

# **Evaluation of the funding programme ‘Increasing energy and resource efficiency in commercial enterprises’ (ERGU)**

## **Final Report Summary**

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Client

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## 1 Summary

The funding programme 'Steigerung der Energie- und Ressourceneffizienz in gewerblichen Unternehmen' (short ERGU, English translation: 'Increasing energy and resource efficiency in business enterprises') runs since February 2016. It is a funding programme of the Ministry of Economic Affairs, Transport, Agriculture and Viniculture of Rhineland-Palatinate fed by the European Regional Development Fund (ERDF). The aim of the programme is to reduce greenhouse gas emissions, energy and material consumption as well as waste of business enterprises. This is supposed to contribute to the sustainable safeguarding of the competitiveness of the German Federal Land of Rhineland-Palatinate as industrial location.

### 1.1 Description of the programme

The funding programme is open to business enterprises in Rhineland-Palatinate that intend to invest in energy and resource efficient measures. These comprise in particular in plant engineering, machinery, process cooling and heating, heat recovery and waste heat recovery as well as measures to reduce material waste and waste prevention (see ERGU administrative regulation).

Premises for funding are an increase of energy efficiency by 20 % or an increase of (non energy related) resource efficiency by 10 %. This must correspond to savings of at least 40 t CO<sub>2</sub> per year. This reduction needs to be calculated and confirmed by a consultant from a given list.

Other specifications are: Funded plants or measures must be state of the art. The planned investment must be conducted within 36 months. Economic goods have to stay in the enterprise at least five years after the measure has been implemented and the goods must be used by the investor himself (obligation to capitalise).

Investments are funded with 25 % of the eligible costs with a minimum of 20,000 € subsidy amount. This results in a minimum investment volume of € 80,000. The funding is capped by de-minimis regulation and therefore up to € 200,000 subsidy amount. The ERDF funds available for the ERGU programme in the funding period 2014-2020 amount to around € 20 million. The Investment and Economic Development Bank of Rheinland-Pfalz, the 'Investitions- und Strukturbank' (ISB), is in charge of the administration of the programme.

### 1.2 Evaluation of the programme

The evaluation plan of the ERDF programme of Rhineland-Palatinate provides the present evaluation concerning the first half of the funding period, after the ERGU programme has been running for two years (evaluation period 03/2/2016 to 16/4/2018). Its aim is to develop possible options to adapt the programme for the next funding period. For this purpose several methods were applied: Analysis of the statistics of applicants, on site check of random applications, four interviews with administrative staff of the programme, four interviews with multipliers who bring the information about the ERGU programme to the business enterprises, an online survey with programme multipliers (53 participants), four interviews with subsidized enterprises, a very short online survey with subsidized companies (31 participants), an analysis of comparable funding programmes. This was done by checking an evaluation concept, developed prior to the empirical

analysis, against the results. The evaluation concept served as basis for an objective, comprehensible and neutral evaluation.

### 1.2.1 Analysis of applications for funding

The results show that in the evaluation period (Feb 2016-April 2018) in sum 71 enterprises asked for funding. The funding applications were mainly for energy efficiency measures and less for resource efficiency measures. Reasons for that might be that energy efficiency measures are less complex to be calculated as material related measures. In addition, from the enterprises' point of view there is no mandatory need to calculate more reduced emissions when the target of 40 t CO<sub>2</sub>/a is reached. 41 applications for funding were approved.

Among the applicants more than 80 % are small and medium enterprises (figure 1) and more than 60 % can be allocated to the manufacturing sector.

