

CURRICULUM VITAE

Proposed role in the project:

Category: Senior

Staff of:

1. **Family name:** Naumann
2. **First names:** Ekkehart
3. **Date of birth:** 21 July 1942
4. **Nationality (passport holder):** German
5. **Place of residence:** Austria
6. **Education:**

Institution [Date from - Date to]	Degree(s) or Diploma(s) obtained:
Oldenburg University, Germany, 1980-1981	PhD (Science) with focus on Application and Education
Braunschweig Technical University, Germany, 1963-69	MSc (Applied Physics)

7. **Language skills:** Indicate competence on a scale of 1 to 5 (1 - excellent; 5 - basic)

Language	Reading	Speaking	Writing
English	1	1	1
German (native language)	1	1	1
French	4	4	5
Spanish	4	4	5

8. **Membership of professional bodies:** Member of the CDM Methodology Roster; Club of Rome Trans-Mediterranean Renewable Energy Cooperation (TREC) Initiative
9. **Other skills: (e.g. Computer literacy, etc.)** Fully computer literate (MS Office, MAC OS, technical design software)
10. **Present position: Free Lance Consultant** (Sustainable Development, specialisation Renewable Energy including **manpower development, capacity building and training**), Chief Technical Advisor for Environmentally Sound Energy Supply Systems (ENSUNT), Chief Executive Officer at Global Partnership for Local Action (NGO)
11. **Years within the firms:** 35 years in RETs, EE for Sustainable Development and Climate Change Abatement, including **manpower development, Capacity Building and Training on all levels**
12. **Key qualifications (relevant to the assignment):**
 - More than 30 years in **manpower development, capacity building and training** ranging from **on the job training** of workforce and **train the trainers** (combination of background knowledge and application during system installation), **training workshops for stakeholders** (implementation and decision making level), **summer schools** for local and international advisors, **academic RE programs at universities** in Africa and Germany.
 - 10 years' experience in establishment and cooperation with commercial local ESCOs and international component and system suppliers, financing institutions, especially in developing comprehensive tender documents for PV Systems, systematic technical offer evaluation concepts for objectively evaluating, comparing and ranking technical offers, development of equipment supply contracts, standardized control procedures for installation and operation/maintenance of PV Systems (Pakistan, Afghanistan. South Africa). All activities included **training of technical staff, awareness workshops** for decision makers and the public (user groups)
 - 10 years of experience in planning, negotiation for respective political programs and legislation as **well as funding** on all political and donor levels **including capacity building**, for Rural Electrification by ESCO (7 600 off grid villages in Thar Desert in Sindh and remote villages in Balochistan Province) and a grid connected PV Power Plant (50 MW PV in Punjab) in Pakistan, **marketing of respective EE appliances**

- More than 30 years of experience with international donor agencies (European Commission, GIZ/GTZ, ADB, UNDP UNIDO, UNEP,), policy advising and developing, implementing, and managing of sustainable development projects on energy service (electricity generation and distribution, public service) including climate change abatement, mainly in Asia, Africa, the MENA and Eastern Europe as Team Leader or Project Manager, focusing on Solar PV and solar thermal , Wind and Hydropower Technologies **including project financing, capacity building**
- Analysis and specification of an **innovative EU financing scheme** “Convertible Grant” for Rural Energy Supply in the framework of the EU Electrifi and SE4All Actions
- Experience in program and project identification, formulation, **financing**, implementation, **capacity building**, monitoring and evaluation of TA, focusing on sustainable development and poverty alleviation, climate change abatement, electrification by RET and improvement of energy efficiency (EE) in the public, commercial and private sector, PCM, demand side management of electrified systems, feed in tariff and consumer tariff systems for solar PV power generation
- Involvement in evaluation of governmental, administrative and management structures and legal framework, finding options for improvement and design of respective (TA financed) interventions on governmental and industrial level in Pakistan, Afghanistan, Nepal, South Africa
- Experience in negotiation of implementation framework with political authorities (President/Prime Minister and Ministerial level, working level of line ministries, industrial management, NGOs)
- Experience in the development **of renewable energy investments** in Asia, the MENA, sub-Saharan Africa
- Design, implementation and installation of solar, wind and hydropower projects (off-grid, mini-grid and grid connected) with focus on financial, social and technical sustainability, **institution building** including **capacity development**, establishment of **RET markets**, technology transfer, RET commercialisation und productive use of RET, public private partnership (PPP), **financing instruments, capacity building**, participatory approach including building and strengthening of local partnerships
- Expert knowledge of Renewable Energy Technologies (RET) and features for supply of the public, commercial and private sector; RE&EE a development, identification of indicators to track project results
- Extensive management of procurement process (tendering) on RET projects and ensuring that pricing, terms and warranties are benchmarked to industry standards
- 25 years of experience as Project Manager including reporting (inception, interim reports and final reports) and wide use of logical framework analysis (LFA) and project cycle management (PCM) as project tools
- Project experience of off-grid rural electrification by PV in Pakistan, Tanzania and Kosovo, decentralised village electrification by PV in South Africa and programme design for household energy in Djibouti
- Clients include European Commission, African Development Bank, Asian Development Bank, UNIDO, German Technical Cooperation (GIZ), the Government of The Netherlands, German Bank For Reconstruction (KfW) etc.
- CDM (Clean Development Mechanism) expert for accreditation of Operational Entities for project monitoring and awarding Carbon Credit Certificates (CERs)
- Excellent communication, report writing and editing skills, strong inter-personal leadership style including delegation of tasks and responsibilities under constructive supervision

