

DELFLAND ENERGY IN A CHANGING WORLD

Cees J. Remijnse
President Energie Delfland N.V.
Jan A.G. Bekkers
Managing Director Infrastructure Energie Delfland N.V.
Email address: jag.bekkers@energie-delfland.nl

1. INTRODUCTION

1.1. DESCRIPTION OF DELFLAND ENERGY

Delfland Energy is an independent, medium-sized energy company in the west of the Netherlands. It is owned by seven municipalities, the largest of which are Delft and Zoetermeer. It provides electricity and gas to 115,000 customers, heat and CO₂ to about 150 market gardeners and water to 37,000 customers in the city of Delft. (fig. 1) Moreover, Delfland Energy also provides additional services such as energy advice, cogen-lease and maintenance, etc..

The concept of a combined supply of heat and CO₂ is unique in the world.

Combining these products significantly increases the percentage of heat supply because market gardeners would normally fire their own boilers to produce CO₂, thereby decreasing the demand for external heat. Delfland Energy has developed major knowledge in this field.

In 1998, the company had about 400 employees, the turnover was Hfl. 500 mln (240 mln Euro) and the profit amounted to Hfl. 30 mln (14 mln Euro).



fig. 1 Supply area Delfland Energy

1.2. FUTURE DEVELOPMENTS IN THE REGION

In the next five years, a major expansion of about 40% in the number of households will occur, as well as an increase of 800 hectares in market gardening and 600 hectares of light industry. Since district heating will be implemented at the new residential areas, this expansion will not only lead to a major increase in the supply of electricity, but of heat and CO₂ as well. To meet these challenges Delfland Energy has chosen to co-operate with various other utilities, on the one hand for financial reasons, and on the other because the production of heat and CO₂ will have to be increased.

Three major projects are being investigated, which involve a total investment of 0,5 billion Euro:

1 SEON (Clean Energy Enterprise) to cover the expansion of about 23.000 households, 350 hectares of light industry, and 400 hectares of market gardening in the eastern part of the region. Part of this project is a 250 MW district heating power station.

2 ENIM (Energy Supply Innovation and Environment) to cover the expansion of about 13.000 households, 100 hectares of light industry and 100 hectares of market gardening in the western part of the region. This project also includes a 250 MW district heating power station with a heat pump system that is still being investigated.

3 OKEP (Optimisation of Cycle and Exergetic processes) to cover the increased CO₂ demand. The project concerns the daily transportation of 125 tons/hour of CO₂ from the Shell refinery in Pernis to various market gardening areas via an already existing underground pipeline.

2. LIBERALISATION AND REGULATION

As a result of the European guidelines for the liberalisation of the energy market, the Netherlands introduced new electricity regulations in 1998, which are to be implemented in 1999. One of the main issues in these regulations is that utilities must introduce an independent network manager to guarantee non-discriminatory access by every supplier of electricity. The Dutch regulations go further than the European guidelines in the sense that this network manager has to be administratively and legally independent from the parent company. This has far-reaching organisational consequences.

The new gas regulations will probably require only an administrative separation.

The liberalisation of the market will be conducted in phases, which means that the large customers will be free to choose both their electricity and gas providers in 1999. The medium-sized customers will follow in 2002 and the households in 2007.

3. THE DELFLAND ENERGY MISSION

Delfland Energy is a small-scale organisation with an independent position in the energy market. It supplies energy and related services to different customer segments, varying from households to the large-scale market.

First-rate service is its central focus. Every consumer may expect quality products and quality service, at the agreed time and place.

To provide this service, it operates the necessary infrastructure inside and outside the region.

Its skilled, improvement-directed and motivated employees each accept responsibility for realising every agreed arrangement.

Delfland Energy make sure that its customers are more than satisfied!

4. MAIN OBJECTIVES

Within the conditions mentioned previously, such as reliability of the infrastructure, cost effectiveness and following the new regulations, the main objectives of Delfland Energy for the forthcoming years are to:

- 1 increase customer satisfaction
- 2 increase productivity
- 3 increase the solvency ratio.

5. PROGRAMME OF CHANGES

To meet these objectives the Delfland Energy board launched a programme of changes called 'Delfland aan Slag' (DaS, Delfland at bat) (fig. 2) in 1997. Important elements of this programme included: a reorganisation, the introduction of process-oriented thinking with the customer at both the beginning and the end of the process, the introduction of an ERP (Enterprise Resource Planning) system, the introduction of various new HR instruments and a plan to introduce a change in culture, resulting in a more result-oriented approach.

The blueprint for this programme included the following points.

