Empirical Analysis of the Market for Energy Services, Energy Audits and other Energy-Efficiency Measures

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1 Background and goals

To meet Germany's climate goals and continue the necessary work towards the Energiewende (energy transition), many pieces have to come together. Markets for energy services and energy efficiency are two of them. These two markets are subject to continuous changes – with new products, and the integration and separation of different business models. According to Section 9(2)(5) of the German Energy Services Act (EDL-G), the Federal Energy Efficiency Center (Bundesstelle für Energieeffizienz, BfEE) is – among other duties – responsible for monitoring the market for energy services, energy audits and other energy-efficiency measures, as well as for developing proposals for the further development of the market.

The BfEE has studied these markets annually since 2016. This study, the fourth of its kind, primarily explores three product segments: energy consulting, energy contracting and energy management. Not only market participants from the provider side, but also companies and households seeking energy efficiency solutions, and public sector stakeholders have all been interviewed for this study.

Energy services and energy efficiency measures are firmly established in Germany, and the companies that provide them generate high turnover. These diverse and widely available services vary in their scope and orientation, as well as in their complexity and quality.

2 Survey design

The goal of this study is to monitor and analyse the development of the market for energy services. To this end, the project created an indicator-based survey design to obtain information regarding the following overriding issues:

- Standardised key market indicators for all relevant products, enabling the analysis of the market’s development over time (market monitoring);
- Expectations regarding the market’s future development; and
- Insights into the use of energy efficiency services as well as barriers to further market development.

To obtain the information described above and to create a comprehensive market overview, a variety of methods were used. These included literature and document analyses as well as standardised interviews via phone and online questionnaires.

The method and the questionnaires have been continuously refined. Changes were based on findings from previous studies, but were also limited to what was necessary in order to continue to allow the creation of time series over multiple study years.
A total of four target groups were interviewed. Surveys on the provider side were conducted online and by telephone. The online survey was sent to around 19,000 relevant addresses. A selection of 300 providers were interviewed by telephone (see Table 1). On the demand side, Kantar surveyed approximately 2,750 companies, 2,000 private households and more than 500 public sector institutions by telephone. The surveys of the public sector were complemented on the federal and state levels by an optional identical online survey, with the aim of recruiting multiple respondents.

Table 1: Number of standardised surveys carried out in 2019

<table>
<thead>
<tr>
<th>Sample</th>
<th>Short name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply side</td>
<td></td>
</tr>
<tr>
<td>Via telephone</td>
<td>Providers</td>
</tr>
<tr>
<td>Online (usable answers)</td>
<td>300</td>
</tr>
<tr>
<td>Demand side</td>
<td></td>
</tr>
<tr>
<td>Companies</td>
<td>Companies</td>
</tr>
<tr>
<td>Private households</td>
<td>Households (tenants/owners)</td>
</tr>
<tr>
<td>Public sector</td>
<td>523</td>
</tr>
</tbody>
</table>

3 Results

Comparisons to previous studies reveal that the market has remained stable. There is a greater range of fluctuation in the turnover figures for the 2018 marketing year (survey of 2019, current report) for methodological reasons, but which do not imply a major change in market activities. The German market for the three largest segments of energy services generated a total annual turnover of €7 to 10 billion. Overall, the market is still seen to be robust and stable. Table 2 shows the market volume for the energy services market and the three market segments over the past four years. The methodological challenges will be explained in greater detail in the following sections. In this instance, it is important to consider that the survey years are one year later than the fiscal year under review. This 2019 market analysis therefore reports figures for 2018.

