



KfW Research

KfW Competitiveness Indicator 2016

»» German SMEs must defend their competitiveness – and continue improving their energy efficiency

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KfW Group
Economics Department
Palmengartenstrasse 5-9
60325 Frankfurt/Main
Phone +49 69 7431-0, Fax +49 69 7431-2944
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Author
Dr Jennifer Abel-Koch, KfW Group
Phone +49 69 7431-9592

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German SMEs must defend their competitiveness – and continue improving their energy efficiency

Executive summary

German SMEs have moved up to first place in the international competitiveness ranking of small and medium-sized enterprises in ten industrialised and emerging economies.

They have been able to maintain their strengths – quality, service and innovative power – while improving their price competitiveness at the same time. But German SMEs are well positioned not just in terms of business factors. They also rate location factors much more positively than small and medium-sized businesses in other countries.

These are the findings of the KfW Competitiveness Indicator 2016, which is based on the assessment of more than 2,200 small and medium-sized enterprises in ten important economies of Europe and the world.

Both in France and in the UK, SMEs have not yet succeeded in transforming comparatively good location conditions into a clear competitive advantage. As a result, they are only in second and third place. Following close behind are small and medium-sized enterprises in the USA, which see themselves disadvantaged by unfavourable location conditions such as inadequate infrastructure.

SMEs in Spain have been able to significantly improve their international competitiveness since 2014, climbing from penultimate to fifth place in the KfW Competitiveness Indicator. Italian SMEs continue to regard themselves as being weakened by unfavourable location conditions, occupying seventh place in the KfW Competitiveness Indicator 2016. China now holds the rank between these two.

Russian SMEs come in eighth and Japanese enterprises hold ninth place. The latter are troubled primarily by the country's skills shortage. Of all enterprises, Brazilian SMEs assessed their international competitiveness most negatively, occupying the bottom rank in the KfW Competitiveness Indicator 2016.

An important step to improve international competitiveness is to increase energy efficiency. German SMEs are already doing quite well in this respect. Around one quarter of them are currently

implementing specific measures or have successfully completed energy efficiency projects in the past two years. However, further efforts will be necessary – not just to remain competitive when energy prices rise again in the future, but also to achieve the national climate protection targets.

Enterprises in other countries are catching up fast. Small and medium-sized enterprises in the USA are currently leading efforts to implement energy efficiency measures. This reflects not only the high backlog, but also the changing direction of US climate policy under the presidency of Barack Obama.

From the perspective of SMEs, state regulation is an important reason for implementing energy efficiency measures. But their strongest motivation is to reduce energy costs.

A variety of barriers can thwart the implementation of energy efficiency measures. Besides lack of profitability, a shortage of financial or human resources is a major barrier for many SMEs.

SMEs – an important economic factor in a globalised world

The deepening integration of the global economy makes international competitiveness a key topic of interest to SMEs as well. After all, many small and medium-sized enterprises are now directly or indirectly involved in exports through their customers and increasingly facing foreign competitors on their domestic market.

In many countries, SMEs are also an important economic factor. In Spain, 74% of the workforce is employed in small and medium-sized enterprises with fewer than 250 employees. In the UK the proportion is 53%.¹ In Germany more than two thirds of all jobs are in the SME sector. The good situation on Germany's labour market is largely owed to the creation of new jobs in the SME sector.²

The global competitive position of SMEs therefore has immediate consequences for employment and growth in the economies of Europe and the world. Against this background we have set out to monitor the development of the international competitiveness of small and medium-sized enterprises in ten important

industrialised and emerging economies using the KfW Competitiveness Indicator.

The KfW Competitiveness Indicator

How do small and medium-sized enterprises in these countries currently see their position in comparison with their international competitors in domestic and foreign markets? What are their strengths and weaknesses? Where do they currently see the biggest locational disadvantages? How has the international competitiveness of German SMEs developed? Where have they been able to make progress, and where do they still need to take urgent action?

By addressing these questions we want to follow up on our analysis of 2014.³ We have once again surveyed more than 2,200 SMEs in Germany, France, the UK, Italy, Spain, Russia, Brazil, China, Japan and the USA on how they currently see themselves in comparison with their international competitors with regard to various aspects. We have taken into account business factors as well as location factors and combined them into two sub-indicators (Figure 1). Together they make up the KfW Competitiveness Indicator 2016 which can exhibit values between 1 (low international competitiveness) and 5 (high international competitiveness).⁴

Figure 1: International competitiveness of SMEs

Sub-indicators and related factors of international competitiveness

<p>Business performance</p> <ul style="list-style-type: none"> • Price • Quality • Degree of innovation • Awareness • Delivery times • Service • Staff and material costs • Energy efficiency 	<p>Location performance</p> <ul style="list-style-type: none"> • Bureaucracy • Corruption • Political or social instability • Lack of infrastructure • Taxes and duties • Energy costs • Skills shortages • Financing constraints • Environment and climate protection legislation
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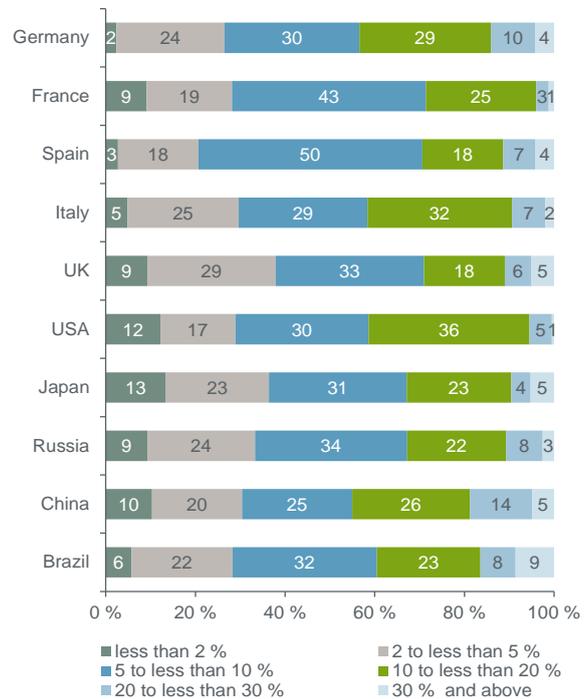
Source: Own representation

Energy efficiency as a competitive advantage

A possible step to improve SMEs' international competitiveness is to increase their energy efficiency. Energy costs account for more than 10% of total costs in almost half of German SMEs, and indeed more than 20% in one seventh of these enterprises. The situation is similar in the USA and in Italy. Also in an economy with a high proportion of services such as the UK, energy costs amount to more than 10% of total costs in almost one third of SMEs (Figure 2). Various studies estimate that small and medium-sized enterprises could reduce their energy consumption by as much as 25% through energy efficiency measures.⁵ In other words, considerable potential still exists here.

Figure 2: Energy costs make up a considerable proportion of SMEs' total costs

Distribution of SMEs by energy costs as percentage of total costs



Note: Weighted percentage of all enterprises in a country whose energy costs as a proportion of total costs lie in the specified interval. The figure includes all enterprises surveyed, including those that do not compete internationally.

Source: KfW Competitiveness Indicator 2016

The issue of energy efficiency in SMEs is significant from an aggregate economic perspective as well. The International Energy Agency (IEA) estimates that small and medium-sized enterprises around the world account for at least 13% of total final energy consumption.⁶ So without ambitious energy conservation measures across the broad SME sector, the climate protection targets agreed in Paris in 2015 will only be achievable with difficulty.

We have therefore surveyed small and medium-sized enterprises around the world as to how they see their energy efficiency in comparison with their international competitors – but also what importance they actually attach to this issue, how active they have already become, what drives them to implement energy efficiency measures, and where they see the biggest obstacles.

