

Subsidy Scheme for Employment of Energy Staff Members in Enterprises

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1. Synopsis

In 1996 a state subsidy scheme concerning employment of energy staff members in small and medium-sized enterprises (SME) with a considerable energy consumption started in Denmark.

2. Abstract

In July 1996 a new state subsidy scheme was introduced in Denmark concerning employment of staff members who act either in an energy advisory capacity or involved with the practical energy aspects in small and medium-sized enterprises with a considerable energy consumption. As small and medium-sized enterprises often lack staff members with necessary time or competence to work with energy efficiency and energy savings, the purpose of this scheme is to increase energy efficiency activities and energy awareness in the enterprises by promoting the employment of energy competent persons.

A subsidy of up to 50% of the total project costs may be granted to energy efficiency projects in which at least one new employee is taken on - either as energy staff member or as replacement for an employee who will be working on the project as an energy staff member. The project must contain an increase in the energy efficiency activities of the enterprise and measures must be taken to ensure a continuation of the results after the end of the project. Projects may consist of such tasks as participation in energy audits, planning and implementation of energy management, other energy analyses, planning and implementation of energy efficient purchases, staff training in energy efficiency, etc.

More than one enterprise may participate in the same project. Enterprises may combine energy projects with similar subsidized projects concerning employment of staff members working with environment and working environment conditions.

3. Introduction

In July 1996 the Danish state subsidy scheme on energy savings in enterprises was extended with a new subsidy scheme concerning employment of energy staff members in small and medium-sized enterprises with a considerable energy consumption.

3.1. Recycling Revenue of Green Taxes to the Enterprises

The general subsidy scheme concerning energy savings in enterprises started in 1993 when CO₂ taxes on energy consumption in the industrial and commercial sectors were first introduced in Denmark. Through the energy saving scheme revenue from the CO₂ taxes can be recycled to enterprises within industry and trade which implement energy-saving investments or carry out energy audits.

In June 1995 a legislation package imposing new green taxes on Danish trade and industry was adopted by the Danish Parliament. As part of this so-called "green package" the Act on State Subsidies for Energy Savings in Enterprises was extended with a number of new initiatives to promote further energy savings in enterprises.

At the same time a decision was made to raise the budget of the subsidy scheme substantially and in this way recycle parts of the additional revenue from the CO₂ and SO₂ taxes to the private sector. It is expected that for the four fiscal years 1996-99 an additional 1.800 million DKK (approximately 243 million ECU) will be allocated to the scheme. The yearly appropriation for the scheme had until then amounted to about 200 million DKK (approximately 27 million ECU). The scheme budget will mainly be used to subsidize investment projects, but all the other activities and initiatives included in the subsidy scheme for energy savings in enterprises will also be covered by the budget.

One of the new initiatives included in the "green package" was the possibility of subsidizing temporary employment of energy staff members in smaller enterprises with a considerable energy consumption, if the enterprise did not already have the necessary energy expertise.

As this new scheme is a part of the general subsidy scheme for energy savings in enterprises, subsidy payments will be covered within the general budget. Though the general budget may be divided into different subsidy categories, it has not been considered necessary yet to make a special budget for the energy staff member scheme.

The "green package" was notified for the EU Commission and approved by the Commission in September 1995.

3.2. Inspiration from Other Schemes

The idea of establishing a special subsidy scheme concerning employment of staff members for energy efficiency projects originated from a couple of existing subsidy schemes in Denmark: (1) an employment scheme and (2) an environment/work environment scheme.

3.2.1. Employment Scheme for Graduates (the "Icebreaker" Scheme)

A subsidy scheme concerning temporary employment of unemployed graduates in special projects was in operation in 1994-95. The purpose of this so-called "icebreaker" scheme was to encourage employment of graduates in small enterprises that normally would not consider taking on persons with a higher education. The project period would give the graduate a possibility of gathering work experience and the enterprise of discovering that it might benefit from a permanent employment of the graduate or of another person with a higher education. The "icebreaker" scheme was successful in breaking barriers for permanent employment of graduates in small firms as more than half of the graduates employed under the scheme continued working for the firm after the end of the project period.

