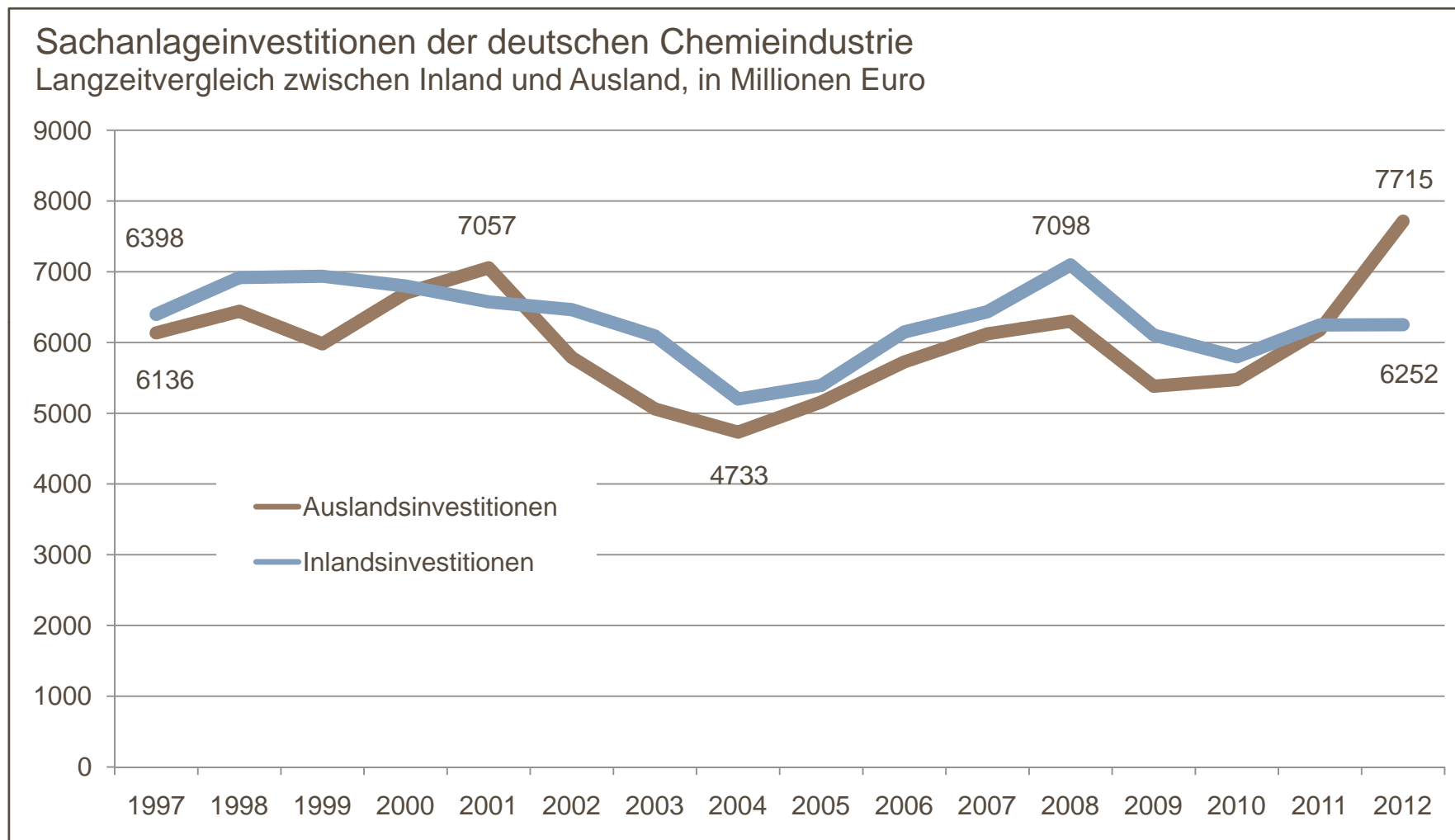
Regional Cost comparison

Euro per ton of PVC

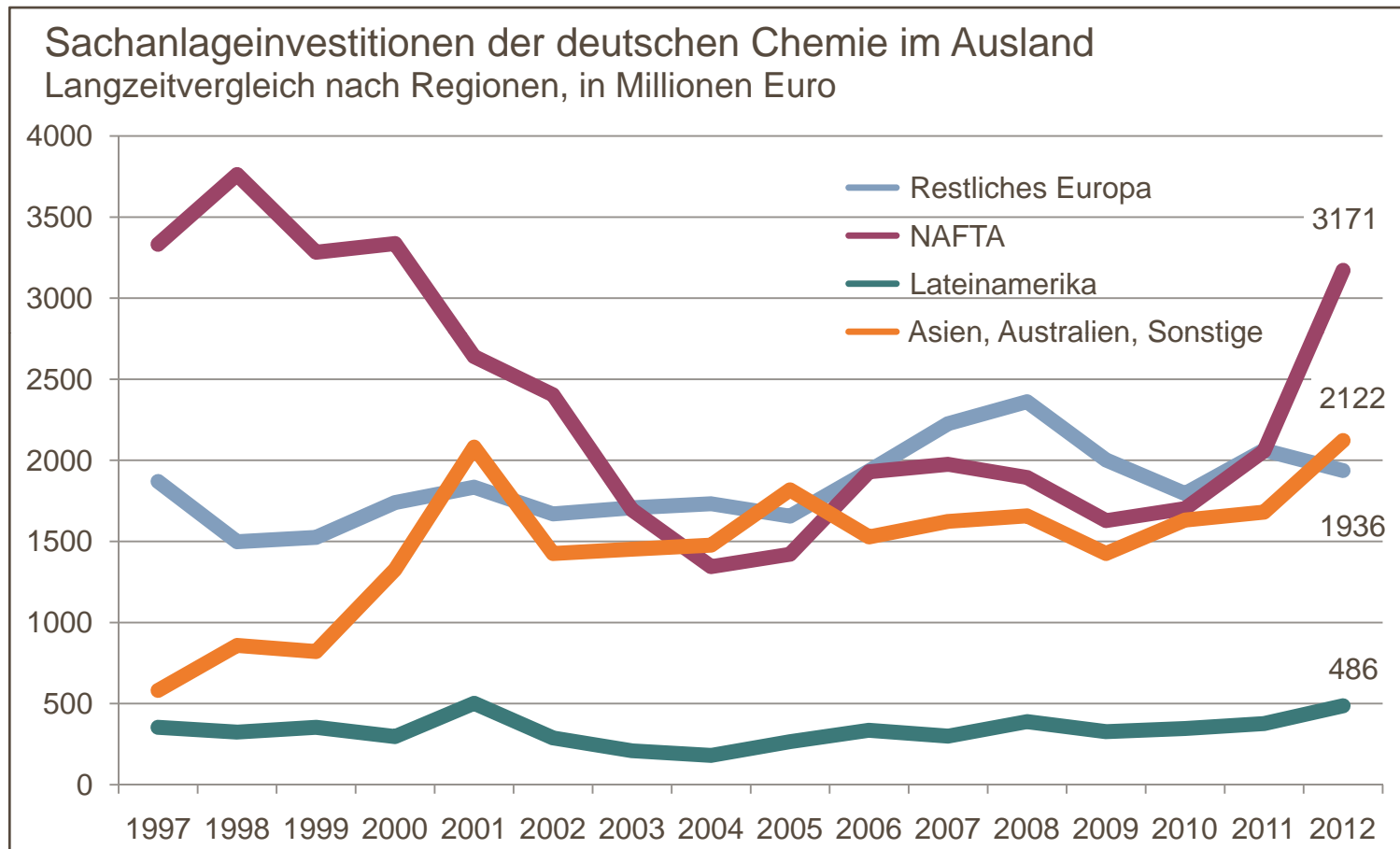


