

# BIJLAGE 1 EUROPEAN ENERGY COMPANIES: AN INDUSTRY IN SEARCH OF ITS FUTURE

## EXECUTIVE SUMMARY

FINAL RESEARCH CONCLUSIONS FOR ALGEMENE ENERGIERAAD,  
THE NETHERLANDS STRATEGY ACADEMY

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The typical European energy company is a large-scale oriented, autonomously operating concern, with an experimentally, emergent strategic decision making style. This strategic behaviour is unlikely to create the kind of industrial structure required to meet the significant challenges facing the industry, if it is supposed to serve the public goods of universal, cheap access to high quality energy. Furthermore, the overall regulatory tendency of European governmental and public institutions in charge of the energy industry are unlikely to induce a substantially different strategic behaviour, unless they focus on the strategic dynamics of the industry. The research therefore concludes that there is a real danger that the public goods in question for the Dutch consumers and industrial customers, are not optimally served. The task should be to pursue an alternative course of regulatory action to achieve a vibrant, progressive and market leading Dutch energy industry, contributing to the overall competitiveness of the Dutch economy.

### THE CHALLENGES FOR THE EUROPEAN ENERGY INDUSTRY AND THE PREFERRED STRATEGIC PROFILE

Though the energy industry in Europe has largely been liberalized and privatised, the special circumstances of complexity around production and consumption of energy that originally gave rise to its public administration have not gone away. Furthermore, new challenges have added to the complexity, such as medium term pending capacity shortages, convergence with other infrastructure, alternative raw materials or environmental impact reduction. Translating the challenges and the expectation of society towards the energy industry yields a preferable profile of strategic behaviour: to be network-oriented, deliberate-planning and locally focused. The needs of the energy industry are different from the public good, however, which is why their strategic behaviour is mostly the opposite of what that public preference should be. This will be explained in more detail:

#### THE NEED FOR NETWORK-ORIENTATION VS THE NEED FOR AUTONOMY

Due to the profound regulatory and ownership changes in and around the energy companies, the energy companies are generally going through significant internal cultural changes. While adapting to new organization charts, different hierarchies, stricter financial targets, changed objectives, complex competition and many other aspects, the companies remain inward looking to a large degree. Therefore their strategic stance is generally to be autonomous or discrete-oriented.

The need of the public good differ from that. Most of the challenges and expectations of the industry require very high sums of investment. Investment may be needed for expensive research and development to innovate for better solutions, to build new assets, to erect network infrastructure or to change operating systems. The investment sums required for instance for establishing a hydrogen network, to research photovoltaic electricity generation, or to widely introduce the power line, are so large, that they surpass the means of any single energy European company. In order to spread the investment risk among several shoulders, and also in order to make sure, that all industrial players are investing in compatible system components, such a situation typically requires network-oriented industrial structures.

As long as these networks do not emerge, such as was the case for instance in the gas industry of the 70's and 80's, the public goods associated with the necessary high investment will not be served.

#### THE NEED FOR LONG-TERM, DELIBERATE STRATEGIC PLANNING VS THE NEED FOR SHORT-TERM, EMERGENT PLANNING

The quick pace of frequent regulatory change in the energy industry over the past years has created an unstable environment for doing business. Companies were forced in short intervals to consider upcoming choices and opportunities, and fend off threats and dangers resulting from regulatory and ownership changes. Pending regulatory choices left business decisions pending as well. In such an environment, companies cannot help but being short-term oriented and reactive to unfolding developments. This behaviour is furthermore helped by the fact that the

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short-term energy trading markets throughout Europe offered short-term opportunities for superior profits for the skilled trader mentality and for small scale, incremental innovations.

On the other hand, there are various reasons why energy companies should be long term-oriented and deliberate planners of their future, if they want to successfully meet the challenges facing their industry. The key reason is again the expensiveness of the required investments. A power plant for instance is a rather inflexible asset: it cannot be relocated, it cannot be trained on a different fuel, it cannot be made smaller or bigger, it is quite stuck to where and how it is. This is further compounded by the fact, that the economic use of these assets range up to 30 or 50 years, far surpassing any surefooted forecasting abilities of anyone. Investing or maintaining such kind of assets requires therefore "robust" planning. Robustness means, that the asset can be useful even under many different scenarios of the future unfolding, despite the fact that its characteristics cannot easily be changed. A short-term view in planning is unlikely to result in such "robust" decisions. Another reason has to do with the need for network-orientation. The choice of partnerships and network engagements have similar long-term implications for the business, even if in theory they are easier to unravel. But shared investments, jointly operated businesses or commonly agreed upon standards and systems are difficult and painful to separate, often creating de facto lock-ins of the partners involved. Therefore the choice of partnerships, networks and alliances should be carefully deliberated against possible developments in the future, in order to produce again a "robust" choice.