3.2.2 Environment and Work Environment Scheme

A further inspiration for the energy staff member scheme was a special subsidy programme established in 1994 concerning employment in small and medium-sized enterprises in connection with environment and working environment projects. The purpose of this programme is to stimulate smaller firms to work systematically with environmental and work environment conditions; to increase their competence in this field, if possible by creating permanent qualified jobs in this area; to obtain environmental improvements; and to use environment and work environment activities in a strategically process of development.

In these environment/work environment projects energy aspects have often been included as a natural part of the environmental conditions. With the new energy staff member scheme the enterprises can choose either still to include energy aspects in an environment/work environment scheme or to carry out a separate energy project perhaps in combination with an environment/work environment project as described under section 4.5.

4. The Energy Staff Member Scheme

The new subsidy scheme for employment of energy staff members in enterprises came into force in July 1996. The subsidy scheme is administrated by the Danish Energy Agency.

4.1. Purposes

Just as in the general subsidy scheme for energy savings in enterprises the general purposes of the energy staff member scheme are to promote projects which (1) may result in better energy utilization or energy savings including reductions of CO₂ and SO₂ emissions in an enterprise or (2) may promote a change in the enterprise to more energy efficient technologies and production methods. Other environmental considerations may also be taken, among others reductions of NO_x emissions and resource savings according to life cycle considerations, as well as work environment considerations.

The specific purposes of the energy staff member scheme are to expand the energy efficiency activities of the enterprise by providing and establishing an energy competence within the firm that can work systematically on energy efficiency issues and take care of the implementation of specific energy efficiency measures in the enterprise.

The project must ensure that the knowledge and know-how gathered through the project will stay in and be used by the enterprise after the end of the project.

It is to be hoped that an additional effect might be a permanent employment in the enterprise of the energy staff member after the project period.

4.2. Small and Medium-Sized Enterprises with a Considerable Energy Consumption

The target group of the subsidy scheme is small and medium-sized enterprises within industry and trade which in this context comprise (1) manufacturing industry, (2) agriculture (including horticulture and forestry), (3) building and construction, and (4) private trade and services. Transport, fishing, and the public sector are not covered by the scheme.

4.2.1 Small and Medium-Sized Enterprises (SME)

Only small and medium-sized enterprises that meet the latest definition of SME by the EU Commission in 1996 may receive subsidies under the scheme. According to this definition of SME the enterprises must meet the following conditions:

- (1) not more than 250 employees,
- (2) and either an annual turnover not exceeding 40 million ECU, or an annual balance sheet total not exceeding 27 million ECU,
- (3) and independence: one or more enterprises together that do not meet the definition of a SME must not possess 25% or more of the capital or the voting rights.

4.2.2. Enterprises with Considerable Energy Consumption

A further requirement is that the enterprises must have a considerable energy consumption. Only applications where there is a reasonable relation between the enterprise, its energy consumption, and the costs of the project will be subsidized. No further guidelines as to which enterprises have a considerable energy consumption have been issued. Each project application will be assessed by the Danish Energy Agency.

4.2.3. Joint Projects

More than one SME may participate in the same project. In such a joint project the same energy staff member will be working for all participating enterprises. Joint projects for more than one enterprise will make it possible

for smaller firms to carry out an energy project including employment of an energy staff member, even if they would not be able to do so individually, because a project for one enterprise alone would be too small.

In joint projects it is a condition that one of the participating enterprises is responsible for the project and the subsidy application on behalf of all the participating enterprises. Also, it must be documented to which extent each enterprise is participating in the project.

4.3. Employment of a New Staff Member

Small and medium-sized enterprises often lack staff members with necessary time or competence to work with energy efficiency and energy savings. In order to increase energy efficiency activities and energy awareness in these enterprises, the employment of energy competent persons who would not otherwise have been employed for this purpose is promoted by the subsidy scheme.

