

CURRICULUM VITAE



Mr. Herkko Lehdonvirta

Date and place of birth: 19.11.1952 Karuna, Finland
Nationality: Finnish
Marital status: Married, three children



EDUCATION

1971-1976 Helsinki University of Technology
Master of Science, Mechanical Engineering
(Energy Economics and Power Plant Technology)

PROFILE

Mr. Herkko Lehdonvirta (M. Sc. Eng.) has over 35 years of international business experience in energy industry management, technical design and project finance. He is the Managing Partner of Greenfield Consulting Ltd, a consulting company specialised in facilitating energy investments, in guiding good project ideas to profitable businesses.

In 2011-2012 Mr. Lehdonvirta was assigned for 19 months as the resident CEO to launch the wind power company Cabeólica SA in Cape Verde. The company is based on a Public-Private-Partnership between the Government of Cape Verde and international private sector investors, and with EIB and AfDB as lenders. He was responsible to organize and supervise all business functions of the start-up company during the construction, commissioning and initial operation phase. By the end of assignment all four wind farms were in full commercial operation, fulfilling the Government's Renewable Energy strategy producing 25% of total electricity in Cape Verde.

Mr. Lehdonvirta has managed the activities of the private equity fund EPP/PEMF from its inception in 1999 until 2006 and again since Nov. 2012 during the exit phase. He has extensive experience on development, structuring and closing of international energy investments and on hands-on management and corporate governance in Europe, Asia and Africa. The investments include wind, CHP, biomass, biogas and energy efficiency.

In 2007-2010 Greenfield Consulting advised the London Development Agency in developing CHP/DH and renewable energy projects in London, including the strategy and implementation plan for the London Thames Gateway Low-Carbon Heat Network.

Previously Mr. Lehdonvirta has worked both in energy consulting business and in energy utilities, e.g. in Electrowatt-Ekono (Pöyry Group) as the Vice President, Consulting, and as the Technical Manager for the Sheffield waste-to-energy/CHP/District Heating scheme. He has participated as project manager, technical specialist, financial and institutional expert in projects in Nordic and Baltic countries, UK, Ukraine, Belarus, China, Poland, Greece, Spain, Thailand, India, Philippines, Cambodia, Laos. Projects have included energy system master plans, CHP/District Heating modernisation, development of renewable energy, financial analysis and institutional development.

Mr. Lehdonvirta has held several Board Memberships in energy business in Europe and in Asia and is an Investment Committee member in the Mekong Brahmaputra Clean Development Fund.

PROFESSIONAL EXPERIENCE

3/2006 –

Greenfield Consulting Ltd, Helsinki, Finland
Managing Partner

Advisory Service for Energy Business and Investments:

- Project Feasibility Studies and Energy System Master Plans
- Technical Concept Design
- Financial Analysis and Structuring
- Development and Implementation of Investment Projects
- Equity Investments; Evaluation, Structuring, Due Diligence, Corporate Governance and Management
- Investment Fund Management

Recent assignments (2006-2016):

- The World Bank: Support on Preparation of Heat Supply Improvement Project, Kyrgyzstan (Sep 2016 –)
- Slough Borough Council, UK: Slough Heat Mapping and Energy Master Planning (Jan 2016 – Sep 2016)
- Cheshire West and Chester Borough Council, UK: Energy masterplanning in Cheshire West (Oct 2015– Aug 2016)
- City and County of Swansea, UK: Detailed Feasibility of District Heating in Swansea (Feb 2015 - on-going)
- Oxford City Council, UK: District Heating Feasibility Study in Oxford (April 2015 – June 2016)
- Wiltshire Council, Building Research Establishment Ltd, UK: Energy mapping, masterplanning and full technical economic feasibility study for a proposed district energy network at Porton Down, UK (Dec 2014 – Dec 2015)
- The World Bank: Feasibility Study and Investment Prioritization on District Heating Efficiency and Reliability Improvement in Bishkek, Kyrgyzstan (Nov 2014 – Aug 2015)
- The World Bank: Preparatory Activities for a Sector Study on Biomass-based Heating in the Western Balkans (June 2014 - Feb 2015)
- FINPRO: Finnish consortiums for Distributed Energy Solutions (Aug 2014 - Aug 2015)
- Halton Borough Council, UK: Heat Networks Mapping in East Runcorn (June 2014 - Feb 2015)
- Cheshire East Council, UK: Leighton West Deep Geothermal Heat Network (May - Oct 2014)
- Oxford City Council, UK: Outline Masterplan for Heat Solutions in Oxford (April - June 2014)
- The World Bank: Assessment of Heating and Hot Water Supply and Demand Options for three cities in Uzbekistan (Nov 2013 - April 2014)
- Emerging Power Partners Ltd/Private Energy Market Fund LP: CEO and Fund Manager for the exit phase (Nov 2012 - cont.)

