



Company Profile

Energy Management Services



RCEE NIRAS JSC
Research Center for Energy and Environment
Unit 402, 4th Floor, Hacinco Hotel, 110 Thai Thinh Street,
Hanoi, Vietnam

Phone: +84 4 3786 8592
Fax: +84 4 3786 8593
Email: rcee.jsc@rcee.org.vn
Website: www.rcee.org.vn



1. INTRODUCTION

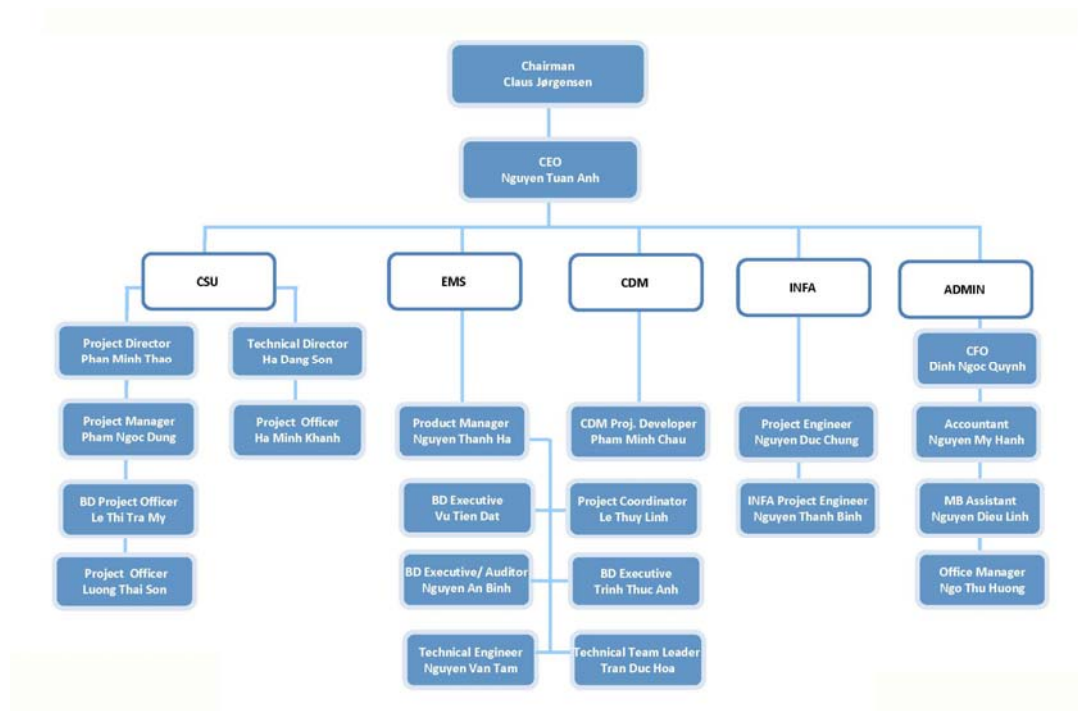
RCEE-NIRAS Joint Stock Company, having our office in Hanoi Vietnam, is a consulting company providing services within Energy, Climate and Environment sectors.

RCEE-NIRAS is the joint venture between RCEE Energy and Environment Joint- stock Company, which based upon the foundation of the Research Center for Energy and Environment – an independent organization member of Vietnam Union of Science & Technology Association (VUSTA) since 1998 and NIRAS A/S Company – the leading consulting company on various business areas, including Energy and Environment since 1956.

RCEE-NIRAS is part of NIRAS A/S Group. The mother company, NIRAS A/S with over 1200 employees, is a large international consulting engineering company with main office in Denmark. The company was founded in 1956 and since then has expanded through natural growth and acquisition of other companies. NIRAS today consist of 28 Business Units, specialized in Environmental Services, Climate Change and Energy, Water Supply and Treatment Management, and one Business Unit NIRAS International Consulting, which focuses on consulting services in the development aid sector. NIRAS has offices in 15 countries around the world

With a highly qualified consultant team and an extensive network of leading national and international experts / specialists in different professional backgrounds, RCEE NIRAS provides professional services in a wide range of expertise on energy and environment subjects.