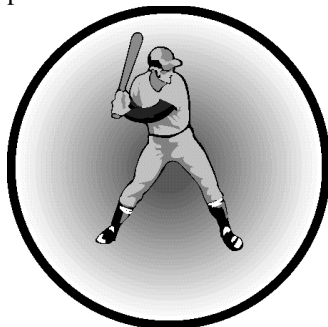


Fig. 2
DaS: Delfland at bat

6. ORGANISATIONAL CONSEQUENCES

The organisational consequences were dictated primarily by the new regulations. In January 1998, a new organisation was implemented. Two new departments were formed, a department of infrastructure and a trade department, both reporting to a holding company. The implementation of a department for commercial activities, EDEAS, had already started due to previous regulations which required the separation of activities that are competitive with non-utility companies.

In the course of 1998, the detailed consequences of the new electricity regulations became clear; this resulted in the formation of a separate, independent, small network management office with a separate Board of commissioners. The network manager would have legal jurisdiction over the electrical network in order to guarantee non-discriminatory access to this network by all parties. He would also be responsible for the network tariffs. The network manager will be responsible to the regulating authorities (DTE Electricity Supervision Department). Fig. 3 shows the organisational scheme.

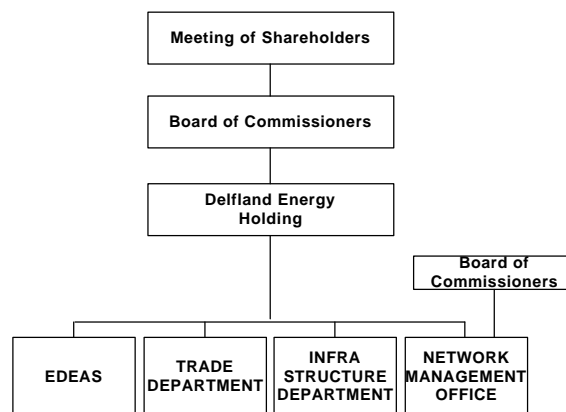


Fig. 3. Organisation scheme

7. FINANCIAL STRATEGY

As described in the introduction, Delfland Energy will initiate some large projects with substantial financial consequences. To properly deal with the financial risks, the company will be split into several private companies. Apart from the reduction of liabilities, this enables each company to find the right balance between risk and access to the external financial market, resulting in a proper solvency ratio. Due to cross-border leasing of the gas and electrical infrastructure, these assets were also divided into separate private companies.

8. PROCESS ORIENTATION

One of the main issues in DaS was to base the new organisation on processes. These so-called Delfland processes are defined in such a way that they begin and end with the customer. This may also be an internal

customer. In this model, a primary process is available to deal with external customers, which then initiates several parallel internal processes. The main process will still be responsible, so that the customer only has one interface (fig. 4). In all 21 of these Delfland processes have been defined. Within the department of Infrastructure, this principle introduced a whole new way of dealing with projects. To support this organisationally, a matrix structure introducing the “two bosses” principle was implemented.

To optimise the processes in the organisation, the PMT (Process Management Team) instrument was chosen. In a PMT, employees of various departments have been assigned the task to solve concrete problems in the process themselves or to make suggestions for further optimisation.

In the PMTs also elements of BPR (Business Process Redesign) are implemented. Shop floor commitment is considered to be a prior condition for these optimisations.

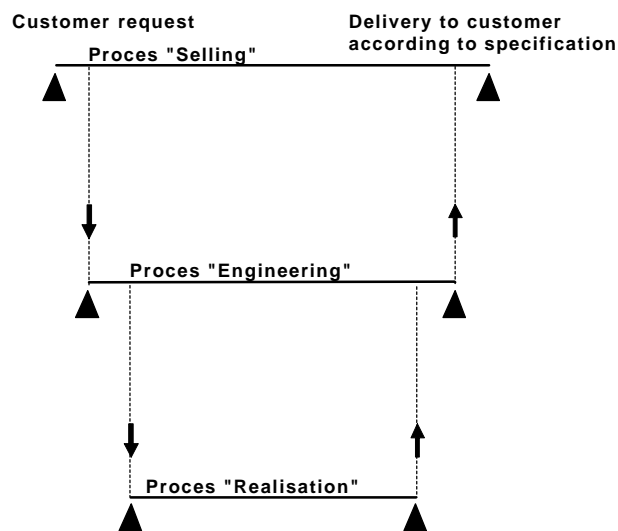


Fig. 4. The main process will still be responsible

9. HR INSTRUMENTS

Human Resource management had to be raised to a substantially higher level to support the programme of changes and the desired new culture. Important instruments were the introduction of a completely new system of evaluation and the development of a systematic approach to training.

9.1. JOB DESCRIPTION

A job description has been created for each function. The description is divided into two major parts, namely a process part in which the process tasks are described, and a competence part describing the skills required. The process tasks are defined in terms of output, not throughput, which supports the change to a more result-

oriented approach. The competence part consists of 8 functional skills and 10 personal skills. For each specific function, a weight has been established for each of these skills.

9.2. EVALUATION SYSTEM

To evaluate employees on the basis of their results in relation to their tasks, a completely new evaluation system was introduced. The system is based on the job description. In the beginning of the year each employee will have a so called ‘planning discussion’ with his manager to determine three output criteria and six competence criteria. The output criteria are derived from the process tasks in the job description and require ‘smart’ criteria, i.e. the criteria must be specific, measurable, acceptable, realistic and be specified with a time scale.