13. **Specific experience / geographic regions:**

Country	Date from - Date to
Assignments in Asia: Afghanistan, China, India, Indonesia, Japan, Mongolia, Nepal, Pakistan , Philippines; Middle East: Jordan, Palestine Yemen; Africa: Djibouti; Kenya, Mali, Morocco, Namibia, South Africa, Sudan, Tanzania, Zimbabwe; South America: Bolivia, Chile, Guatemala and Peru.	1989 to date

14. Professional experience:

Date from - Date to	Location	Company & reference person ¹ (name & contact details)	Position	Description
January 2016 to July 2016	Khartoum / Sudan & homebased	UNDP Wind Energy Project Eng. Mohamed Ali Hamid Ahmed email: Mohamed.hamid@wepsd.org	Senior Individual Consultant	<p>Promoting Utility Scale Power Generation from Wind Energy</p> <p>Responsibilities:</p> <ul style="list-style-type: none"> Review existing relevant legislation and frameworks to be including in the Electricity Act, and drafts grid code, and distribution code. Develop 2 model PPA and deliver an associated PPA training. Preparation of investment and financing schemes for commercial BOOT implementation Survey Competitive Tendering Process for RE Projects. Develop Model Agreements/Contracts for small RE Generators. Develop Model PPA for large RE Generators. Deliver training (workshop) to relevant key stakeholders on the application of the model PPAs. The purpose of this training (workshop) will be to review the key ingredients to a successful PPA and contract negotiations. It will also provide an opportunity to review the model documents with relevant stakeholders and collect feedback. Provide training for stakeholders for the development of a monitoring and evaluating PPA Performance. Develop a monitoring and evaluation framework
Sept 2015 To today	Pakistan & home based	<p>CEERD, Centre for Energy Environment Resources Development (Bangkok/Thailand) Thierry Levevre t.lefevre@ceerd.net</p> <p>Client: EC DEVCO</p>		<p>Desk Study and Stocktaking Mission to Pakistan for Assessing the Energy Policies in view of launching the First EU-Pakistan Energy Dialogue</p> <p>Responsibilities:</p> <ul style="list-style-type: none"> stocktaking of the current situation in the energy sector in Pakistan (energy access, energy efficiency and the use of renewable energy sources) analysis of the institutional and regulatory framework: focus on Ministry of Water & Power and Ministry for Petroleum & Natural Resources and Energy, Regulator, investors and financing, marketing for private sector and NGOs in the electricity sector Investigation of reasons for the gap between electricity demand and generation Investigation of reasons for the high circulating debt in the electricity sector assessment of the regional context and the progress made in the implementation of the regional energy projects (e.g. TAPI, CASA 1000, LNG, China-Pakistan economic corridors) drafting a working scenario for the development of renewable energy resources, especially for rural and remote areas; SWOT Analysis of the Pakistan Energy Sector Developing an agenda for the EU-Pakistan Energy dialog

¹ The Contracting Authority reserves the right to contact the reference persons. If you have any objection to this fact, kindly state so and provide a justification

