

## TASK XIII: MARKETPLACE OVERVIEW

### **Background:**

In October 2003, the Executive Committee of the International Energy Agency (IEA) Demand Side Management Program approved a new project, entitled Task XIII. Twelve countries agreed to participate in the project, with the United States (via the US Department of Energy) in a lead role.

The objective of the project is to deliver necessary methodology, business processes, infrastructure, tools and implementation plans that will facilitate robust demand side participation in participating country electricity markets. The project will produce a “State of the Practice” database, economic valuation tools, and methods to enable participating countries to implement demand response into their market structures.

The objectives of the IEA DRR project are to:

1. Identify and develop the country-specific information needed to establish the potential for demand response.
2. Perform the market and institutional assessments within participating/member countries needed to set realistic goals for the contribution of DRR to sector objectives.
3. Mobilize technical and analytic resources needed to support the implementation of DRR programs within participating/member countries and track their performance.

### **Marketplace Overview Form Objective:**

The enclosed questionnaire will provide the Operating Agent with a brief overview of each participating county’s marketplace structure and demand response history. This will help the Operating Agent better understand the similarities and differences amongst the countries participating in Task XIII. This request is not intended to be an in depth research project. It is simply intended to be a brief overview to provide basic facts and understanding that can orient the project team and help share basic information across participants.

The Operating Agent will use the information develop thoughtful and thought provoking questions during the data gathering phase of the project.



### **Marketplace Overview Form Organization:**

The following Marketplace Overview Form is organized utilizing a question and answer format. We have attempted to provide sample responses to each question so that you can see the type and depth of information desired.

There are three categories of questions:

1. **Electric Industry:** Basic overview of market structure and market actors.
2. **Demand Response:** Basic overview of demand response efforts.
3. **Market Transactions:** Basic overview of electricity market transactions.

We have provided a form with sample answers to guide you as complete the document.

### **Marketplace Overview Process:**

**Step 1:** Please complete the enclosed form and email it to [rmalme@retx.com](mailto:rmalme@retx.com) by May 31, 2004. We realize that some questions may ask for data that are not readily available, and that some questions may not apply to certain countries. In this step 1, we are requesting that you fill out the "market overview" as best as you can, then in Step 2 we will contact you by phone to discuss any missing elements or questions that were difficult to interpret.

**Step 2:** We will schedule a brief telephone call with each country expert to review your response to ensure understanding. These calls will take place during the first two weeks in June.

**Project Representative and Contact for this Overview:**

Name: Walter Grattieri

Country: Italy

Phone: +39 02 2125 5714

Email: grattieri@cesi.it

Date Prepared: 28 may 2004

**Section I: Electric Industry**

1. Does your country operate as one national electricity marketplace or do you have multiple regional electricity marketplaces?

***There is one national electricity marketplace.***

2. If you have multiple regional marketplaces, how many exist in your country? Please explain.

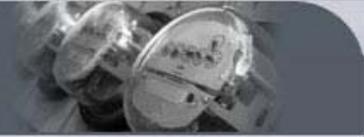
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3. What market actors perform the following functions in your marketplace:  
(Please list and briefly describe)

**a. Generation:**

***i. There are independent power producers, most of them are the unbundled divisions of previously vertically integrated utilities (both national and municipal)***

***ii. Customers with own co-generation***



- iii. **Many end users with back up generators**
- iv. **Imports from abroad (about 6,500 MW)**

**b. Transmission:**

**There are independent transmission companies, below the share of the transmission grid owned by each:**

<b>TERNA</b>	<b>94%</b>
<b>EDISON</b>	<b>3%</b>
<b>AEM Milano</b>	<b>1%</b>
<b>Acea Roma</b>	<b>0.8 %</b>
<b>Others (6 companies)</b>	<b>1.2%</b>

**The system operator (GRTN) doesn't own grid assets, it is responsible for managing power flows over the transmission lines all over the Country.**

