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## COMMITTEE ON INDUSTRY, RESEARCH AND ENERGY

*Brussels, 21 November*

### MINUTES OF THE DELEGATION TO FRASCATI AND MILAN, ITALY

**27-29 OCTOBER 2008**

#### **Monday 27 October 2008**

##### ***11:00-12:00: Visit to ENEA (Italian National Agency for New Technologies).***

Dr. Gaetano Maurizio Monti, Director of the Frascati Research Centre welcomed the Delegation and briefly described the major ENEA R&D activities: nuclear fusion, laser technologies and particle accelerators as well as characterisation and protection of the environment.

Then Dr. Alberto Renieri, Director of the Department of Nuclear fusion and fission and related technologies gave an overview of the ENEA research centres and their activities related to both fusion and fission.

Dr. Aldo Pizzuto, Head of the Research Unit presented ENEA's thermonuclear fusion activities. Fusion is seen as the long term energy solution and ENEA, with about 50% of its personnel working in fusion, is an important part of the roadmap of ITER. At present thermonuclear fusion in ENEA is following a 10 year programme of physics and technology to pursue this roadmap. About 5000 persons/year and 850 Mio€ are committed to this programme, which include:

- ✓ Exploitation of the Frascati Tokamak Upgrade (FTU) for physics research
- ✓ Theory and modelling
- ✓ Diagnostics (FTU and ITER)
- ✓ Inertial fusion (keeping in touch with developments)
- ✓ Steady state problems

ENEA's Fusion Division participates in the design of and has made substantial contributions in the fields of superconductivity, plasma-facing components, neutronics, safety, remote handling and physics.

Given the close relationship and work with ITER, ENEA would like to become a satellite of ITER.

***12:00-12:30: Visit to the Frascati Tokamak Upgrade***

Dr. Giuseppe Mazzitelli, Head of the FTU Plant accompanied the Delegation to visit the FTU

FTU is a medium-size tokamak machine with a high toroidal magnetic field (80,000 Gauss). For such a high field, a continuous current of 37,800 Ampere per 1.5 seconds has to pass through the toroidal windings. As all the FTU windings are copper coils, their resistivity has to be lowered in order to considerably decrease dissipation through the Joule effect and hence avoid damage to the coils. The only way to do this is to constantly keep the coils at the operating temperature of liquid nitrogen, that is, about -196°C.

***12.30-1:30 Visit to the Superconductivity Laboratory***

The Superconductivity Section of "Fusion, Tecnology and Nuclear Protection" department of ENEA at Frascati has been doing R&D in the field of applied superconductivity for more than 30 years.

The main features concern the study and improvement of superconductor materials at "high" and "low" "critical transition temperature"; the development and characterisation of superconducting devices, strands and cables; the design of high-field magnets and conductors for large-scale applications and experimental activities to study on stability and on operating limits of conductor and coil prototypes.

Since 1985, the Superconductivity Section participates to the ITER. ENEA has contributed about 25% of the European R&D activities on superconducting magnets for ITER and is responsible for coordinating the work done in Europe to develop the Nb<sub>3</sub>Sn and NbTi composite superconductors needed for the magnetic coils of ITER.

An amplitude modulated laser radar has been developed by ENEA for periodic in-vessel inspection in large fusion machines. Its overall optical design has been developed taking into account the extremely high radiation levels and operating temperatures foreseen in large European fusion machines such as JET (Joint European Torus) and ITER (International Thermo- nuclear Experimental Reactor).

***14:40-15:30: Visit to the High Energy Physics Research Centre***

Dr. Mario Calvetti, Director of the INFN-LNF presented the INFN (National Institute for Nuclear Physics) having a staff of 1800 researchers working on particle accelerator physics. INFN staff works in 21 Italian universities and about 70% of the research division work for CERN (Large Hadron Collider).

***15:30-16:30: Visit to DAPHNE and SPARC***

INFN major projects are DAPHNE (subnuclear physics research using large high energy accelerators) and SPARC (linear accelerator with four main lines of activity).

***17:00-17:10: Visit to ESA***

Mrs. Simonetta Cheli, head of the Coordination Office of the Director of Earth Observation and Mr. Dieter Isakeit welcomed the Delegation and presented an overview of the activities of ESA ESRIN, the Frascati ESA Centre for Earth Observation.

***17:10-17:30 Presentation of the ESA Earth Observation Programme***

Dr. Stephen Briggs, Head of the Science, Applications and Future Technologies Department briefly described the 5 major activities of the programme: ERS and ENVISAT Missions; Earth Observation Envelope Programme; Earthnet/Third Party Missions; Charter on Space and Major Disasters and GEO and GMES. He presented some examples of results from each activity, such as images of the lowest Arctic ice coverage in history or the first observation of regionally elevated CO<sub>2</sub> from manmade emissions.