January 2015 to to date	Home based / EU Member states	Hifab International/ Bangladesh Mahmood Reaz Project Manager Email: mamood.reaz@hifab.se Client: EC DEVCO	Senior expert solar	Technical assistance and study to define parameters of a convertible grants support scheme Financing risk capital in projects aiming at increasing and improving access to modern, affordable and sustainable energy services (Convertible Grant Scheme of EU ElectriFI) Responsibilities: <ul style="list-style-type: none"> • The financial features per project type/category • The projects' technical configuration • The evaluation system and the submission template, • The Action administrative operation • The indicators (financial and technical) for project success and conversion from grant to junior loan • Parameters for payback of junior loans
June 2011 To to date	Vienna, Austria with site visits to Dubai and Abu Dhabi	Ensunt Energy Technology LLC, Abu Dhabi, UAE Joseph Steinfeld j.steinfeldt@ensunt.com	Chief Technical Advisor/ Project Manager	Design and Implementation of Public Lightning and Illumination systems by energy efficient lamps (LED and HID ² : energy savings against replaced lamp technology up to 75%) Airport Dubai, Deira Clock Tower, Sharja Mosque, Street and Parking Space Illumination, express highway Dubai-Oman (planning) Responsibilities: <ul style="list-style-type: none"> • Concepts, Design, Demand Side Management, Public Private Partnership and Built Own Operate (ESCO) approach • Large Public Space Illumination Systems • Sustainable Street Illumination Concepts • Energy Supply Concepts (grid, Stand Alone PV, Hybrid Grid-PV for improvement of reliability) • Off-Grid Illumination Systems
April 2010 to Dec 2012	Dragash, Kosovo and home based	UNDP Maria Elena Zuniga mezunigab@gmail.com	Senior Energy Advisor (Policy and Capacity Building)	Development of an environmentally sound Energy Supply Concept for the municipality and coordination of implementation of such concept: Responsibilities: <ul style="list-style-type: none"> • Concept framework for political decision-making and stakeholder cooperation, analysing the roles and identified gaps in the existing legislation and recent amendments, developed and utilised to assess the feasibility of the municipal energy policy and supply strategy • Design, Implementation and guidance/capacity Building for Energy Efficient and Reliable Street Lighting in Dragash City (5 km Pilot Phase) • Training and capacity building for local industry and users on implementation of sustainable energy technologies, market development for EE appliances • Undertook wind survey including computer based wind site analysis and energy output calculation for potential sites for wind farms (including ToR and sub-contracting of short term experts) • Undertook radiation survey including computer based PV site analysis and energy output calculation for potential site for PV power generation sites (including ToR and sub-contracting of short term experts) • Developed concept framework for investment/financing and budgeting (including public contributions similar to subsidies at the Kosovo level)

² HID: High Intensity Discharge Lamp

				<ul style="list-style-type: none"> • Service quality control strategy (in line with general supply standards and focusing on local services) developed in collaboration with MEM and central entity mandated to establish quality standards for service supply • Development of an auditing strategy including training of auditor • Baseline established on municipal energy supply • Energy strategy for Dragash to be extended to whole of Kosovo as guideline • Municipality Development Plan (until 2020) (first in Kosovo) focusing on aspects of sustainable energy strategy • Implementation of Public Private Partnership including awareness building workshop
June 2011 to date	Vienna, Austria with site visits to Pakistan and Abu Dhabi	Ensunt Energy Technology LLC, Abu Dhabi, UAE Joseph Steinfeld j.steinfeldt@ensunt.com	Chief Technical Advisor/ Project Manager	<p>Design and construction of a grid connected Solar Power Generation Project of 50 MW peak in Pakistan as first phase, aiming at solar power generation plants up to 2,200MW peak on a turnkey, fixed price, date certain to complete basis, and maintain the project to appropriate standards and to maximise the efficient operation of the project.</p> <p>Responsibilities:</p> <ul style="list-style-type: none"> • Feasibility study (technical, economic and financial, capacity demand) • Negotiation with, Ministry for Petroleum & Natural Resources, WADPA, AEDB about concession and feed in tariff • Site analysis and energy yield assessment • Grid interconnection study • Energy purchase agreement • Power plant design and work plan • Managed procurement process and ensured that pricing, terms and warranties were benchmarked to industry standards • Developed indicators to track projects results • Capacity building of local project staff (learning by doing) • CDM Gold Standard approval
Jan 2009 to Dec 2009	Kabul, Faisabad, Afghanistan and home based	GIZ Tobias Becker GIZ tobias.becker@giz.de	Senior Advisor	<p>Development of a provincial and national energy policy for the GTZ ESRA Programme in Afghanistan:</p> <p>Responsibilities:</p> <ul style="list-style-type: none"> • Development and implementation on the contributions by GTZ/ESRA project towards the development of a national strategy for rural electrification through RE • Training workshop for electricians, installing a complete demonstration PV solar home system • Providing advice to the Afghan Government/Minister of Energy and Water for rural electrification based on Solar and Hydro Energy Technology • Providing advice on development of the provincial electrification concept of Badakhshan and Takhar • Development of an environmentally sound rural electrification strategy at national and provincial level for decision by the Afghan Cabinet
Sep 2006 to Dec 2008	Islamabad, Pakistan	Govt of Pakistan / Alternative Energy Development Board AEDB Mr Qamaruddin quddin@winrockpk.org	Coordinator Rural Electrification and Capacity Building Expert	<p>Programme Design and Implementation of Rural Electrification by PV technology in Pakistan</p> <ul style="list-style-type: none"> • Planning, advising and capacity building for AEDB and Planning Commission (target: 7,600 villages in Sindh and Balochistan) • Planning, tendering and bid evaluation for electrification of 400 villages in Sindh and Balochistan (PV) as pilot phase • Undertook wind survey including computer based wind site analysis and energy output calculation for potential wind farm sites (including ToR and sub-contracting of short term experts) • Undertook radiation survey including computer based PV site analysis and energy output calculation for promising

