

# GOVERNMENT TOOLS & EMERGENCY PLANNING

IEA GAS SECURITY WORKSHOP

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MINISTERIO  
DE INDUSTRIA, TURISMO  
Y COMERCIO

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# GOVERNMENT TOOLS & EMERGENCY PLANNING

- I. Design of a security of supply policy in the gas sector
- II. Setting the framework. The case of Spain
- III. Designing the system. The case of Spain
- IV. Some conclusions. The experience of Spain



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# I. Design of a Security of Supply policy in the gas sector (I)

- In general terms, to design a Security of supply (SoS) policy it is necessary to:
  - Identify the risks.
  - Determine the optimum/acceptable level of Security of supply.
  - Identify the available instruments.
  - Design the institutional and regulatory framework.
  - Design how to proceed in the occurrence of unexpected and exceptional events.



# I. Design of a Security of Supply policy in the gas sector (II)

- In the process you have to consider any particular issue or restriction that may apply. For instance:
  - Compatibility of the SoS policy and the process of liberalization.
  - A high rate of growth in gas consumption.
  - The existence of LNG and pipeline supplies
- And at the same time be careful to deal simultaneously with the different kinds of “security” involved.
  - According to the nature of the different risks (technical, political, economic or commercial...)
  - According to the time period (long term vs. short term)
  - According to the scope of the event (local or internal vs. global or external)



# I. Design of a Security of Supply policy in the gas sector (III)

- The goal is to organize the Security of Supply policy in an extensive and coherent system to cover all the risks.
- In general terms the system should include:
  - *Preventive measures* (Measures to reduce the probability of occurrence of the events associated to the risks)
  - *Operational Measures*. (Measures to compensate the effects of the event)
  - *Emergency Procedures* (Restrictive measures and rationing schemes)



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# II. Setting the framework. The case of Spain

## Example of Basic Risks involved in the import of LNG

	<i>Failure of production facility</i>	<i>Closing of Port of Origin</i>	<i>Closing of Port of Destination</i>	<i>Failure of entry facility</i>	<i>Failure of transport pipeline</i>
<b>LNG</b>	Gas Low prob. Medium impact	Gas High prob. Low impact	Capacity High prob. Low impact	Capacity Low prob. Low-medium impact	Capacity Low prob. Low-medium impact

**Kind of risk:** lack of gas or restriction in capacity

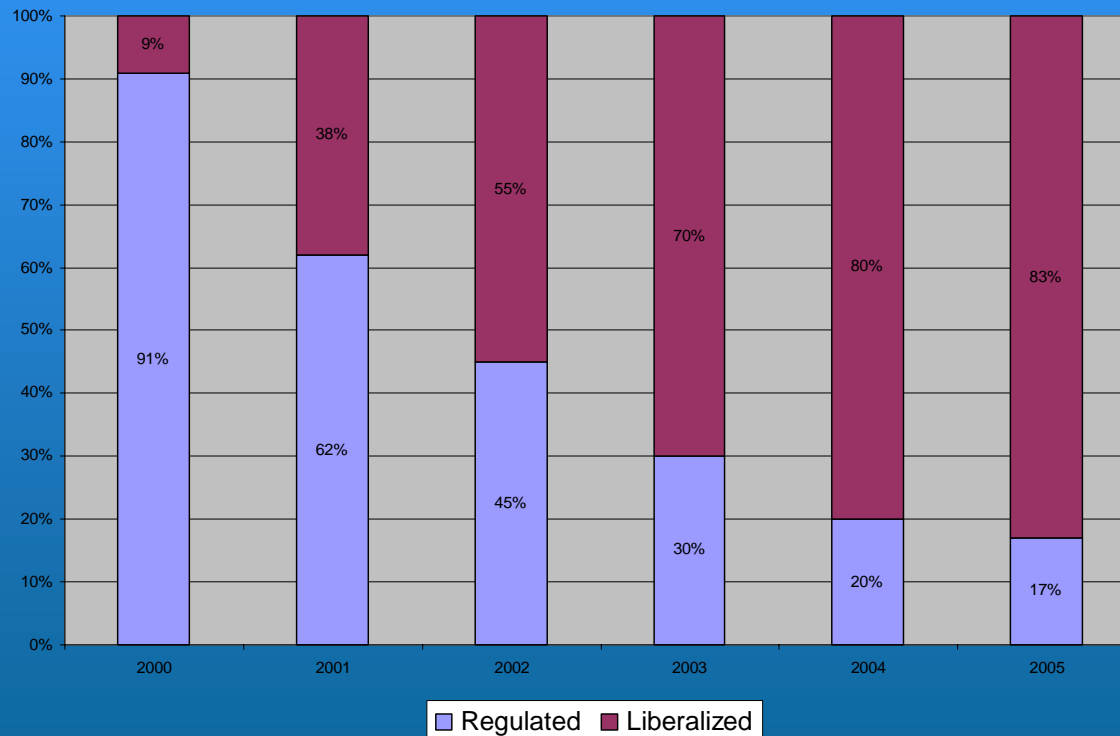
**Probability of the event:** high, medium, low

**Impact:** high, medium, low



# II. Setting the framework. The case of Spain

Market share liberalized vs regulated



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  - A. *Preventive measures*
  - B. *Operational Measures*
  - C. *Emergency Procedures*
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# III. Designing the system.