**Note:**

- **TERNA, presently fully owned by ENEL (the past National Electricity Board), is soon to be privatized and will merge with GRTN by October 2005.**
- **EDISON is an IPP and competitive retailer (not a distributor).**
- **AEM Milano and Acea Roma are municipal utilities (the franchised territory roughly corresponds to the city borders) with own generation**

**c. Distribution:**

**All distribution lines are owned and maintained by the local distribution company**

**d. Retail customer services:**

**Customers with annual consumption exceeding 100,000 kWh are eligible to choose the supplier of the commodity service on the free market (temporarily the supplier can be the local utility). Smaller customers are supplied by the local utility.**

**e. Reliability management:**

**The national system operator (GRTN) is responsible for grid reliability.**

**f. Other (please describe):**

4. What market actors' work directly with the retail consumers (e.g. distribution company, competitive suppliers, energy service companies, etc)? Please provide brief description of their roles.

***If retail competition does not exist (non-eligible customers), then the customer receives commodity and distribution services from the local utility. If retail competition does exist, the consumer could receive commodity service from a competitive supplier and distribution services from the local utility. Billing services may be bundled with one of these two firms, as is the case when competition doesn't exist, or when this service is offered (or sold) by suppliers of eligible customers, in the other cases it is provided from both of them separately. Metering service is expected to be unbundled and competitively contracted.***

5. Please list key regulatory players and their roles.

***MAP– Ministry of Productive Activities: defines strategic and operational lineguides for the security and efficiency of the National Electricity System***

***AEEG – Regulatory Authority for Electricity and Gas: guarantees competition and efficiency***

***GRTN – Independent System Operator: responsible for transmission grid operation***

***AU – Single Buyer: guarantees energy supply to not eligible customers***

***GME – Independent Market Operator: operates the electricity market***

6. Please list key industry stakeholder groups (e.g. large customer associations, reliability organizations, trade associations, etc.)

***ASSOELETTRICA National Association of Electricity Enterprises consisting of almost 170 firms***

***FEDERENERGIA National Association of Energy Companies (47 members)***

***AIGET Association of energy wholesalers and traders***

***CONFINDUSTRIA Organization of manufacturing and services enterprises (more than 113,000 members)***

***SEVERAL CONSUMERS ASSOCIATIONS***

7. How many commercial, industrial and residential customers exist in your marketplace (add additional customer classes, e.g. agricultural, as needed)?

Customer Class	Number of Customers <sup>1</sup>	Summer Peak Demand (MW) <sup>3</sup>	Winter Peak Demand (MW) <sup>3</sup>	Annual MWhs
Commercial	3.7	N/A	N/A	71,797,700
Industrial <sup>2</sup>	1.6	N/A	N/A	156,204,300
Residential	28.1	N/A	10,700	62,957,600

<sup>1</sup> Millions, 2002 data

<sup>2</sup> Includes agriculture

<sup>3</sup> 2003 System Peaks: Summer 53,105 MW Winter 53,403 MW

8. How many distribution companies operate in your marketplace? Please list the top five largest distribution companies.

Number of Distribution Companies:   189  

Largest Distribution Companies	Number of Customers	Summer Peak Demand	Winter Peak Demand
ENEL Distribuzione	30,000,000	N/A	N/A
Acea Roma	1,000,000*	N/A	N/A
AEM Milano	850,000	N/A	N/A
AEM Torino	400,000	N/A	N/A
ACEGAS Trieste	140,000	N/A	N/A

\* estimate

9. If you have retail competition, how many competitive suppliers exist in your marketplace?

**77 wholesalers in 2002.**

10. If you have retail competition, what percentage of the summer and winter peak demands do competitive suppliers supply?

***Official statistics are available only for the energy traded: in 2002, 115.3 TWh traded on the free market out of 290.5 TWh of total consumption, that is 40%.***

11. What is the forecasted peak demand growth rate in your marketplace?

***GRTN has published a “cautious” forecast for a “very hot” summer in 2013, according to which an average growth rate of 4% is expected (+ 25,400 MW with respect to the winter 2003, peak is moving from winter to summer).***

12. What is the projected supply (capacity) growth rate in your marketplace?

***Presently MAP has granted permissions for 18,000 MW of new power: this figure is increasing at a sharp rate as there are requests of permission pending for more than 50,000 MW. Up to 2008, we estimate an average growth rate a little more than 8% p.a.***

## **Section II: Demand Response**

13. Has demand response been attempted in your market? If so, please provide brief description of relevant successes and challenges.