				<p>sites for PV power generation sites (including ToR and sub-contracting of short term experts)</p> <ul style="list-style-type: none"> Contracting, monitoring and evaluation of installation and operation of the PV systems (total: 3.2 MW) by private contractors. Developed indicators to track project results Managed procurement and commissioning of installed PV systems Ensured that pricing, terms and warranties were benchmarked to industry standards Proposal of a CDM project design document Development of a rural electrification strategy and discussion with Pakistani authorities (Prime Minister, Planning Commission, Ministries concerned) Development and implementation of a quality control strategy for electrical energy service to private commercial sector, private households and community service Development of a tariff system for different user groups Design and implementation of an operation and management concept for BOOT (Built Own Operate and Transfer) strategy for Public Private Partnership in solar PV rural electrification, including capacity development Capacity building and training of decision makers (public and private sector), staff of energy service companies, user groups (training workshop for electricians, installing a complete demonstration PV solar home systems) Demand side management and energy efficiency of appliances connected to the electricity supply systems Survey including lessons learnt on the Wind Park Program of AEDB
Jan 2004 to June 2005	Conferences and personal discussions with authorities in Jordan, Tunisia, Yemen and Sudan	Club of Rome Trans-Mediterranean Renewable Energy Cooperation (TREC) Initiative between Jordan and Germany gerhard.knies@trec-eumena.org	Renewable Energy Expert	<p>Contributing to preparation of the Club of Rome initiative on Renewable Energy Co-operation and the MENARECs for implementation of CSP technology</p> <ul style="list-style-type: none"> Two presentation on CSP during the MENAREC in Amman, Jordan (March 2004) Two presentations during the MENAREC in Saana, Yemen (April 2004) Participation in the preparation of EUMENA network of co-operation for renewable energy Development and presentation of proposals to the national ministries of Energy for the introducing CSP into the energy mix of Sudan, Tunisia, Morocco, Yemen and Mongolia
Sep 2002 to June 2006	Sudan, Pakistan and home based	Integration Energy and Environment Ltd Ralph Pfoertner rpfoertner@integration.org	Senior Expert/ Project Manager	<p>Energy policy advice, renewable energy project design and development for energy service supply, RE technology design and review, RET³ oriented legal and administrative framework for energy service supply, project evaluation and monitoring, project budgeting and raising investment/financing, CDM activities (applicant entity certification, methodology assessment), environmental impact assessment (EIA), POP Analysis. Developed indicators to track projects results.</p> <p>Other tasks included:</p> <ul style="list-style-type: none"> Development of a rural off grid electrification strategy for Pakistan (AsDB) Desk review of CDM methodologies for approval by the Methodology Panel of CDM (Client: UNFCCC/CDM) Development of a conflict party reconciliation infrastructure development strategy in post-conflict zones of South of Sudan (Client: EC directorate Sudan/Humanitarian plus Khartoum) Development of an innovative geno-toxicity measuring device to facilitate the safety control in environmental applications (GENO SENSE) (Client: CEU) Assessment for Registration of "Operational Entities" for implementation and monitoring of CDM projects (Client: UNFCCC/CDM)