Table 2: Market volume overview (in euros)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy consulting</td>
<td>~ 360–403 m</td>
<td>~ 370–402 m</td>
<td>~ 790–850 m</td>
<td>~ 470–520 m</td>
</tr>
<tr>
<td>Energy contracting</td>
<td>~ 6.7–9.7 bn</td>
<td>~ 7.2–8.6 bn</td>
<td>~ 7.7 bn</td>
<td>~ 7.2–8.4 bn</td>
</tr>
<tr>
<td>Energy management services</td>
<td>~ 109 m</td>
<td>~ 110 m</td>
<td>~ 107 m</td>
<td>No comparable value available</td>
</tr>
<tr>
<td>Total</td>
<td>7.2–10.2 bn</td>
<td>8.0–9.5 bn</td>
<td>8.9–9.0 bn</td>
<td>7.9–9.1 bn</td>
</tr>
</tbody>
</table>

Detailed market figures and the calculation of the data above will also be expanded on in the following sections regarding the individual market segments.
3.1 Energy consulting

3.1.1 Market volume and development

The total market for energy consulting is stable compared to the previous year; conservative estimates place the total volume at around €400 million. The volume is calculated by taking the average number of consultancies according to type of energy consultation for every provider of the respective service and dividing that by the number of full-time equivalents (FTEs) that focus on energy consulting, multiplied by the price of such services. The result of this figure was multiplied by the estimated number of energy consultants who offer each product in Germany.

The estimated market volume thus varies according to the estimated number of active consultants in Germany. The minimum market volume is close to the result of the previous year (2017). Generally, considering the market volume and the number of providers, the market has stabilised over the last three years. Only the result for 2015 was significantly higher, which was due to a higher estimate of the number of active energy consultants. Figure 1 below shows the development over time. It is important to consider that the survey methodology changed between the 2015 and 2016 market surveys, meaning that the development continues to be in the same direction, but is not comparable in detail.

Figure 1: Minimum market volume in millions of euros, based on the survey of providers

Energy consultants were generally positive when predicting market development in the coming years (see Figure 2). As in previous years, they expected significant growth in energy consulting for companies (59% categorised it as “growing”, “growing strongly” or “growing very strongly”). Almost 60% of those surveyed anticipated an increase in the demand for energy consulting for private households. Market prospects have improved considerably compared to the previous market analysis, where only 52% expected growth in this market. In contrast, the development of the energy consulting market for the public sector is assessed more conservatively. 49% of those surveyed expected growth in this market. Compared to the previous year, this is a decrease of around 3%. Looking at the figures from previous study years, this positive prognosis cannot be substantiated by current figures. In other words, the development of market volume continuously lags behind the expectations of market participants.
3.1.2 The supply side

As mentioned previously, this study assumes that there are between 11,000 and 12,500 energy consultants regularly engaging in this profession in Germany. They offer one or more types of energy consultation (see Figure 4). Based on the total number and factoring in the product ranges respondents gave in the survey results, Germany has around 3,800 consultants that offer energy audits, around 6,000 providing energy consultation for non-residential buildings, some 3,300 for plants and production processes, and 8,000 or so for residential buildings. It goes without saying that this cannot describe the complete market for energy consulting. For example, these figures capture only a portion of consultation provided by chimney sweeps, heating engineers, environmental consultants, municipalities, municipal utilities and sales specialists. However, there is nevertheless ample data available concerning the professional providers of subsidised energy consulting considered in this study.

Types of companies

The energy consultants interviewed in the context of this study generally assigned their companies into one of three categories: architecture and civil engineering companies, other engineering companies, and dedicated energy consulting firms accounted for almost 80% of all companies (see Figure 3). Power companies and craft enterprises each accounted for 5 to 6%. Those eligible for the “Energy Consulting for Residential Buildings” and “Energy Consulting for Small and Medium-Sized Enterprises” federal funding programmes accounted for a very substantial proportion of the random sample. Compared to the market survey of 2018, power companies and craft enterprises were represented somewhat more frequently in the random sample. This was due to the fact that the eligibility expansion of both programmes at the end of 2017 began to impact those groups. Engineering companies exhibited a slight decrease in absolute numbers of participants.
Half of those surveyed indicated that energy services were the core activity of their business. 16% had a separate department for energy services, and in another 10%, the responsibilities for providing such services were distributed over multiple departments, sometimes even among multiple companies or subcontractors.

