

Jorgen Boldt References

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Theme: Generation of electricity and heat

Overview

Implementation of actual projects, technology analyses, and a wide range of cross-cutting issues (e.g. economic and financial analyses, removal of barriers for market penetration).

Focus on renewable energy.

Refer also to the theme ‘**Technology development programmes**’.

Countries of experience: Denmark, India, Nigeria, Poland, South Africa, Tanzania.

Regions of experience: South-East Asia (ASEAN).

Employments

Danish Energy Agency (DEA), Ministry of Environment and Energy	
Location	Denmark
Period	November 1991 – January 1996
Employer	Danish Energy Agency (now Danish Energy Authority)
Position	Head of Bio-energy Section, Renewable Energy Division
Description	The section, manned by five academics, was the executive and administrative body of the Action Programme for Bioenergy in Denmark, including a development programme of EUR 6-8 million per year and a demonstration programme of EUR 7 million per year. The section was active in several international projects and programmes. DEA was the energy wing of the ministry, preparing and executing political decisions.

Danish Energy Agency (DEA), Ministry of Energy	
Location	Denmark
Period	December 1986 – January 1990
Employer	Danish Energy Agency (now Danish Energy Authority)
Position	Head of the Unit for Combined Heat and Power Production
Description	Responsible for the planning, as well as the economical and technical evaluations within a national programme to install approx. 100 small-scale power plants based on natural gas and biomass. Also responsible for the legal approval of each new plant.

Researcher and lecturer in energy technologies	
Location	Denmark
Employer	Technical University of Denmark
Period	January 1977 – July 1979 and July 1980 – November 1986
Position	Research Associate until November 1985, then Assistant Professor
Description	Researched in combined heat and power production (natural gas, coal, and biomass), energy storage, and renewable energy for developing countries. Taught M.Sc. students in energy technologies (applied thermodynamics) and energy systems analysis. Established a set-up for introducing an educational system within petroleum engineering at the University.

Solar water pump demonstration project in Mpera-Kisemvule Village	
Location	Tanzania, Cost Region
Employer	University of Dar es Salaam, Faculty of Engineering.
Period	August 1979 – June 1980
Client	Danida
Position	Project manager, resident (10 manmonths)
Description	Constructed and tested a solar powered water pump in a village in co-operation with the Tanzanian Ministry for Water, Energy and Minerals, and the regional authorities of the Coastal Region.

Selected projects

Technology data for energy plants	
Location	Denmark
Period	June – December 2011 (plus previous editions July 2009 – May 2010 and March 2003 – November 2004)
Clients	Danish Energy Agency and Energinet.dk (the Danish electricity system operator).
Position	Project Manager (2+5+6 manmonths)
Description	The project produced a catalogue ('Technology for energy plants', June 2010; in English), which comprises technology descriptions, and technology and economic data of various energy technologies, including forecasts until 2050. The aim was to establish: 1) A uniform, commonly accepted and up-to-date basis for energy planning activities such as future outlooks, evaluations of security of supply and environmental impacts; 2) A reference for evaluations of the development perspectives for technologies available for energy generation in relation to the programming of funding schemes for research, development and demonstration of emerging technologies. Boldt's task was, in close cooperation with the beneficiaries, to gather all information from literature and key stakeholders, to draft the catalogue and to conduct a public hearing for quality assurance. The catalogue is available at http://www.ens.dk/da-DK/Info/TalOgKort/Fremskrivninger/Teknologikatalog/Documents/Technology_data_for_energy_plants.pdf

Advanced waste-to-energy technologies	
Location	Denmark
Period	January 2009 – April 2010
Clients	Vestforbrænding I/S (the largest waste management company in Denmark).
Position	Technical Expert on biogas (anaerobic digestion) and thermal gasification (4 manmonths).
Description	The client had decided to establish a new large waste treatment plant, which shall include the most environmentally benign and feasible technologies in an integrated 'environmental park'. This may include anaerobic digestion of wet waste fractions and thermal gasification (or pyrolysis) of dry fractions for combined heat and power production and production of biofuels for vehicles. The project was a pre-decision study, providing technical options, feasibility analyses and investment advice as inputs to the subsequent detailed engineering.

