



TUBITAK
THE SCIENTIFIC AND TECHNOLOGICAL RESEARCH COUNCIL OF TURKEY
MARMARA RESEARCH CENTRE
ENERGY INSTITUTE

TUBITAK

The Scientific and Technological Research Council of Turkey (TUBITAK) is the public agency put in charge of promoting, developing, organising, conducting and coordinating research and development in line with the national targets of economical development and technical progress. TUBITAK acts as an advisory agency to the Turkish Government on science and research issues, and is the secretariat of the Supreme Council of Science and Technology, **the highest S&T policy making body** in Turkey. TUBITAK is the executing agency in deployment of international scientific and technological agreements. In this context, TUBITAK is **the national coordinating body of EU's 6th and 7th Framework Program**.

Web: <http://www.tubitak.gov.tr/>

MARMARA RESEARCH CENTRE

Marmara Research Centre (MRC) is the oldest and largest research organisation under TUBITAK. The aim of MRC is to conduct applied research projects integrated with national and international industrial entities in a customer focused policy. The contract-based projects are the key factors of business resulting demonstrations and system integration through new product development. There exist 7 research institutes under the frame of TUBITAK Marmara Research Centre and Energy Institute is one of them.

Web: <http://www.mam.gov.tr/>

ENERGY INSTITUTE



Energy Institute (EI) provides and develops technological knowledge into practical applications in advanced and innovative energy and transportation technologies areas. It forms a bridge between fundamental research

and commercial & industrial applications.



Vision of EI is “to be the pioneer and leading research institute in the field of energy in Turkey”. *Mission* statement of EI is “to contribute to the global competitiveness and sustainable development of Turkey by developing new, advanced energy technologies and energy conservation measures”. The strategic objectives established to fulfil this mission are:

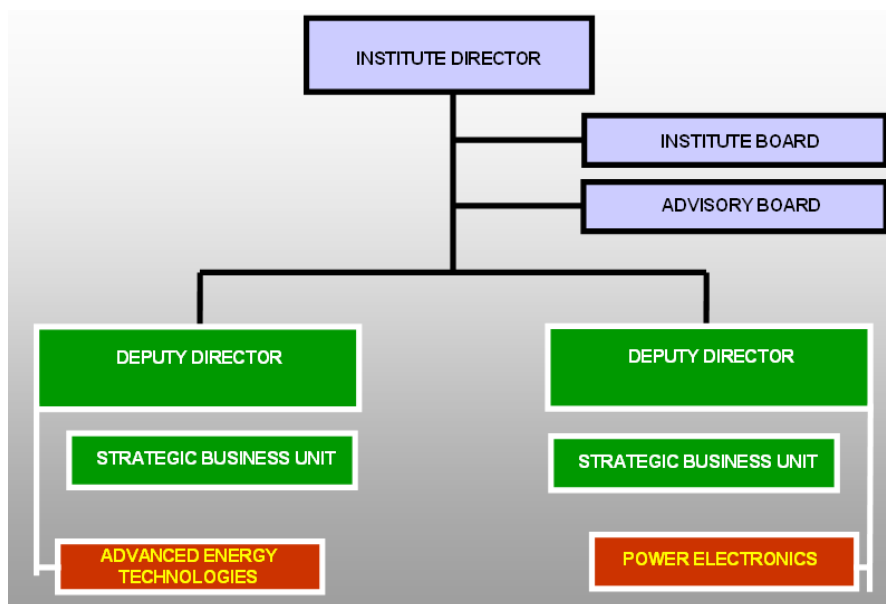


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- Establishment of a broad and deep understanding of related technologies;
- Technology development, including design and prototyping activities; and
- Transferring of knowledge to industrial production lines and decision makers

Staff Profile	
Manager	3
Researchers	95
PhD.	20
MSc.	61
BSc.	14
Technicians	23
Support	4
Total	130

EI consists of two strategic business units (SBU). Research projects and industrial services are conducted by four research groups under Advanced Energy Technologies SBU and Power Electronics and Control Technologies SBU.



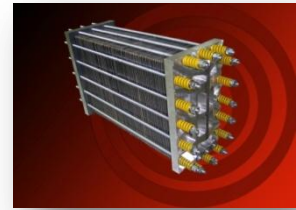


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The main activities of these research groups are as follows:

Strategic Business Unit 1: Advanced Energy Technologies:

-Fuel Cell Technologies : Development and fabrication of fuel cell stack components , Development and fabrication of fuel cell system subcomponents , System integration for fuel cell applications , System integration and power conditioning , Fuel cell system performance tests



-Gas Technologies : Hydrogen production/ purification technologies, gas cleaning / purification technologies, process and reactor design , gas combustion technologies, CO₂ capturing technologies, liquid fuel production from synthesis gas (fischer tropesch synthesis) , catalyst development, characterization and tests , manufacturing and integration studies, prototype manufacturing, data monitoring and process control , modelling and simulation ,gas analyses



-Fuel Technologies: Solid fuel analyses (coal, petroleum coke), Liquid fuel analyses (gasoline, diesel, fuel oil, bio-fuels), Alternate fuels → Production of Biofuels(Biodiesel), Fuel additives



-Combustion, Gasification and Gas Cleaning Technologies: Gasification technologies of coal and biomass, Combustion technologies of coal and biomass, Gas cleaning technologies, Integration with power systems , Solid, liquid and gas analyses , Biomass briquetting and pelletizing , Fuel preparation , Cyclone, heat exchanger and scrubber design , Process modelling and simulation





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Strategic Bussiness Unit 2: Power Electronics and Control Technologies

- Power Electronics Technologies: Power Electronics, Digital Control Systems , Embedded System Design, Digital Signal Processing, Hardware Supported Software , Degaussing / Deperming, Data Acquisition Systems, Underwater Acoustic Communication Systems, Intellectual Systems, Turnkey Project Development , Consultancy and Feasibility



- *Vehicle Technologies:* Clean And Energy Efficient Automotive Technologies; Electric Or Hybrid Electric Vehicle Technologies Including Powertrain Design and Demonstration, Modelling And Simulation, Electric Drives, Battery Systems and Vehicle Control Units.



- Battery Technologies: Prototype Battery Manufacture, Development and Battery Management System Design and Production
Secondary batteries and reserve batteries, Testing Services (in accordance with the TSE/EN standards), Advisory Services