Organizational Chart





ENERGY MANAGEMENT SERVICES

Energy Management Services are among RCEE – NIRAS core businesses. RCEE – NIRAS provides specialized expertise through training courses on energy audit, energy management system and energy efficiency; through energy audit services; and through consulting services on establishment of sustainable energy management scheme.



EnToolkit is an Energy Manager Training Program aims to introduce to businesses a sustainable energy management system and build the capacity of your energy manager in implementing a sustainable energy management system. The objective of the course is to equip energy manager with the knowledge and skill to establish and implement a sustainable energy management system for business, to not only ensure the energy efficiency but also to significantly reduce energy cost

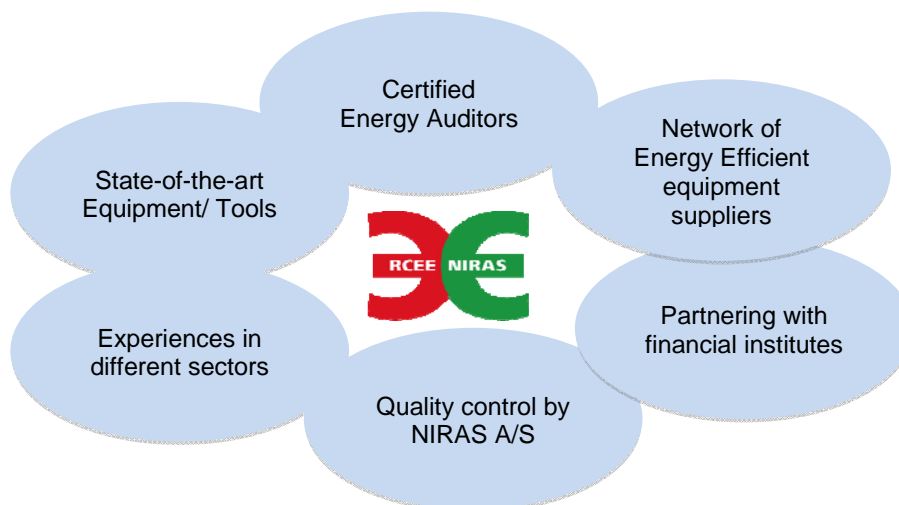


EnAudit is the Energy Audit Service provided by RCEE-NIRAS. It is the first step to assess how much energy your organization consumes, and to evaluate what measures you can take to become more energy efficient. During a conducting energy audit, our certified (professional) energy auditors will inspect your energy consumption, looking not only for areas where energy may be “escaping” from your factory, but where your current energy usage can be reduced. An audit will show you problems that may, when corrected, save you significant amounts of money over time.



EnSupport is service product customize for customer to set up sustainable energy management system in their enterprises. The services cover assessment of the existing energy management situation, analyze it and provide road map to improve. EnSupport will support energy manager to step by step applying the Evaluation tool for energy management performance in their enterprises including: setting up energy policy, energy accounting center, energy efficiency index...etc. With EnSupport, RCEE-NIRAS personnel will support customer Setting up Energy Target and Plan, Integration of the Energy Management System into Business Practice.