The findings reveal that, in international comparison, German SMEs are already quite well positioned with

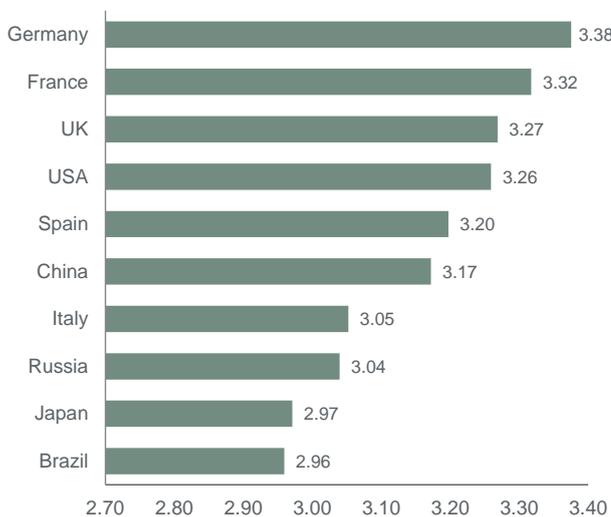
respect to energy efficiency. But this definitely does not mean that they can sit back and rest. If they did, they would jeopardise not only the achievement of national and international climate protection targets, but primarily their own international competitiveness.

German SMEs best prepared for international competition

In the ranking of the ten industrialised and emerging economies surveyed, German SMEs climbed to first place with a score of 3.38 (Figure 3). That means small and medium-sized enterprises in Germany currently consider themselves better equipped for global competition than their international rivals.

Figure 3: International competitiveness of SMEs

Value of the KfW Competitiveness Indicator in the surveyed countries



Note: The KfW Competitiveness Indicator is the mean value of the sub-indicators business performance and location performance and can exhibit values between 1 (low international competitiveness) and 5 (high international competitiveness).

Source: KfW Competitiveness Indicator 2016

That is good news, especially since the export climate is becoming tougher. In 2015 Germany's export industry was able to benefit from the continuing recovery of the euro area and an exchange rate-driven increase in demand for imports from the USA and UK. By contrast, the year 2016 is characterised by political crises and a weakening global economy. A conclusion of the planned trade agreement with the USA, which could also benefit SMEs,⁷ is more uncertain than ever after Donald Trump has been elected as president of the USA, and the UK vote to leave the EU is another issue that will presumably leave an imprint on the German SME sector.⁸

French SMEs are in second place

Small and medium-sized enterprises in France assess their international competitiveness quite positively as well with an overall rating of 3.32, validating the results of other studies that found improvements in the country's competitiveness resulting from more flexible labour markets and a more efficient public sector.⁹ These results are not an invitation to sit back and relax, however, but should encourage further reform efforts.

The UK is still in the top three

The international competitiveness of the UK SME sector, which ranks third on the KfW Competitiveness Indicator 2016, will probably deteriorate markedly as a result of the Brexit. Indeed, many enterprises hope that leaving the EU will provide advantages due to de-regulation. However, all trade relations between the European Union and the United Kingdom and its role in the World Trade Organisation (WTO) would then have to be completely redefined. If the negotiation of an agreement drags on, it could cost British exporters up to GBP 5.6 billion per year, according to WTO estimates.¹⁰ In addition, the mere announcement of the Brexit has led to greater economic uncertainty – with the result that UK businesses in particular are holding off investments, thereby jeopardising their future competitiveness even more.

SMEs in the USA have weakened

Small and medium-sized enterprises in the USA are nearly tied with the UK at an overall rating of 3.26, thus ranking lower than just two years ago. The reason is primarily to be found in location factors such as deficient infrastructure. The American Society of Civil Engineers (ASCE) has put the investment gap in transport routes, airports, seaports and water and electricity supply at USD 1,440 billion overall for the period 2016–2025 and estimates that gross domestic product could therefore end up as much as USD 4 trillion lower in the same period.¹¹ Which economic policy path Donald Trump will follow in the next four years and how his election will affect the international competitiveness of SMEs in the USA remains to be seen.

Spain and Italy are catching up

Structural reforms initiated in Spain after the financial and economic crisis are showing first results. Gross domestic product grew 3.2% in 2015 and the high unemployment rate declined further. The number of exporting businesses increased nearly 30% since 2011 and Spanish exports in 2015 were worth around

EUR 250 billion, reaching a new high.¹² The positive development of the Spanish economy is also reflected in the ranking of the Spanish SME sector on the KfW Competitiveness Indicator. It has reached a total value of 3.20, climbing from penultimate to fifth place.

Italian SMEs, which ranked last among the ten countries two years ago, have also improved, moving up to seventh place with a value of 3.05. But despite first reform efforts, Italy's economic recovery is making only slow progress. Inefficient administration, a complex taxation system and difficult financing conditions continue to hamper investment and dampen productivity growth, including in the SME sector.¹³

China is the only emerging economy in the middle of the field

China is the only emerging economy in the survey where SMEs are able to compete internationally with their counterparts in southern Europe. With a value of 3.17, China is wedged in between Spain and Italy on the KfW Competitiveness Indicator 2016.

This reflects the impressive development of China, whose gross domestic product measured at purchasing power parity exceeded that of the USA for the first time in 2014.¹⁴ With exports worth some USD 2.3 trillion, China was by far the world's biggest export nation and main trading partner of around 75 countries in 2015.¹⁵

However, the turbulence on the Chinese capital markets at the beginning of the year illustrated yet again that the country is facing major challenges. Rising public and private debt, accelerating capital outflow, growing industrial overcapacity, an ageing population and rising labour costs can be expected to also impact on the international competitiveness of Chinese SMEs in the future.

Russian SMEs are in the lower third

By contrast, small and medium-sized enterprises in Russia remain under the influence of geopolitical crises and associated economic sanctions. They still have limited access to international financial markets. Efforts

to liberalise the country's economy are making no headway, resulting in a low level of international competitiveness of Russian enterprises. They rank eighth on the KfW Competitiveness Indicator 2016, with a value of 3.04.

Japanese enterprises are worried

The economic upswing promised by Prime Minister Shinzo Abe has not yet materialised. Japan's gross domestic product grew less than 0.5% in 2015. This is also putting a damper on sentiment among small and medium-sized enterprises which see themselves less favourably positioned in many ways for global competition than their international rivals. With a value of 2.97 they barely came in ninth on the KfW Competitiveness Indicator.

Brazilian enterprises took a nosedive

SMEs in Brazil give their international competitiveness the poorest rating of all ten industrialised and emerging economies surveyed (2.96). This can be attributed primarily to an unfavourable business environment. In a sign of the country's deep economic recession, gross domestic product contracted 3.8% in 2015. Rampant bureaucracy has relegated Brazil back to 116th place on the Doing Business Index 2016. That means setting up a business there is more difficult than in almost every other South American country. And the high political instability was most recently reflected in the impeachment of President Dilma Rousseff.

What makes SMEs competitive?

What are the particular strengths of SMEs in Germany and other industrialised or emerging economies? In what areas do they perceive themselves as less well positioned than their international competitors? In what ways can small and medium-sized enterprises be strengthened for global competition in the various economies in future, and where have improvements already been achieved? A look at the business and location factors which combined determine the international competitiveness of SMEs provides an answer to these questions.