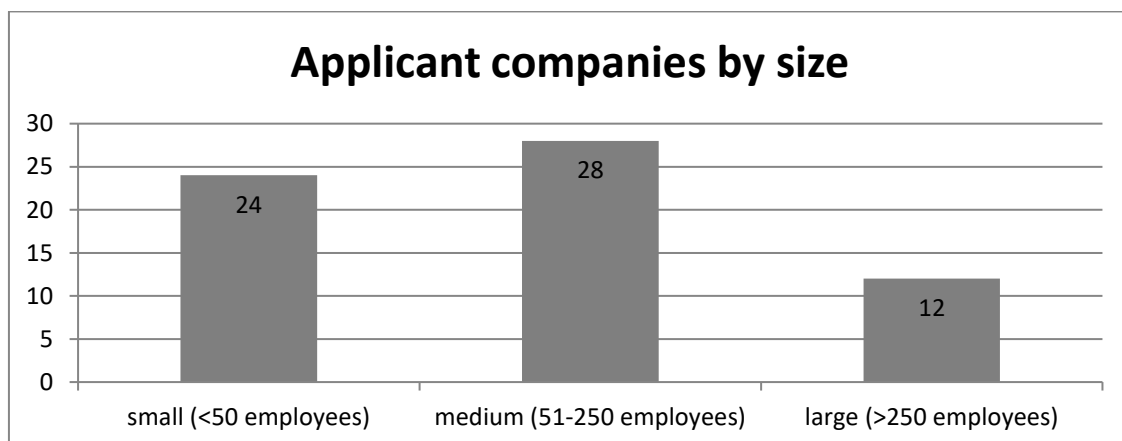


Figure 1: Applicant companies by size

Source: Own representation, Data of applications (Status quo April 2018; 7 companies without categorisation in the data)

Figure 2 shows the geographical distribution of the 41 funded companies (that are companies with an application status 'granted' or 'completed'). Overall, there is a geographical distribution of the enterprises with a focus on the regions 'Pfalz' and 'Westerwald'. A correlation with business density or population density is not discernible here, but there is a clear overlap with the distribution of the advisors of the EffCheck programme. EffCheck advisors can be commissioned with the calculation of the CO<sub>2</sub> savings.