The successful mission of ENVISAT launched in 2002 and expected to operate until 2010 has offered major scientific results in climate change (sea level rise); atmosphere (air pollution monitoring); polar areas (sea ice motion), oceanography (chlorophyll concentration) and tectonics (identification of blind tectonic faults).

The science strategy for the future of the Living Planet Programme includes launching a steady flow of missions to address key issues and provide the infrastructure for efficient satellite data exploitation. A brief description of the main Earth Explorer missions was presented as well as the main aspects of the rationale for the proposed ESA initiative on climate change.

***17:30-18:10 Demonstration of the Earth Observation Missions Data Control Centre, Artemis antenna and GOCE virtual reality simulator.***

The virtual reality theatre was presented by Mr. Rune Floberghagen, GOCE Mission Manager, Mr. Alessandro Ciarlo, ESRIN Facility Management and the EO missions Data Control Centre by Mr. Gunther Kohlhammer, Head of the Ground Segment Department.

***18:10-18:30 Perspectives of ESA/EU Relations***

Dr. Volker Liebig, Director of the ESA Observation Programmes and Head of ESRIN spoke by videoconference about the role of the EU in the development of future Earth Observation activities of ESA.

There followed a lively debate with the participation of Mr. Chichester, Mr. Guidoni, Mrs. Barsi-Pataky, Mr. Busquin, Mrs. Locatelli, Mr. Langen and Mr. Rübiger.

***19:00-20:00 Welcome address by the Hon. Francesco Paolo Posa major of Frascati and visit to the museum. Dinner hosted by the municipality.***

Major Posa welcomed the Delegation and described how the Frascati research centres have contributed in the past decades to increase the prosperity of the city by bringing investments and highly skilled jobs. Mr Chichester replied in the name of the Delegation thanking the Major for the warm welcome received and expressing the satisfaction of all participants for the organisation of the visit and the opportunity to have a first hand look at the world class research being done at the Frascati centres.

## **Tuesday 28 October 2008 - Milan**

### ***11:00-12:00 Visit to the Scala Ansaldo laboratories***

Mr. Pier Andrea Chevallard welcomed the Delegation to the Scala Ansaldo laboratories, a 20.000 square meter facility where most of the handmade works for the scene productions are made -scenography, sculpture, thermoforming, carpentry works, etc. Dr. Sala, Director of Scenic Productions of guided the Delegation through the set design end set building workshops, stage plastics and carpentry and the wardrobe and costume design facilities.

Speaker: Mr. Chichester in the name of the Delegation

### ***12:30-14:30 Visit to the Design Museum***

Prof. Arturo Dell'Acqua Bellavitis, Vice President of the Triennale welcomed the Delegation and briefly explained the origins of the building and its recent conversion to the first museum dedicated to design in Italy. The Delegation was guided through a brief tour of the museum and of the exhibition "Ferragamo Evolving Legend" by the curator, Dr. Cristina Morozzi.

Prof. Schmid, president of Expo 2015 Scientific Committee and Dr. Grillo, Director of the Expo 2015 presented the plans for the event.

Speaker: Mr. Chichester on behalf of the Delegation

### ***15:00-16:45 Visit to Edison.***

#### ***Panel on 20-20-20 objectives: the Italian case and the nuclear option***

Dr. Roberto Poti welcomed the Delegation on behalf of the CEO of Edison, Dr. Umberto Quadrino who had to leave for an urgent meeting in Rome precisely for discussions on Italy's position on the EC's nuclear energy policy. He also introduced Mr. Manfredi Palmeri, President of the Milan City Council.

Dr. Poti presented the Italian case in regards the objective of 20% reduction in CO2 emissions, describing the relative weight of hydroelectric, biomass and biofuels, wind and solar energy.

Changing the energy generation mix in Italy will mean production of an extra 10.000 Megawatts. This will imply a rebalancing of the energy mix involving a return to nuclear energy which will also help meet the CO2 target. However, the effects won't be noticeable before 2020. Until 2015 gas will be Italy's main energy source.

Prof. Ennio Macchi discussed the Italian options from the point of view of research, in particular, zero emission power plants (renewables, nuclear and carbon sequestration). Researchers seem to be more interested in the last two.

A lively discussion followed on the Italian case and on possible ways of preparing the future, moderated by Mr. Marco Margheri, Head of EDISON EU liaison office.

Speakers: Mr. Chichester, Mrs. Locatelli, Mr. Martin Oar.