Quelle: IHS Chemical

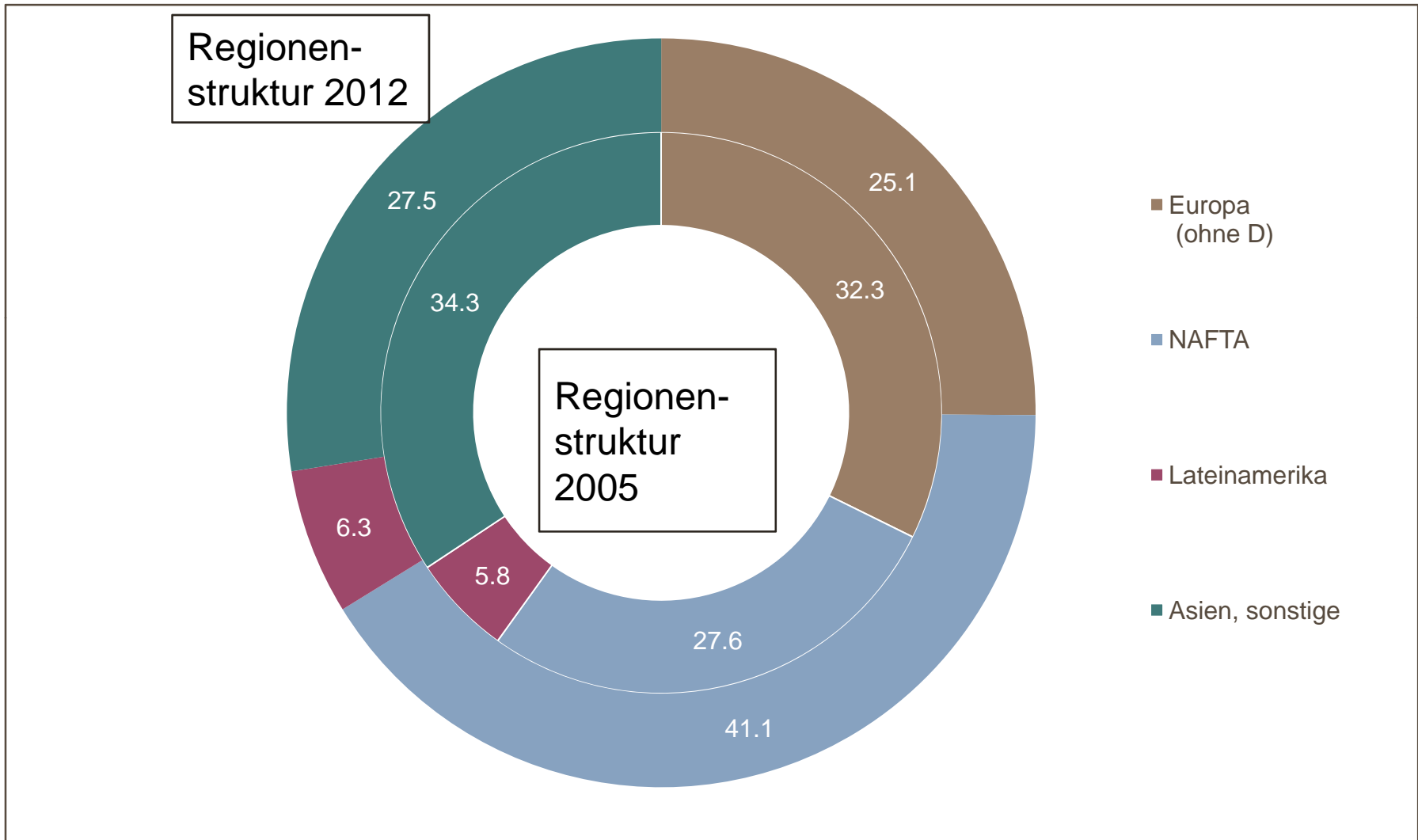
Investments of the German chemical industry in Germany and in other countries