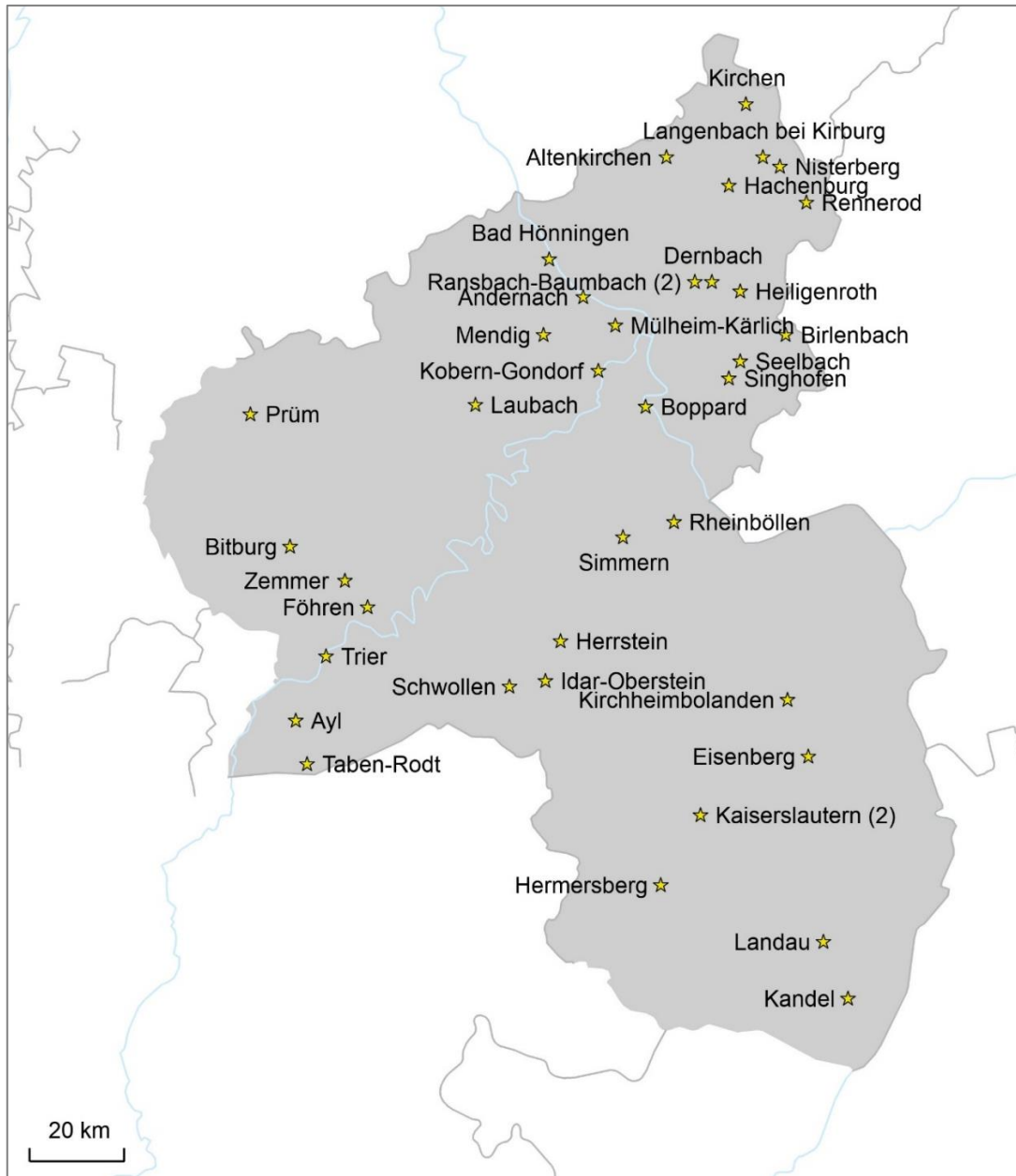


Figure 1: Geographical distribution of the 41 funded companies

Legend: Star=Status granted/checked/inalienable

Quelle: Own representation with StepMap, Data of applications (Status quo April 2018)

Approved applications have also been analysed regarding the amount of the investment, the amount of the CO<sub>2</sub> savings estimated by a consultant and the subsidy amount. As an approach to evaluate the effect of the programme, the saved amount of CO<sub>2</sub>-emission has been put in relation to the overall investment and the sum of funding approval. The latter value is used as an indicator for 'funding efficiency'.

It must be stressed that the very small number of 41 approved applications in the evaluation period makes it impossible to deduce any generalised statement. Additionally, four cases were identified as outstanding from the other cases (so called 'outliers') regarding the cost of the measure or saved CO<sub>2</sub>-emissions (either very low or very high). They have been excluded from the analysis.

The following tables 1 and 2 show the overall results with and without ‘outliers’. In sum more than 23,000 t CO<sub>2</sub> emissions can be saved annually by the programme. For this effect, measures for, on average, € 1,700 overall costs per annually saved tonne CO<sub>2</sub> have been invested and an average funding of € 250 per annually saved tonne CO<sub>2</sub> was necessary. Without outliers the average emission savings size down to 5,000 t CO<sub>2</sub>/a, overall costs of 4,600 € t CO<sub>2</sub>/a per company and an average funding of 950 €/ t CO<sub>2</sub>/a.

Table 1: Analysis of all 41 approved measures in sum

	Σ overall costs	Σ eligible costs	Σ funding approval	Σ planned CO <sub>2</sub> -savings /a	Ø overall costs / t CO <sub>2</sub> /a	Ø funding / t CO <sub>2</sub> /a
<b>all</b>	38,058,746 €	35,305,808 €	5,623,007 €	22,776 t	1,671 €	247 €
<b>L</b>	8,337,264 €	6,849,180 €	1,445,140 €	1,961 t	4,252 €	737 €
<b>M</b>	24,232,529 €	22,967,675 €	2,896,137 €	20,014 t	1,211 €	145 €
<b>S</b>	5,488,953 €	5,488,953 €	1,281,730 €	801 t	6,853 €	1,600 €

Legend: all=all approved companies, L=large companies, M=medium companies, S=small companies, t=tons, a=year

Source: Data of applications (Status quo April 2018)

Table 2: Analysis of all 41 approved measures, without ‘outliers’ (n=37)

	Σ overall costs	Σ eligible costs	Σ funding approval	Σ planned CO <sub>2</sub> -savings /a	Ø overall costs / t CO <sub>2</sub> /a	Ø funding / t CO <sub>2</sub> /a
<b>all</b>	23,818,746 €	22,443,808 €	4,963,697 €	5,215 t	4,567 €	952 €
<b>L</b>	5,977,264 €	5,867,180 €	1,245,140 €	1,918 t	3,116 €	649 €
<b>M</b>	12,352,529 €	11,087,675 €	2,436,827 €	2,496 t	4,949 €	976 €
<b>S</b>	5,488,953 €	5,488,953 €	1,281,730 €	801 t	6,853 €	1,600 €

Legend: all=all approved companies L=large companies, M=medium companies, S=small companies, t=tons, a=year

Source: Data of applications (Status quo April 2018)

Regarding company size small companies get more than ten times more funding per CO<sub>2</sub> saving and company as medium companies. The numbers, however, differ to a large extent between, as well as within the company categories. This variation is due to the small sample (attributed to the short runtime of the funding programme) and the high diversity of measures and branches. This leads to insecure generalised statements.