**Types of consulting offered**

Energy consulting for residential buildings was, as shown in Figure 4, by far the most common type of energy consulting. Half of all energy consultants also offered consulting for non-residential buildings. Energy audits and consulting for plants and production processes were offered by around one third of those surveyed.

With around 18.3 million residential buildings compared to 2.7 million non-residential buildings and “only” 3.5 million companies – including micro-enterprises in the service area – in Germany, it comes as no surprise that the majority of consulting companies offered consulting for residential buildings.

However, the size of the residential market does not correlate with the generation of revenue. More complex forms of consulting, which only a relatively small number of respondents supply, accounted for a significantly higher
share of the market in 2018 than consulting for residential buildings – a relatively standardised service provided by virtually all professionals in the field.

Services tailored to municipalities, such as neighbourhood concepts and municipal climate change concepts, were both supplied by more than 10% of energy consultants. Given their relatively low relevance for the total market, however, these services were not further quantified in this study.

Energy consulting for residential buildings is segmented into further sub-categories. Nearly all (86%) energy consultants who offered energy consulting for residential buildings carried out these projects on site at their clients’ homes, involving an extensive report (e.g. energy consulting for residential buildings, as defined by the Federal Office for Economic Affairs and Export Control (Bundesamt für Wirtschaft und Ausfuhrkontrolle, BAFA)). 63% (also) offered briefer energy checks. Only a minority of energy consultants offered consultation by telephone or online chats (27%) or off-site consultations (17%)

The percentage of government-funded consulting varied significantly among the different types of consulting. Energy consulting for on-site residential buildings, with an extensive report, had the highest share of government support (57%); 44% of reviews on plant and production processes were government-subsidised; and 36% of energy audits were supported by the state.

3.1.3 The demand side

From the perspective of energy-consulting providers, private households were by far the most important customer segment in the market, followed by the real estate industry, which respondents named particularly often as the second most important customer segment (see Figure 5). Besides those two segments, however, there was a whole range of other customer groups that were particularly important for specialised companies, as well as for the market as a whole. These include industry, other commerce / trade / services and the public sector.

![Figure 5: Most important customer groups according to providers](image)

On the demand side, different sectors assess the importance of energy efficiency very differently. The issue is of greatest importance to households, whereas companies are comparatively less interested in energy efficiency. This discrepancy in the perception of importance led respondents from different sectors to give different reasons for
using energy consulting. The mere fact that these respondents considered the issue to be “relevant” did not mean that there was any active demand for services.

**Households**

Among tenant households and owner-occupied households, approximately a quarter each made use of an energy consultation in the last five years (see Figure 6). Another 9% of tenant households and 14% of owner-occupied households made use of an energy consultation more than five years ago. This means that around 60% of households have never used energy consulting services before.

*Figure 6: Households: energy consulting services used*

The owners whose energy consultation took place over five years ago and those who had never made use of an energy consultation before were asked if they would consider another energy consultation, in principle. One fifth would do so, but 78% of owners would not.

The market potential for owner-occupied households (particularly interesting because of their ability to implement efficiency measures) who would be open to energy consulting is therefore limited. Rather than counting on the 60% that had not previously made use of an energy consultation, the potential is more likely to lie in the area of the roughly 20% of households that could imagine using such a service and have not yet done so. For households with no interest in external energy consulting, it could be possible to use direct marketing or regulatory policies to open up new market potential.

**Companies**

Roughly half of the companies surveyed had not made use of energy services. Around one fifth of companies had already used energy consultation services. Of those, 24% said that they were required to undergo an energy audit.