Table 1: Business performance

Values of individual factors that make up the business performance sub-indicator

	USA	Germany	Brazil	Italy	UK	France	Spain	China	Russia	Japan
Price	3.65	3.37	3.40	3.43	3.36	3.31	3.38	3.42	3.39	2.74
Quality	3.88	3.72	3.69	3.66	3.74	3.66	3.56	3.39	3.39	3.17
Degree of innovation	3.38	3.56	3.47	3.52	3.43	3.42	3.35	3.26	3.07	2.98
Awareness	3.44	3.47	3.67	3.56	3.35	3.54	3.51	3.09	3.06	2.97
Delivery times	3.63	3.56	3.56	3.46	3.55	3.43	3.41	3.65	3.43	3.17
Service	3.49	3.60	3.41	3.49	3.42	3.43	3.36	3.46	3.08	2.91
Staff and material costs	3.50	3.40	3.25	3.19	3.28	3.14	3.23	3.47	2.93	2.62
Energy efficiency	3.55	3.36	3.37	3.41	3.24	3.34	3.30	3.26	3.05	2.94
Business performance	3.57	3.51	3.48	3.47	3.42	3.41	3.39	3.37	3.17	2.94

Note: To determine business performance, enterprises were asked to rate their performance relative to their main international competitors with regard to the various aspects. Possible answers: (1) significantly worse; (2) slightly worse; (3) similar; (4) slightly better; (5) significantly better. The displayed values are weighted averages of all enterprises surveyed in a country. Business performance is calculated as the simple mean of the eight factors.

Source: KfW Competitiveness Indicator 2016

German SMEs continue to focus on quality and innovation

German SMEs continue to see product or service quality as one of their most important strengths and give it a rating of 3.72. In no other aspect do they consider themselves to be better positioned, just as they did two years ago (Figure 4). However, they face stiff competition, as SMEs in both the USA and the UK are able to keep up in this aspect (Table 1). In fact, SMEs in the USA have taken over as quality leaders this year with a value of 3.88.

German SMEs also score on the degree of innovation of their products and services. However, other European SMEs from Italy, the UK or France rate their position only slightly lower (Table 1). Thus, the SME sector fits into the overall profile of Europe's innovation performance. According to the European Innovation Scoreboard 2016, European countries have caught up well with the USA as well as with Japan. One of the 25 innovation indicators on which this result is based is the percentage of small and medium-sized enterprises that have introduced product or process innovations. Of all European countries, only Iceland and Luxembourg are ahead of Germany on this indicator.¹⁶

German SMEs also see a strength in service and advice

High product or service quality is often also characterised by comprehensive customer service and good advice. German SMEs also give themselves high scores on these aspects. With a value of 3.60 they are ahead of SMEs in the USA and Italy.

In the future, digitisation in particular will set new standards in this area. More than half of German SMEs expect this to increase pressure to respond flexibly to customers' requests.¹⁷ Digitisation is likely to also continue transforming communication between clients and businesses. Already two thirds of Germans living in large cities expect businesses to be accessible through a mobile website. And one third of 18 to 24-year-olds nowadays prefer messaging services such as Whatsapp to contact a company's customer service.¹⁸

In global value chains, delivery times become a crucial parameter

How serious the impacts of supply delays in production networks can be was last demonstrated by the conflict between Volkswagen and two of its suppliers. Increasing fragmentation and internalisation of value

chains also characterises the environment in which SMEs do business around the world. Short delivery times and strict adherence to deadlines can be a major competitive advantage in this environment.

US and Chinese SMEs perceive themselves as being particularly well-positioned in this regard (Table 1). SMEs in Germany and the UK can also score points in global competition with short delivery times and high compliance with delivery deadlines, reaching a value of 3.56 for this item. Japanese SMEs tend to be rather modest and therefore lag far behind in international comparison. Nevertheless, short delivery times and high compliance with deadlines can be regarded as a strength of Japanese enterprises. SMEs from the country where just-in-time production originated see no other aspect in which they would be better positioned.

Figure 4: Business performance of German SMEs

Values of individual factors that make up the business performance sub-indicator



Note: All values are weighted averages of all the companies surveyed in Germany. The higher the value, the better positioned the enterprises perceive themselves with respect to a business factor.

Source: KfW Competitiveness Indicator 2016

Competitive cost structures also in industrialised countries

It is hardly surprising that Chinese SMEs hold a peak position on the KfW Competitiveness Indicator with regard to the business factor staff and material costs, with a value of 3.47. Although labour costs have more than quadrupled in China since 2006 and thus risen at a higher rate than labour productivity, they still remain significantly lower than in industrialised countries and in the emerging economies Brazil and Russia.¹⁹

That makes it all the more surprising that US and German SMEs see themselves well-positioned compared with their international competitors with respect to staff and material costs, with values of 3.50 and 3.40, respectively – particularly in light of the relatively high collective wage agreements recently negotiated in Germany. One conceivable cause of their positive assessment could be the strong decline in the oil price. Another possible explanation could be increasing automation which reduces staff costs in general. Intelligent factories and digital technologies could give old industrialised nations new appeal at least in the future.²⁰ The “speed factory” established by the sporting goods manufacturer Adidas is a first example of this possibility.

SMEs from the euro area are becoming more competitive on price

German SMEs’ improved assessment of staff and material costs is also reflected in a more positive assessment of their price competitiveness (Figure 4). Compared with 2014 they rate themselves roughly half a point better on this factor. SMEs in Italy, Spain and France also see themselves significantly better positioned in this aspect than two years ago. An important driver of this result is undoubtedly the strong depreciation of the euro since mid-2014 and, hence, the European Central Bank’s expansionary monetary policy.

Brazilian SMEs give themselves a particularly high score on awareness

Already in 2014, Brazilian SMEs rated the brand recognition of their products or services quite positively. That score rose once again in 2016 to a value of 3.67. Small and medium-sized enterprises may have benefited from the major sports events in their country, the 2014 FIFA World Cup and the 2016 Olympic Games. German SMEs, by contrast, do not consider brand awareness to be a particular strength of their products or services.

USA leads in energy efficiency

Improving energy efficiency contributes to reducing energy costs, which still make up a considerable portion of total costs in many SMEs’. But energy efficiency can generate competitive advantages not only with regard to costs. For example, raising their corporate image is an important motive for many SMEs to improve energy efficiency (see page 16).

In the survey of the ten industrialised and emerging economies, small and medium-sized enterprises in the US are in first place with respect to this factor, reaching a value of 3.55. One in five enterprises consider

themselves significantly better positioned in regard to energy efficiency than their most important international competitors.

Only one in ten German SMEs take this view, which is ultimately reflected in a lower value of 3.36. They believe they are performing well in energy efficiency, but not nearly as well as in many other business factors.

The USA and Italy made the strongest gains in business performance

SMEs in the USA were able to achieve particular improvements in overall business factors. With a value of 3.57 they climbed to the top of the sub-indicator business performance (Table 1).

Italian SMEs, too, exhibit more optimism, at least with respect to their own performance. They are in the upper middle range of the business performance sub-indicator together with Brazilian SMEs, which are facing the country's difficult economic situation with a high level of self-confidence.

Enterprises in the UK, France, Spain and China follow close behind. Russian and Japanese SMEs, by contrast, rate their own performance comparatively negatively, which puts them at the bottom of the ranking for the business performance sub-indicator.

German SMEs have succeeded in preserving their strengths – quality, innovation and service. At the same time, they have been able to reap the benefits of a low oil price and a weak euro for their costs and prices, climbing to second place in regard to the overall business factors.

From an SME's viewpoint, taxation affects location quality most severely

How well SMEs are able to position themselves in global competition also depends on the location conditions under which they operate in their own country. In this context, they perceive taxes and duties as the biggest challenge on average across all countries.

SMEs in Brazil see this as a particularly high barrier (Table 2). Indeed, corporate tax rates in Brazil are among the highest in the world.²¹ Tax regulations are complex and change often. However, comprehensive tax system reforms thus far have failed to come about in the politically paralysed country.

By contrast, Germany fares quite well with respect to taxes and duties in the comparison of the ten industrialised and emerging economies. Although SMEs feel that bureaucracy is the only factor that burdens them more, they still see taxes and duties as less of a competitive disadvantage than SMEs in France, the UK, Japan and the USA. A look at corporate tax rates, which are likely to be relevant at least for larger SMEs, supports this assessment. The rates of 20% in the UK, nearly 24% in Japan and 35% in the USA are clearly higher than the German corporate tax rate of 15%. Germany definitely remains a competitive location even when taking into account municipal business taxes and comparable burdens abroad.²²

To further reduce bureaucracy, Germany has to catch up in the area of e-government

From the viewpoint of German SMEs, the burden of bureaucracy is particularly heavy, not just in comparison with other location factors. Germany scores rather poorly relative to other industrialised and emerging economies as well, with 2.83 points (Table 2). Enterprises feel there has not been any tangible improvement in the past two years (Figure 5).

