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SAFE – ENERGY RESOURCES AND ENVIRONMENTAL SUSTAINABILITY

The second phase of the Emissions Trading Scheme: perspectives, threats and opportunities for the industry

With the submission by Member States to the European Commission of their National Allocation Plans for the period 2008-2012 the Emissions Trading Scheme entered into its crucial second phase. Italy has recently submitted its National Allocation Plan to the EC and, compared to the first period Plan (2005-2007), it is characterized by a significant reduction of the emissions. It is worth mentioning that the European Commission recently adopted a firm position by "rejecting" the National Allocation Plans submitted by various Countries such Germany, Greece, Ireland, Latvia, Lithuania, Luxemburg, Malta, Slovakia and Sweden.

This new scenario has been discussed at the panel "The second phase of Emissions Trading Scheme: which perspectives, threats and opportunities for Italian industry?" that Safe – Energy Resources and Environmental Sustainability – recently organized at Villa Algardi – Prime Minister prestigious location in Rome. The panel and subsequent round table was part of the Closing Ceremony of the seventh edition of the Post-graduate Programme in Management of Energy Resources, endorsed and supported by International Energy Agency, Ministry of Productive Activities, Antitrust Authority, Lazio Region, Province of Rome, Rome City Council, Assoelettrica, Assomineraria, Unione Petrolifera. The workshop was attended by a large number of representatives from the industrial, institutional and academic world, among them Raffaele Chiulli – Chairman Safe whom illustrated, from the independent observatory of Safe Research Center, how could industry respond to the challenges of energy markets and rising environmental commitments; Camillo Piazza, Secretary – Environment Commission – Deputy Chamber, Corrado Clini – Director General Ministry of Environment, Francesco Starace, Director General Enel and Giulio Del Ninno, CEO Edipower who expressed the energy industry point of view; Luca Alippi – Chairman AIGET and CEO EOn Italia represented the energy traders.

Luca Alippi CEO EOn Italia, Chairman AIGET; **Giulio Del Ninno**, CEO Edipower
Camillo Piazza, Secretary - Environment Commission - Deputy Chamber; **Raffaele Chiulli**, Chairman Safe
Francesco Starace, Director General - Enel; **Corrado Clini**, Director General - Ministry of Environment

At this event also participated representatives of AceaElectrabel; AITEC; AlpEnergie; Arthur D. Little; Atel; Bain & Company; Bonelli Erede Pappalardo; British Gas; Dalmine Energie; Degrémont; Deloitte; Ecodeco; EDF; Edipower; Edison; EGL; Electra Italia; Endesa; ENEL; Energy Coal; ENI; E.ON Italia; Erg; Ergon Energia; ERM; Ernst & Young; ExxonMobil; General Electric O&G; Italtrading; Key 2 People; Pöyry Energy; PriceWaterhouse Coopers; Proger; RGA; Saras; Sorgenia; Terna; Teseco; VOMM; Wärtsilä.

Safe has gained through the years a significant knowledge base and experience of the energy and environment sectors and it is aiming at creating a "virtuous circle" in order to increase the information flow and the awareness on these issues, to share knowledge and to stimulate the interaction between enterprises, institutions and academia. We will try to

summarize the main outcomes from the round table with latest development on the Emissions Trading Scheme and its consequences on European energy markets and on energy intensive industries.

Kyoto Protocol under African skies

The second meeting of the Parties to Kyoto Protocol (COP/MOP 2) and twelfth session of the Conference of the Parties (COP 12) ended last 17 November in Nairobi.
The Conference was attended by six thousand participants from one hundred eighty Countries with the attendance of the former United Nations Secretary-General, Kofi Annan.
After an intense and controversial debate COP/MOP decided that a review of the Kyoto protocol will take place at COP/MOP in 2008. All parties will have to submit by August 17th 2007 their views regarding the scope and content of the review covered by article 9 of the Kyoto Protocol. Next year's COP/MOP will also afford the next steps of the ET, which will be based upon the fourth assessment report of the Intergovernmental Panel on Climate Change to be released in 2007.

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Safe - *Energy Resources and Environmental Sustainability* – is a non-profit association, centre of excellence for energy and environment.

