Hohai University

Since 1915

Outline

- Hohai University
- College of Energy and Electrical Engineering
- Some Research Area in Power and Energy

Hohai University

About Hohai

- Founded in 1915 and located at Nanjing, Jiangsu Province, China
- The first institution in Chinese history for training specialized talents in water engineering
- The largest university in the world dedicated to research and education of hydraulic engineering and water resources
- One of the 75 state key universities directly administered by Ministry of Education, China
- One of the 56 universities in China with graduate schools
- Strength in water resources related disciplines with a focus on engineering subjects, also covering business, sciences, and liberal arts

15 Colleges and Schools

- Hydrology & Water Resources
- Water Conservancy & Hydropower Engineering
- Harbor, Coastal, & Offshore Engineering
- Environment
- Civil & Transportation Engineering
- Energy & Electrical Engineering
- Business
- Computer & Information Engineering
- Earth Science & Engineering
- Mechanical & Electronics Engineering
- Mechanics & Materials
- Public Administration
- Foreign Languages and cultures
- Sciences
- Law

International Cooperation

- Attach significant importance to international cooperation
- Partnership with over 70 universities in over 40 countries
- Close link with

  UNESCO (United Nations Educational, Scientific and Cultural Organization)

  IAHR (International Association for Hydro-Environment Engineering and Research)

  IAEA (International Atomic Energy Agency)

  WB (The World Bank)

  ADB (Asian Development Bank)
- One of the first group of Chinese universities to receive international students

Key Facts

- Student: 35,000
  - About 15,000 graduate students
  - Over 20,000 undergraduate students
- Faculty and staff: 3,500
  - About 1000 professors and associate professors

Downtown Campus

Jiangning Campus

Changzhou Campus

河海大学
能源与电气学院

College of Energy and Electrical Engineering, Hohai University

Admissions

1. Undergraduate Program

- Power System and Automation
  - Electrical Engineering
  - Automation
- Renewable Power Generation
  - Hydroelectric Power
  - Wind Power
  - Solar Power

2. Graduate Program

- Power System and Automation
- Renewable Power Generation
- Control Theory and Control Engineering
- Power Electronics and Drives
- Fluid machinery and Engineering

Key Facts

- Student: over 2,000
  - About 500 graduate students
  - Over 1,500 undergraduate students
- Faculty and staff: over 110
  - 54 professors and associate professors
  - 4 Departments: Electrical Engineering, Automation Engineering, Power Engineering, New Energy.

Research Centers & Laboratories

- Research Center for Renewable Energy Generation Engineering of Ministry of Education
- Power System Dynamic Simulation Laboratory
- Power Equipment Health Diagnostic Laboratory
- Electrical and Electronic Experiment Center
- Electrical Automation Experimental Center
- Communication and Information System Experiment Center

Some Research Area in Power and Energy

The main characteristics

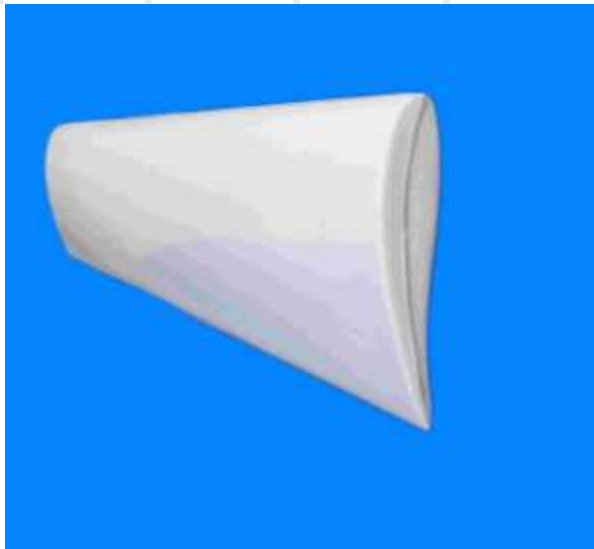
- Renewable power generation technology
- Power system technology, especially smart grid technology

1) Research on Renewable Energy Development Policy

- Policy, Programming and Economy of Wind Power Generation of Jiangsu Province, China
- PV Industry and PV Power Generation Market of Jiangsu Province, China
- Bio-energy Utilization of Rural Areas of Jiangsu Province, China
- Policy and Specification of Offshore Wind Farm of Jiangsu Province, China