Policymakers have recognised the urgent need for action, however, and implemented first measures. The 'one in, one out' rule which says that a burden from a new regulation must be offset by relief under another regulation, has been in force since July 2015. In addition, the first Bureaucracy Reduction Act (Bürokratieentlastungsgesetz) came into force in January 2016. A second act is to be adopted by the Bundestag (lower house of parliament) in the months ahead. Whether these initiatives will contribute to reducing burdens on SMEs in the long term remains to be seen.

Table 2: Location performance

Values of individual factors that make up the location performance sub-indicator

	Germany	France	UK	Spain	Japan	China	USA	Russia	Italy	Brazil
Tax and duties	2.97	2.79	2.90	2.73	2.84	2.58	2.89	2.61	2.27	2.05
Bureaucracy	2.83	3.12	3.08	2.75	3.26	2.94	2.82	2.71	2.33	2.23
Energy costs	3.00	3.12	2.97	2.88	3.00	2.81	2.72	2.81	2.53	2.31
Financing constraints	3.23	3.23	2.96	2.94	2.94	2.79	3.00	2.76	2.57	2.51
Skill shortages	3.02	3.24	2.88	3.23	2.42	2.89	3.12	3.06	2.92	2.72
Political or social instability	3.50	3.28	3.34	3.01	2.90	3.25	3.01	2.78	2.71	2.32
Environmental and climate protection legislation	3.38	3.18	3.18	3.07	3.09	3.24	2.84	3.37	3.00	2.60
Lack of infrastructure	3.47	3.43	3.20	3.26	2.98	3.21	3.03	3.11	2.65	2.64
Corruption	3.81	3.66	3.54	3.20	3.61	3.02	3.14	2.94	2.78	2.60
Location performance	3.25	3.23	3.12	3.01	3.00	2.97	2.95	2.91	2.64	2.44

Best value
 Worst value

Note: To determine location performance, enterprises were asked to what extent the factors specified were currently affecting their international competitiveness. Possible answers: (1) very strongly; (2) strongly; (3) average; (4) not very strongly; (5) not at all. The displayed values are weighted averages of all enterprises surveyed in a country. Location performance is calculated as a simple mean of the nine factors.

Source: KfW Competitiveness Indicator 2016

Major deficits exist in the area of E-government, however. Many other states are already far more advanced when it comes to sharing digital information with agencies, submitting applications online or receiving approvals electronically. On the United Nations E-Government Development Index (EGDI) Germany has slipped from 17th to 21st place, far behind other industrialised countries such as France, the UK or Japan.²³ In order to avoid falling further behind in reducing bureaucracy, Germany needs to greatly step up its efforts to seize the opportunities of digital public administration.²⁴

Financing constraints mainly in emerging economies – and in Italy

The global financial crisis of 2008 made access to capital one of the biggest challenges for many small and medium-sized enterprises.²⁵ In the past years the financing situation has eased again in many countries.²⁶ Nevertheless, significant differences remain – between industrialised and emerging economies, but also within Europe (Table 2).

With a value of 3.23, SMEs in Germany as well as France consider themselves only marginally affected by financing constraints compared with their international competitors. Not so in Italy, where small and

medium-sized enterprises still give access to finance as a location factor a significantly lower score, at 2.51. So long as Italian banks remain under pressure from non-performing loans, the situation is unlikely to improve.

Youth unemployment in Spain – severe skills shortage in Japan

SMEs also assess availability of qualified workers very differently in the individual countries (Table 2). Spanish SMEs, for example, hardly see any problems in recruiting skilled workers. That would indeed be surprising in the light of the continuing high unemployment rate of around 20%.

By contrast, Japan is suffering from an enormous skills shortage. Nowhere do small and medium-sized enterprises rate the availability of qualified workers more poorly than in Japan (Table 2). In a survey conducted in 2015, 83% of enterprises in Japan declared having difficulties filling their vacancies, nearly twice as many as in Germany and six times as many as in Spain.²⁷

The Japanese government wants to cushion the impact of an ageing society on the Japanese labour market by gradually raising the retirement age, with career promotion programmes to increase the labour participation of

women and by increasing the intake of skilled migrants.²⁸ Whether these measures are successful should also be monitored closely in Germany, where some occupational fields and regions already exhibit a significant shortage of skilled labour.²⁹

Brazil's government crisis is affecting its enterprises' competitiveness

The government crisis in Brazil which culminated in the removal from office of President Dilma Rousseff in August 2016, has also left deep marks in the small and medium-sized enterprise sector. In no other economy surveyed do enterprises feel that their international competitiveness is impaired more severely by political instability. Rousseff's successor Michel Temer declared he would work to restore political stability to make the country attractive for investors again and return it to a path of growth. It remains to be seen whether he can deliver on this promise, and whether he will also succeed in containing corruption – another urgent issue.

Corruption in Germany is low in international comparison

In Germany the Federal Criminal Police Office (Bundeskriminalamt) recorded more than 20,000 cases of corruption in 2014 and put the losses they caused at EUR 358 million, more than twice the amount as the year before.³⁰ Since only a small number of cases become known to the police, the real losses are presumably much higher. In international comparison, however, corruption is a comparatively minor problem here, not just from the viewpoint of SMEs (Table 2). Of all countries surveyed by the KfW Competitiveness Indicator, Germany also achieves the highest score on the Corruption Perceptions Index 2015.³¹

US SMEs are hard hit by environmental and climate regulations

Of all enterprises surveyed, German SMEs consider themselves least affected by environmental and climate regulations (Table 2). Although German standards are comparatively high, they have been for quite some time, so many enterprises have probably adjusted by now. If they export their products to countries that are only now introducing stricter environmental and climate regulations, Germany's pioneer role could even give them a competitive advantage. In the long term, therefore, eco- and climate-friendly policies do not have to be a disadvantage in global competition.³²

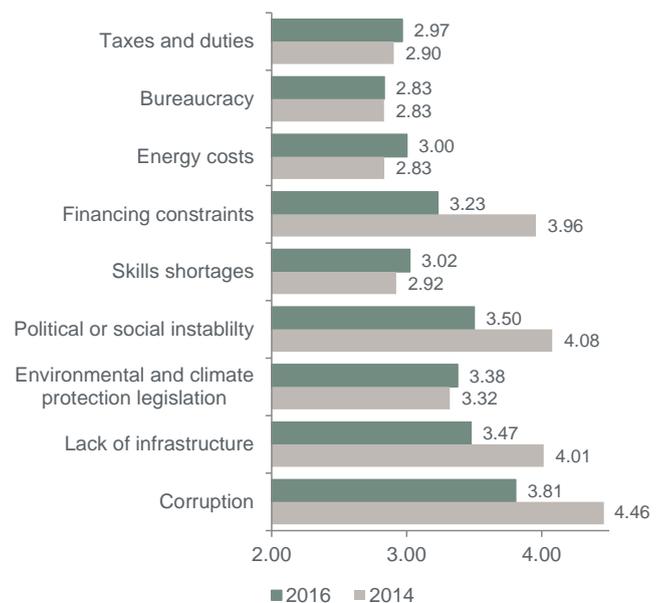
This contrasts with the situation in the USA. During his second term President Barack Obama declared the

fight against climate change as one of his most important goals. His measures are reaching American SMEs as well – which still see them as relatively significant barriers to competitiveness.