Safe main activities are:
- scientific forums
- workshops
- post graduate education
- scientific research and new technologies
- sustainable development

implemented in cooperation with:
- Companies
- Institutions
- Universities
- Research Institutes
- Professional Associations
- Media

Highly qualified professionals and a well established network, made up by leading public and private companies, as well as academic and research institutes help safe in achieving the following objectives:
- organize conventions and workshops
- organize post graduate education in the energy and environment sectors
- help qualified professionals to grasp challenging and rewarding job opportunities
- promote scientific research and application of new technologies
- facilitate information sharing among institutions, companies and universities
- carry out studies and projects

Raffaele Chiulli, Chairman Safe; **Francesco Starace**, Director General - Enel
Corrado Clini, Director General - Ministry of Environment

Emissions Trading under review

In the meantime the European Commission adopted the Communication "Building a global carbon market" setting out its agenda to revise the EU Emissions Trading Scheme in light of the experience gained since its start up in January 2005. The Commission's aim, as declared, is to spur the environmental impact of the Emissions Trading by expanding it to new sectors and greenhouse gases and to extend its global application as a "key tool" to fight climate change. The revision will also try to give more predictability to investors and strengthen harmonisation by streamlining its application in the various Member States. These and other issues will be extensively discussed with stakeholders before the Commission will make a legislative proposal in the second half of 2007. The "post-Kyoto" changes will be effective in 2013 at the start of the scheme's third trading period.

European Commission's recent actions

Few weeks after the Communication about Emissions Trading review the European Commission rejected 10 second phase National Allocation Plans. Germany, Greece, Ireland, Latvia, Lithuania, Luxemburg, Malta, Slovakia and Sweden will have to cut further the allowances contained in their National Allocations Plans for the second period of Emissions Trading compliance. France decided to withdraw its National Allocation Plan to make improvements. UK is the only Country not obliged to reduce the amount of allocated allowances. The ten member states were assigned a total of 860.1 million allowances every year in the second phase of the EU Emissions Trading Scheme (ETS). These Countries installations emitted in 2005 868.68 million tonnes of CO_2, but several hundred new plants, excluded in the first phase, were included in the second one. This resulted as a strong signal to the market, not only on the overall level of allowances, but also

on how much of the reduction will have to be carried out: EC officials declared also that, as a general rule, installations should be allowed to use JI and CDM credits to supplement their allowance allocation by up to 10%. In assessing proposed limits greater than 10%, the Commission will take into account the effort a Member State is undertaking to meet its Kyoto target. However it is worth noticing that if second-phase reduction targets of National Allocation Plans will be very severe, CO2 prices will probably increase substantially and compliance costs will be higher for all the Member States.

The Italian second-phase National Allocation Plan

Under these difficult circumstances Italy submitted its second phase National Allocation Plan to Brussels, proposing to allocate 209 million allowances per year to its ETS installations, with a reduction of the average annual quantity of 14,1 million compared to the previous plan. According to the new plan the power generation sector receives 100,66 million allowances, 14,52 million allowances are allocated to other combustion plants, 20,06 to refining, 15,76 to production and processing of ferrous metals, 34,65 to mineral industry for a total of 190,75 million allowances. Other 18,26 million are allocated for new entrants, 15,84 of them for thermoelectric plants. The plan allocated 12 million allowances for auctioning, but 10.3 million of these allowances were reserved for Italian coal plants, both existing and new ones. The remaining 1.7 million will be auctioned by all sectors. The 209 million included 18.26 million allowances per year for new entrants. The plan also proposes to allow ETS installations to use credits from Kyoto Protocol's flexible mechanisms up to 25 per cent of the allocation.

The impact of ETS on business activities

The Emissions Trading Scheme has a significant impact on business activities. It impacts direct costs, through an increase of production costs, due to the purchase of allowances. It also impacts indirect costs, especially for the energy intensive industries like those manufacturing paper, glass, cement, steel etc. These industries claimed that, in the absence of a real competition in the European electricity market, power companies are passing on these extra costs to industrial consumers with, as a consequence, a relevant risk of de-industrialisation in Europe. There is also the cost of compliance, since almost every enterprise had to create legal, administrative, and technical structures to face this issue and to search for new skills regarding CO_2 and Emissions Trading matters. Moreover there is also a strategic impact, related, for example, to the location of production plants, to product mix, to restriction of production on the basis of assigned allowances to different installations and different industries. The ETS, considered at first as an "environmental measure", is heavily impacting on all business activities. How is it possible to estimate the effects of such an unpredictable and volatile variable in a multi-year business plan? Do all these extra-costs put at competitive disadvantage the enterprises operating in the European Union with respect to those operating elsewere?

Emissions Trading and energy markets

ETS calls for a new approach to the energy markets. World energy consumption, according to most recent estimates of IEA, will increase of around 2% a year from now on to 2030, reaching 16 million MTOE, and fossil fuels will contribute for about 80% of the increase.

