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Studies:

Institution (Dates: start - end)	Degree(s) obtained
International Institute of Water and Environmental Engineering (2iE/ Burkina Faso) (2013 – 2016)	PhD in Water, Energy and Environmental Sciences and Technologies; Option: Energy
Admission to the Ordre of Ingenious to Québec (In progress)	Admission in progress to the Ordre des Ingénieurs du Québec WES File No. 6142112
Doctoral School « Sciences de l'Ingénieur », University of Abomey-Calavi (UAC/ Benin) (2012 – 2016)	Advanced Studies Diploma (DEA) in Engineering Sciences
Polytechnic School of Abomey-Calavi (EPAC/ UAC/ Benin) – (2012 – 2013)	Design Engineer / Diploma of Design Engineer in Mechanics and Energetics, (Top of the class) Option: Energetics

### Other trainings:

- Training in Tunisia from February 3 to 17, 2025 on CEM (Energy Manager certificate)
- Abuja, Nigeria (June 2024) Regional training on energy supply analysis and use of the International Atomic Energy Agency MESSAGE tool for energy planning in countries in the West African sub-region
- Abomey-Calavi, Benin ( Jan 2023) Training on intellectual property rights and other forms of valorization of research results and innovation VABRINOV/VaRRIWA project led by the Faculty of Agricultural Sciences of the University of Abomey-Calavi
- Ouidah (Benin) August 2021: Training in scientific writing and research projects.
- Johannesburg (South Africa), March 2019: Maxx Solar Academies' Solar PV Training of Trainers.
- Dakar Senegal (March 2015): ADM seminar on decentralised energy concepts and industrial hybrid energy systems

### Main qualifications:

1. Areas of specialisation and expertise
  - Photovoltaic solar energy (stand-alone, grid-connected) - Studies - Installation - Monitoring and control –
  - Energy efficiency audits in buildings and industry (ISO 50 001 standards)
  - Hybrid energy systems
  - Modelling and simulation of energy systems (Matlab-Simulink, VBA)
2. 15 years' professional experience in electrification/renewable energy projects
3. 11 years' experience in conducting technical, economic and social feasibility studies (TES) for the electrification of new localities in the UEMOA region, West Africa (Benin, Togo, Ghana, Senegal, Burkina Faso, Mali, Guinea).
4. 03 years' experience as a Senior Consultant in Renewable Energies and Energy Efficiency
5. 02 years' experience as Managing Director of Takaz-Eng ([www.takaz-eng.com](http://www.takaz-eng.com))
6. 04 years' experience as Technical Director of KYA-Energy Group ([www.kya-energy.com](http://www.kya-energy.com))
7. 02 years' experience as Technical Director of Solariss-Ing (<https://solariss-ing.com/>)

### Work experience relevant to the assignment :

No.	Period	Employer's name, job title/position held Contact information for references	Country	Summary of activities carried out in relation to this assignment
1.	From November 2024 (in progress)	2iE Foundation (Centre for Higher Education and Research) Ouagadougou, Burkina Faso  Content expert. <u>Reference:</u> Name: Prof. SORO Moussa Position: Head of Electrical engineering department	Burkina Faso	<b>Drafting of two course supports for the training of energy engineers. These are the constituent elements of teaching (ECUE):</b> <ul style="list-style-type: none"> <li>▪ Photovoltaic systems technologies;</li> <li>▪ Design of photovoltaic solar systems (stand alone PV systems, grid connected systems, hybrid systems)</li> </ul>