Companies make use of the entire range of energy consulting services, as shown in Figure 7.
When energy consulting was commissioned, the main reason mentioned was to better control energy costs (69%). Other important reasons named included support for investment planning (59%) and the need for information about technical conditions (55%). Nonetheless, "softer" factors, such as increasing employee and customer satisfaction, or facilitating strategic decisions regarding environmental and climate protection, also played a role. Generally speaking, energy consulting was used more frequently when energy costs accounted for a high percentage of the company’s total costs. There was also a positive relationship between the importance of energy efficiency and the use of energy consulting, as the former strongly correlates with the significance of energy costs.

If, on the other hand, no energy services were used (not only no consulting), the reasons most frequently cited by companies were that there was no need for them, that the measures could be implemented without external support, and/or that energy costs were not relevant.

**Figure 8: Companies: satisfaction with energy consulting services**
Considering the generally low use of energy consulting services by companies, and how, at the same time, those companies that have used these services signalled a high satisfaction rate, it seems that a more active approach to the market by providers might lead to an increase in energy consulting on the market. Unlike households, some companies indeed have enough of their own expertise to generally avoid having to rely on external providers. However, declaring “implementation on our own” might in some cases also be a (socially desirable) excuse that is not accompanied by any actual implementation of efficiency measures.

3.1.4 Interim conclusions

According to conservative estimates, the market segment for the energy consulting services explored in this study amounted to a total volume of around €400 million in FY2018. This included brief “energy checks” as well as off-site energy consultations; it also included extensive energy consultations for non-residential and residential buildings as well as plant and production processes involving on-site visits and energy audits. The overall market volume has therefore remained stable for the third year in a row; this is also true for the number of suppliers and consultations, consulting costs and hourly rates. The entire range of consulting products are used in all areas of the demand side, and customer satisfaction with these services is high.

There is sufficient supply throughout Germany for current demand for qualified energy consulting. There have only been a few signs on the demand side that supply may be insufficient. However, there appears to be untapped potential among households and companies in particular, which could lead to market growth. This is especially relevant in light of Germany’s national Energiewende, which has called for a substantial increase in energy efficiency efforts across all sectors. Professional energy consulting firms could facilitate additional activities, or otherwise guide and qualitatively improve them. These facts add to an impression that a stable, yet less dynamic market for energy consulting does not match future goals. At the same time, the subsidy situation for energy consulting, and also for efficiency measures, has never been better.

These circumstances thus present the question of whether the way that energy consulting is offered, and how its usefulness is presented, is enough. Clearly, a broader view, a story with which efficiency and the related energy consulting could be sold more effectively, is lacking. In addition, obstacles to the implementation of efficiency measures include the high utilisation of the building sector (and therefore low availability for consumers), a lack of qualified experts, and low energy costs (which decrease the cost-effectiveness of efficiency measures). One possibility for growth in the energy consulting market could lie in the increased use of topics such as more comfortable living, better health, environmental and climate protection, building safety, supply reliability, and self-sufficiency.

3.2 Energy contracting

3.2.1 Market volume and development

With a total market volume of between €6.7 and 9.6 billion, contracting is a major area compared to other energy services. This is because the market for contracting is largely dominated by energy service company (ESCO) projects; of these, energy purchases account for roughly half of total revenue. An individual evaluation of revenue broken down by service components would be more appropriate, but methodologically exceedingly difficult.

This study used the following method to determine market volume: first, web crawlers and association data were used to identify dedicated ESCOs engaged in projects. This was followed by obtaining company-specific figures for the sector, including revenue and employee numbers, from the Orbis and Dafne company databases. These were offset against the results of the ES survey, enabling the revenue from contracting as well as the number of employees in the sector to be determined.
Considering the heterogeneity of the market, as well as the quality of available data, the following projections are highly uncertain and only serve to roughly estimate market size.

The future development of the contracting market appears positive according to players in the industry, as shown in Figure 9. Energy performance and supply contracting, as well as operational contracting, were considered by most contracting providers (73%) to be growing or (very) strongly growing. Almost one quarter of providers expected stagnation in the market; in the area of management contracting, this figure was slightly higher. A decline in energy contracting is expected by considerably less than 10% of market players. This predominantly positive outlook has been relatively constant over the last few years.