*Historically, Time of Use rates have been applied for decades. With a few exceptions, ToU rates are today generally applied for billing energy and wire service to customers exceeding 500 kW (both eligible and not-eligible). In some cases time periods for energy and wire service don't correspond.*

*Interruptible supplies are possible for customers in excess of 3 MW. Total interruptible power is about 3,500 MW, half of which without notice. Customers complain about too frequent interruptions.*

*Smaller customers (up to 15 kW of demand) have demand limiters incorporated into the meter, that switch power off when the contractual demand is exceeded for a given time. With new electronic meters it will be possible to reset the switch-off threshold via a remote signal.*

*The tariff mechanism introduced by the Regulator since January 2000 allow distributors to offer ToU rates to non eligible customers with enabling technologies (i.e: electronic meters). The number of distributors offering ToU rates has grown in the last two years, together with the coverage of the different customer classes.*

14. Which market actors might be most supportive of demand response in your marketplace? Please explain why.

*The Regulator (AEEG): generally speaking to increase the efficiency of the market; more specifically: to enhance system reliability and lower the probability of service interruptions; to lower prices at the margin and mitigate price volatility; to mitigate market power of generating companies; to relieve congestion in transmission and distribution networks, thus reducing congestion costs, delaying the need for network updates; to provide reserves and other ancillary services*

*The Traders: to retain and attract new customers by keeping low the cost of service.*

*The suppliers: to hedge price risks by creating callable quantity options and by creating appropriate price offers for those customers who are willing to face varying prices*

*Customers: to manage load as a way to save on energy bills*

15. Which market actors would be the most likely to offer demand response services to the consumer? Please explain why.

*Some Traders are already equipped to continuously monitor their customers' consumption, they're likely to offer demand response services.*

16. Can demand response resources participate in electric market transactions today? If so, how?

***Market transactions will follow provisory rules up to the end of 2004, in this period demand cannot participate in the market. From the next year on , it will be possible for demand to make offers on the energy (day ahead, and adjustment) markets,. The present market rules prevent demand participation to the balancing (and reserve) market.***

17. What are the most important objectives for demand response? Please explain.

***Increase reliability.***

***Balance the supply side market power.***

***Have a suited geographical distribution of demand response so to use it to solve local congestion problems.***

18. Do energy consumers see different electricity prices at different times of the day?  
(Please explain in terms of how many and by class or size)

***See question 13.***

19. Have any energy efficiency and/or a demand response market potential studies been completed in your marketplace in the last ten years? YES / NO

If yes, please provide a reference location or attach the report.

***ENEA (National Board for Energy and Environment) is in charge of this, see [www.enea.it](http://www.enea.it). Energy Efficiency commitment in effect for electricity and gas distributors serving more than 100,000 customers.***

## **Section III: Market Transactions**

20. What type of electricity products traded in your marketplace (e.g. 5-minute spinning reserve, 30-minute non-spin, day ahead, capacity, hourly energy/spot, etc.)?

***Energy is traded at the day-ahead market and at the adjustment market, where price and quantities for every hour of the next day are established. Other products referring to reserve and real time operation are traded at the balancing market.***

21. Do you have a central trading exchange in your marketplace?

**Yes: GME.**

22. How are reserve margin targets established in your marketplace? Please explain.

***The ISO (GRTN) calculates the reserve requirements for every hour of the day, receives offers (through the Market operator –GME) and selects the resources needed, both day ahead and in real time.***

23. What is the current reserve margin target in your marketplace?

***About 3000 MW of “true” capacity (not accounting for interruptible customers).***

24. Does your market currently exceed or fall short of the current reserve margin target? Please explain.

***The system is short of reserve. In the period 1st March - 31st December 2004, GRTN has individuated 65 on average critical days, and 63 highly critical days.***