

ESA HÖGLUND

Born in 1958, citizen of Finland

Education

B.Sc., Food Process Engineering
Technical College of Turku, 1984

Current position

Senior Adviser, Water Treatment
Power Plant Technology, Thermal Power

Languages

Finnish, English, Swedish

Specialty

Water treatment, demineralisation, condensate polishing, chemical dosing, water chemistry, flue gas treatment, sampling.

Pöyry Experience

Mr Höglund joined the Ekono company (later Pöyry) as a Project Engineer in the Industrial Energy Department in 1987. In 2006 he was appointed Senior Adviser for Pöyry Finland Oy, Energy, Thermal power. In 2016 he moved to work with Oehlandt Energy as a Water Treatment specialist for Power industry.

He has worked on the following main projects:

Power Plant Projects:

- 2014-2016 Fortum Power/ TSE Naantali Finland
EPCM project, procurement and design of water treatment systems, incl. softening, RO-treatment, EDI and condensate polishing with ion exchangers.
- 2012-2013 Vantaan Energia, Vantaa Finland, Waste to Energy power plant
EPCM project, procurement of water treatment systems, supervision of delivery, demineralisation plant, flue gas condensate treatment, chemical dosing.
- 2011-2012 Fortum Power and Heat Oy, Järvenpää and Jelgava
EPCM project, procurement of water treatment systems, supervision of delivery.
- 2011 M-Real, Kyröskoski, HaVo, renovation of demineralisation plant
- 2010-2011 Kotkan Energia Oy, Karhula, Finland
A study of water treatment plant renovation, procurement of condensate polishing plant consisting of ion exchange technology, supervision of equipment supply
- 2010-2011 Lahti Energia Oy, Lahti, Finland
Procurement for power plant water treatment plant and supervision of equipment supply

- 2008-2009 Fortum Power and Heat Oy, Espoo, Finland
EPCM project for power plant, procurement of water treatment systems, supervision of equipment delivery
- 2008-2009 Stora Enso Oyj, Ostroleka, Poland
Procurement of water treatment plant for a high pressure power plant project, supervision of equipment supply
- 2007-2009 UPM Kymmene (UK) Ltd., UK
Caledonian new 28 MW_e biomass-fired power plant
Procurement and supervision of water treatment plant supply, commissioning and performance test supervision
- 2007-2008 Porin Prosessivoima Oy, Finland
New power plant, procurement and supervision of water treatment plant supply, performance test supervision for water treatment plant
- 2004-2005 UPM Kymmene
Procurement for UPM Shotton (UK) and Chapelle (France) paper mills' power plant water treatment systems; pre-treatment, demineralisation and condensate polishing systems
- 2004-2005 Vamy Oy, Finland
Study and procurement of paper mill power plant water treatment systems, pre-treatment and demineralisation plant 70 m³/h
- 2004 RHB Bank Berhad, Malaysia
Independent engineer for Perlis 650 MW combined cycle power plant project; monitoring of power plant operation and maintenance during the 2-year warranty period; Water Treatment Specialist
- 2004 Kuopion Energia Oy, Finland
Haapaniemi power plant; procurement of 2x 12.5 m³/h RO and EDI
- 2003 Wärtsilä Biopower, Finland
Water treatment system design for 2 and 5 MW power plants
- 2002 Stora Enso/ Corbehem, France, Demineralisation plant procurement
- 2001 Espoon Sähkö Oyj, Espoo, Finland
A study of reverse osmosis plant (2 x 10 m³/h) producing demineralised water from the brackish water and preparation of procurement documents and the contract
- 2002-2003 Foster Wheeler/ESB, Ireland
Technical design of water treatment systems for 2 x 110 MW_e plant
- 2002-2004 Foster Wheeler/MVV Königs Wusterhausen, Germany
Technical design for water treatment systems, 20 MW_e plant
- 2000-2001 UPM-Kymmene Oyj, Jämsänkosken Voima Oy, Finland
Preparation of tender documents, for condensate polishing, chemical design and sampling systems