### ***19:30. Ispra. Working dinner with the JRC Directors***

Mr. Ronald Schenkel, Director General of the JRC warmly welcomed the Delegation and briefly described the JRC policies and its role as reference centre of science and technology for the

Community. He mentioned some of the JRC competences of particular relevance to the ITRE Committee, namely scientific and technical support energy and transport policies; technology assessment and foresight.

Mr. Chichester replied on behalf of the delegation.

### **Wednesday 29 October JRC Ispra site**

#### ***09:00-11:00 Overview of the Joint Research Centre***

The Director General started the session with the excellent results of the recent ex-post evaluation of the work of JRC and stressed the need for investments to upgrade the Centre's research infrastructures. He mentioned the interface with the European Parliament to find out priorities and concluded by asking the Delegation how the ERC could be more helpful to ITRE.

Speakers: Mr. Chichester, Mr. Busquin, Mr. Rübzig

Mr. Peter Kind, Director of IPTS (Institute for Prospective Technological Studies) described the work of the Institute and in particular the techno-economic research in fields of particular interest to ITRE, such as ex-ante assessment of the impact of first generation biofuels. He described some of the studies on the societal impact of new technologies, such as. radio frequency identification devices, techno-economic intelligence platforms and economic modelling.

Speakers: Mr. Chichester, Mr. Rübzig

Mr. Stephan Lechner Director of the IPSC (Institute for the Protection and Security of the Citizen) explained the work of the institute in support to external security, agriculture and, maritime affairs by means of satellite image processing, web technologies modelling and statistical analysis. He mentioned the work on traceability and vulnerability assessment and on nuclear safeguards and security.

Speakers: Mrs. Barsi Pataki

Mr. Thomas Fanghänel, Director of the ITU (Institute for Transuranium Elements) focused his presentation on the work of ITU on nuclear safeguards and waste management. He described the policy issues and the research challenges involved in the nuclear alternative for Europe. He then presented the research work within the Euratom programme in nuclear waste and nuclear security.

Speakers: Mr. Busquin, Mr. Chichester

Mr. Alejandro Herrero, Director of IRMM (Institute for Reference Materials and Measurements) explained the research work on food safety and on measurement standards to for food testing and illustrated it with various examples from recent food crises. He described the work of the community reference laboratories and their role in restoring consumer confidence.

Speakers: Mr. Busquin, Mr. Chichester, Mr. Rübzig

***11:25-12:30 Laboratory visits***

The Delegation was guided through 3 laboratory 30 minute visits:

1. The European Solar Test Installation (ESTI) with a brief exposition on the SET Plan and Renewables by the Director of the Institute of Energy, Mr. Giovanni De Santi.
2. The European Monitoring and Evaluation Programme (EMEP) with an introduction on the work on Climate Change by the Director of the Institute for Environment and Sustainability Mr. Leen Hordijk
3. Food and consumer products. The work on biotechnology and GMOs was introduced by Mrs. Elke Anklam Director of the Institute for Health and Consumer Protection.

# EUROPEAN PARLIAMENT



## COMMITTEE ON INDUSTRY, RESEARCH AND ENERGY

### DELEGATION TO TO FRASCATI AND MILAN, ITALY

27-29 October 2008

#### LIST OF PARTICIPANTS

##### **Members of the European Parliament:**

<i>Josep BORRELL (PSE)</i>	<b>NO</b>
<i>Philippe BUSQUIN (PSE)</i>	<i>all 3 days</i>
<i>Giles CHICHESTER (EPP-ED)</i>	<i>all 3 days</i>
<i>Christian EHLER (EPP-ED)</i>	<b>NO</b>
<i>Werner LANGEN (EPP-ED)</i>	<i>all 3 days</i>

##### **Members hors quota:**

<i>Etelka BARSÍ-PATAKI (EPP-ED)</i>	<i>all 3 days</i>
<i>Umberto GUIDONI (GUE/NGL)</i>	<i>27/10</i>
<i>Romano Maria LA RUSSA (UEN)</i>	<i>28+29/10</i>
<i>Pia LOCATELLI (PSE)</i>	<i>27+28/10</i>
<i>Cristiana MUSCARDINI (UEN)</i>	<i>28+29/10</i>
<i>Paul RÜBIG (EPP-ED)</i>	<i>all 3 days</i>
<i>Patrizia TOIA (ALDE)</i>	<i>28/10</i>

##### **Staff of the ITRE Secretariat:**

Luis Martín Oar (Head of unit); Marisa Pacios

##### **Interpreters: in EN, DE, IT**

Caterina Balasso; Elspeth Smithson; Yves Tychon; Irma Santi; Carla Battilana-Woelker ; Neil Longthorne

##### **Political Groups Staff:**

Silvestro Latella; Edina Toth; Giedre Svetikaite

##### **Representative(s) from the EP Information office in Milan**

Maria Grazia Cavenaghi-Smith