³ **RET**: Renewable Energy Technology

Feb to July 2000	Manila and Cebu City, Philippines	GTZ Special Energy Program of the Philippines	Team Leader	Fact-finding mission and project development for the Special Energy Programme, Philippines <ul style="list-style-type: none"> Monitoring and evaluation of PV pilot projects for village electrification and PV water pumping Site identification of village electrification and water pumping Analysis of political, legal, administrative and donor funding options in the energy sector Planning workshop (ZOPP) for a future SEP programme, Philippines
Jan 1999 to Aug 2002	Home based and traveling to project sites	Self-employed (free-lance consultant)	Team Leader/ Project Manager	Team Leader and Project Manager for projects and tasks in the fields of Rural Electrification, Renewable Energy, Wastewater in Nepal, India, Indonesia, Djibouti, Tanzania and South Africa. <ul style="list-style-type: none"> Management of procurement process on a range of RE projects Ensured that pricing, terms and warranties were benchmarked to industry standards Clients included Asian Development Bank, African Development Bank, UNIDO, German Technical Cooperation (GTZ), Dutch Government, European Commission, German Bank For Reconstruction (KfW) etc
Feb to June 1999	Djibouti	DECON Germany Client: EC	Senior Energy Consultant	Design of EC programme for household energy in the IGAT Region: <ul style="list-style-type: none"> Drafting technical proposal Fact finding mission in rural areas of Djibouti Preparation of final version of technical proposal and financial offer and presentation to EUD Djibouti
July 2001 to Jan 2002	Nepal	EUD Nepal (Kathmandu)	Senior Energy Consultant	Community Based RURAL OFF GRID ENERGY SUPPLY, BASED ON PV, NEPAL (Client: EU EuropeAid / IT Power India) Institutional policy and planning expert of the team <ul style="list-style-type: none"> Community based decentralized rural energy service, analysis of local RET related industry capacity, financing institutions, governmental (national, district, village level) and non governmental organizations, community based structures for project implementation, financing and operation strategies, demand and resource analysis, survey of related energy service implementation, based on biomass and hydropower.
Jan 2000 to Oct 2001	South Africa	DECON Germany Client: KfW	Team Leader	One year assignment for decentralised village electrification by PV: <ul style="list-style-type: none"> Preparation of draft project investment proposal and budget Definition of composition of the team (German/South African) 3 months fact finding mission in the project region Finalisation of proposal and presentation to KfW Presentation of implementation strategy on behalf of KfW during Hannover Fair
March 2003 to June 2004	Tanzania	KARADEA (NGO)	Team Leader	Team Leader and Project Manager in Strategy for Wide Dissemination of Solar Electric Systems <ul style="list-style-type: none"> Team mobilisation (1 German, 4 Zimbabwean experts) Preparation of draft project strategy 4 weeks fact finding mission in western Tanzania Preparation of draft technical proposal Fine tuning of technical proposal with management of KARADEA and Ministry of Energy and Mining

				<ul style="list-style-type: none">• Fund raising with Ministry of Energy and Mining and African Development Bank• Finalisation and submission of technical proposal in cooperation with KARADEA management and Ministry of Energy and Mining
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May 1996 to Dec 1998	Bremen, Germany	Bremen Overseas Research and Development Organization (NGO)	CEO	<p>Acquisition, supervision and evaluation of international infrastructure development projects, fund raising and budgeting, reporting, cooperation with national (German) and international donors or IFIs (European Commission, World Bank, UN Organisations); focus on environmentally sound and sustainable development by replicable implementation of RET.</p> <ul style="list-style-type: none"> • Fund raising and project financing/accounting • Managed procurement process on a range of RE projects • Ensured that pricing, terms and warranties were benchmarked to industry standards • Prepare marketing strategies for RET and EE appliances • Prepared indicators to track results of projects
Dec 1993 to Apr 1996	Harare, Zimbabwe	University of Zimbabwe	Visiting Professor	<ul style="list-style-type: none"> • Design and delivery of the Renewable Energy Post-graduate Programme at UZ/Faculty of Engineering, lecturing on RET • Advising governmental and non-governmental organisations in the field of environmentally sound energy management of rural and urban areas • Introduction of a practical lab course with real RET components (installation, monitoring, maintenance)
Oct 1986 to Nov 1993	Oldenburg, Germany	Oldenburg University, Germany	Professor and Programme Director	<p>Professor and Course Director of MSc course on Renewable Energies: research and lecturing (physics and RET), design of an international postgraduate (MSc) programme in Renewable Energy and its implementation (more than 450 alumni to date), university administration, organisation and teaching of summer schools on RET, fund raising. Focus on environmental benefits of RET against fossil and nuclear driven technologies, development of calculation method for “energy pay-back time” for RET components and first steps towards calculation of “ecological foot print”</p>
Sep1978 to Sep1975	Germany	Universities of Tuebingen, Bielefeld and Oldenburg	Senior Lecturer	Research and teaching/lecturing of physics, PhD research in teaching of science

15. **Other relevant information** (e.g., publications):

- Participation in International Conferences
- 46 publications in journals and conference proceedings about
 - ❖ geophysics
 - ❖ didactics of physics
 - ❖ sustainable development
 - ❖ RET implementation strategies and financing
 - ❖ Impact of technical component quality to project success