Investments of the German chemical industry in different other countries/regions



Investments in other countries (%)



Outlook

- There is a cost pressure on German industry concerning energy prices coming from different political regulations mainly:
 - EU emissions trading system
 - German EEG
 - German tax regulations
 - EU state aid regulations
- Cost pressure for highly energy intensive companies/processes is reduced and under control:
 - Carbon leakage regulation, low actual allowance prices , compensation system for electricity costs
 - Exemptions in the EEG
 - Tax exemptions
 - Complicated but favourable state aid guidelines
- But High uncertainty about the future cost developments because of a permanent review of regulations



**Chancen und Ansätze,
die U.S.-Kostenvorteile zu Nutzen**

20. Mai 2014

Outline

- Introduction
- German Activity in the US
- Unit Cost and Market Considerations
- Market Opportunities in the US
- Methods for Market Entry
- Availability of Capital
- Technology Cooperation Opportunities
- Summary



Bewährt. Zuverlässig. Geschätzt.

Fundamental Question

Could my company increase sales and/or be more profitable with operations in the US?

Issues to consider: cost structure and market opportunities ...

- Energy content in cost of goods sold
- Materials or components in final products dependent on oil or gas feedstock
- Transportation and import/export fees
- Customer concentration in the US
- Competitive advantage over US companies
- Etc.



Bewährt. Zuverlässig. Geschätzt.

German Firms Expanding in the U.S.

German business
expansions announced in
just the last few months ...



Uzin Utz AG



Issues driving US expansion: energy and labor costs, feedstock prices, being pulled over by customers, local incentives, ...



Bewährt. Zuverlässig. Geschätzt.

Unit Cost Analysis

Germany

- Raw materials \$100
- Direct labor* \$133
- Energy** \$ 25
- Other \$ 42
- Total \$300

United States

- Raw materials \$100
- Direct labor* \$100
- Energy** \$ 10
- Other \$ 40
- Total \$250



- Per unit savings \$50
- Expansion invest. \$1,500,000
- Break-even units 30,000
- Decision: how many units can you sell?

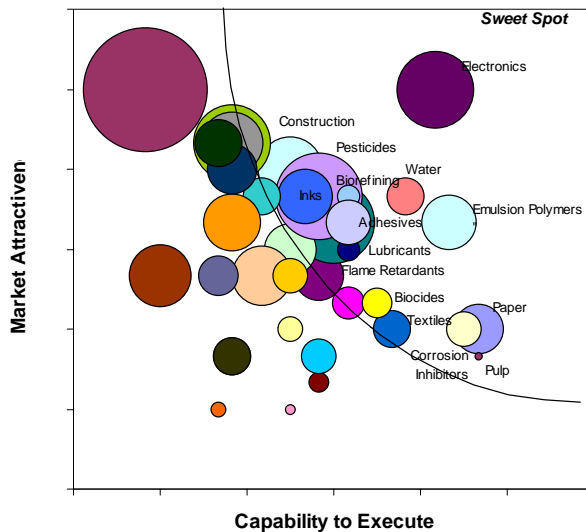
*Manufacturing labor ~1.33x more in Germany

**Electricity 2.5x more and gas 3.0x more in Germany; assume ~2.5x



Bewährt. Zuverlässig. Geschätzt.

Assessing Market Opportunities



- Understand company core competencies / perform a SWOT analysis
- Segment target market and assess “attractiveness” and “ability to win”
- Often sub-segments must be analyzed for niches where competitive advantages exist
- Perform “deep dives” on select end markets and/or sub-applications
- Size addressable market opportunity



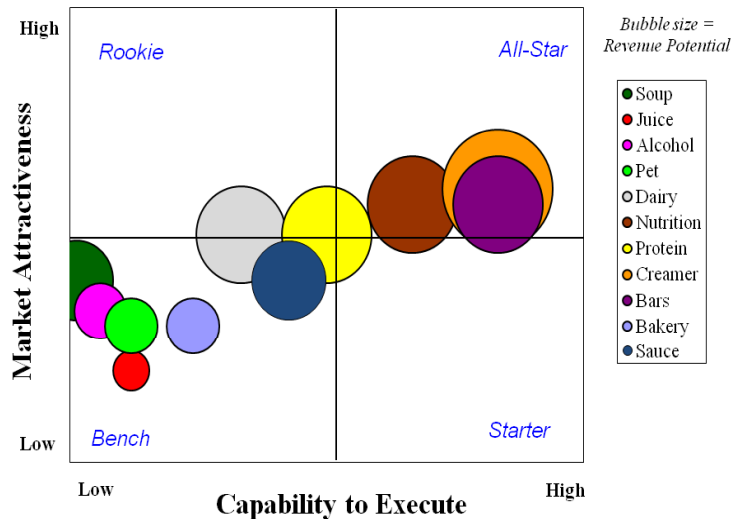
Bewährt. Zuverlässig. Geschätzt.