As a result of this growth in energy consumption world CO_2 emissions will increase about 60%. Developing countries will be responsible for around 70% of the growth of CO_2 emissions and many of these countries don't have any emissions' reduction commitment. On the other hand European energy industry is facing a challenging business environment. Huge investments are needed in the European energy sector. Merely on the generation side several hundreds GW of installed capacity need to be replaced in the next 20-30 years. There's still a big question mark on which technologies and fuel to use, and the cost impact of CO_2 emissions is only one of the issues to takle. The reduction of reserve capacity margin is also a major topic; this could bring as a consequence greater volatility and, in the long term, higher market prices. Security of supply is also a critical factor, because the reliance of the European Union from non EU Countries will probably grow. Energy cost is a key competitive issue for industry, particularly for European energy intensive industries. These industries compete internationally and may not be able to pass on to their customers the increasing energy costs, due also to Emissions Trading, applied only in the EU, without risking significant reductions of their market share. Despite the significant progress already achieved towards liberalized electricity and gas markets, the current levels of competition both within Member States and across borders are insufficient to ensure competitive prices.

Energy markets and CO_2 emissions

The Italian thermoelectric sector has recently undergone a remarkable renovation process which required significant investments in new high-performance CCGT power plants. Natural gas has become the primary fuel and the average efficiency of Italian power plants has increased remarkably, with a significant reduction of specific CO_2 emissions. In the last few years, Italy has become, on occasion, an electricity exporter, making even harder for our Country to reach its emissions target. The gap between the cap and the actual emissions is meant to grow up from about 10 million tons a year in the first period, to over 30-35-40 million of tons a year in the second period resulting as a very likely pass-through of CO_2 cost to electricity prices. In this difficult context not only energy intensive industries but also energy traders pay the price of being in the middle of the value chain between producers and consumers, through higher risks and uncertainties and sometimes reduced profit margins.

Safe team and partecipants of the 7th Master Safe

The Emissions Trading Challenge

The implementation of the Emissions Trading Directive is probably losing on the way the original objectives. Emissions' reduction targets should have been achieved through improvements in efficiency and investments in innovation, while the market mechanism underlying the scheme would have sent correct price signals. The distance between the ETS original targets and the actual outcome becomes evident with over-allocations in Countries such as France, Germany and Denmark. The official EU data published in May 2006 showed that a group of Countries, including large emitters like Germany, were left with 44.1 million tonnes extra CO_2 allowances for the year 2005 and, of the EU major emitters, only the UK exceeded by 30 million tonnes its cap. The results were a carbon price crash and loss of credibility for the EU scheme. Early indications show that some Member States are planning again over-generous allocations for the second trading period, apparently without violating any rules. This is possible because the Directive requires to establish national caps in the absence of benchmarking for the different technologies and different sectors. On these premises the ETS may possibly turn out to be a bias factor for industrial enterprises operating in different sectors and in different EU member states.

Certainly CO_2 will definitely be a key driver for many business activities in the next years. Companies will need to develop strong competences with dedicated resources to put in place efficient energy management organizations, processes and systems, to build up market intelligence, access to unbiased information and to define comprehensive energy and emission strategy including risk policy. Training and developing new skills and professionals is therefore essential and Safe aims at playing an important role as "centre of excellence for energy and environment", training young talents to help companies and institutions to deal with such complex and challenging issues.

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Post-Graduate Programme in "Management of Energy Resources"

After the success of the previous editions Safe - Energy Resources and Environmental Sustainability - organizes the Post-Graduate Programme in "Management of Energy Resources" with the technical contribution and support of leading Companies of the Energy sector and in co-operation with prestigious Italian and foreign Universities and Government Institutions.

This initiative had in the previous editions the endorsement and support of the European Commission, the International Energy Agency, the Prime Minister, the Ministry of Productive Activities, the Ministry for the Environment, the Antitrust Authority and the Rome City Hall.

The Programme is designed to develop advanced technical skills in exploration, production and management of energy resources, with a strong environmental focus, and the relevant strategic, economic and legal framework for such activities. The Programme is addressed to graduates and to professionals operating in the energy sector and stimulates the research and the application of new technologies.

This initiative promotes the communication between the Operators, both private and public, the Central and Local Authorities and represents a gathering point between Industry, Academia and Government Institutions.

The course's Director is Dr. Raffaele Chiulli, Chairman of Safe.

The Programme spans nine months, with a total of more than 600 hours of tuition, including lectures, meetings with top management, seminars, practical exercises, field trips, workshop and visits to operational sites.

Post-graduate programme headquarters' is in Rome.

Lectures are given by a high profile group of professionals and managers from Energy and Service Companies, Institutions officers and professors. Lectures will be implemented with practical case-studies and field visits. The participants will therefore have the opportunity to experience the operational reality of the Energy Industry.

There are 25 places available to graduates who have obtained their qualifications from either an Italian or foreign University.