- 2000-2002 Salmi Voima Oy, Iisalmi, Finland
Preparation of tender documents for water treatment systems
- 2000-2003 Foster Wheeler/ELCHO Chorzow, Poland
Technical design of water treatment systems for 2 x 100 MW_e DH plant
- 2000-2001 Espoon Sähkö Oyj, Finland
Study of raw water alternatives for a demineralisation plant
- 1998-2000 Tampere Power Utility, Naistenlahti, Tampere, Finland
Modernisation study of water treatment systems of a power plant
Preparation of tender documents, contract and project implementation
- 1998 Eesti Energia AS, Eesti Power Plant, Narva, Estonia
Modernisation study of water treatment systems of a power plant
- 1998-2000 Oy Alholmens Kraft Ab, Pietarsaari, Finland
Study of water treatment systems of a power plant, preparation of tender documents and contract
- 1998 Stora Enso Oyj, Imatra Mills, Imatra, Finland
Extension of water treatment equipment, pre-engineering, preparation of tender documents
- 1998 Pori Lämpövoima Oy, PLV (Heat and power company), Pori, Finland
Modernisation study of water treatment systems of a power plant and recommendation for monitoring steam/water cycle
- 1998 National Power Supply Co. Ltd., Tha Toom, Thailand
2*150 MWe power plant; appraisal of design of water treatment equipment
- 1997-1998 Suzhou Papyrus Paper Co. Ltd., Suzhou, P.R. China
Appraisal of water treatment equipment of a power plant and water chemistry
- 1997-1998 Toplane-Sarajevo, Sarajevo, Bosnia and Herzegovina
Emergency District Heating Reconstruction Project; preparation of tender documents for water treatment equipment and water laboratory, water treatment course
- 1997-1998 Jurong Shipyard, Singapore
Feasibility study of alternative desalination plants to produce drinking water from sea water (20,000 m³/d)
- 1997 Mussalon Höyryvoima Oy, Mussalo III, Kotka, Finland
Pre-engineering of water treatment systems
- 1996-97 Papéis Inapa S.A., Setubal, Portugal
Troubleshooting study, condensate treatment 100 m³/h. Procurement and implementation planning of a sampling system.

- 1995-1996 Metsä-Serla Paper and Board Ltd, Kirkniemi, Finland
Combined cycle power plant 100 MW_e / 116 MW MW_e, extension of water treatment equipment, tender documents and implementation engineering, pretreatment 100 m³/h, demineralization plant (ion exchange) 2 x 50 m³/h, condensate treatment 200 m³/h.
- 1995-1996 Enso Española S.A., Martorell, Spain
Combined cycle power plant 50 MW_e, tender documents for water treatment equipment, implementation engineering, pretreatment 300 m³/h, demineralization plant (reverse osmosis-ion exchange) 75 m³/h, condensate treatment 70 m³/h.
- 1994-1995 Syria, Jandar 600 MW power plant; owners technical consultant for supervision of EPC project
- 1994 Nettingsdorfer Papierfabrik AG, Nettingsdorf, Austria
Combined cycle power plant 30 MW_e, tender documents for water treatment equipment and tender evaluation.
- 1994 Korea District Heating Engineering Co., Ltd., Republic of Korea
Taegu Talso, Total Energy Supply Project; 40 MW_e /83 MW_{th} oil-fired power plant, Technical specifications for water treatment systems consisting of demineralization plant, chemical dosing and sampling systems.
- 1994-1995 Rovaniemi Energy Utility, Finland
30 MW_e / 60_{th} Peat fired power plant, design for water treatment systems consisting of demineralization plant, condensate polishing, DH side stream treatment, chemical dosing and sampling systems.
- 1993-1994 Public Establishment of Electricity (PEE), Syrian Arab Republic
Water treatment system for the Jandar 700 MWe combined cycle power plant; design and supervision of manufacturing and commissioning
- 1993 Sheffield Heat and Power Ltd, Sheffield, England
Preparation of tender documents for water treatment equipment of Sheffield's district heating system
- 1993-1996 Ministry of Trade and Industry of Finland, World Bank
Rehabilitation study of Tallinn district heating system; Modernization of water treatment equipment
- 1992-1993 C.E.I. Compagnia Elettrotecnica Italiana S.p.A. Scarlino, Milan, Italy
Technical specification documents for a desalination plant producing 100 m³/h water for a tioxide plant and a combined cycle power plant.
- 1992-1993 Mussalon Höyryvoima Oy, Kotka, Finland
300 MW power plant, reviewing of PI diagrams, process description documents.
- 1991-1992 Enso-Gutzeit Oy, Kotka, Finland
70 MW gas fired industrial combined cycle power plant, design of water treatment systems, documents for purchasing auxiliary equipment.