Whether the USA will continue its climate policy in the future is however questionable given the outcome of the recent presidential elections. In contrast to Hillary Clinton, who wanted to turn the country into a “clean energy superpower”³³, Donald Trump announced to undo the climate policy changes made by Barack Obama. He wants to go back on the commitments the USA have made in the Paris agreement. Doing this, he would throw away the chances of US SMEs to assume a leading role in climate protection.

Figure 5: Location performance from the viewpoint of German SMEs

Values of individual factors that make up the location performance sub-indicator



Note: All values are weighted averages of all the companies surveyed in Germany. The higher the value, the less the enterprises feel adversely affected by a location factor.

Source: KfW Competitiveness Indicator 2016

Insufficient infrastructure investment – not just in Germany

A dollar invested in infrastructure increases productivity and thereby raises gross domestic product by as much as USD 0.20, according to a recent study by the McKinsey Global Institute. Still, not enough is being invested in transport infrastructure, energy, water and telecommunications around the world. Annual global infrastructure investment would have to increase from currently USD 2.5 trillion to USD 3.3 trillion by 2030 to

keep pace with future economic growth. That would be some 3.8 % of global gross domestic product.³⁴

Germany also has a huge public infrastructure investment backlog.³⁵ Nevertheless, German SMEs consider themselves less affected by infrastructure deficits than their international competitors. With a score of 3.47, Germany currently fares significantly better than other industrialised and, in particular, emerging economies. To ensure that infrastructure as a location factor does not become a competitive disadvantage for German enterprises in the long term either, the existing investment backlog has to be cleared. First steps have already been initiated with the Federal Transport Infrastructure Plan 2030 (Verkehrswegeplan 2030) and the Federal Support Programme for Broadband Expansion (Bundesprogramm zur Förderung des Breitbandausbaus).

Energy costs remain a risk to international competitiveness

On average across all countries included in the survey, SMEs regard energy costs as the second highest risk to their international competitiveness. This is understandable given that energy costs still make up an important part of total costs in the SME sector even though prices of fossil fuels have fallen (Figure 2).

Nevertheless, significant differences exist between the countries with regard to this location factor (Table 2). SMEs in emerging economies give themselves comparatively low scores. But with a score of 2.53, enterprises in Italy, one of the European Union member states with the highest energy prices, also perceive energy costs as a relatively strong barrier to their international competitiveness.

Not so German SMEs, which also consider themselves more affected by energy costs than by many other factors, with a score of 3.00. But they rate the burden from energy costs not nearly as high as enterprises in many other countries. An important reason for this is presumably the progress German industry has already made in the area of energy efficiency in the past. That has not only helped to make Germany one of the countries with the highest energy efficiency today.³⁶ It also enables enterprises to offset Germany's comparatively high energy prices. Indeed, the energy unit costs of German industry, which take into account both energy prices and energy efficiency, are quite

competitive in international comparison³⁷. The situation is similar in the UK and Japan.

Germany continues to lead in location performance

Although there is still room for improving many location factors, Germany is still ahead of other countries as a business location for SMEs. It scored 3.25 for the sub-indicator location performance (Table 2). France is close behind with a value of 3.23 while SMEs in the UK currently give their location a comparatively good rating as well.

By contrast, enterprises in Spain and the Asian countries Japan and China rate the location conditions slightly less positively. The US does not fare too well as a location this year either. It barely scored 2.95 for the sub-indicator location performance.

Italian and Brazilian SMEs, however, continue to see themselves most severely impacted by unfavourable location factors. These two countries received the lowest scores for the location performance sub-indicator, 2.64 and 2.44.

Business and location factors present a differentiated overall picture

Overall, the business and location factors present a very differentiated picture of the international competitiveness of small and medium-sized enterprises. In both the top group and the bottom ranks, there are SMEs with strong business performance suffering from poor location conditions along with companies that are unable to keep up with their international competitors despite comparatively favourable location conditions (Table 3).

German SMEs take advantage of favourable location conditions

In the top group comprising Germany, France, the UK and the USA, Germany is the only country to score well on both sub-indicators. Small and medium-sized enterprises in Germany have capitalised on favourable location conditions to further expand their global competitive position. One of their biggest challenges in the future will be to secure their price competitiveness, with digitisation and automation of production processes providing great opportunities.³⁸

E-government is another important starting point from which to further advance the urgently needed reduction of bureaucracy.

Table 3: Sub-indicators at a glance

Sub-indicator values in the surveyed countries

	Germany	France	UK	USA	Spain	China	Italy	Russia	Japan	Brazil
KfW Competitiveness Indicator	3.38	3.32	3.27	3.26	3.20	3.17	3.05	3.04	2.97	2.96
Business performance	3.51	3.41	3.42	3.57	3.39	3.37	3.47	3.17	2.94	3.48
Location performance	3.25	3.23	3.12	2.95	3.01	2.97	2.64	2.91	3.00	2.44

Best value
 Worst value

Note: The sub-indicators business performance and location performance can have values between 1 (poor performance) and 5 (strong performance).

Source: KfW Competitiveness Indicator 2016

SMEs in France and the UK remain below their potential

French and British SMEs also benefit from relatively good location conditions but have been unable to convert them into a clear international competitive advantage.

In France still only a small number of large firms are being perceived as export-oriented and innovative. By their own admission, SMEs have not yet managed to position themselves with high-value products in global competition. Not only do policy-makers need to step up their efforts here – by continuing on the path of reform – but so do the enterprises themselves.

In the UK, by contrast, SMEs will probably face enormous challenges when the country exits the European Union. The most important goal must be to end the uncertainty over the country's future development as soon as possible. It hampers investment, which is the greatest threat to the future competitiveness of British enterprises.

Strong SMEs in the USA see their location under threat

Small and medium-sized enterprises in the US are strong but feel that unfavourable location conditions adversely affect their international competitiveness. Infrastructure deficits, corruption and bureaucracy are areas where SMEs see a need for urgent action. They have not yet come to grips with the most recent tightening of environmental and climate regulations either. Regarding the future international competitiveness of the country, the newly elected government faces important challenges. Within the next months, it is up to Donald Trump to demonstrate that he has an economic policy concept that can deal with these issues.

Spain and China in the middle range regarding both business and location performance

SMEs from Spain and China have given both their business and their location performance significantly higher scores than two years ago, holding comfortable midfield positions on the KfW Competitiveness Indicator 2016. In order to consolidate their global competitive position, they have to overcome very diverse challenges. Spain has to form a stable government that continues on the path of economic reform and combats high unemployment while China has to manage the transition from the world's workshop towards a service-oriented economy.

Italian and Brazilian enterprises are optimistic despite weak location factors

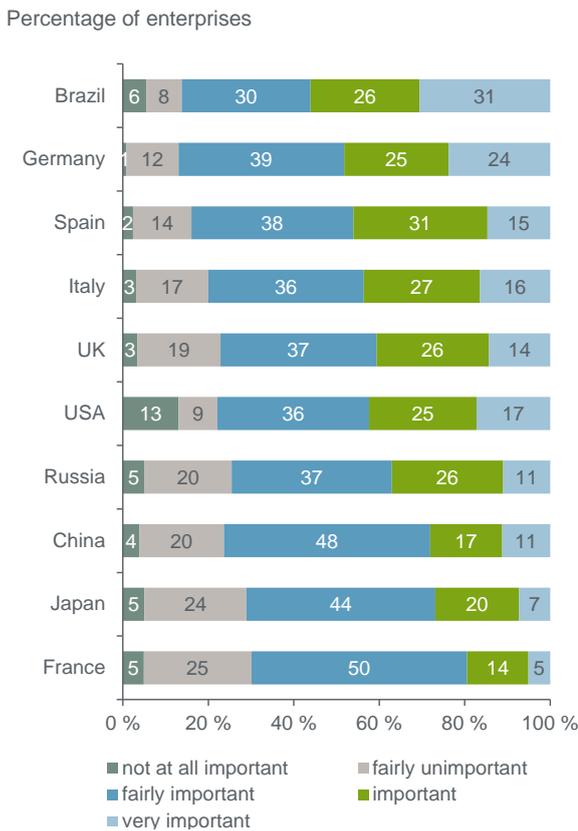
Italy has not been able to significantly improve its international competitiveness since 2014. Small and medium-sized enterprises are still hampered by a continuing difficult financing situation, inefficient administration and a high degree of corruption. The same is true of Brazil, which is in recession. Enterprises in these countries nevertheless exhibit optimism – and consider themselves to be quite well-positioned in many respects. Their global competitiveness would significantly increase if it were possible to improve overall conditions for doing business.