Updated numbers dating from the end of December 2018 show that another 40 applications have been introduced. These new data are quite in line with former results.

### 1.2.2 Evaluation of the funding programme

The goal of the ERGU funding programme, to sustainably secure the *competitiveness* of the industrial location of Rhineland-Palatinate, has been achieved. The programme contributes to long-term cost savings for business enterprises, to a 'green image' and to advanced companies in terms of knowledge and efficient technologies. In addition, the companies report various side-effects of the supported measure, such as improved working conditions. All this can lead to a competitive advantage for companies. In addition, the support programme can contribute to the creation or maintenance of jobs.

The *profitability* of the programme in terms of the ratio of subsidies to the initiated investments or to the amount of CO<sub>2</sub> savings cannot be conclusively assessed. The reasons for this are both the small number of cases (41 applications) due to the short runtime of the programme and the broad scattering of measures.

In comparison with other funding programmes and against the background of the short duration and regionally limited scope, the ERGU funding programme enabled above-average CO<sub>2</sub> savings both per company and also in relation to the approved funding. This is the case despite the limited informative values of the indicators. The total planned CO<sub>2</sub> savings per applicant are also considerably higher than the required minimum 40 t/a. 60 % of the applicants plan to achieve more than twice as much CO<sub>2</sub> savings. It is assumed that the savings tend to be even higher than indicated. The reasons for this are that the savings are, as a precaution, conservatively estimated by the consultants and additional CO<sub>2</sub> savings are often not further calculated for the application as soon as the required minimum value is reached.

The multipliers positively emphasized the aspect that it is a *support programme of the Land of Rhineland-Palatinate financed from an EU fund*. Reasons for this are, on the one hand, that different funding conditions compared to federal programmes are possible. On the other hand, it is assumed by the authors that companies identify more strongly with the state than with the federal government. In addition, the image of the state ministries is positively enhanced by the visible support.

As far as the *investment decisions* of the companies are concerned, the survey among funded companies shows that in most cases the support led to investments being brought forward, to more extensive measures being implemented, or to investments in higher quality equipment or measures. The implementation of larger measures is encouraged, among other things, by the crucial eligibility criterion of the programme that is the CO<sub>2</sub> savings. This criterion allows companies to cumulate energy efficiency and resource efficiency measures and, thus, offers the greatest possible flexibility. In some cases, the mandatory inclusion of a listed consultant has led to the identification of further saving measures in addition to the already planned measure. The consultant's support of the companies can also help to reduce so-called transaction costs. These are search and decision costs such as time or financial expenditure for the identification and implementation of energy and resource efficiency measures. The motive for claiming the subsidy and/or conducting the measures is mainly the reduction of the operating costs by increasing the energy and resource efficiency (hence an increased competitiveness).

The *range of supported measures and the target group* is very wide and offers the best possible support to business enterprises. For sectors that are not funded under the ERGU funding programme (e.g. the primary sector), a number of other funding

programmes are available. The relatively open criterion of 40 t CO<sub>2</sub>/a savings enables a broad variety of measures. Additionally, the non-repayable grant and the amount of funding (25 % of total investment, funding up to € 200,000) makes the funding programme attractive for applicants. Consultants for energy, financial issues or else also like to use this point as a door opener for consultations.

Considering that the funding programme has been running only since 2016, it is very well received (Status quo in December 2018: 111 applications). Nevertheless, *awareness* could be enhanced even more by increasing the use of various channels for publicity (e.g. events with practical examples, short films, trade fairs, website of the ISB) and various multipliers (e.g. banks, business development agencies, energy consultants). All these channels and multipliers are already used to promote the ERGU programme. Up to now, companies become aware of the programme primarily through individual conversations. The interviews with the multipliers showed that framework conditions have a significant influence on the perception and attractiveness of the programme: such as a shortage of skilled workers or successors, a booming economy, the economic structure of the Land of Rhineland-Palatinate as well as a perceived confusion concerning the variety of funding programmes or the fact that investments have already been made. Digitisation and IT security are also important topics currently occupying companies. If the ERGU programme became a long-distance runner, this would have a positive effect on its awareness.

