

Strategic Reserves of Oil Products

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Guaranteed energy supply constitutes one of the main objectives of public administrations and governments. This is due to the fact that modern societies cannot permit interruptions, however small, to the distribution of energy, due to the effects these would incur on both their long-term development and the day-to-day functioning of society.

The risks faced by energy supply security policies are manifold, and the various reserve management models employed, which form a very important part of assurance, must be geared towards minimising them.

First of all there are risks of a physical nature, in particular those related to the exhaustion of natural resources or isolated interruptions to supply caused by a range of factors. The former must be tackled through long-term diversification and energy-saving policies, as well as through investment in technology in order to gain access to a greater number of sites that have remained inaccessible until now.

However, isolated interruptions depend more upon the circumstances at a given time, either through causes such as natural catastrophes, technical difficulties or purely geopolitical issues. Reserve management systems must deal first and foremost with the latter, since they can affect the functioning of markets in the short term and, as a last resort, may require the mobilisation of significant quantities of oil products.

Secondly, it is possible to detect economic risks derived from the intrinsic price volatility of oil by-products. Episodes of sudden price changes are frequent in oil product markets, and lead to tensions in supply and demand, which can even compromise the security of the system. This risk, with direct repercussions for national economies, is also linked to the geopolitical influence of crude oil and gas markets, and to the discovery of natural reserves. The management of security systems must also include amongst its priorities the influence of different price scenarios and their

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repercussions. This influence, moreover, is difficult to predict in the long term.

Furthermore, social risks consist of the repercussion on day-to-day activities of dependence upon oil products. Specifically, any tension in the supply of oil by-products repeatedly prompts major social protests. This situation has reached an extreme in the last few years, with economic activity in some countries coming to a complete standstill due to the mobilisation of certain groups. This is what occurred in 2000 in the European Union as a result of the transport workers' strike, caused by the level of oil by-product prices, which at the time brought road transport to a complete halt.

Energy supply security measures have traditionally been divided into two groups: those put in place in order to tackle long-term assurance of supply, and those geared towards solving isolated short-term supply problems. Within the first group, the most noteworthy measures are those that attempt to minimise geopolitical risks, of which the most widely accepted is international dialogue, along with those that deal with energy saving and efficiency and the promotion of diversification.

Nevertheless, some risks are intrinsically difficult to forecast and cannot be covered by the above measures. Phenomena such as meteorological catastrophes, sudden disruptions to supply due to technical causes or international terrorism have brought energy markets in a number of recent cases close to an interruption of supply.

Since the 1970s, the oil sector has faced up to this problem decisively. In 1974, as a consequence of the oil crisis at the start of the decade, the International Energy Agency (IEA) was set up, taking the first step towards the coordinated and efficient management of crisis situations. The signatories of this agreement are obliged to maintain stock levels capable of providing ninety days' consumption in accordance with certain technical criteria, in what are termed strategic reserves.

The aim of these reserves is to ensure the supply of oil by-products for a consumption period of at least three months in the event of supply failures, even for countries that do not have their own hydrocarbon resources. It should be pointed out that the countries making up the OECD (whose members are in the IEA) are responsible for 59 per cent of world consumption of crude oil. Yet it has been calculated that their subsoil only contains 7 per cent of world reserves.

The method agreed by the IEA enables its members to operate in markets in a coordinated fashion by redirecting part of their reserves, as occurred when Hurricane Katrina moved through the Gulf of Mexico in 2005. In this case, the IEA freed up two million barrels per day of its members' reserves for a period of almost four months. This alleviated the supply tension in oil markets during this period.

However, the organisation and management of reserve maintenance have not been harmonised, and different methods are adopted in each country. Specifically, it is possible to identify at least two clearly separate systems.

In government models, the administration fulfils the role of stock owner, directly becoming the model manager in all respects (financial, legal and administrative). Nevertheless, in the opposite case it is industry that takes responsibility for most of these functions. There are no worldwide studies on the economic effectiveness of each type, probably because the issue is so critical that economic concerns come second to strategic ones.