Sample Market Entry Analysis

Flavors Industry

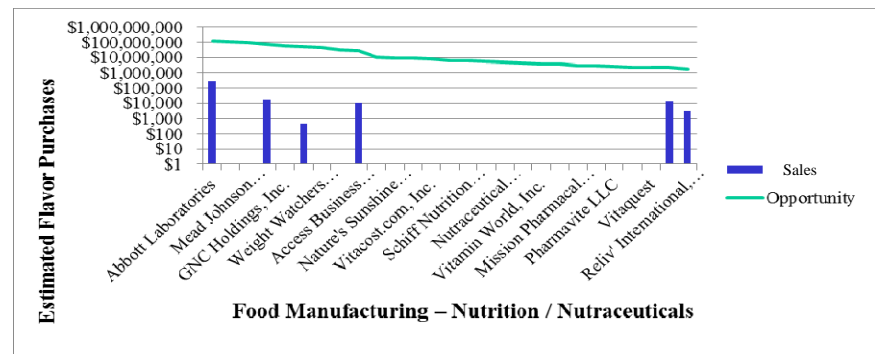
Annual sales in the US exceed \$3 billion

Portfolio of Opportunities



Company Strengths

Creamers Bars
Nutrition Protein



Bewährt. Zuverlässig. Geschätzt.

Market Opportunities in the U.S.

Low energy and natural gas pricing are helping multiple industries:

- Chemicals (especially plastics and rubber)
- Computer and electronic
- Fabricated metal products
- Food and beverage
- Furniture and related products
- Paper products
- Petroleum
- Primary metals
- Steel
- Textile mills



Bewährt. Zuverlässig. Geschätzt.

Regional Opportunities



ABOUT US OPPORTUNITIES REGIONAL DATA **INDUSTRIES** NEWSROOM INVESTOR HUB SUCCESS STORIES

15285 + Industries

Search

Industries

- Leading Employers
- Information and Communications
- Energy
- Advanced Manufacturing
- Logistics
- Food Manufacturing
- Life Sciences and Healthcare
- Professional and Financial Services
- Entrepreneur Hub

Compare how Greater Philadelphia stacks up
Site Selectors, customize your report here »

Success Story: Virtua Transforms Comprehensive Healthcare in South Jersey »

Leading Employers in Greater Philadelphia »

One of the top 3 video game design programs in the U.S. is here in Greater Philadelphia »

Marcellus Shale is creating an economic boon to Greater Philadelphia »

The scientific and engineering expertise needed for Advanced Manufacturing is here »

Greater Philadelphia is one of the few metro areas with three Class 1 freight railroads »

Food Manufacturing is growing here due to our strategic location »

The entire span healthcare development, from early seed to exit, is here »

Strong employment in Financial and Professional Services gives a competitive edge »

Our Entrepreneur Hub has the tools you need to start, grow and commercialize »

COMPETITIVE ADVANTAGES BUSINESS RESOURCES INDUSTRIES IN GEORGIA ABOUT US

#1 BUSINESS CLIMATE

Industries in Georgia

AEROSPACE	AGRI-BUSINESS	ARTS	INFORMATION TECHNOLOGY
AUTOMOTIVE	CONTACT CENTERS	DATA CENTERS	LIFE SCIENCES
DEFENSE	ENERGY & ENVIRONMENT	ENTERTAINMENT	LOGISTICS & TRANSPORTATION
FINANCIAL SERVICES	FOOD PROCESSING	HEADQUARTERS	MANUFACTURING

ILLINOIS DEPARTMENT OF COMMERCE & ECONOMIC OPPORTUNITY

WHY ILLINOIS | SMALL BUSINESS ASSISTANCE | EXPANSION/RELOCATION | WORKFORCE DEVELOPMENT

COMMUNITY SERVICES

KEY INDUSTRIES

- Advanced Manufacturing
- Agribusiness
- Coal Technology
- Energy & Recycling
- Life Sciences
- Logistics
- Technology