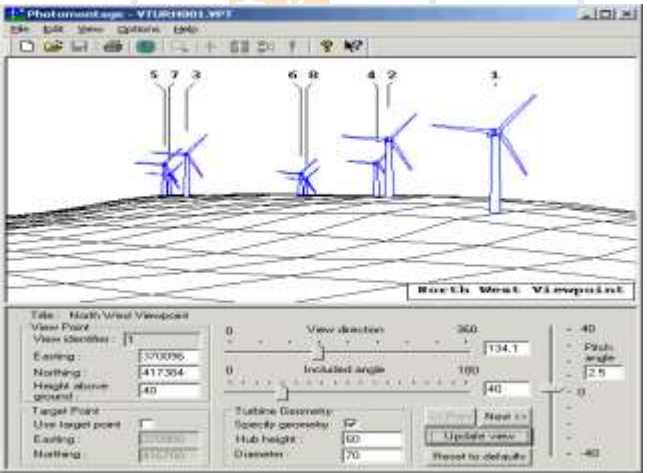
2) Design of Wind Turbine

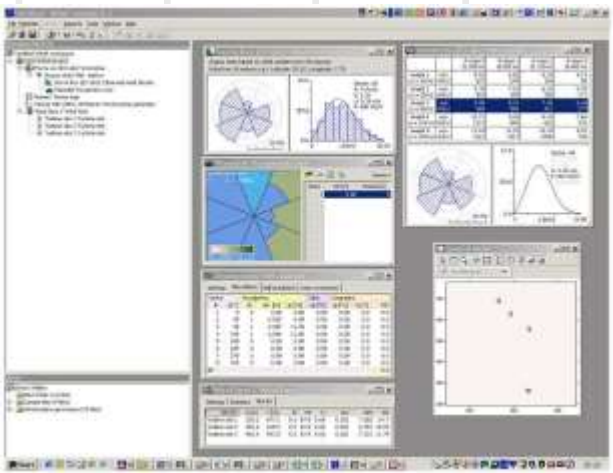
- Structural design of wind turbine
- Design and optimization of the blade
- Basic stabilize of wind turbine
- Anti-corrosion and protection of the offshore wind turbine's tower and foundation



3) Planning and Assessment of Wind Farm

- Location and planning of wind farm
- Technical and economical analysis
- Environmental assessment
- Mathematical model of tidal current field in the offshore wind farm





4) Research on Large-scale Wind Power Integration

- Penetration Limit of Wind Power Analysis
- Power Quality Analysis
- Large-scale Offshore Wind Power Integration
- Combined Integration of Wind Power and PV Power

5) Solar Thermal Utilization and PV Generation

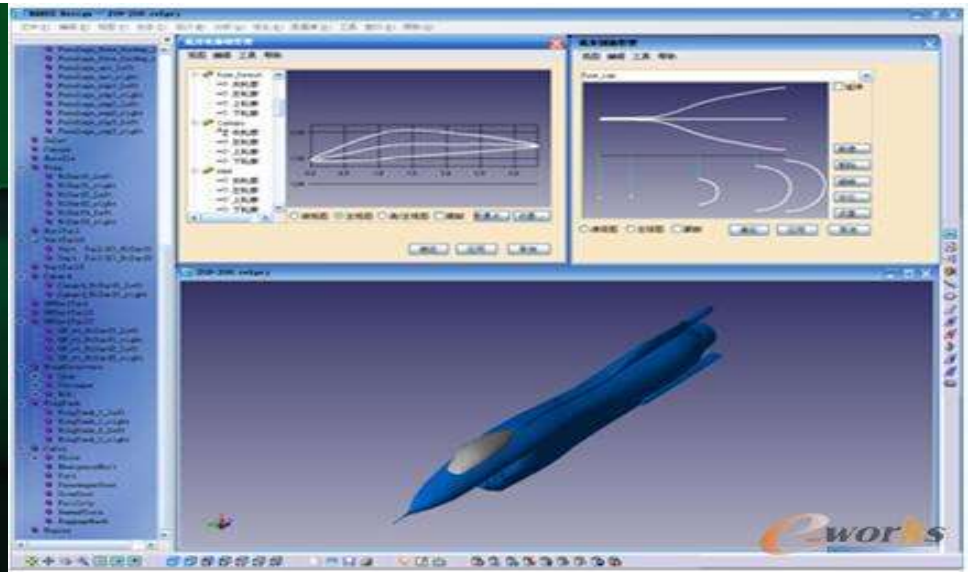
- Thermal power system of tower solar energy
- Thermal power system of trough solar parabolic
- Concentrator PV thermal power system

6) Research on Large-scale PV Grid-Connected

- Modeling and Parameter Identification of Large-scale PV Power Station
- Design and Integration Technology of PV Grid-Connected System
- Distributed Building PV Grid-Connection

7) Utilization of ocean energy, including tidal energy, wave energy, ocean current energy

- Design, theory and methods of the inlet and outlet channels of new bidirectional tubular pump turbine
- Method, model, formula, main parameters choosing of the ocean energy resources assessment, and the theory, methods and applications of ocean current energy ;
- Design of the wave generation system and control optimization



8) Research on Microgrid

- Basic Theory and Technology System of Microgrid
- Improvement of the Anti-disaster Ability of Power System Based on Microgrid
- Rural Hydropower of Microgrid Power Supply Technology
- Risk Assessment of Microgrid

9) Research on the Application of Energy Storage Technology in Renewable Power Integration

- Application of Energy Storage Technology in Large-Scale Wind Power Integration
- Energy Management and Control Method of the Application of Energy Storage Technology in Balancing Renewable Energy Fluctuation
- Design, Operation and Maintenance of Energy Storage Technology in Independent Microgrid

10) Research on the Operation Technology of Interactivity and Coordination Between Electric Vehicle and Power System

- Modeling and Power Flow Calculation of Distribution System Including Distributed Generation and Electric Vehicle Charging Load
- Power System Analysis Considering Uncertainty Output of Distributed Generation
- Effect of Distributed Generation and Electric Vehicle Charging Load on Power System

11) Research on Modeling and Parameter Identification of Wind Farm

- Modeling and Parameter Identification of Wind Turbine
- Equivalent Modeling and Parameter Identification of Wind Farm

12) Network Pricing and Network Use of System Charge

- Transmission UoS Pricing Strategy Consideration of Congestion Management Cost
- Transmission UoS Pricing Strategy Consideration of Large-scale Wind Farms
- Distribution UoS Pricing Strategy Consideration of Interruptible Load Cost
- Distribution UoS Pricing Strategy with Microgrid Based Reflecting Bi-direction Load Flow
- Distribution UoS Pricing Strategy with Microgrid Based Reflecting User Reliability Cost

Win-Win Collaboration