No.	Period	Employer's name, job title/position held Contact information for references	Country	Summary of activities carried out in relation to this assignment
		Contact : <a href="mailto:moussa.soro@2ie-edu.org">moussa.soro@2ie-edu.org</a>		
2.	From August to October 2024	ECO-CONSULT GmbH & Co. KG Hersfelder Str. 17 36280 Oberaula, Allemagne <b>My role : Content expert &amp; trainer trainers</b> <b>Reference</b> Zéphyrin Magloire DOGNON <a href="mailto:zephyrin.dognon@eco-consult.com">zephyrin.dognon@eco-consult.com</a>	Ivory Coast	Training of trainers on "technical and economic and financial analysis of renewable energy, energy efficiency and climate action projects". Project number: PN 2020.2257.2-001.00; EPN 36121 Contract number: ECO/Professor-N ° 27/CC/2024-Int of 16.09.2024 Development of content and training of trainers <ul style="list-style-type: none"> <li>○ Sizing of mini energy networks incorporating ENR and EE;</li> <li>○ Analysis and determination of the conditions of profitability of ENR and energy efficiency projects: technical and financial aspects</li> <li>○ Evaluation of the climate impact of ENR projects</li> </ul>
3.	From 15/11/2024 (in progress)	DargaTech/ Takaz-Eng <b>Head of mission (Energy specialist)</b>  Reference: Genevieve Lefebvre-Thomas AFR SNMOC Ouagadougou, Burkina Faso <a href="mailto:genevieve@unops.org">genevieve@unops.org</a>		<b>Supervision mission for turnkey delivery of the 400 kWc ministerial PV and the Ouada distribution mini distribution in Burkina-Faso</b> <ul style="list-style-type: none"> <li>■ Check the quality of the execution of the work and if necessary, establish the list of deficiencies and non-conformities</li> <li>■ Study and correct the execution file of the contracting company;</li> <li>■ Follow and ensure compliance with initial schedule validated by all parties;</li> <li>■ Organize partial, provisional and final receptions</li> <li>■ Make daily site visits to the company's work manager and the Representing, if necessary, the client, in order to identify the difficulties encountered, stop the quantities of work carried out and give all necessary instructions to ensure the quality of the work.</li> </ul>
4.	From 28/11/2023 (in progress)	Takaz/KYA-Energy Group ( <b>Head of mission (Energy specialist)</b>  Reference: Olivier Adjahounzo Position: Director of Energy Management (DME) Contact: <a href="mailto:oadjahounzo@yahoo.fr">oadjahounzo@yahoo.fr</a>	Benin	<b>PROJECT CONTROL MISSION FOR THE ELECTRIFICATION BY PHOTOVOLTAIC SOLAR SYSTEMS OF 750 SOCIOCOMMUNITY INFRASTRUCTURES</b>  More specifically, this project involves checking: <ul style="list-style-type: none"> <li>(i) the preliminary design studies for the construction of a solar equipment test laboratory, a solar waste management infrastructure and remote monitoring systems for the installations:</li> <li>(ii) the construction works for the two infrastructures (laboratory and waste management infrastructure)</li> <li>(iii) the installation of 750 solar generators, 4,500 solar street lamps and 650 solar water heaters.</li> </ul>
5.	From 13/03 to 24/03/2023	KYA-Energy Group <b>Technical Director</b>  Reference: Position: DG Name: Prof Yao K. AZOUMAH Tel: +228 91502149 Email: <a href="mailto:yao.azoumah@kya-energy.com">yao.azoumah@kya-energy.com</a>	Togo	<u>Project name:</u> <b>Capacity building for staff of the Togolese Agency for Rural Electrification and. Renewable Energies (AT2ER) on large photovoltaic solar power plant projects</b>  Main modules taught <ul style="list-style-type: none"> <li>Y Different steps in the realization of large photovoltaic solar power plant projects</li> <li>Y Design, construction and operation of large photovoltaic solar power plants</li> <li>Y Economic and financial analysis of large photovoltaic solar power plant projects</li> </ul>
6.	From 12/2022 (In progress)	GIZ – Endev  Energy Expert Réf : Anick Assiba GIZ BJ <a href="mailto:anick.kemonoudavo@giz.de">anick.kemonoudavo@giz.de</a>	Benin	Project name: <b>Study on solar electric and thermal equipment for productive use (reference n°83417499)</b>  <b>Main objectives of the study:</b> <ul style="list-style-type: none"> <li>Y OS1: Identification and characterization of high-potential CVAs in the agriculture, crafts, tourism and catering sectors</li> <li>Y OS2: Evaluation and characterization of the supply and demand for energy equipment and services (solar and cooking) of SMEs (Small and Medium-sized Enterprises) and cooperatives transforming the CVAs selected:</li> </ul>