*Figure 9: Assessment by energy service providers on the future market development of contracting*

![Bar chart showing the future market development of contracting](image)

3.2.2 The supply side

Sector structure

Responses to the survey came primarily from power companies (municipal utilities as well as other energy suppliers, 38% of providers) and companies that described themselves as “contractors” or ESCOs (also 38%) that offered contracting (see Figure 10). Compared to previous surveys, a small shift can be noted away from power companies (46% in 2017; 60% in 2016) and towards contractors (26% in 2017; 16% in 2016). Another small provider group comprised architecture, energy consulting and engineering companies, together making up around 15%. With 6%, real estate and facility management companies made up another relevant provider group. There was also a group of other providers (3%), comprising companies with a wide variety of key activities, such as energy agencies, IT or software suppliers, and craft enterprises. This does not represent the actual market distribution, but only the survey respondents; therefore, these figures are based on an incomplete sample.
Number and type of contracting contracts

A wide range of responses were given regarding the number of ongoing contracting contracts (see Figure 11). A small number of highly active market participants cover a very large part of the contracting market, though there are also many small providers with correspondingly small sales figures. In the area of energy supply contracting, the average number of ongoing contracts is 167 per provider (2017: 130). The largest 15 providers held 80% of the market. In 2018, the five largest providers held 60% of these contracts, which was an increase over the previous year (2017: half of all contracts). In the areas of management and energy performance contracting, there were considerably fewer contracts, with respective averages of 77 and 33 ongoing contracts. In the area of leasing and management contracting, there was a significant increase in the number of ongoing contracts compared to the previous year – from 28 to 77.

Due to the wide range of responses, the average is only of limited relevance. The median was also identified, which clearly lay below the average. Specialised contractors and power companies both had an above-average number of energy supply contracts. In FY2018, the median number of ongoing contracts for specialised contractors was 56, and 46 for power companies. Due to outliers, the average rose to 208 ongoing contracts among power companies in 2017. Both figures point towards significant consolidation of the market, and fewer large players generating larger shares of revenue. This trend is even clearer than in the 2018 survey. The large number of providers with only a few ongoing contracts can be explained by a larger number of small players. In this area, the significance of municipal utilities has grown considerably in recent years. In the previous year’s survey, the average number of new contracts for energy supply contracting was 129 per year (power companies: 157; specialised contractors: 135).
3.2.3 The demand side

The most important target group for contractors according to the provider side survey remained, as in previous years, the real estate industry (see Figure 12). Nearly 70% of contracting providers considered this segment to be one of their three key customer segments (2018: 70%; 2017: 60%; 2016: 50%). The second most important customer group remained the public sector, which was named by over 60% of those surveyed, and which has increased in percentage terms (2018: 55%; 2017: 50%; 2016: 46%).

The third most important customer segment was private households, which at least were named by 50% of contractors as an important customer segment. For one fifth of respondents, they were the key customer segment – a growing percentage. Considering the rather limited number of contracting projects in owner-occupied residential buildings, respondents may have understood this to include projects in the property market (e.g. landlord-to-tenant electricity supply).

Additional important customer segments were commerce and industry. Less relevant customer segments were health and care, hotels and hospitality, and trade.
Utilisation of contracting

In the survey of users of energy services, 25% of the SMEs responding from “energy-intensive industry” indicated that they used energy contracting in the last five years (see Figure 13), which was higher than in the past (2018: 21%). The second and third largest groups are SMEs from the “real estate and housing” and “hotel, hospitality and leisure” sectors. The number of large enterprises that participated in the survey is significantly smaller, but these firms predominate in some sectors: large enterprises in the area of “health, care and homes” made a disproportionately high use of contracting in the last five years.

