OWEMES, the Italian Association, for Marine Renewable Energies in the Mediterranean and European Seas, is responsible of the organization of the Workshop.

POTENTIAL AUDIENCE

- Equipment Manufacturers and Suppliers;
- Engineering Companies, Consultants/Promoters;
- National Research Centres and University Labs.
- National, Regional, and local Authorities and Policy Makers;
- International Authorities, Associations;
- Financial Companies, Investment Banks, Insurance Companies.

DEADLINES

Abstract deadline: 5 September 2011

Paper acceptance communication: 20 September 2011

Programme: 30 September 2011

Full Text paper presentation: 24 October 2011

A specific web page is available at the site:

http://www.owemes.org

Organizing Committee:

G. Celentano – Enea; C. Delmirani – GSE; F. Fontana - Enea; G. Gaudiosi – OWEMES; G. Grasso – Columbus; L. Martini – RSE; C. Padiglione – OWEMES; F. Valenza – OWEMES.

Invited Technical Committee:

J. Cave – Hydro Quebec; A. Della Corte – Enea; S .Elia – Univ. Roma; R. Flukigher – MANEP; G. Gaudiosi – OWEMES; G. Grasso – Columbus; L. Maguire – AMSC; L. Martini – RSE; J. Martinez – IREC; P. Masson – AML; R.Mikkonen – Tempere Univ.; N. Pupeter – Cryoelect; T. Arnt – Siemens.

Languages - English

Poster Space for documents and photos of Applications is provided with support material.

The registration is free of charge. A contribution to expenses will be 30Euro for the Abstract_Collection and 60 Euro for the CD of the Proceedings. The workshop Final Programme will be mailed within 30 September 2011.

INFORMATION FOR AUTHORS

Authors should submit an abstract of their paper in English before 5 September 2011. Abstracts received afterwards may not be accepted.

The abstracts should contain: 1) Topic letter and heading numbers (as given in the programme); 2) Titles; 3) Name of the author (s), affiliation, full address, telephone and Fax number, e-mail; 4) Purpose of the work; 5) Method of approach; 6) Significant results.

The complete abstract must occupy no more than two A4 sheets; additional information can be given separately.

Specific technical problems may be covered by a dedicated Poster session. Authors will be notified of the Technical Committee decision within 20 September 2011.

The final version of the selected papers should be no more than 10 A4 sheets.

OWEMES

GSE Gestore Servizi Energetici

# WORKSHOP SOWiT

## SUPERCONDUCTIVITY FOR OFFSHORE WIND TURBINES

***October, 24, 2011-ROME Italy***

*HTS SUPERCONDUCTIVITY MATERIALS*

*HTS CABLE TECNOLOGIES*

*HTS ELECTRIC GENERATORS*

*CRYOGENIC TECHNOLOGIES*

*SUPERCONDUCTIVE WIND TURBINES*

*PROTOTYPES, OFFSHORE WIND APPLICATIONS*

*MAINTENANCE, REPAIR AND SAFETY*

*COST AND MARKET*

***Venue: GSE (Gestore Servizi Energetici)***
***Viale Maresciallo Pilsudski 92***

***00197 ROME***

First Announcement and Call for ***Papers***

Abstract Deadline
5 September 2011

Offshore wind power projection for Europe by EWEA is a total of over 37 GW by 2015 and 100 GW by 2030. In the United States one of various growth scenarios of Wind Power by Department of Energy projects wind to provide 20% of consumed electricity by 2030., that will consist of both land-based and offshore turbines, installed on the eastern and western seaboards; offshore wind could reach over 40 GW .

To be on line with the 2020 renewable energy targets the present 3.5% wind energy share of electricity in EU should be about 30%, level that could be obtained using offshore wind and other marine renewable energies in a carefully planned environmental protection programme.

In the last fifteen years the capacity of grid connected offshore wind plants has reached about 3GW, all in North European shallow waters, where additional GW are close or proposed for installation. Meantime the large offshore wind potential in deep water and its low visual impact is mounting as the future electricity generation option.

On offshore sites, generally with higher wind, wave regimes, less human use limitations and higher installation and maintenance costs, the economy of marine renewable electricity could progress rapidly if technology innovations are introduced. In coming years offshore wind will reach competitiveness with the onshore renewable energies, particularly by large size turbines even in highly deep waters and the technology breakthroughs of H.T. Superconductivity generators. The technology of the offshore wind turbines is evolving for sea-bed-based foundations and is in accelerated phase of design, with promising kWh cost reduction, for the case of floating or tension leg platforms. The first Tension Leg Prototype is under test in the Norway deep waters.

Over the next few years both superconductor manufacturing and cryogenic cooling technologies will continue to evolve with a promising reduction in cost. As a result, for the same power levels, the cost of superconducting power generation will reduce.

Meantime European a industries are developing 10 MW Turbines by EU funded projects, such as Upwind, mostly using classic copper wound generators. A group of advanced European (Zenergy/ Convertan) and American industries (AMSC, AML) are developing 10 MW wind turbines with superconducting generators.

The U.S. Department of Energy's National Renewable Energy Laboratory (NREL) and its National Wind Technology Center (NWTC) support the American industries within a Cooperative Research and Development Agreement (CRADA).

The goal of the workshop SOWiT is to make a specific and up-to-date review of ongoing activities and programmes in order to exchange information and promote co-operation among European, Mediterranean and other world countries in the promising field of marine renewable energy applications.

OWEMES

# WORKSHOP SUPERCONDUCTIVITY FOR OFFSHORE WIND TURBINES

24 October 2011- Rome - Italy

One day programme comprises: Three Oral Sessions with Oral presentation and one Poster Session

OFFERS OF PAPERS

Papers are welcome on the following Topics:

**A**) High Temperature Superconductivity (HTS) materials; **B**) HTS cable technologies; **C**) HTS electric generators; **D**) Cryogenic technologies; **E**) Superconductive wind turbines; **F**) Prototypes; **G**) Turbine Maintenance, repair and safety.

Headings:

**A**:1- R&D activities; 2- Resources; 3- Industries; 4- Products, cost and market; **B**:1- Cable technology; 2- Electric, Thermal and Mechanical properties; 3- Dimensions; 4- Life cycle; 5- Industries and Products, Certification; 6- Transport, Repair and Maintenance; 7- Cost and market; **C**:1- Generators types; 2- Direct drive (no turbine gear box); 3- Constant/variable speed; 4- Electric characteristics; 5- Cryogenic control; 6- Weigth and dimensions; 7- Industries; 8- Cost and market; 9- Reliability; 10- Repair and maintenance; **D**:1- HTS Fluids thermal characteristics; 2- Cryogenic temperature control; 3- Cooling loop control; 4- Reliability, Repair and maintenance; 5- Cost; **E**:1- HTS Drive train; 2- Cryogenic control; 3- Turbine general control system; 4- Turbine reliability; 5- Health; 6- Certification; 7- Cost and market; 8- Cost and market; 9- Reliability; 10- Repair, maintenance and safety; **F**:1- Superconductive Turbine prototype configuration; 2- Industries; 3- Offshore Turbine applications; **G**:1- Electric connexions; 2- Superconductive electric appliances.

Please send the abstract by e-mail to Workshop secretariat:

Dr. Gaetano Gaudiosi

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