## A. Preventive Measures

Planning the facilities of the basic network:

- Different types of infrastructures in the design of the basic Grid:
  - To enlarge the capacity and to diversify the entry points
  - To enlarge the transport capacity and diversify transport routes
  - To increase the area covered by the basic network
- Specific criteria to determine the size and number of the facilities of the basic network:
  - Supply of estimated annual peak demand, including electricity generation
  - Supply of conventional labor-day winter demand with total failure of one entry point (n-1)



# III. Designing the system.

## A. Preventive Measures

Determining the minimum conditions for the supply of gas.

- Minimum requirements for the quality of gas, conditions of delivery, safety standards for installations, conditions for interruption...



# III. Designing the system.

## A. Preventive Measures

Setting obligations of holding security stocks.

- Subjects obliged: Traders and qualified consumers
- Minimum stocks to hold: 35 days of firm consumption
- Surveillance entity: CORES, a specific agency, a public corporation with its own legal status, carrying out its activity under the Private Law. The activities of the Corporation are subject to the supervision of the Government.



# III. Designing the system.

## A. Preventive Measures

Setting obligations of diversification of countries of origin for the imported gas.

- Subjects obliged: Traders and qualified consumers
- Maximum amount of imports from the main supplier: 60%
- Surveillance agency: CORES.



# III. Designing the system.

## A. Preventive Measures

### Monitoring of Gas Stocks and Diversification



# III. Designing the system.

## B. Operational Measures.

### Regular operation

- Regular operation is defined in the network code on the basis of a set of basic parameters within a specified range:
  - Gas Demand
  - Available capacity at the entry points of the system
  - Operational situation of the main facilities of the system.



# III. Designing the system.

## B. Operational Measures.

### Seasonal Operation=>Winter procedures

- The winter procedures (November-March) aim to modify some of the conditions for the operation of the system in order to cope with seasonal consumption and cold waves
- Winter procedures 2005-06:
  - Setting minimum levels of liquefied natural gas in tanks (three days of the reserved capacity)
  - Setting limits of stocks in tanks to declare situation of exceptional operation in plants by the Technical System Operator (TSO).
  - Setting limits to the free extraction capacity from the underground storage (reserve 60% of the extraction capacity for cold waves, seasonal consumption or emergencies)



# III. Designing the system.

## B. Operational Measures.

### Exceptional operation

- Declared by the TSO
- Three levels: Level 0, Level 1, Level 2.
- The change from one level to another is associated to the success of the measures adopted to correct the event that restricted the normal functioning of the system.
- Basically, the instruments are those that provide flexibility in terms of supply to the system and for instance in level 2 the last measure is to cut local firm consumers according to criteria of social priority.



# III. Designing the system.

## C. Emergency Procedures

### Emergency Planning and Emergency Organization

- A National emergency plan is prepared by the Technical System Operator (TSO) encompassing and coordinating emergency plans of the traders, qualified consumers, transporting and distribution companies.
- Actions in a situation of national emergency are coordinated by the National Energy and Mining Resources Committee (CSREM)
  - Established by a decision of the Council of Ministers on 15th January 1988
  - One of the 9 sector working committees that form the National Committee of Civil Emergency Planning (CNPCE)



# III. Designing the system.

## C. Emergency Procedures

### Emergency situation and emergency measures

- Emergency situation requires the declaration by the TSO of danger for the safety and security of people, facilities or the entire system and the need for the release of strategic stocks.
- The emergency measures are:
  - Release of Strategic Stocks
  - Rationing of gas to firm consumers according to priorities set in emergency plans
  - Export restrictions
  - Modify the conditions to operate in the gas market
  - Any other measures as recommended by relevant international organizations



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## IV. Some Conclusions and Lessons Learned?

- To prevent is almost always better, if possible and affordable.
- A right evaluation and fair distribution of costs of a SoS policy in a liberalized system is very difficult, but very important as it may limit the availability of instruments or the effectiveness of them.
- The degree of liberalization determines the instruments available and sometimes even the time of using them and their usefulness.
- Some temporary measures could be needed while the new liberalized system is fully established. Flexibility of the system is critical to avoid conflicts between the goals of economic efficiency and SoS.





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