Indeed, issues such as decision-making powers and control directly affect national security. As such, in some countries, such as the United States, full control is preferred without the participation of the private sector, as is the case of the Strategic Petroleum Reserve (SPR), set up in 1975. Nonetheless, other countries consider this responsibility to be the function of market operators, seemingly in a search for greater economic rationality. This is true of Great Britain, whose government participates through resolutions from the Department of Trade and Industry (DTI), although potential changes to this system are currently at a discussion stage. However, there is an intermediate model based on the state and private sector assuming co-responsibility through agencies with a mixed composition. This system aims to take advantage of both systems by making it possible to combine tight state control with economic efficiency. The agency model approach produces an organisation which is limited in size, yet which carries out very important functions affecting a whole series of activities such as logistics and crude oil, by-product and financial markets. It is structured to include industry and public administration representatives in its management bodies, backed up by a highly qualified technical team that enables needs to be met in various areas. The following countries have adopted this model: Austria, Belgium, Denmark, Finland, France, Germany, Hungary, Holland, Portugal, Spain and Switzerland, while the rest of the IEA's twenty-eight member countries have adopted systems that do not involve state agencies, and hand control exclusively either to government (USA, Slovak Republic, Czech Republic and New Zealand) or to industry. Strategic reserve management models have been very efficient since their creation, and have played a major role in recent episodes. However, new challenges arise that must be met if the system is to be maintained at an optimum security level. The economic influence of the various models, the need for additional coordination as a

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result of the changing geopolitical landscape and the challenge of energy diversification are all issues aspects that have recently led to new approaches. Further consideration must therefore be given to this question, in an attempt to assess new criteria for the adoption of different models, and not only from a strategic point of view. First of all, economic factors have a bearing on the competitiveness of the oil industry, and affect citizens insofar as the associated costs are transferred to the end price. That is why the decision to adopt one model or other must also take this concern into account. It is necessary to put in place a system that is reliable and flexible for decision-taking, but which in turn is economically efficient and transparent in terms of cost. State agencies are a good way of tackling this problem. By way of example, the cost of maintaining the reserves of the Spanish agency Cores since its start-up in 1995 has been 998 million euros, giving an average annual cost of 1.8/m³ of product sold in Spain. Meanwhile, the new geopolitical landscape and its influence on the different models of strategic reserves must be dealt with. The EU in particular has implemented several approaches to tackle these problems, generating greater coordination between its countries in addition to that fostered by the IEA. Specifically, the latest edition of the Green Book, COM (2006) 105, proposes several measures geared towards improving the security of energy supply, pointing to the setting up of supranational bodies. The feasibility of these new measures should be studied in greater depth. Last of all, the influence of energy diversification, and in particular the contribution of biofuels and natural gas, should be appraised. As regards biofuels, the firm commitment by many countries to their promotion has raised some doubts over their influence on the reserves system. The long-term storage performance of these products, which in addition depends on the raw materials used to manufacture them, has encouraged organizations in charge of reserve maintenance to voice caution. An in-depth study of the reality of this performance capacity must be carried out, while, in the meantime, the equivalent maintenance of mineral hydrocarbon reserves should be required with the aim of not compromising the security of the system. Meanwhile, the penetration of natural gas within overall energy usage and its peculiarities in terms of storage also make it necessary to reassess strategic reserve models. It is essential to promote the search for underground storage sites for natural gas in suitable geological formations. These sites also require corresponding logistics facilities. The extension of LNG plants has proved to be an efficient measure in ensuring energy supply in this respect.

In conclusion, it can be stated that guaranteed energy supply is a key factor in the development of our society, while the policies implemented to build and maintain strategic reserves have been a key element in the oil sector. The mechanisms developed over the years as a consequence of these policies make it possible to deal with episodes of tension in short-term

markets that would be impossible to mitigate with traditional measures of global energy politics. Nevertheless, it is crucial to move towards more advanced management concepts, in which state agencies bear a special value since they enable the advantages of exclusively state or private models to be combined. However, this issue merits an in-depth study. Finally, it is essential to tackle the changes that are occurring in energy markets, in particular the diversification already produced by natural gas or biofuels. All of this must be evaluated while acknowledging that diversification, a policy that holds great long-term interest, is not a response to short-term market tensions, which must clearly be dealt with through mechanisms providing immediate action.