Technical Competences



a) List of measurement equipment

Equipment/Function	Brand name/ Model
Power quality analyzer	Kyoritsu KEW 6310
IR Thermometer	Fluke 62
3-in-1 equipment (temperature, humidity, velocity)	Extech 45160
Speed meter	Kyoritsu K5500
Digital light meter (lighting)	Kyoritsu K5202
Power clamp (Voltage, current, power, cosφ...)	Hioki 3286-20
Water pressure tester	N/A
Flue gas analyzer	IMR100
Ultrasonic Flow meter	Dynasonics
Disassembling and installing tools	Fairline FPK13
Electrical repair kit	Kraftixx kWB

b) Composition of energy audit team**Nguyen Thanh Ha – Senior Consultant**

M.Sc. Nguyen Thanh Ha is the technical team leader, Energy Efficiency projects (energy audit, energy management scheme). Mr. Ha is also in charge of coordinating R&D activities. He has intensive experiences in project management as well as electric engineering. Before joining RCEE – NIRAS, Ha used to work for Hanoi Power Company. Ha holds a Master Degree in Electric Engineering from Hanoi University of Technology.

**Pham Ngoc Dung – Project Manager**

Pham Ngoc Dung acts as an energy auditor, in charge of energy audit works and consultancy on energy management scheme as well as project management and coordination for energy efficiency projects. With many years of working experiences, Dung has joined RCEE – NIRAS since early 2012 and participated in a number of projects throughout Vietnam. He graduated from Department of Automation, Hanoi University of Technology in 2006.

**Nguyen An Binh – Team leader, Energy Audit**

Nguyen An Binh is the leader of Energy Audit team. Binh has experiences in energy auditing and cleaner production. He is in charge of energy audit works. He graduated from Hanoi University of Technology, specialized in Energy. He used to work for Hanoi Energy Efficiency and Conservation Center (under Department of Industry and Trade) before joining RCEE – NIRAS

**Tran Duc Hoa – Energy Auditor**

Tran Duc Hoa works as an energy auditor for energy efficiency projects. Hoa has intensive experiences in energy audit works. He acts as field auditor as well as energy efficiency specialist in RCEE – NIRAS 's team. He holds a Bachelor Degree in Energy Management from Electric Power University

**Nguyen Thanh Tam – Technical Engineer**

Nguyen Thanh Tam is a technical engineer for energy efficiency projects. Since his graduation, Tam has joined RCEE – NIRAS as a technical engineer for energy audit.

2. Experiences in Energy Management Consultancy

Capacity Building Projects on Energy Management

2010-2013

Support to the Vietnamese National Energy Efficiency and Conservation Program (VNEEP)

The Governments of Vietnam and Denmark have agreed to prepare a new support program on climate change adaptation and mitigation to be implemented during the period 2009-2013. Regards with the component of Support to National Energy Efficiency and Conservation Program (VNEEP), the technical assistance is only supplied for selected elements of the VNEEP, aiming to strengthen the capacity of EECO and other relevant Vietnamese institutions in implementing VNEEP activities related to energy efficiency management in industries and buildings. The TA Assignment Objectives are thus: (1) Increased implementation capacity within Universities, Energy Efficiency Centre (EECs)/Energy Conservation Centers (ECCs), and other consulting entities, and energy management agencies to provide effective energy monitoring and management; (2) Strengthened MOIT capacity to fulfill VNEEP targets; (3) Demonstration towards Vietnamese enterprises on the application of commercially viable measures and technologies of energy efficiency.

RCEE is the local partner, in cooperation with NIRAS and DEM, Danish consultants, to perform the tasks of the assignment.

2010-2012

ASEAN Energy Manager Accreditation Scheme

The Project will establish the ASEAN Energy Manager Accreditation Scheme (AEMAS) through which it will train (and accredit) energy managers who will then implement sustainable energy management systems within their industries. Upon adoption and implementation of a sustainable energy management system, energy-intensive industries will be able to seek for certification under the AEMAS. RCEE is Country Coordinator for Vietnam and will collaborate closely with other partners from: ASEAN Center for Energy (ACE - Indonesia), Action for Sustainable Development (ASD – France), PTM (Malaysia), CDC SEA (Thailand-Laos-Cambodia), MES (Myanmar), ENPAP (Philippines), Pelangi (Indonesia).