- Mekong Brahmaputra Clean Development Fund: Member of the Investment Committee (Aug 2010 - cont.)
- Cabeólica SA: CEO for the start-up wind power company in Cape Verde; recruiting the organization and advisers, construction supervision, commissioning, initial commercial operation and business activities (March 2011 - Sep 2012)
- Lahti Energy: CHP/District Cooling study for the Ranta-Kartano area
- London Development Agency: Concept development for several Renewable Energy/CHP/District Heating/Cooling projects in Greater London area (Oct 2007 - May 2010)
- Building Research Establishment: Updating the Community Heating Guide
- London Development Agency, Pöyry Energy: Decarbonising London Thames Gateway; Development of London Thames Gateway Heat Network (Oct. 2007 - May 2010)
- Ministry for Foreign Affairs of Finland: Program evaluation for improving the national energy statistics in Cambodia (Apr-June 2009)
- Ministry for Foreign Affairs of Finland: Planning of interventions on renewable energy strategy in Lao PDR and Cambodia (Jun-Nov 2009)
- London Development Agency, Pöyry Energy: Development of Royal Albert Basin low carbon CHP/District Heating
- Confidential: Advisory Service on Establishing a JVC for Renewable Energy Investments in Ukraine
- Confidential: Advisory service on Energy Fund strategy
- Ministry for Foreign Affairs of Finland, Ramboll: Assessment of a Concessional Credit Application for a CHP/DH Modernisation Project in Shaanxi, China (Expert on CHP/DH Technology and Financing)
- Green Net Finland: Senior Energy Adviser for the environmental networking organisation
- Confidential: Advisory service on Carbon Fund development
- The World Bank: Feasibility Study and Business Plan for Minsk Vodakanal Biogas CHP Facility, Belarus (Project Manager)
- The World Bank: Strategy for Private Sector Participation in Decentralized Energy Generation, Belarus (Project Supervision)
- Finnfund: Study on Financing Opportunities in Finnish Renewable Energy Industry
- EBRD, Electrowatt-Ekono Ltd: Kharkiv District Heating Project, Ukraine (Senior Institutional and Financial Expert)
- EAEEF, Cambodian Research Centre for Development: Feasibility Study of Renewable Energy Options for Rural Electrification in Cambodia (Senior Business Advisor)
- EAEEF, PhilRice: Enhancing the Energy Efficiency of Rice Mills in the Philippines (Senior Business Advisor)

3/2011 – 9/2012

Cabeólica SA, Praia, Cape Verde **CEO**

Assigned for 19 months as a resident CEO to launch and manage the technical, financial and administrative operation of the wind power company Cabeólica SA. The company was established based on a Public-Private-Partnership (PPP) between the Government of Cape Verde and international private sector investors, and with EIB and AfDB as lenders. Responsible to organize and supervise all business functions of the start-up company during the construction, commissioning and initial operation phase. This included i.a. establishing

the company organization and recruiting the personnel, supervising the construction and Operations & Maintenance, managing the outside services (EPC and O&M contractors, Owner's Engineer, Lenders' Engineer, O&M and legal), capacity building and training, supervising the financial management, ensuring environmental and other permits compliance. By the end of assignment (September 2012) all four Wind Farms are in full commercial operation, thus fulfilling the Government's Renewable Energy strategy producing 25% of total electricity demand in Cape Verde. The assignment provided valuable experience from practical operation to RE strategy level; in RE technologies, construction, O&M, business management as well as development of energy policy, regulation and strategy.