Russian and Japanese enterprises are behind in many aspects

Difficult conditions prevent Russian SMEs from positioning themselves in international competition. One opportunity for small and medium-sized enterprises could be the strong decline in the oil price. After all, one thing it did illustrate was how risky it is to rely on natural resources only, and how important it is to develop a diversified and internationally competitive export sector.

Sentiment among SMEs has also deteriorated again in Japan. The economy is scarcely expanding at all, and the government’s stimulus measures are having very little impact. All sides are demanding further structural reforms.³⁹ Whether they will bring the hoped-for growth impetus is uncertain for now.

Figure 6: Energy efficiency is now a concern across the SME sector in Germany



Note: Weighted percentage of all enterprises in a country that regards energy efficiency and saving energy costs as (1) not at all important, (2) fairly unimportant, (3) fairly important, (4) important or (5) very important. The figure includes all enterprises surveyed, including those that do not compete internationally.

Source: KfW Competitiveness Indicator 2016

Improved energy efficiency makes businesses more competitive

One way of making small and medium-sized enterprises more competitive is to improve their energy efficiency. This means far more than saving energy costs. More efficient use of energy makes enterprises less vulnerable to energy price fluctuations, for example. It can contribute to leaner processes, higher product quality and better working conditions. Ultimately, it can also benefit an enterprise’s corporate image. Various studies estimate that the operative benefit of improved energy efficiency can amount to two and a half times the energy cost savings.⁴⁰

But greater energy efficiency in the SME sector not

only contributes to greater international competitiveness and, thus, to more growth and employment in an economy. A significant reduction in energy consumption and consequently greenhouse gas emissions across the SME sector is also a major precondition for achieving the international climate protection targets agreed in Paris in 2015. After all, SMEs currently account for 13% of global energy consumption.⁴¹

Not all SMEs believe energy efficiency is important for their business

So far, however, energy efficiency is far from being an issue for all SMEs. Particularly in France and Japan, many small and medium-sized enterprises – almost 30% – consider it unimportant (Figure 6).

By contrast, German SMEs attach great importance to the topic, with 88% seeing energy efficiency and cutting energy costs as important for their business. In no other industrialised and emerging economy in the survey are there fewer enterprises that consider the topic unimportant. In Brazil, too, where government programmes supporting energy efficiency have a long tradition,⁴² many SMEs consider energy efficiency a relevant business aspect.

Energy efficiency gains importance when energy costs are high ...

How important energy efficiency is to SMEs in a country strongly depends on how high their actual or perceived burden from energy costs is (Figure 7, left side). In countries where enterprises perceive energy costs as a comparatively heavy burden on their international competitiveness, they tend to attach greater significance to the issue of improving energy efficiency and cutting energy costs.

Accordingly, Brazilian enterprises see energy costs a relatively high barrier to competitiveness in world markets.⁴³ At the same time, they regard energy efficiency as a comparatively important issue. Not so in France or Japan. SMEs in these countries see themselves less under pressure from energy costs and therefore attach less importance to the topic of energy efficiency.

What is striking in Germany is that SMEs give relatively high importance to the topic of energy efficiency but at the same time no longer perceive themselves as constrained so much by energy costs. Apparently, the high energy prices and the diverse government support measures have not only encouraged enterprises to improve their energy efficiency and, as a result, reduce the burden from energy costs. They have also

contributed to instilling a permanent awareness of energy efficiency within enterprises. The political efforts surrounding the energy transition in Germany thus also have an impact on SMEs.

... or regulation is strong

Another driver for addressing the topic of energy efficiency, besides energy costs, is regulation. An example of this is the Energy Efficiency Directive (EED) of the European Union which requires enterprises with 250 or more employees to complete an energy audit every four years.

The correlation between the degree of regulation and the importance of energy efficiency can also be seen in the comparison of the ten industrialised and emerging economies (Figure 7, right side).

Where small and medium-sized enterprises perceive the environment and climate protection provisions as a more serious constraint and therefore perceive regulation as more of a burden, they also show greater interest in the topic of energy efficiency.

One in four SMEs in Germany have implemented energy efficiency measures

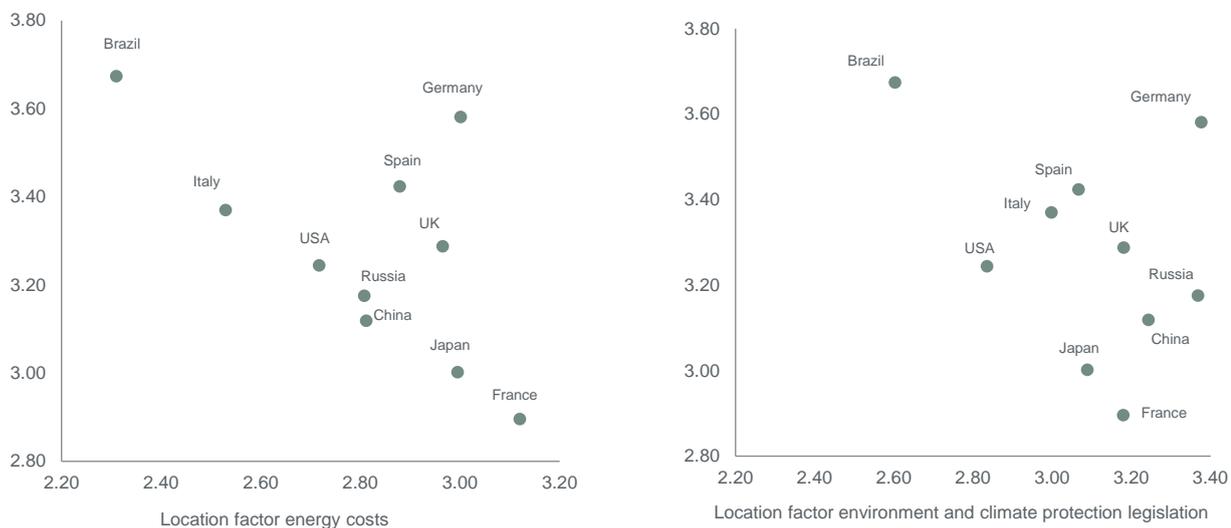
But what about the enterprises' activities? In Germany around one fourth of SMEs have implemented specific measures to improve energy efficiency in the past two years or are currently implementing them (Figure 8). One in six enterprises are currently planning specific measures but have not yet implemented them. Some 38% of SMEs in Germany are currently exploring ways to improve their energy efficiency and cut energy costs, and 19% of enterprises have not yet become active but have at least identified a need for action.

The proportion of SMEs that see no need for action is 21%. These are mostly enterprises in which energy costs account for only a small portion of total costs – less than 5% in almost half of them – and which therefore see only limited savings potentials.

Nevertheless, all of these enterprises combined could help achieve the objectives set out in the National Action Plan on Energy Efficiency (NAPE) – to reduce primary energy consumption by 20% by the year 2020

Figure 7: Energy efficiency gains importance when energy costs are high or regulation is strong

Importance of energy efficiency as a function of energy costs and regulation



Note: The horizontal axis maps the weighted averages of the location factors energy costs and environment and climate protection legislation. A higher value here means that the enterprises feel less affected by the location factor. The vertical axis maps the weighted average of the importance of energy efficiency. Possible answers were given the values (1) not at all important, (2) fairly unimportant, (3) fairly important, (4) important, (5) very important. A higher value thus signals that the enterprises in a country attach higher importance to energy efficiency. The figure includes all enterprises surveyed in a country.