2009-2012

MEET-BIS Vietnam (Mainstreaming Energy Efficiency through Business Innovation Support - Vietnam)

The project has been developed and will be implemented by ETC Energy (www.etc-energy.org), AdaPPPt (www.triodosfacet.nl) and Aidenvironment (www.aidenvironment.org) in the Netherlands and RCEE Research Center for Energy and Environment (www.rcee.org.vn) and the Vietnam Chamber of Commerce and Industries-Ha Minh Investment & Business Consultants, Inc. (VCCI-IBCI) in Vietnam. The project will ensure urban SMEs in Vietnam sustainable access to water and energy efficiency technologies to improve their efficiency to the benefit of the business, the environment and public health. MEET-BIS will do this by building capacity with Vietnamese suppliers and installers. The programme has a pragmatic approach to develop



sustainable supply chains that reach SMEs with innovative technologies and technical know-how. 80% of the project budget are financed by EuropeAid.

2009

Development of a Comprehensive Investment Plan on National Lighting Product Quality Certification and Testing Laboratory for the Vietnam Energy Efficient Public Lighting Project (VEEPL)

The project, financed by the United Nations' Development Programme (UNDP), is to formulate a comprehensive investment plan on development of a national testing and certification facility capable of testing various quality parameters of lighting products and issuing certification in compliance with national and international standards. The completed plan will be submitted to relevant national and local government agencies for consideration and future implementation. RCEE acts as the local consultant for main consultant International Institute of Energy Conservation Asia (Thailand).

2008-2009

TA 7024-VIE: Supporting Implementation of the National Energy Efficiency Program Project

The project, co-financed by the Government of France and the Spanish Cooperation Trust Fund through the Asian Development Bank (ADB), will provide Technical Assistance (TA) services to the Energy Efficiency and Conservation Office (EECO) under the Ministry of Industry and Trade to promote energy conservation in the industrial sector in Viet Nam leading to a substantial reduction of energy consumption while delivering a higher level of energy services to the sector. The envisioned impact of the TA is the establishment of energy efficient best practices in the country's industrial sector. Specifically the TA will assist MOIT in achieving the target of 5% and 8% reduction of energy consumption in large industrial enterprises by 2010 and 2015 respectively.

RCEE is responsible for 3 Components out of 5, including: Energy Consumption Survey, Energy Auditing and ESCO Development.

2008

Study on Energy Efficiency Potential in Cement Industry of Vietnam

The project covers a study on energy efficiency potential in the cement industry, one of the largest energy consumers in Vietnam. Identification of energy efficiency potential through inventory study and energy audit activities enables the Ministry of Industry and Trade to define a suitable implementation plan for the cement industry. The project covers potentials for pilot project in the next phase of the program.

The Project is financed by the Ministry of Industry and Trade. RCEE manages and coordinates the project in collaboration with Vietnam Cement Industry Corporation (VICEM).

2007-2009

Vietaudit2

The project is a continuation of the successful Vietaudit project which has helped establishing Vietnam's Energy Efficiency and Conservation Office (EECO) under Ministry of Industry and



Trade. In this second phase, there will be hands-on training sessions for energy auditors in three major sectors, including industry (steel, fishery, and power generation), construction (commercial and high-rise buildings) and transportation.

The Project is co-financed by the Government of Finland and the Government of Vietnam. RCEE is in collaboration with EECO to coordinate local partners including Ministry of Construction, Ministry of Transportation, Hanoi University of Technology and other SOEs/SMEs.