11/1999 – 2/2006 and 11/2012 -

Emerging Power Partners Ltd,

the Fund Manager for **Private Energy Market Fund L.P.**, Helsinki, Finland

Managing Director

Managed the initial strategy development, fund raising and establishment of Private Energy Market Fund L.P. (PEMF), a EUR 26 million private equity fund. Managing Director of the Fund Management Company Emerging Power Partners Ltd (EPP) until 2006 when PEMF became fully invested, and again since Nov. 2012 for the final exit phase. PEMF's equity and quasi-equity investments included biomass, biogas, wind power, ESCO companies (energy efficiency) and combined heat and power, in Asia and in Europe. Responsibilities included:

- Management and business administration of the Fund Management Company EPP and the Fund Company PEMF
- Development, structuring, due diligence and closing of PEMF's investments
- Hands-on establishment of management and corporate governance practices in portfolio companies
- Strategic development, supervision and board level management of portfolio companies
- Negotiating and implementing the exits

Reference investments:

Inesco Oy	Finland	Energy service	start-up
NewHeat Ltd	Lithuania	Energy service	start-up
A.T.Biopower Co. Ltd	Thailand	Biomass power	start-up
Peak Pacific Inv. Co. Ltd	China	IPP	growth financing
Thai Biogas Energy Co	Thailand	Biogas	start-up
Arkadian Wind Power	Greece	Wind power	start-up

1986 – 1999

Electrowatt-Ekono Oy, Helsinki, Finland

Vice President, Consulting (1996-1999)

Responsibilities included management of the Consulting Business Unit and specialist work, focusing on:

- Strategy and Business Development for energy utilities in liberalizing market
- Energy System Master Plans (World Bank, EBRD, utilities, authorities, fuel companies)
- Combined Heat and Power, project development and feasibility studies
- Power market restructuring
- Energy Efficiency
- Merger and Acquisition opportunities

Vice President, CHP and Municipal Energy (1988-1996)

Responsibilities included management of the Municipal Energy Business Unit and specialist work, focusing on:

- Combined Heat and Power, District Heating, project development, feasibility studies, procurement and implementation
- Rehabilitation and repowering of CHP systems
- Financial analysis, tariff structures etc.

Specialist in Energy Economy (1986-1988)

- Feasibility studies, project development, technical design

1993 - 1994

Sheffield Heat and Power Ltd (SHP), Sheffield, UK

Technical Manager (secondment from Electrowatt-Ekono)

- Management (technical) of the operation and expansion of the Sheffield Waste-to-Energy/CHP/DH Scheme
- Development and feasibility assessment of new business opportunities for SHP
- Consulting in financial management, tariff development

1983-85

Planning Consultants ERG Ltd, Helsinki, Finland

- Regional Energy Planning

1979-81, 1982 – 83

Imatran Voima Oy (Imatra Power Company, currently Fortum), Finland

Design Engineer

- Institutional development of the Finnish power system
- Development of regulative environment and contractual structure between private and public electricity producers
- Power system reliability, long and short term reserve capacity, power trading
- Feasibility studies on Combined Heat and Power, Industrial Steam, Municipal Heating

1981-82

UNESCO Regional Office for Science and Technology in South and Central Asia, New Delhi, India, **Associate Expert**

BOARD MEMBERSHIPS

Inesco Oy, an energy service company, Finland (2000-2006)

NewHeat Ltd, an energy service company, Lithuania (chairman, 2001-2006)

A.T.Biopower Co Ltd, a bio energy IPP company, Thailand (2003-2006)

Thai Biogas Energy Co Ltd, a biogas electricity producer company in

Thailand (chairman 2004-2006, 2012- 2016)

Peak Pacific Investment Co Ltd, an IPP company in Singapore/China (2003-2006)

Greenfield Nordic Ltd, UK (2014 -)

LANGUAGES

Finnish: Native

English: Fluent

Swedish: Good

CURRICULUM VITAE



German: Fair

Portuguese: Basics