No.	Period	Employer's name, job title/position held Contact information for references	Country	Summary of activities carried out in relation to this assignment
				<ul style="list-style-type: none"> <li>Υ OS3: Analysis of business links between actors – Feedback from experience – Capacity building of actors</li> <li>Υ OS4: Assessment of actors' financing needs (supply and demand) – Proposal for a financing mechanism</li> </ul>
7.	From 12/2022 (In progress)	<p>ABERME</p> <p>Expert Trainer</p> <p>Ref: Name: Olivier Adjahouzo Position: Director of Energy Management (DME) Contact: <a href="mailto:oadjahounzo@yahoo.fr">oadjahounzo@yahoo.fr</a></p>	Benin	<p><b>Project name:</b> Training of industrial actors in the principle of energy management based on the ISO 50001 standard</p> <p><b>Main Features</b></p> <ul style="list-style-type: none"> <li>Υ Constitute the directory of industries throughout the national territory according to a predefined format...</li> <li>Υ Develop a summary training manual on the content of the ISO 50001 standard in industry;</li> <li>Υ Mobilize and train players in the industrial sector on the ISO 50001 standard;</li> <li>Υ Convince participants of the need to carry out energy audits and designate the Energy Man for their industry</li> </ul>
8.	Sept. 2023	<p>GIZ /ISMAST-Energy Project Consultant in charge of study</p> <p>Ref: Name: KPOAHOUN Stanislas Position Technical Advisor Social Infrastructure <a href="mailto:stanislas.kpoahoun@giz.de">stanislas.kpoahoun@giz.de</a></p>	Benin	<p><b>Project name:</b> Needs assessment and design of solar systems and PV mapping for solar infrastructure and solar street lights</p> <p><b>Work carried out:</b></p> <ul style="list-style-type: none"> <li>▪ Electrical and energy audit of Pehunco town hall buildings;</li> <li>▪ Inventory of the existing solar system supplying Pehunco town hall;</li> <li>▪ Site power balance (power ratings of main appliances and other characteristics: three-phase or single-phase, power factor, etc.);</li> <li>▪ Assessment of the existing power supply system (SBEE network, generator) and the electrical network inside the buildings;</li> <li>▪ Design of an optimised solar system with two options: stand-alone and hybridization of existing energy sources;</li> <li>▪ Costed recommendations for improved energy efficiency (lighting, use of energy-efficient appliances, etc.).</li> </ul>
9.	11-2022-12/2022	<p>SOFRECO</p> <p>Head of mission Expert Trainer Category 1</p> <p>Ref: Name: Guillaume Schneegans Position: Project Manager Contact: <a href="mailto:guillaume.schneegans@sofreco.com">guillaume.schneegans@sofreco.com</a></p>	Benin	<p><b>Project name:</b> Training on the design, sizing and maintenance of grid-connected solar photovoltaic systems</p> <p><b>Main features</b></p> <ul style="list-style-type: none"> <li>▪ Intervention as part of mission n°094C-RECASEB-AT-ENP-FCNDEB in Benin</li> <li>▪ This is a vocational training assignment on the design, sizing and maintenance of grid-connected solar photovoltaic systems.</li> </ul> <p><b>Tasks carried out</b></p> <ul style="list-style-type: none"> <li>▪ Proposed a detailed training agenda</li> <li>▪ Developed the training content</li> <li>▪ Evaluate learning outcomes and assessment of the training course</li> <li>▪ Write training reports</li> </ul>
10.	04-2022-12/2022	<p>SOFRECO</p> <p><b>Head of Mission</b></p> <p><u>Ref :</u> Name: Guillaume Schneegans Position: Project Director Contact: <a href="mailto:guillaume.schneegans@sofreco.com">guillaume.schneegans@sofreco.com</a></p>	Benin	<p><u>Project name:</u> Capacity Building for Energy Sector Actors in Benin (RECASEB) (EU funding)</p> <p><u>Key features</u></p> <ul style="list-style-type: none"> <li>■ Intervention in the framework of the mission n°099 "Support and monitoring of the implementation of the study Atlas of renewable energies in Benin"</li> <li>■ This is a technical assistance mission to the Directorate General of Energy Resources (DGRE) in order to support it in the supervision of the RE Atlas project, which is being carried out by a group of firms and aims to develop an atlas of all relevant renewable energy sites in Benin (solar, micro-hydro, wind, biomass, geothermal).</li> </ul>