Energy Audit Projects

1. Closed projects

Project Name	Client	Proposed EE solutions
Bim Son Cement JSC	2009	<ol style="list-style-type: none">1. Improvement of furnace efficiency2. Optimization of air flow3. Utilization of cooling air as primary air flow4. Waste heat recovery5. Inverter installation for clinker cooling system6. Installation of high efficient coal grinding system7. Replacement with close-circuit grinding system
But Son Cement JSC	2009	<ol style="list-style-type: none">1. Improvement of furnace efficiency2. Optimization of air flow3. Utilization of cooling air as primary air flow4. Replacement of cooling tabulator with refractory tabulator5. Pipe insulation for drying system and furnace4. Waste heat recovery for power generation5. Inverter installation for clinker cooling system8. Installation of fan at cooling fan system9. Installation of soft starter for the blow fan10. Optimization solution for improvement of the grinding system's efficiency
Danang Steel Corporation	2009	<ol style="list-style-type: none">1. Improvement of the electric-arc furnace (EAF)2. Installation of induction furnaces for material feeding for EAF3. Installation of chamber heated bucket4. EE solution for burner5. Re-designing the waste heat recovery



Tam Diep Cement JSC	2009	<ol style="list-style-type: none">1. Improvement of burner efficiency2. Improvement of cooling efficiency3. Cooling air recovery4. Waste heat recovery5. Inverter installation for cooling fan6. Reduction of pressure losses
Thai Nguyen Iron and Steel Company	2009	<ol style="list-style-type: none">1. Solution for heat and electricity saving2. Improvement of burner efficiency3. Solution for raw material saving4. Improvement of air refinery system5. EE solution for burner6. Waste heat recovery system7. Energy optimization for blow fan 's motor8. Energy optimization for exhaust fan 's motor
Asian Food Processing Company	2010	<ol style="list-style-type: none">1. Efficient lighting system2. Boiler pressure reduction3. Installation of powder storage
Dong An Co, ltd	2010	<ol style="list-style-type: none">1. Efficient lighting system2. Occupational efficiency control3. Operation Opportunities in accordance to electricity tariff
Tan Long Paper Company	2010	<ol style="list-style-type: none">1. Replacement of T10 lamps with T5 lamps2. Installation of Powerboss for the grinding system3. Exhaust fume heat recovery4. Boiler replacement
Thai Duong Private enterprise	2010	<ol style="list-style-type: none">1. Replacement of existing 40W lamps with T5 ones2. Inverter installation for motors3. Boiler replacement
Tho Quang Seafood processing Company	2010	<ol style="list-style-type: none">1. Installation of EE lighting system2. Installation of soft –starter and weight control for the compressor's motor3. Optimization of cooling system



		4. Cold holdovering at low peak time for air conditioning system and ice producing system at normal hours
Phu Dong Textile Ltd. Company	2010	<ol style="list-style-type: none">1. Replacement of T10 lamps with T5 ones2. Inverter installation for motors3. Boiler replacement
Phuoc Tien Ltd. Company	2010	<ol style="list-style-type: none">1. Improvement of lighting system2. Replacement of wood-fired furnace with solar heating system3. Improvement of food drying system
Viet A Ltd. Company	2010	<ol style="list-style-type: none">1. Replacement with new automatic melting system2. CO2 recovery system3. Replacement with high efficient compressor
Hai Vuong Seafood Company	2010	<ol style="list-style-type: none">1. Delineating the air conditioning system into 02 separate areas2. Inverter installation for cold water pumps of the air conditioning system3. Separating 02 water pumping systems for air conditioners4. Inverter installation for the cooling water pumps5. Cooling water pumps for cold storages6. Installation of water refinery system7. Replacement of existing lighting system with EE T5 lamps8. Motor for wastewater treatment system
Vietnam Steel Company	2010	<ol style="list-style-type: none">1. Establishment of Energy Management Scheme2. Equipment Power off3. Improvement of lighting system4. Waste water recovery5. Waste heat recovery6. Exhaust fume heat recovery7. Energy management devices for motors
Dong Hai Ceramic JSC.	2011	<ol style="list-style-type: none">1. Establishment of Energy Management Scheme2. Improvement of lighting system3. Replacement with high efficient motor4. Waste heat recovery
Pacific Hotel		<ol style="list-style-type: none">1. EE solution for lighting system2. EE solution for air conditioning system