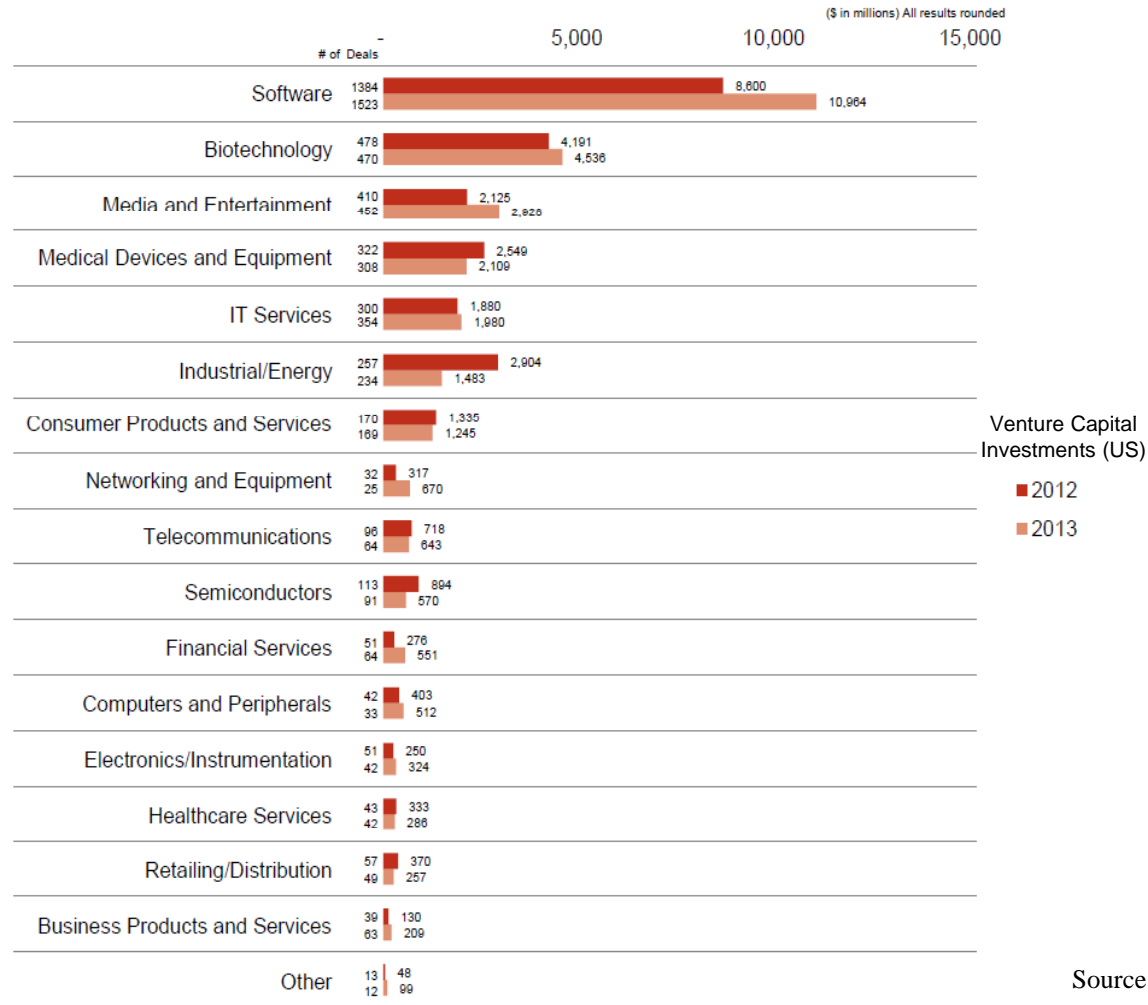
Key Industries

As the world's 19th largest economy, Illinois' is also one of the most diverse. In this section, you can learn more about some of our key industries. Some are mature, having been the crux of our economy for quite awhile, while others have only come to prominence in recent years. Illinois' highly educated and strong workforce have helped Illinois to develop a world class business presence. Please read on to learn more, and let us know how we can help your company or industry thrive in our powerful, vibrant economy.



Bewährt. Zuverlässig. Geschätzt.

Market Opportunities – Follow the Money



Source: PWC Moneytree



Bewährt. Zuverlässig. Geschätzt.

Market Entry Options

Make versus Partner versus Buy ...



Many German companies begin with a sales representative before considering a local presence

- **Make** “light” – office to manage sales of products from German (direct and/or indirect)
- **Make** “heavy” – production and direct sales
- **Partner** – form alliance or joint venture to provide expanded product line to end customers
- **Buy** – acquire synergistic company with routes to market and complementary products
- Expansion structures typically change over time



Bewährt. Zuverlässig. Geschätzt.

Market Entry – “Make”

- Sales representative
 - Lowest cost
 - Challenges with brand equity and direct control
 - Customer relationships are strongest at the representative level
- Sales office
 - Higher cost, but improved control and direct customer and partner relationships
- Production and sales
 - Large investment ... reasonable payback?
 - Higher profit from reduced energy costs
 - Reduced shipping costs and delivery time



Bewährt. Zuverlässig. Geschätzt.

Market Entry – “Partner”

- Alliance
 - Contractual relationship for co-development, co-marketing, co-selling, etc.
 - Could be form of licensing agreement
 - Performance requirements, termination triggers, etc.
 - Could transform into joint venture or acquisition
- Joint Venture
 - Forming new company with asset contributions from both joint venture partners
 - Can capitalize on strengths of both organizations
 - Mixed history of success
 - One party often acquires the other



Bewährt. Zuverlässig. Geschätzt.

Market Entry – “Buy”



- Detailed process ... multiple considerations:
 - Integration potential
 - Strategic fit
 - Cultural fit
 - Operational fit
 - Future value
 - Reasonable pricing
- Immediate sales, brand equity, routes to markets, and customer relationships
- Risks related to distraction from business during process and integration challenges

Expansion Funding Options

- Forms of capital available to new companies:
 - Senior debt
 - Alternative financing
 - Mezzanine debt
 - Equity
 - Other (governmental, foundations, etc.)
- In an acquisition, seller financing for a portion of the acquisition price is common



Bewährt. Zuverlässig. Geschätzt.

Expansion Funding Requirements

- Senior Debt and Alternative Financing
 - Typically requires at least one year of operating history in the US and net income positive
 - Owners of 20% or more of a business with limited history may be required to “personally guarantee” the loan
 - Alternative funding sources have lower operating history requirements in exchange for higher rates
- Mezzanine financing takes even higher risk, but at high rates and typically with some equity “hooks”
- Equity investors will take the highest risk, but typically require “liquidity preferences” and expect a “liquidity event” within a reasonable timeframe



Bewährt. Zuverlässig. Geschätzt.

Expansion Funding - Governmental

- Primary motivation: increase jobs to increase tax base
- Available at all levels of government
 - Local/County
 - State
 - Federal
- Research grants and loans (e.g., SBIR, STTR, ...)
- Examples:
 - IEDC – gave Jäger \$0.5M in tax credits; more from La Porte
 - Kentucky – giving Dr. Schnieder up to \$4M in incentives
 - Mississippi – \$2M loan, plus \$2.6M in infrastructure spending



Bewährt. Zuverlässig. Geschätzt.

Technology Cooperation - Universities

- Universities are aggressively seeking business partners to help develop and commercialize technology
- Companies typically provide funding, some resources, and have primary ownership rights to developed technology with a modest royalty back to university
- **Technology Parks** are often affiliated with universities and frequently focused on specific technologies
- Provide strong collaboration opportunities for companies with some presence in the parks




TECH PARKS ARIZONA



Bewährt. Zuverlässig. Geschätzt.