- 1989 Donghae Pulp Co. Ltd., Seoul, Republic of Korea
DPC II Pulp Mill Expansion Project, design of water treatment systems.
- 1989-1990 Kemi Oy, Kemi, Finland
Design of water treatment systems for a 2400 tds/d, steam generation 100 kg/s at 85 bar 480°C recovery boiler plant.
- 1988-1990 Vaskiluodon Voima Oy, Power Company, Seinäjoki, Finland
Design of water treatment systems for the 300 MW peat-fired power plant.
- 1987 Tampere Electricity Board, Finland
Lielahiti Combined Cycle Cogeneration Power Plant for District Heating, 110 MW/DH 155 MW, design of water treatment systems.

Studies and Other Projects:

- 2016 Fortum/TSE Naantali power plant, renovation of water treatment systems, demineralization plant, condensate polishing.
- 2015 Kotkan Energia, Hovinsaari power plant, renovation of water treatments systems, including demineralisation, condensate polishing, flue gas treatment.
- 2010 Eesti Energia As, Narva plants, Estonia
A study for an extension of water treatment plant
- 2005 Riaupulp Indonesia; Technical evaluation study for power plant water treatment systems (coagulation and demineralisation) and water chemistry
- 2005 Bapco Bahrain petroleum company; Technical evaluation study for power plant water treatment systems (MSF) and water chemistry
- 1999 Ministry of Trade and Industry, Town of Klaipeda, Lithuania
Evaluation of water treatment systems for three power plants
- 1993-1997 Ministry of Trade and Industry, Town of Tallinn, Estonia
Evaluation of water treatment systems in district heating for a rehabilitation study.
- 1996-1997 World Bank, Sofia, Bulgaria
District heating rehabilitation study - prioritisation programme
- 1993 Ministry of Trade and Industry, Town of Gdansk, Poland
Evaluation of water treatment systems in district heating for a rehabilitation study.
- 1992 Metsä-Serla Oy, Kirkniemi, Finland
Study on automation of water treatment equipment.
- 1991 YIT Corporation, Libya
Operation and maintenance project for a water treatment plant consisting of a 190 m³/h RO plant, a 65 m³/h demineralization plant, a domestic sewage water treatment plant and an industrial sewage water treatment plant.
- 1990 Oy Tampella Ab, Fluting Mill, Heinola, Finland

Study on capacity increase of water treatment equipment.

Performance Tests:

2009	UPM, Caledonian paper, UK, 2x 54 m ³ /h ion exchange train
2008	Porin Lämpövoima Oy, Finland, 1x 50 m ³ /h ion exchange train
2005	Kuopion Energia, Finland, 2x 12,5 m ³ /h RO + CDI demineralisation plant
2004	MVV, Königs Wusterhausen, Germany 1x 70 m ³ /h pre-treatment (decarbonisation), 3 m ³ /h demineralisation
1996	Tallinn, Estonia Demineralization plant 2 x 30 m ³ /h, K-A1/A2
1991	Metsä-Botnia Oy, Kemi, Finland Precipitation plant 500 m ³ /h, demineralization plant 2 x 230 m ³ /h with connection K-A1/A2-MB, condensate treatment 230 m ³ /h.
1988	Rautaruukki Oy, Raahе, Finland Demineralization plant 1 x 50 m ³ /h, with connection K-A1/A2.

Water Treatment Courses:

Organizer and lecturer:

1999	Basic course on power plant water treatment, two-day course
1998	Basic course on power plant water treatment, two-day course
1996	Metsä-Serla Paper and Board Ltd, Kirkniemi, Finland Three times a two-day course
1994	Kemira oy, Siilinjärvi, Finland One-day course
1992	Rovaniemi Energy Utility, Finland One-day course and statement of water treatment equipment
1990	Oy Dahlsbruk Ab, Koverhar, Finland Two one-day courses
1988-92	Finnish Energy Economy Association (ETY) Basic courses on power plant water treatment, two one-day courses

Lectures:

Centre for Continuing Education (INSKO) and Institute for Advanced Trades

Quality assurance for an operating laboratory

Finnish Recovery Boiler Committee (FRBC), Water chemistry of recovery boilers

Previous Experience

1986-87	Oy Vesi-Hydro Ab, Consulting Engineers, Helsinki, Finland, Process Engineer
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1982-85 Town of Uusikaupunki, Water Treatment Plant, Finland, Water Chemist