Figure 13: Utilisation of energy contracting by companies

The percentages given in the figure are based on the absolute number of companies that used contracting. For example, 95 out of the 253 companies surveyed in the “energy-intensive industry” sector utilised contracting, equating to around 38% of those companies, with SMEs accounting for 25% and non-SMEs for 13%.

In contrast, private households use contracting more rarely. Around 4% of the surveyed house owners stated that they had used contracting in the previous five years. This percentage has decreased slightly in recent years. (2017: 6%; 2016: 7%).

In the public sector, external contracting was used by 12% of those surveyed. Here, too, the main reason for using energy contracting was to reduce energy consumption. Other important reasons for this segment included strategic decisions as well as the use of specific expertise of external service providers. Compared to companies, the public sector uses energy performance contracting far more often (40%).

3.2.4 Interim conclusions

The market survey of 2019 used two ways to determine total market volume, both of which presented some uncertainties. Both methods – our survey results as well as our secondary research (utilising web crawler, the integration of datasets from different databases, and the available literature) – confirmed last year’s results in terms of scale, but also indicated a wider possible range. In total, the market volume for contracting in FY2018 was between €6.7 and 9.7 billion. Results indicate a total number of around 530 providers.

Most contracting providers generated (sometimes considerably) more than €2 million in turnover. Most of this revenue went to power companies and specialised contractors. Power companies generated around 7% of their
total revenue from contracting; for contractors, the figure was around 40%. This meant a slight decline compared to the previous year. The majority (approx. 73%) of providers predicted that market volume would continue to at least grow positively.

As in previous years, the market for contracting predominantly consisted of energy supply contracting. Energy performance contracting, as well as leasing and management contracting, were also important. Contracting’s strongest market penetration can be found in “energy-intensive industry” and in the “health and care” sectors. The real estate sector is also a growing demand group. In contrast, the key customer segments for providers were the real estate industry, the public sector and private households, which were the segments with the most energy sales turnover.

For 75% of those surveyed, the main motivation to use contracting was to save energy. The main hindrances were rapid changes to general economic conditions surrounding energy, as well as other economic reasons such as energy prices and uncertainty about the investment. Most providers felt that low quality or too much competition were not important as obstacles to contracting.

3.3 Energy management

3.3.1 Market volume and development
The providers were asked about the quantity sold and the respective prices for clearly defined energy management products. The demand side was also asked about the prices of these same products, enabling prices to be captured more accurately. The number of sales and certifications were extrapolated using external statistics based on random sampling of the total population. These figures omitted zeros as well as outliers that exceeded ten times the average.

This method has led to very similar numbers over the last three years, but it was not directly comparable to the results from the turnover-oriented method. This method focused solely on products with very specific definitions. This can only show us a part of the market, not representing all activities, in contrast to the open question of how much turnover was made with – at this point undefined – energy management. The results for total market turnover are therefore lower (as expected) and are shown in Figure 14. After a slight increase from 2016 to 2017, 2018 showed a decline of around 10%. One element that is partly responsible for this decline is the total number of ISO 50001 certifications, which has been decreasing for the past two years. Despite this, the number of new certifications was still not estimated to be zero, but instead the figures imply that the number of departures was higher than the number of new certifications. The years refer to the fiscal year, as shown in Figure 14. Therefore, the amount for 2018 was calculated this year as part of the 2019 survey.
Suppliers of certifications, as well as additional services and products in the area of energy management, estimated that the further development of the market will be generally positive (see Figure 15). Two-thirds of certification and validation suppliers envisioned at least a marginally growing market. Only 8% expected a downturn. Moreover, a full 85% of those surveyed predicted growth in additional services in the area of energy management.