Technology Cooperation – Research Centers

- Multiple development programs with “national laboratories”
- Typically large, multi-million dollar projects with several cooperating companies and organizations
- Technology ownership structure complex, but manageable
-  **Fraunhofer** has seven centers in the US
 - Coatings and Laser Applications
 - Experimental Software Engineering
 - Molecular Biotechnology
 - Sustainable Energy Systems
 - Digital Media Technologies
 - Laser Technology
 - Manufacturing Innovation



Bewährt. Zuverlässig. Geschätzt.

Summary

- For next several years the cost gap in energy and oil and gas feedstocks between the US and Germany will be large
- Remaining globally competitive will drive select German companies to expand operations into the US
- Fully understanding markets, costs/benefits, requirements, etc. and thorough planning will maximize success
- Several, evolutionary options exist for market entry
- Multiple funding and collaborative research sources available



Bewährt. Zuverlässig. Geschätzt.

Kontakte

David Gates

Präsident und Geschäftsführer
+1 302 428-1338 Durchwahl 16
dgates@GatesAndCompany.com

Jesper Rasmussen

Partner in Deutschland
+49 177 936 4402
jrasmussen@GatesAndCompany.com

What's Your Attack Strategy?

The advertisement features a large white chess knight on a dark purple background. A ladder is leaning against the knight, and several business professionals in suits are standing around it. The scene is set on a chessboard. The text 'What's Your Attack Strategy?' is written in a serif font at the top. The Gates and Company logo is at the bottom.

GATES
AND COMPANY

www.GatesAndCompany.de



Bewährt. Zuverlässig. Geschätzt.

Differences in How We View the Law Affect How We Do Business

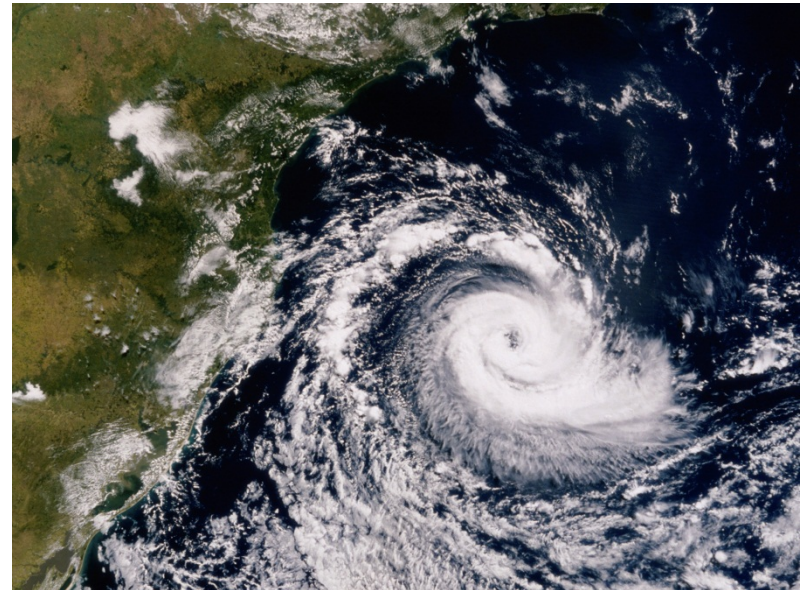


© Marc Tyler Nobleman www.mtncartoons.com

"Is that just a suggestion, or really more of a law?"

The Big Picture

- Germany is among the most „American“ of European nations
- Yet, similarities mask real differences



Cultural Differences Lead to Legal Differences

- Different views of the state's role in society
- Different views of duty to fellow citizens (Ex. duty to rescue)
- Societal solidarity and stability vs. Individuality and skepticism of governmental structures
- Loser pays court costs and opponent's attorneys fees vs. paying your own lawyer
- Differences eroding with globalization

Take Away Lesson

- Laws reflect a society's culture
- Globalization eroding sharp differences
- But cultural differences are real and must be taken into account

Choice of Legal Entity - The 30,000 Ft. View

- In the U.S., the formation and regulation of legal entities such as corporations, LLCs, etc. are governed by state law, not federal law
- Therefore, each U.S. state may regulate registration, corporate governance, and formalities, differently
- Which state is most appropriate depends on what the company plans to do in the U.S.



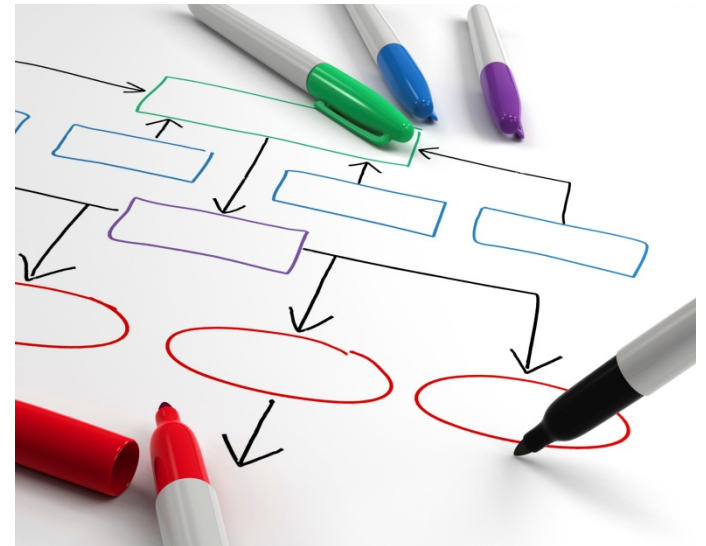
Choice of Entity - Key Elements of the Strategy

- Legal entities are typically created for two reasons:
 - Limit personal liability of the owners
 - Tax reasons (avoid double taxation)
- Start-ups often have particular requirements (e.g., going public, raising capital, etc.)
- Which legal entity should be used depends on what the company will do in the U.S.