The six competence criteria are chosen from the 18 skills mentioned in the competence part of the job description. During the year there will be at least one ‘progress discussion’ and at the end of the year an evaluation discussion will be held. On the basis of the latter, the manager will evaluate the employee. This results of this evaluation help determine the employee's compensation.

The evaluation system is also as effective instruments to link employee goals to the company goals.

9.3. TRAINING SYSTEM

Another important HR instrument is the systematic inventory of the education and training needs in relation to the required skills mentioned in the competence part of the job description. In 1998, a training plan was formulated and the inventory began in 1999. An important change in the company culture is that education and training are expected to occur continuously, irrespective of age, and are considered to be part of the regular work. This also strongly enhances personnel's employability.

10. MULTIDISCIPLINARY WORKING

An important measure to improve productivity is the introduction of a multidisciplinary working method which will initially be implemented for the combination of gas and electricity and at a later stage be extended tot heat. Within the department of infrastructure this implementation is realised by training gas fitters tot do electrical installations and vice versa. This will lead to a considerable productivity increase in the realisation of household connections.

In the management of projects the principle of a multidisciplinary working method will lead to more efficiency and increase customer satisfaction.

11. INFORMATION SYSTEMS

Delfland Energy has always devoted a great deal of attention to supporting processes with information systems. Prior to the DaS programme of changes the successful customer information system HERA and the geographical information system ATLAS had already been implemented; the entire infrastructure was entered into ATLAS in digital form and the project was completed at the beginning of 1999.

The implementation of an ERP (Enterprise Resource Planning) system developed by the Baan company is also an important part of DaS.

Eventually, the decision was made to use the 'projects', 'distribution' and 'finance' modules, with the objective of improving both the quality of the management information and productivity.

The system was implemented in January 1998 and still has a number of problems. Considerable effort is required to enable employees to use the system optimally. Planning and materials supply in particular demand a lot of attention.

12. CHANGE IN CULTURE

The basis for the DaS programme of changes is a change in company culture, which is largely to be achieved by the aspects already described. In order to make the cultural aspect more concrete, the culture was measured with the help of the Multi-Focus Model, which defines the culture of a company using seven dimensions: Tools-Oriented versus Target-Oriented, Internally-Directed versus Externally-Directed, Loose Work Discipline versus Strict Work Discipline, Local versus Global, Open System versus Closed System, People-Oriented versus Job-Oriented, and Acceptance of Leadership Styles. On the basis of specific questions, various groups of employees and management were asked to rate each of these dimensions with a score for the current situation as well as for the desired situation as they viewed it.

This provided images, per company, of both the present situation and the optimum situation.

On the basis of this study, a cultural action plan was defined for all three companies.

A new measurement will be performed at the end of 1999 to ascertain the progress.

One of the major cultural aspects is the commitment to stick to one's promises, expresses in the DaS slogan 'an agreement is an agreement'.

Clearly the cultural change is not itself the target, but only one of the tools for realising the company's objectives.

13. CONTINUOUS IMPROVEMENT: 'RESULT ORIENTED CO-OPERATION'

DaS started in 1997, was implemented as of January 1998 and formally ended at the end of 1998. This certainly did not complete the process of changes. A number of improvement measures are still in progress and, more importantly, DaS is still not 'in everybody's blood'.

Furthermore, a lot of improvement can be achieved by taking small steps in the daily activities.

Therefore, the management has decided to initiate a process of continuous performance improvement under the name 'result oriented co-operation', as a follow-up to the DaS project.

This essentially implies that all employees will be actively engaged in providing possible improvements. This is done according to the 'linking pin' principle, organising separate, supervised brain storming sessions for all teams in the organisation and having each of them establish an improvement plan. Initially, this will be directed towards improving performance with regard to the internal customer. The management team provides the kick-off, which is then followed by the other teams. Eventually, this should lead to an increased quality in the work progress discussions and to a continuous improvement process by everyone.

14. MANAGING THE SPEED OF CHANGE

The last two years have not been easy for the Delfland employees. The 'normal' work continued and the efforts required by the process of changes were an additional burden. Moreover, a significant percentage of the Delfland employees have been working with the company for 20 to 30 years, which makes it difficult to realise a change in culture. Another apparent phenomenon is that a relatively high average age considerably complicates the introduction of automation systems as the ERP system, for example.

For board and management this imply a continuous weighing process in order to balance the process of changes with the speed with which the employees are capable of coping with the changes. Too large a discrepancy between these speeds will prove unproductive and lead to a return to traditional behaviour and work methods.

15. FINALLY

Although it is too early to draw final conclusions, Delfland Energy is confident that with the implementation of the described programme of changes, it will position itself as an independent and reliable supplier of electricity, gas, heat and CO₂, capable of more than satisfying its customers.