In connection with the subsidized project the enterprise must therefore take on at least one new employee.

This new staff member must be employed either as (1) an energy staff member or as (2) a replacement for a qualified employee who will be working on the project as an energy staff member.

The energy staff member must either (1) act in an energy advisory capacity, e.g. engineer, or (2) be involved with the practical energy aspects in the enterprise. The energy staff member may deal with the energy conditions of the enterprise from a technical, operational, and/or economic point of view.

The qualification requirements for the energy staff member concerning education, experience etc. must be determined in each project depending on the project activities. No specific guidelines for qualification requirements have been issued as project activities may vary much from project to project. It is expected that graduate engineers will be employed as energy staff member in most of the projects.

The new staff member must be employed on normal conditions and not as an external consultant. Projects with less than 400 hours of employment for the new staff member are not subsidized.

In order to prevent abuse of the subsidy scheme the new staff member must not have been employed by the enterprise within the last year before employment in the project.

In subsidy schemes like this one free riders will always be difficult to avoid. Each project application will be assessed in order to attempt elimination of free riders if possible.

4.4. Projects

Energy staff member projects must contain an increase in the energy efficiency activities of the enterprise.

Projects may consist of such tasks and activities as:

- (1) collection and treatment of data in connection with energy audits,
- (2) participation in and follow-up on energy audits,
- (3) preparing investment projects,
- (4) planning and implementation of energy management,
- (5) other energy analyses,
- (6) planning and implementation of energy efficient purchases,
- (7) staff training in energy efficiency,
- (8) other activities that may support energy awareness and energy efficiency in the enterprise.

A detailed description of the project must be forwarded together with the subsidy application.

Each project must contain an action plan to ensure that the information and know-how gathered in connection with the project will remain and be utilized in the enterprise after the end of the project.

Project activities are not subsidized, if the enterprise is obliged to carry out the activity because of other legal provisions.

4.5. Combined Energy and Environment/Work Environment Projects

As energy aspects have often been included in the environment/work environment projects mentioned above, the new energy staff member scheme has been co-ordinated with the existing environment/work environment scheme.

Thus it will be possible for enterprises to combine a subsidized energy staff member project with a similar subsidized project concerning employment of staff members working with environmental and working environmental conditions in the same enterprise.

Combined energy and environment/work environment projects may have some advantages for the enterprise: (1) The same staff member(s) may be employed for both projects, (2) the project activities can be co-ordinated, and (3) the energy, environmental, and work environmental conditions of the enterprise can be looked at as a connected whole.

4.6. The Subsidy

Energy staff member projects may receive a subsidy of up to 50% of the project costs approved by the Danish Energy Agency.

The project costs may include total wage costs of a maximum of 400.000 DKK (approximately 54.000 ECU) for new employees working either as an energy staff member or as a substitute for an employee who will be working as energy staff member on the project. A typical annual salary of a qualified engineer with some experience may be approximately 350-400.000 DKK all included.

In addition to the wage costs, certain other project costs amounting up to 25% of the approved wage costs may be included in the total project costs. Among these other project costs are professional consultancy assistance from external consultants, and the participation of the energy staff member in shorter courses relevant for the project.

One of the conditions for receiving a subsidy is that the energy staff member project must not start or the new staff member be employed before the enterprise has applied for a subsidy reservation and received a subsidy promise from the Danish Energy Agency.

At the end of the project the enterprise must deliver a report on the project containing a description of the project development and project results. Also the report must describe how the enterprise intends to continue with energy efficiency efforts on the basis of the project.

The subsidy payment will take place when the project has been implemented, the project report delivered, and all the project costs documented.

However, as some projects may have a long project period, the subsidy scheme contains a possibility for enterprises to apply for partial subsidy payments of up to 60% of the subsidy provided that the corresponding project costs have been paid out and that the project later will be completed as described in the approved subsidy application.