Widely Used Legal Entities

- Corporation (Inc.)
- Limited Partnership (LP)
- Limited Liability Company (LLC)
- Trust



Verträge mit US Partnern - Warum braucht man Verträge?

- Verträge sind für den Fall des Falles – wenn Dinge schiefgehen
- Verträge sollen die wichtigsten Streitpunkte vorwegnehmen
- Die Erwartungen und Verpflichtungen der Parteien sollen eindeutig verfasst werden
- Wenn zwischen den Vertragspartnern alles glatt läuft, braucht man keine schriftliche Beschreibung der Vereinbarung

Überblick

A. Direkter Verkauf in die USA

1. Erfüllung von U.S. Import Regulierungen, Handelsverträgen und Tarifen

B. Normale Verträge mit U.S. Partnern

1. Verkaufsverträge
2. Distribution Verträge
3. Lizenzverträge
4. Joint Venture Agreements

C. Schlüsselklauseln in Verträgen

1. Gerichtsstand
2. Anwendbares Recht
3. Schiedsgerichtsbarkeit
4. Begrenzung von Haftung
5. Andere Klauseln

Direktes Geschäft mit US Partnern

- Exporte in die USA müssen U.S. Import-Regulierungen, Handelsverträge, Zolltarife, usw. befolgen
- U.S. Import-Regulierungen werden hier heute nicht diskutiert
- Die Zusammenarbeit mit U.S. Partnern erfordert meist unterschiedliche Verträge:
 - Verkaufsvertrag (Purchase Agreement)
 - Verteilungsvertrag (Distribution Agreement)
 - Lizenzvertrag (Licensing Agreement)
 - Joint Venture Agreement

Normale Verträge

1. Verkaufsvertrag (Purchase Agreement)

- Eine Vereinbarung zu dem Zweck, Waren oder Produkte an einen Partner zu verkaufen
- Es entstehen oft keine weiteren Vereinbarungen, z.B. kein Technical- oder Marketing Support
- Die Waren werden einfach an den Käufer geliefert
- Man muss aber sicherstellen, dass keine weiteren unbeabsichtigten Verpflichtungen entstehen

Normale Verträge (Fortsetzung)

2. Verteilungsvertrag (Distribution Agreement)

- Eine Vereinbarung zu dem Zweck, Waren an jemanden zu verkaufen, um die Waren an einen Dritten weiter zu verkaufen (z.B. Maschinen, Getränke, Solarzellen)
- Typischerweise darf der Vertragspartner die Waren nur innerhalb eines begrenzten Gebietes weiterverkaufen und auch zeitlich begrenzt
- Das Recht zum Weiterverkauf innerhalb diesen Gebietes kann exklusiv oder nicht-exklusiv sein

Normale Verträge (Fortsetzung)

2. Verteilungsvertrag (Distribution Agreement) (Fortsetzung)

- In der Regel muss ein Vertragspartner eine bestimmte Menge von Gütern pro Jahr kaufen und weiterverkaufen
- Der Hersteller kann technische Unterstützung oder Marketing-Support anbieten
- Üblicherweise gibt es für den Käufer Anreize, möglichst viele Waren abzunehmen und weiterzuverkaufen

Normale Verträge (Fortsetzung)

3. Lizenzverträge (Licensing Agreements)

- Man erlaubt jemandem, etwas zu tun, was er normalerweise nicht tun darf. Man “vermietet” das Recht etwas tun oder benutzen zu dürfen
- Zum Beispiel das Recht auf Benutzung von:
 - patentierte Technologien
 - Geistiges Eigentum
 - geschützte technische Prozesse; oder
 - Marken

Normale Verträge (Fortsetzung)

3. Lizenzverträge (Licensing Agreements) (Fortsetzung)
 - Lizenzen können exklusiv oder nicht-exklusiv vergeben werden
 - Lizenzen können weltweit oder nur innerhalb eines Gebietes gelten und auch zeitlich begrenzt sein
 - Oft wird eine Lizenzgebühr verlangt, aber nicht immer

Normale Verträge (Fortsetzung)

4. Joint Venture (Joint Venture Agreement)

- Eine Zusammenarbeit mit dem Ziel ein bestimmtes Projekt gemeinsam zu unternehmen
- Der Joint Venture Vertrag beschreibt die Beziehungen zwischen den Joint Venture Partnern. Z.B.
 - Die Aufgaben der verschiedenen Partner;
 - Die Verteilung der Investitionen; und
 - Die Gewinnverteilung, usw.
- Joint Venture Verträge sind nützlich für:
 - Infrastrukturprojekte
 - Angebote zu öffentlichen Ausschreibungen bzw. Aufträgen
 - Solar- oder Windprojekte, usw.