The *funding conditions* implicitly limit the target group. One reason for that is the regular minimum level of investment of € 80,000. This is in adequate proportion to the planned measures and savings as well as the administrative effort of the programme. Nevertheless, the multipliers pointed out that the level of the minimum investment and the required CO<sub>2</sub> savings could be problematic for small enterprises (especially family enterprises). This is opposed by the fact that 34 % of the applicants are small companies. Another possible barrier for small enterprises is the lack of human resources for the application process. The capping of subsidies by *de minimis* (a maximum of € 200,000 within three tax years) can also lead to the exclusion of companies that have already exhausted this limit. Nevertheless, these companies may have further potential to increase efficiency (especially since large companies with several locations tend to quickly reach the *de minimis* limit).

Companies generally assess the *effort required to apply for funding* as high or quite high (68 %). However, the benefits of the ERGU programme are also assessed as high or quite high in relation to the effort (87 % of the surveyed companies). The funded companies are of the opinion that, considering the amount of the subsidy, the expenditure can certainly be accepted. The staff of the ISB rated the funding programme as comparatively simple for the applicants in comparison with other ERDF investment grant programmes. Above all, the calculation of the CO<sub>2</sub> savings is assessed by multipliers and companies as uncomplicated and reasonable in terms of effort. From the multipliers' and funded companies' point of view, there is potential for optimisation regarding the application process, above all, as to the user-friendly design of the ISB customer portal.

The *administration* of the funding programme runs via the ISB. The administration process is essentially divided into the groups 'approval', 'call for funds' and 'proof of use' and is coordinated by the division management. From the application to the call for funds



to the proof of use, everything runs via the ISB customer portal. The ISB also markets the ERGU programme externally and presents its contents at various events. The costs for processing an application are generally in proportion to the total investment of the funded project. The greatest expenditure is incurred through communication with the companies and the specifications of the ERDF management authority, e.g. checklists or onsite-checks. However, the checklists and regulations make administration transparent and comprehensible and, thus, guarantee a fair process. Nevertheless, from an administrative point of view, ISB employees generally describe the ERGU funding programme as a relatively uncomplicated programme. The standardized procedure facilitates administration in a certain way, for example in contrast to individual case decisions.

The almost unanimously positive *assessment of the ISB* as the administrative body of the ERGU funding programme should be emphasised. The good assessment of the ISB covers many areas: the fast processing, the commitment and competence of the administrative staff, their availability by telephone and e-mail, the quality of the advice, the support by means of information material and pertinent hints for the application processing and for the evidence to be provided. The companies' need for advice is relatively high and the ISB hotline is often used by companies.

### **1.3 Recommendations and Conclusions**

All in all, the ERGU funding programme is very well rated. The interviewed companies and multipliers praise the flexibility, the support during the application process and finally the impact. The ISB emphasizes the relatively simple administration through uncomplicated eligibility criteria. In this sense, it is rated as an exemplary funding programme.

Several recommendations for action have been elaborated for the further development and promotion of the funding programme. The implementation and further development of the recommendations given by IREES based on empirical analyses is ultimately decided by the Ministry of Economic Affairs, Transport, Agriculture and Viniculture of Rhineland-Palatinate.

Regarding the *funding conditions*, solutions should be discussed above all concerning the minimum savings of 40 t CO<sub>2</sub> /a, which are relatively high for small enterprises, and the capping of the grant by de minimis. Available possibilities, such as the combination with the EffCheck subsidy programme and, thus, also the performance of material flow analyses, should be promoted more strongly, also and especially to promote the application and implementation of measures for resource efficiency.

In the area of *administration*, the customer portal should be revised, for example by integrating different accesses, interactive forms or electronic receipts. A short check or flowchart could be developed and made available to potential applicants so that missing funding requirements (such as the need to invest in the fixed assets of the applicant company) can be identified at an early stage. An automated plausibility check based on a calculation algorithm would also be helpful to evaluate the targeted saving impact.

In order to make the funding programme *better known*, various promotion channels and multipliers should be mobilised (which is already happening to a large extent but could still be strengthened). For communication, it is important to establish the programme as

a long-distance runner and to communicate it uniformly. The best way to reach companies is to advertise the funding programme for increasing energy and resource efficiency in business enterprises together with current topics such as skills shortages and digitisation. It also makes sense to present investment examples.