Here again, unless the industry adopts a more long-term oriented, deliberate strategic planning style, the public goods related to infrastructure and asset spendings, or systems innovation, are not likely to realize.

#### THE NEED FOR LOCAL ATTENTION VS THE NEED FOR LARGE SCALE

The production of energy benefits from large economies of scale and scope. Simply due to physical reasons, larger power plants are far more fuel efficient than smaller ones. Furthermore, a network of production assets can be better utilized than a single plant, because the fuel mixes and regional consumption patterns can be better evened out. Thus, there are

significant economies of scale and scope of having a diversified portfolio of production assets. Both, scale and scope economies make it attractive to grow large in size, and benefit from the resulting cost savings. The European energy company's overriding strategic aim therefore, has been and still is, to grow in size.

However, the cost advantages of the economies of scale and scope do not necessarily feed through to the end consumer. The public goods in question are measured from the perspective of the customer, not the supplier. There the picture is different. For better or worse, the European energy market will for decades still feature heritages of its national past. These heritages often create local conditions of assets, infrastructure, customer expectations and habits that require a locally adapted solution. The consumption of energy is also by definition an inherently local affair, bound to a certain geographic location. The use of energy is not like banking for instance, whose services can be consumed via the phone or per internet, but where the back office is located in India. Even though the streams of photons and electrons are in themselves a commodity - they are a local commodity, needing to cater to the local circumstances, tastes and heritages. Furthermore, in the industrial sector, both cost and quality of energy products cannot necessarily be measured in terms of Euro per mwh. Complicated energy mixes, combined with base and peak load needs, require local solutions for optimal cost and quality performance. In the retail sector, it is different segments of the market that can be catered to, in order to enhance the performance of the product. Improvements are thus to a large degree tied to respect and appreciation of diversity.

Therefore, the public good of better and cheaper energy products is much more likely to be served by companies with a local attention span, who are responsive to diversity, than by companies who aim for convergence and global economies.

#### STATIC COMPETITION - THE RESULT OF THE CURRENT INDUSTRIAL STRUCTURE

In summary, the reasons for the observed strategic behaviour of the energy companies, are that they can be most profitable in this fashion, given the

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business dynamics of this market. Overall this leads to a state of static competition, with low degree of innovation, low degree of new entry, and only slow improvements in cost and quality improvements of the products. The industrial structure is such that new investments in assets or innovation usually do not pay. Thus players can enjoy healthy profits on existing assets, with little threat of new entry endangering these profits in the near future.

#### CHOICES FOR THE REGULATORS

The regulators are in a dilemma. If they leave the current unsatisfactory conditions of the market to be sorted out over time by market forces, then they may neglect important public goods. If on the other hand they become active to achieve perfect competition (to achieve elastic marginal cost pricing), they would need to micromanage the industry for creating a level playing field. In this way they would end up strangulating the very same market forces they are hoping to achieve. It also cannot be certain, whether perfect competition would even alter the market dynamics. A third alternative would be to break the modus of static competition and try to induce dynamic competition instead. In dynamic competition, the level playing field becomes less important, as new entrants will be rewriting the rules of the game by introducing new products or new services, or by offering the old products at much lower prices. Dynamic competition can be achieved by motivating specific types of strategic behaviour, in particular a more network-oriented, deliberate planning and locally focussed strategic behaviour.

The regulatory landscape around the world, in Asia, South America, North America and of course throughout Europe has produced any number of regulatory instruments. A detailed inventory of these instruments should be taken, to identify those specific measures which are suitable to motivate a kind of strategic behaviour of companies, where their maximization of shareholder value creation coincides with the maximization of the public value creation.

#### AUTHORS OF THE RESEARCH

This research study was undertaken by the Strategy Academy, a think tank based in Rotterdam, focused on the research and training in matters of


company and public sector strategy. The research was conducted in three phases of desk research, findings discussion and empirical validation from summer 2002 to spring 2003. The lead researchers for the study were Peer Ederer and Prof. Dr. Bob de Wit.

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