Source: KfW Competitiveness Indicator 2016

compared with 2008 and halve it by 2050. Indeed, although Germany has already achieved a high energy efficiency level, significantly stronger efforts will be necessary in future to achieve this objective, including in areas where potentials are not so easy to harness.⁴⁴

SMEs in the USA are currently the most active

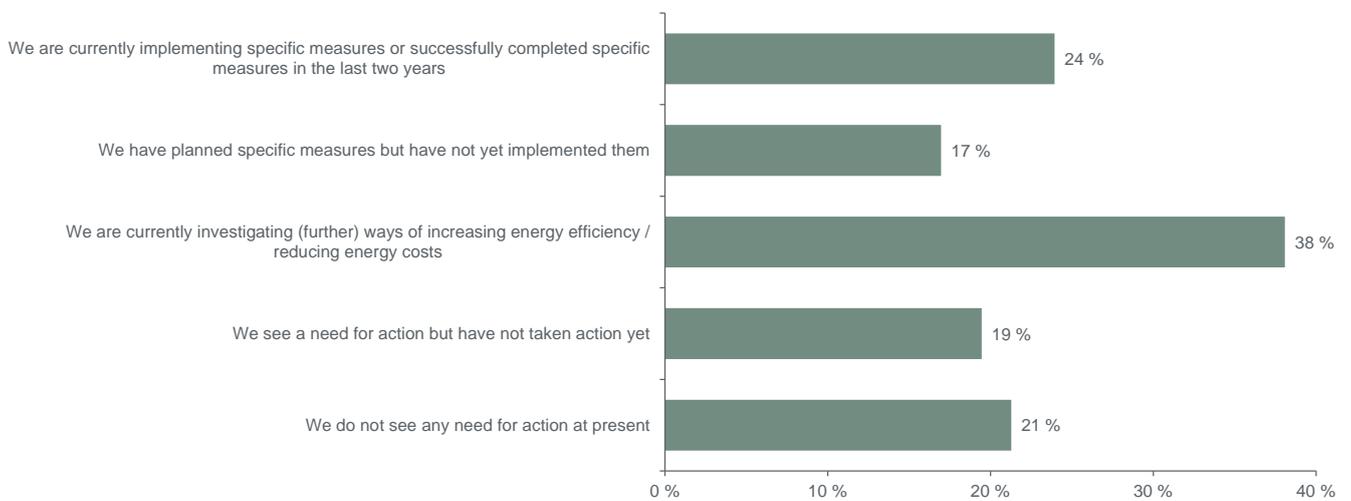
With respect to implementing specific energy efficiency measures, SMEs in Germany are on a par with

enterprises in other industrialised countries such as the UK, Spain or Italy (Figure 9).

In France and Japan, the share of SMEs active in this area is slightly lower, at 22 %. This is not least an expression of the fact that French and Japanese enterprises attach less importance overall to this issue than SMEs in other countries.

Figure 8: One in four German SMEs have implemented measures

Level of German SMEs' activities to improve energy efficiency and reduce energy costs



Note: Weighted percentage of all German enterprises to which the respective statement applies. In principle, several statements can apply to an enterprise. The percentages apply to all enterprises surveyed, including those that do not compete internationally.

Source: KfW Competitiveness Indicator 2016

Figure 9: SMEs in the USA are currently ahead in energy efficiency measures

Percentage of enterprises



Note: Weighted percentage of all enterprises in a country to which the respective statement applies. In principle, several statements can apply to an enterprise. The percentages apply to all enterprises surveyed in a country, including those that do not compete internationally.

Source: KfW Competitiveness Indicator 2016

The USA is currently leading the drive to implement energy efficiency measures. In the past two years, around 29% of SMEs were active in this area, more than in any other of the ten industrialised and emerging economies. Obama's climate policy appears to be having an impact. Even if US enterprises currently perceive the tighter environmental and climate regulations as a burden, they are currently taking a big leap forward. The starting level in the USA, which has the world's highest primary energy consumption after China, however, is also significantly lower than in many European states, so businesses have a lot of catching up to do. The implementation of Trump's "America-First Energy Plan" would be a major setback to climate protection in the USA and worldwide.

SMEs in emerging economies are behind in energy efficiency measures

SMEs in the emerging economies China and Brazil lag somewhat behind in the implementation of energy efficiency measures. Only one in five completed measures in the past two years or are currently implementing such measures.

The least activity is exhibited by Russian SMEs, of which only 12% have initiated specific projects aimed at increasing energy efficiency. One important reason for this is presumably the low price of energy in this oil and gas exporting country. It was not until 2008 that government programmes to promote energy efficiency measures were set up here. But with its strained budget situation, the country currently lacks funds for these initiatives.⁴⁵

Nevertheless, many SMEs in emerging economies are already exploring ways to improve their energy efficiency or save energy. In China that share is 45% of SMEs, in Brazil 43%, and even in Russia energy efficiency measures at least appear to be an option for a large part of enterprises.

Cutting energy costs is most important reason for energy efficiency for SMEs all over the world

What drives SMEs around the world to improve their energy efficiency? A glance at possible reasons for entertaining the idea, planning or implementing energy efficiency measures shows that cutting energy costs is by far the most important motive across all countries (Figure 10). Small and medium-sized enterprises in Germany again attach more importance to this motive than SMEs in other countries. Ultimately, this is probably due to the fact that, although they have

dropped recently, energy prices in Germany remain very high in international comparison.

Besides economic aspects, legal requirements also play an important role. The SMEs in the surveyed industrialised and emerging economies give this factor an overall score of 3.62, making it one of the three main reasons for implementing energy efficiency measures. This underscores yet again that in addition to energy costs, regulation is another decisive factor that determines how committed SMEs are to energy efficiency.

Another way to provide incentives for implementing energy efficiency measures is to offer attractive public support. Particularly for SMEs in Germany, it is quite an important argument for energy efficiency measures. This may well reflect the variety of promotional programmes available in Germany.

Many barriers hamper energy efficiency measures

Overall, there are a whole range of barriers to energy efficiency measures that SMEs consider to be of similar severity – even within many countries. That is why selecting a particular aspect to work on intensely does not promise to be very effective in most countries. Rather, the barriers should be tackled across a broad front to make energy efficiency measures more attractive (Figure 11).

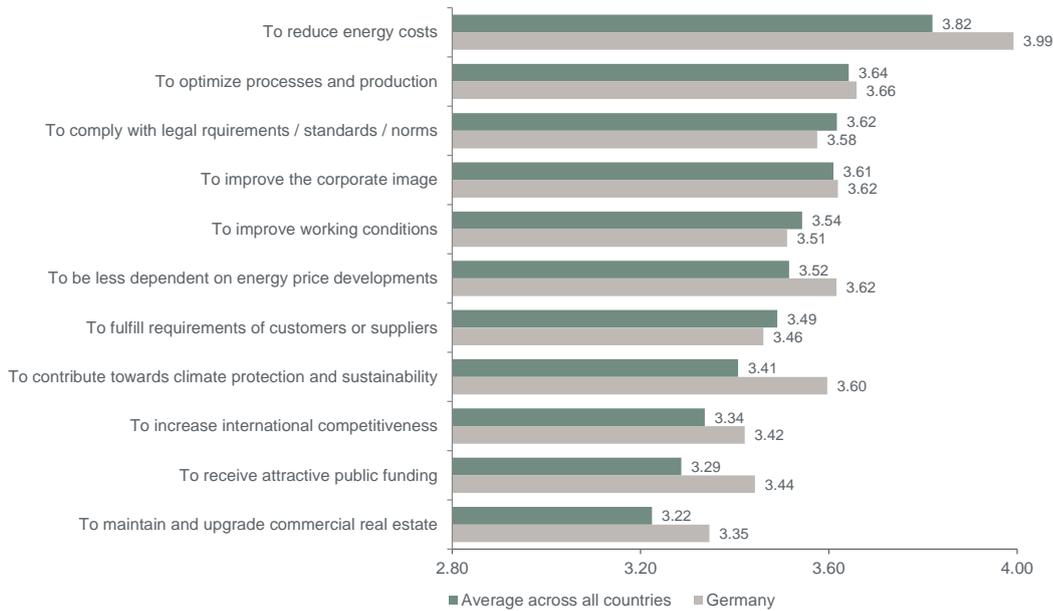
A possible starting point for promoting energy efficiency projects could be to improve the financing situation – particularly in Italy, Brazil and Russia, where financing conditions for small and medium-sized enterprises are generally difficult.