### Figure 2: Assessment of market development in the field of energy management

- Services and products for energy / energy data management, n = 295
  - Very strong growth (more than 10%) 14%
  - Strong growth (more than 5%) 37%
  - Positive growth (more than 0%) 34%
  - Stagnation 13%

- Certification of energy management systems and environmental management systems, n = 289
  - Very strong growth (more than 10%) 8%
  - Strong growth (more than 5%) 25%
  - Positive growth (more than 0%) 33%
  - Negative Growth 26%
  - Stagnation 8%

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### 3.3.2 The supply side

The market segment for energy management is characterised by a variety of players on the provider side. Six business sectors account for around 10% or more of the companies surveyed (see Figure 16). Like the sector for energy contracting, these proportions refer only to the survey, and merely represent the total distribution in the market to a certain extent. As in previous years, the most respondents came from energy consulting firms, followed by engineering companies. In this case, energy management accounts for only 10-20% of these companies’ total revenue, but there are many companies of this type in the market. Power companies, municipal utilities and
dedicated contractors do not generate the majority of their turnover from energy management services, but remain important players for supplying energy management solutions. Providers that focus primarily on the certification of energy and environmental management systems, as well as IT and software suppliers (which offer the foundations for the implementation of energy management services), also each represent about 10% of companies that include energy management in their portfolio.

*Figure 3: Distribution of sectors across energy management service suppliers*

The products which were sold in the energy management sector varied widely. The most common products were energy management solutions, either with (58%) or without (55%) certification (see Figure 17). These products were followed by more technically sophisticated solutions such as load management, or measurement technology/sensors, which just under half of the respondents offered. Energy management in private households has not yet played a significant role.
3.3.3 The demand side

As with the previous two energy services products, demand for energy management services among companies and in the public sector was likewise investigated. The results for companies on the demand side are shown below. They have been weighted, as described above.

**Companies**

The sectors with the highest utilisation of services in the certification/validation of energy and environmental management systems within the last five years were, as described in previous surveys, energy-intensive industry (26%) and somewhat trailing but still above average, other industry (15%), as shown in Figure 18. Utilisation rates in companies from various other sectors is between 5% and 10%. Certification plays a minor role in hotels and office operations.
The utilisation of services from the management systems sector is concentrated especially on certification (63%) and recertification (44%) of ISO 50001 (see Figure 19). Environmental management systems according to ISO 14001 are just behind. The difference between SMEs and larger companies is particularly visible here. Large companies use all products far more frequently.

Other services in the sector of energy management that were offered in addition to certification were utilised to different degrees (see Figure 20). Training for employees was among the most widely used services for both small and large enterprises (53%–54%). This was only surpassed by the installation of measurement technology and sensors (59%), which was especially relevant for large enterprises.
Many services in the energy management area entail suggesting measures that could lead to more energy efficiency in the client’s company. About one third of those companies surveyed had already fully implemented these measures (see Figure 21). In total, nearly 90% had at least partially implemented such measures. The difference between SMEs and larger enterprises was negligible.

For both large and small enterprises, the economic viability of measures is a crucial reason why suggested measures are not implemented, according to their responses (see Figure 22). Organisational reasons, such as time or hierarchical challenges, were also cited frequently. Obstacles from the supply side, such as technical or commercial uncertainty, were only rarely mentioned.
Figure 22: Reasons for not implementing measures

3.3.4 Interim conclusions

Determining market volume in the sector of energy management has remained an annual challenge. Due to the significant fluctuations of input variables, the product-based calculation methodology contributed most to a figure for the core market. The result is slightly below the result of the last few years, but is still almost €100 million annually.

In total, there have been few changes over the last few years. The product range is supplied by similar sectors, and sold at similar prices to the same customer segments. Generally, the market segment of energy management can be described as stable and robust.

Accordingly, further development must also be made to ensure the market growth that suppliers expect. Customer outreach must go beyond the recommendations of other customers and become more proactive. New business models could also be developed to appeal to those sectors of the market that have so far shown lower demand for such products.

4 Summary and conclusions

Energy services continue to play an important role for investments in energy efficiency. Since 2015, the BfEE has regularly monitored and evaluated this market with research support from a team of evaluators (Prognos AG, ifeu Institut, Kantar).