Schlüsselklauseln in allen Verträgen

- Alle Vertragsbestimmungen müssen beachtet werden
- Einige möchten wir besonders betonen:
 1. Gerichtsstand (Jurisdiction and Venue)
 2. Anwendbares Recht (Choice of Law)
 3. Schiedsgerichtsbarkeit (Arbitration/Dispute Resolution)
 4. Begrenzung von Haftung (Limitation of Liability)
 5. Andere

Schlüsselklauseln

1. Gerichtsstand (Jurisdiction and Venue)

- Es ist bedeutend, wo man vor Gericht steht
- In Deutschland sind die Prozesskosten vom Verlierer zu tragen
- In den USA ist das anders. Hier trägt jeder seine eigenen Kosten
- “Discovery” - das Recht vom Prozessgegner auf Befragung Dokumente und Informationen einzufordern, ist in den USA erlaubt und kann beide Seiten viel Geld und Zeit kosten
- In Deutschland ist “Discovery” nur eingeschränkt zugelassen

Schlüsselklauseln (Fortsetzung)

2. Anwendbares Recht (Choice of Law)

- In den USA gilt normalerweise das Vertragsrecht des jeweiligen Bundesstaates
- Fast alle Bundesstaaten haben unterschiedliche Regelungen
- Man kann vertraglich vereinbaren, welches Recht angewendet werden soll
- Man muss aber wissen, welche Konsequenzen das jeweils haben kann

Schlüsselklauseln (Fortsetzung)

3. Schiedsgerichtsverfahren (Arbitration)

- Es ist wichtig den Gerichtsstand vertraglich festzulegen, weil die Parteien meist die Möglichkeit haben, auf einen Geschworenenprozess zu bestehen (jury trial)
- Prozesse mit Geschworenen können zum höheren Schadensersatz führen, wenn emotionelle Fragen im Spiel sind
- Schiedsgerichtsverfahren ohne Geschworene könnten sachlicher und weniger emotional verlaufen, sind aber nicht nicht unbedingt billiger
- Die Parteien können auch den Schiedsrichter auswählen

Schlüsselklauseln (Fortsetzung)

4. Beschränkung von Haftung (Limitation of Liability)

- Ein Versuch die Haftung vertraglich zu begrenzen
- Es wird vereinbart, keinen Schadenersatz für indirekte Schäden zu bezahlen (keine “incidental or consequential damages”)
- Schadenersatz für Gewinnverlust ist ausgeschlossen
- Ausserdem besteht nach einer bestimmten Frist keine Haftung mehr
- Bei Produktionsmängeln wird das Produkt nur ersetzt oder der Kaufpreis zurückgezahlt

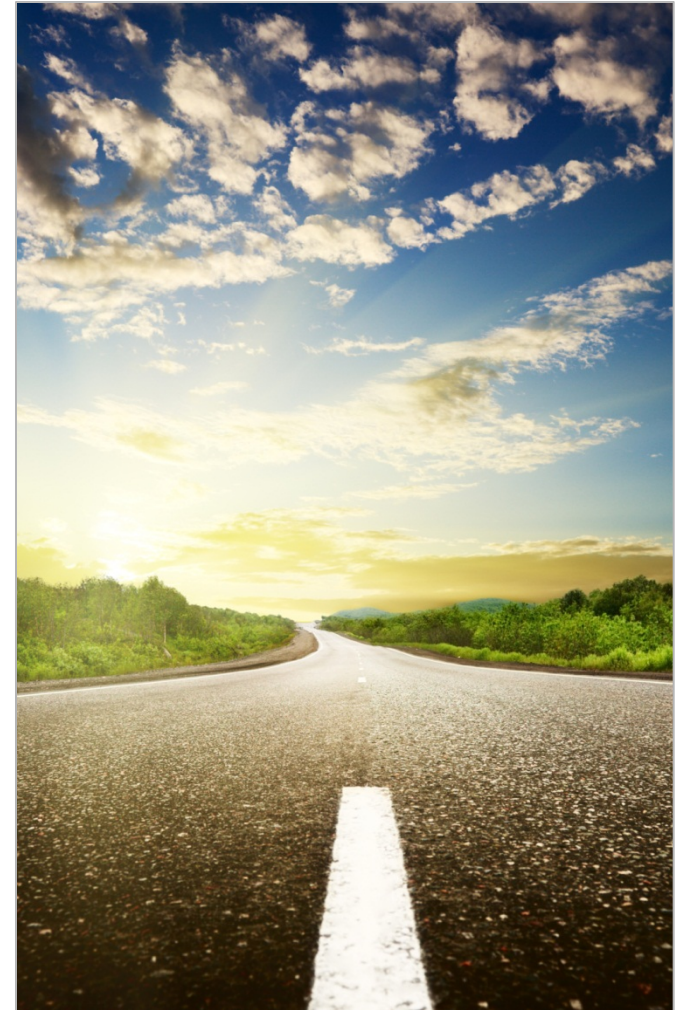
Schlüsselklauseln (Fortsetzung)

4. Andere wichtige Klauseln

- Der Besitz von geistigem Eigentum (Intellectual Property) – wichtig bei Verträgen die mit Technologien, Software oder technischen Prozessen zu tun haben
- Kündigungsklausel (Termination Clause) – wie beendet man den Vertrag einseitig, ohne ihn zu verletzen
- Man darf sich nicht einfach auf seine deutschen AGBs verlassen, denn die könnten dem Vertrag widersprechen
- Alle Verträge müssen “nach Maß” verfasst werden und auf die jeweilige Transaktion zugeschnitten sein

The Path Forward

- Norton Rose Fulbright would be pleased to assist with these issues
- We look forward to the opportunity to work together with you





© Marc Tyler Nobleman www.mtncartoons.com

"Thank you for teaching me to fetch and roll over, but these are not skills that will help me in the long run."

Contact Information

For questions, please feel free to contact:

Keith Calhoun-Senghor

Norton Rose Fulbright

Theatinerstrasse 11

80333 Munich, Germany

Tel.: +49 89 21 21 48 253 (direct)

Mobile: +49 160 935 02 173

keith.calhoun-senghor@nortonrosefulbright.com