		3. EE solution for water heating
		4. Replacement with booster pump
Tung Duc Ltd. Company - TDL building	2011	1. Guidelines for energy management 2. Reduction of water consumption volume 3. Replacement with high efficient lighting system 4. EE solution for air conditioning system
Hoa Khanh Textile JSC, Danang	2010	1. Occupational efficiency control for circulating pumps 2. Improvement of lighting system 3. Installation of speed controller for the worm compressor
29/3 Textile Company	2010	1. Replacement of T10 lamps with T8 lamps 2. Installation of Powerboss for centrifugal wringer's motor 3. Installation of inverter for motor of air compressor 4. Installation of Sewsaver 5. Installation of LED lamps 6. Replacement of oil boiler with coal-fired boiler
Thien Tri Paper Limited Company	2010	1. Replacement of T10 lamps with T5 ones 2. Replacement with high efficient motors
Hung Thinh Paper Company	2010	1. Establishment of Energy Management Scheme 2. Condensate return pipe and steam pipe insulation 3. Condensate water recovery 4. Replacement of variable speed motor with inverted motor 5. Installation of inverter for the evacuators 6. Installation of inverter for circulating pumps 7. Utilization of daylight for production areas 8. Replacement of T10 lamps with T5 lamps
Tan Binh Culture Services JSC. (Alta)	2011	1. Establishment of Energy Management Scheme 2. Usage of high efficient lamps 3. Replacement with new air compressor and inverter 4. Installation of high efficient motors 5. Reduction of heat losses
KYVY JSC.	2010	1. Establishment of energy management scheme 2. Installation of capacitor for power transformer



		<ol style="list-style-type: none">3. Improvement of lighting system with high efficient lamps4. Installation of inverter for air compressor 37KW5. Installation of inverter for evacuator6. Replacement with high efficient motor for grinding system
Danang – Italian Steel JSC.	2010	<ol style="list-style-type: none">1. Optimization of air compressor2. Improvement of cooling system3. Operation optimization of exhaust fan4. Improvement of furnace efficiency5. Waste heat recovery6. Furnace close-shut
Vietnam Tourist Company – Green Bamboo Hotel	2010	<ol style="list-style-type: none">1. Solar Water Heating System2. Replacement of incandescent lamps with EE compact lamps3. Replacement of low efficient lamps (40W; 20W) with high efficient lamps (36W; 18W)
Pham Thu Manufacturing and Trading Limited Company	2010	<ol style="list-style-type: none">1. Establishment of Energy Management Scheme2. Replacement of hydraulic motor with energy efficient motor3. Inverter installation for ecuvator4. Replacement of variable speed motors with inverted motors5. Inverter Installation for water pump6. Installation of speed inverter for air chute system7. Lighting solution for production area8. Replacement of existing lighting system with T59. Depression of Boiler No.2 by 4.5 bar from 9 bar10. Depression of Boiler No.1 by 5.5 bar from 6,5 bar11. Condensate recovery
Pacific Steel JSC	2010	<ol style="list-style-type: none">1. Renovation of lighting system2. Capacity optimization for air supply fan at 132kw furnace3. Installation of drying system by waste gas from steelwork4. Optimization of air compressor system5. Installation of speed inverters for 02 water pumps of 75kW for cooling system

2. Ongoing Projects



Customer	Year
Song Duong Tissue Paper Company	2012
Ha Tien 1 Cement Corporation – Binh Phuoc Cement Plant	2012
Mascot Vietnam Limited Company	2012
Saigon- My Xuan Paper Company	2012
Hanoi Crown JV Company	2012
Vietnam Certification Center (Quacert)	2012
Calofic (Cai Lan Oils & Fats Industries Co.,Ltd) - Hiep Phuoc Branch	2012
Goshi-Thanglong Auto-Parts Co., Ltd	2012
Bim Son cement JSC	2012
Calofic (Cai Lan Oils & Fats Industries Co.,Ltd)	2012
Viglacera Ha Long JSC	2012
Chinfon Cement Corporation	2012