5. What Do We Expect from the Subsidy Scheme ?

As the energy staff member scheme has only been in operation since July 1996, it is still a little too early to predict how successful the scheme will be, that is how many subsidy applications the Danish Energy Agency will receive, how many types of activities the projects will contain, and what effect on the energy consumption of the enterprises the subsidized projects will have.

5.1. Potential Applicants

The target group of the scheme are SME within industry and trade. However, it is difficult to estimate how many Danish SME could be potential applicants in the scheme.

According to a rough estimate there are approximately 7.500 enterprises with 5-250 employees. Of these only 2.600 enterprises have estimated energy costs of more than 300.000 DKK (approximately 41.000 ECU) and only 3.300 enterprises have estimated energy costs exceeding 200.000 DKK (approximately 27.000 ECU). How many of these enterprises meet all requirements in the SME definition is difficult to guess.

5.2. Projects Including Energy Management

It is expected that most of the projects subsidized in the scheme will include activities concerning planning and implementation of energy management in the enterprise.

Energy management is basically a question of focusing on energy and of deciding that energy should be considered a management issue in the enterprise along with economy management, marketing, production, and logistics. However, some key factors are essential to make an energy management project successful:

- (1) the necessary human and economical resources must be allocated to the project,
- (2) the project must be supported by the management of the company,
- (3) draw on the experiences of others, on existing knowledge and tools, or use external consultants if the internal know-how is not adequate,
- (4) appoint an energy manager,
- (5) remember to motivate and train the staff in energy efficiency,
- (6) get information about the energy consumption of the enterprise and present the survey in usable key figures,
- (7) adopt fixed procedures concerning energy issues - and revise them if experience shows that to be expedient,
- (8) energy savings must be seen as a part of a connected whole comprising all aspects of the enterprise.

Experience shows that just by implementing energy management, a typical Danish industrial enterprise with a varied energy use may save approximately 5-10% of the energy consumption. This was one of the conclusions in an evaluation of the first two years of the investment subsidy scheme for energy savings in enterprises.

Further energy savings may be obtained if profitable investment projects identified through the energy management process are implemented.

5.3. Information Campaign About the Scheme

The energy staff member scheme had a slow start, but a targeted information campaign in November/December 1996 has raised the interest for the scheme.

For the information campaign a special folder about the scheme was produced as well as a short article for trade journals. In the campaign information material was sent to industrial and trade organisations, trade journals, energy and environment information offices, registered energy audit consultants, consultancy offices of the power companies, information centres for industry and trade, etc.

Thanks to the campaign the scheme has now been mentioned in several relevant trade journals.

Another way of spreading information about the energy staff member scheme has been through several meetings and conferences for enterprises where the Danish Energy Agency has informed about the new subsidy possibility.

The information campaign has resulted in an increasing interest for the scheme with many phone inquiries to the Danish Energy Agency.

An unexpected experience is, however, that several of the interested smaller enterprises which have contacted the Danish Energy Agency for further information do not meet the independence requirements in the SME definition and thus cannot apply in the scheme.

By March 1997 5 subsidy applications have received subsidy promises from the Danish Energy Agency, and more projects applications are on their way. As expected projects concerning (1) planning and implementation of energy management and (2) identification of future investment projects seem to interest the enterprises.

5.4. Evaluation of the Scheme

Through the project reports which must be delivered at the end of each project the Danish Energy Agency will to some degree be able to get information about the results that the enterprises have achieved through the projects, among others if they have implemented an energy management system, adopted procedures for energy efficient purchases, or perhaps decided to employ an energy staff member permanently.

Another indication of a successful project might be applications from the enterprise for investment projects.

In 1998 an evaluation of the whole subsidy scheme on energy savings in enterprises including the energy staff member scheme will take place. This evaluation is expected to give more specific information on the results achieved in the energy staff member scheme.

6. References

The Danish Energy Package - Green Taxes 1995. The Danish Government.

Energiledelse, Energistyring, Energieffektivt køb - En vejledning 1996. Projekt værktøjskassen.