Long-term district heating plan for Greater Copenhagen.	
Location	Denmark
Period	January 2008 – June 2009
Client	EA Energy Analysis, Commissioned by the regional district heating companies of Greater Copenhagen (CTR, VEKS and KE).
Position	Energy Technology Expert.
Description	The objective is to assess how low-carbon district heating can be developed, while sustaining affordable heat prices.

Renewable Energy Costs and Benefits for Society (RECaBS)	
Location	OECD Countries
Period	January – October 2007
Client	EA Energy Analysis, commissioned by the International Energy Agency.
Position	Energy Technology Expert.
Description	Costs and benefits of renewable energy compared to traditional energy sources, including costs of externalities. A web-based interactive calculation tool and energy technology catalogue. A project under the International Energy Agency's Implementing Agreement for Renewable Energy Technology Deployment (www.recabs.org).

Strategic/sectoral, social and environmental assessment of power development options in the Nile Equatorial Basin	
Location	Burundi, D.R. Congo, Kenya, Rwanda, Tanzania, Uganda
Period	February 2004 – September 2005
Client	World Bank, Nile Basin Coordination Unit
Position	Independent Reviewer (4 manmonths)
Description	The study, undertaken by the Nile Basin Initiative and the World Bank, examined the economic and engineering feasibility of a large number of power options, as well as their environmental and social impacts, to allow for informed and transparent decision-making in the selection of future power investments (project website: www.ssea.snclavalin.com). The tasks of the two Independent Reviewers were to undertake periodic, comprehensive and independent reviews of the project and to provide advice, expertise and strategic guidance to the Project Steering Committee throughout the development of the study.

The Darling Demonstration Wind Farm Project	
Location	South Africa, Western Cape
Host	Department of Minerals and Energy
Period	March 2000 – January 2003
Client	Danida, as employee of Ramboll Denmark
Position	Project manager (8 manmonths)
Description	Preparation and development of the first National Wind Farm Demonstration Project in South Africa. Wind measurements and wind resource assessment, environmental impact assessment, power purchase agreement, overall project facilitation.

Wood residues for district heating	
Location	Poland
Period	February – June 1999
Client	Danish Ministry of Environment and Energy
Position	Project manager
Description	Sustainable production and use of wood residues for energy purposes in the municipality of Wejherowo, Gdansk region. Feasibility analysis.

EC-ASEAN COGEN Programme	
Location	ASEAN Countries
Host	Asian Institute of Technology, Bangkok
Period	1992 – 1995
Client	European Commission, Directorate General I
Position	Head of Euro Centre, as employee of Danish Energy Agency (DEA)
Description	DEA was one of two so-called Euro Centres in the EC-ASEAN COGEN Programme, which was an economic cooperation programme between the Commission of the European Communities and the Association of South East Asian Nations (ASEAN). The programme concerned transfer of technology in the field of heat and power generation from biomass and residues.

North East Arid Zone Development Programme	
Location	Nigeria, Borno State
Host	Borno State Government
Period	1990
Client	Commission of the European Communities
Position	Renewable Energy Expert (2 manmonths)
Description	Elaborated a plan for the promotion of renewable energy (in particular solar photovoltaics) and more efficient use of fossil fuels as an integral component of the North East Arid Zone Development Programme.

Windmills in the Coastal Region of West Bengal	
Location	India
Host	Jadavpur University, Calcutta
Period	1987 - 1988
Client	Danida's Research Council
Position	Technical Expert
Description	Feasibility study on introducing windmills for water pumping in the coastal area of West Bengal. Marketing analysis together with technical, economical and socio-economic evaluations.