It is true that small and medium-sized enterprises in Germany can access finance much more easily. But here, too, energy efficiency measures compete with regular investments and are often postponed. This is also due to the long payback period of energy efficiency investments, which German SMEs perceive as a particularly high barrier in international comparison.

By contrast, unclear responsibilities are hardly a problem in Germany. Nor is lack of awareness of ways to save energy a decisive barrier. This is proof that the topic of energy efficiency is already firmly embedded in the German SME sector. Nevertheless, lack of human resources can hamper the implementation of energy efficiency measures.

Figure 10: Attractive public support plays a major role in Germany – but profitability is crucial here as well

Importance of various reasons for energy efficiency measures

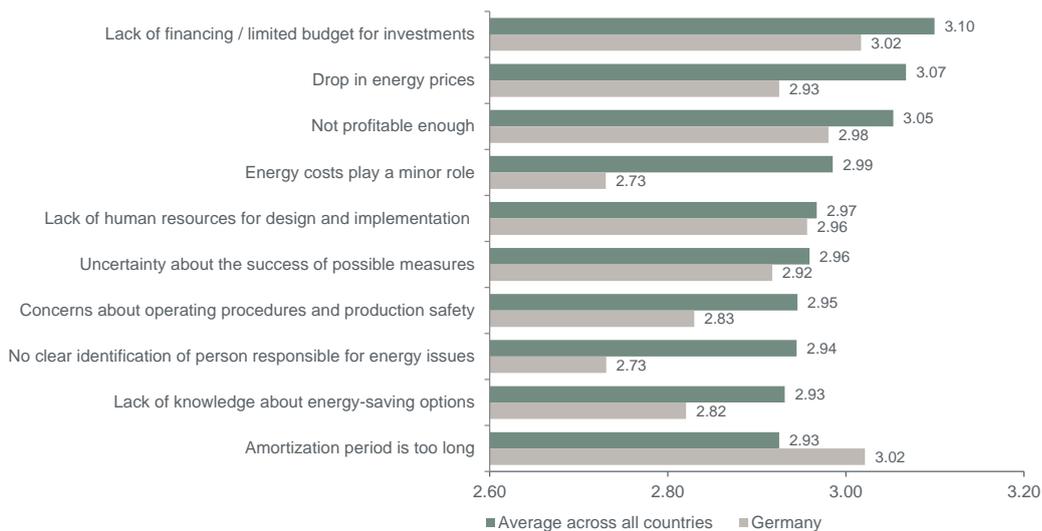


Note: All businesses that at least see a need for action were surveyed on how important various reasons are for considering, planning, implementing or having already implemented measures to increase energy efficiency or cut energy costs. Possible answers: (1) not at all important, (2) fairly unimportant, (3) fairly important, (4) important, and (5) very important. The displayed values are weighted averages for the enterprises surveyed in Germany and for the enterprises surveyed in all ten countries.

Source: KfW Competitiveness Indicator 2016

Figure 11: Excessively long payback period is most important barrier for SMEs in Germany, unlike in other countries

Significance of various barriers to energy efficiency measures



Note: All businesses were surveyed on what significance various barriers have to the implementation of measures aimed at improving their energy efficiency or cutting their energy costs. Possible answers: (1) insignificant; (2) slightly significant; (3) fairly significant; (4) very significant; (5) extremely significant. The displayed values are weighted averages for the enterprises surveyed in Germany and for the enterprises surveyed in all ten countries.

Source: KfW Competitiveness Indicator 2016

When energy prices are lower, so are the energy cost saving potential and the profitability of energy efficiency measures. The strong declines in energy prices over the past years, particularly of fossil fuels, may potentially make energy efficiency measures become less appealing to small and medium-sized enterprises, with negative consequences for achieving national and international climate objectives.

Many surveyed SMEs in fact regard the lower energy prices as an important barrier to implementing energy efficiency measures, including in Germany. If energy prices continue to fall in the medium term, it would be necessary to consider creating alternative incentives for improving energy efficiency and, accordingly, achieving long-term climate objectives, both in Germany and in other countries.

SMEs accept social responsibility by improving energy efficiency

Measures aimed at improving energy efficiency have clear economic advantages, above all the reduction of energy costs which ultimately also helps to enhance international competitiveness. What also became clear, however, was that energy efficiency is a topic of societal relevance because the international climate policy objectives will not be achievable unless energy is used more efficiently. The consequences would be dramatic and are already becoming apparent in the form of extreme weather and damage to ecosystems. Thus, by implementing energy efficiency measures small and medium-sized enterprises also take responsibility for society.

They can do this in many other areas as well, for example by securing good working conditions and demanding social minimum standards from suppliers. To what extent small and medium-sized enterprises in Germany and around the world are committed in this area is the topic of a paper by KfW Research on corporate social responsibility in the SME sector which will be published shortly.

Conclusion

German SMEs have been able to further improve their international competitiveness and achieve the top ranking of small and medium-sized enterprises in ten industrialised and emerging economies. Their strengths continue to lie in quality and innovation. But their price competitiveness has improved as well. An important driver is very probably the depreciation of the euro resulting from the European Central Bank's expansionary monetary policy.

German SMEs also consider their location conditions favourable in international comparison, even though scope for improvement remains in many areas. In particular, they want bureaucracy to be cut further, and they still perceive taxes and levies as comparatively high burdens. The skills shortage also remains an issue for German SMEs, even if it does not affect all professions.

The strong international competitiveness of small and medium-sized enterprises contributes to growth and employment in Germany. At the same time, it also drives the high export surplus for which Germany is regularly criticised by the European Commission, the OECD and the International Monetary Fund. A primary argument is that other countries, particularly in southern Europe, have to incur debt in order to finance their imports. This could jeopardise European and global financial stability in the long term. Strengthening domestic demand and increasing public and private investment could counteract this development.

Equally important, however, is to reinforce the international competitiveness of enterprises in southern Europe. The KfW Competitiveness Indicator shows that SMEs in Spain remain on the right track. Today they see themselves clearly better equipped for global competition than just two years ago. In France, too, some measures have already been implemented to strengthen international competitiveness. Italy, by contrast, is making somewhat slower progress.

An important approach to strengthening the competitiveness of small and medium-sized enterprises is to improve their energy efficiency. Companies in the USA are currently the most active in this respect. Not only do they have a lot of catching up to do, but there are also strong political efforts towards a sustainable climate policy. This could however change if Donald Trump turned his energy plans into reality.

In Germany, comparatively high energy prices and the various state support programmes have already helped SMEs make good progress in the area of energy efficiency. Further improvements will not be as easy to achieve in the future as in the past. The low hanging fruits of easily achievable measures with high energy saving potential have already been harvested. Nevertheless, further energy efficiency improvements are necessary to secure German SMEs' international competitiveness and to achieve national as well as international climate policy goals. ■

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