The spectrum of energy service providers and energy service products is broad; the latter in particular is not always clearly defined and therefore hard to capture. For this reason, the BfEE has focused on specific energy services: the market structure that results from this consists of three main areas: energy consulting, energy contracting and energy management.

This survey was mainly conducted using computer-aided telephone interviews based on guided questionnaires for both provider and demand sides. Multiple approaches were pursued simultaneously: the demand side of the
German energy service market was addressed by surveying 2,161 households (tenants and owners) and 2,752 companies of various sizes, as well as 430 authorities at the federal, state and municipal levels.

As in previous years, the methodology of the study has been refined, and selected topics remain a challenge. While the survey (especially in comparison to previous years) presented overwhelmingly stable, robust and replicable results, the extrapolation of market volume remains afflicted with uncertainty. At these points, complementary methodological approaches, such as the utilisation of a web crawler, were able to establish an additional empirical basis, but uncertainties remain, even when taking a great deal of care. Manageable population sizes and significant size differences in some instances among the various companies surveyed led to fluctuations for key market indicators (employee numbers and revenue shares in the energy services segments).

The three largest parts of the German energy services market generate an annual turnover of around €7-10 billion. Looking at the previous years, it is apparent that the German energy services market is robust and stable. However, when compared to previous years, there is little movement in market figures (see Section 3.1). The range of growth can be explained less by the market and more by adjustments to the calculation methodology. The methodology continues to be refined, which is supported by the results of previous years and the increased amount of data.

For these reasons, deriving precise growth rates based on the available data is still afflicted with too much uncertainty. On the whole, suppliers in all market segments are generally positive about further growth prospects.

Market-oriented energy services represent a wide market segment, in which many different Energiewende players are active in different sectors. It is a mix which is dominated – especially for consulting – by small architecture and engineering companies, or specialised energy consulting firms. In segments with more complex and demanding B2B products, more and more power companies and municipal utilities have become active. Other suppliers, for example, have come from more technologically oriented sectors (measurement, control and regulation technology, technical building equipment) as well as from service-oriented sectors (the real estate industry, facility management). While a few providers in the energy services sector employ hundreds, sometimes thousands, of employees and have a mid-seven-digit turnover, our study found no strong market concentration – indeed, the opposite: the provider market is primarily characterised by small and medium enterprises.

For every market segment, the regional availability of providers was analysed by processing site and delivery radius. Energy service providers in Germany are generally evenly distributed across all regions, with higher concentrations in industrial and demographically strong regions in the south and west of Germany, such as Baden-Württemberg, Bavaria and North Rhine-Westphalia. There is no region of Germany with a supply shortage. Especially because of the large number of companies which offer services at the national and international level, there is no location with fewer than 160 energy consulting providers, 20 providers of energy contracting and 100 energy management providers. In the aforementioned regions where this market is particularly strong, the numbers are higher by at least 40%.

At the same time, just like in previous studies, market weakness was observed on the demand side. This implies that the quotas for using energy services have not been exhausted. In all product groups, utilisation rates are far below 50%, indicating that there is significant untapped market potential. However, private as well as public sector investors remain hesitant about using energy services. This phenomenon replicates that which has been observed concerning energy efficiency: such hesitancy mostly affects products that would be useful and helpful for, e.g. the achievement of Germany’s energy and climate goals; however, in light of low energy prices and energy’s relatively low contribution to expenses, there is not much pressure on players to act. This changes noticeably when looking at energy-intensive industries, or those sectors in which there are clear incentives or even requirements to use energy services.

An important factor for the lacking dynamism is the comparatively slow investment cycles in buildings or in industry. Investors are rarely systematically interested in energy efficiency; many only start to think about it when
confronted with an increased investment need or the spontaneous breakdown of equipment. The most frequently mentioned obstacles on the supply side were low energy prices and high investment costs, uncertainty on the customer side regarding the benefit of such projects, frequent changes in the legal framework, and a lack of staff expertise.