No.	Period	Employer's name, job title/position held Contact information for references	Country	Summary of activities carried out in relation to this assignment
				<p><u>Tasks performed</u></p> <ul style="list-style-type: none"> <li>■ Review of the deliverables of the group of firms responsible for the production of this atlas.</li> <li>■ Supervision of the technical assistance team</li> <li>■ Control of the quality and follow-up of the planning by the service providers</li> <li>■ Supervision of the preparation of the technical assistance team's reports</li> </ul>
11.	02/ 2022	<p>Oryx Benin SA 01B.P 464 RP   Immeubles Maerk House  Domaine OCBN lot 531  Cotonou-Benin</p> <p>(Work carried out on behalf of Takaz-Eng, www.takaz-eng.com)</p> <p>Oryx Benin SA 01B.P 464 RP   Immeuble Maerk House  Domaine OCBN llot 531  Cotonou-Bénin</p>	Benin	<p><b>Project name:</b> Generation of site load profile as part of project N° 21100698-DA_ELECTRICAL CONSUMPTION SURVEY (SOLAR PROJECT)</p> <p><b>Main features</b> The project concerns medium voltage maintenance work on one of ORYX S.A.'s transformers. The work carried out is as follows:</p> <ul style="list-style-type: none"> <li>▪ Complete insulation of the MV/LV substation;</li> <li>▪ Dusting and sweeping the MV/LV substation;</li> <li>▪ Degreasing and greasing the shafts;</li> <li>▪ Taking over the end of phase L1 (Option 1); Switching P4 and P5 cells (Option 2);</li> <li>▪ Checking the tightening torques of the MV cable heads and busbars using appropriate spanners;</li> <li>▪ Maintenance of MV cable heads (internal and plug-in ends)</li> <li>▪ Check operation of heating resistors;</li> <li>▪ Checking the earth values in the MV/LV substation;</li> <li>▪ Check tightening torques of LV terminals on transformers and compact circuit breakers;</li> <li>▪ Testing and commissioning.</li> </ul>
12.	From 06 to 07/ 2022	<p>Mionwa Limited Company with a capital of 10 000 000 FCFA RCCM RB/COT/20 B 26249 IFU: 3202011251595 Ganhi Xwladodji Podji, Rue du Cap Marnet, Immeuble COOP &amp; Partenaires, 3ème étage Tel : 69584848 Cotonou- République du Bénin</p> <p>(Work carried out on behalf of Takaz-Eng, www.takaz-eng.com )</p>	Benin	<p><b>Project name:</b> DETAILED TECHNICAL SURVEY OF SOLAR ENERGY DISTRIBUTION MINI NETWORKS (Lot 3)</p> <p>Main characteristics and tasks carried out</p> <p>The work was carried out in ten (10) localities located in the communes of Savalou, Bantè and Savè. This involved:</p> <ul style="list-style-type: none"> <li>▪ Become familiar with the network plans drawn up and made available by MIONWA;</li> <li>▪ Identify the geotechnical conditions of the sites;</li> <li>▪ Identify the accessibility of the sites (types of roads, seasonal access difficulties for transporting materials, etc.);</li> <li>▪ Identify the general conditions for the location of the solar power plant and the technical room on each site;</li> <li>▪ Check the GPS location of the supports and the route of the proposed networks;</li> <li>▪ Mark and identify main roads, changes in terrain gradient, main rights of way and obstacles along the distribution network route;</li> <li>▪ Assess the suitability of the location of the proposed supports or whether they should be modified or removed and propose the appropriate and feasible option;</li> <li>▪ Identify the most suitable types of support for each area of each locality, taking into account access roads, built-up areas and other constraints;</li> <li>▪ Geo-reference any corrections (relocation of supports/centres, etc.), infrastructures and any references to facilitate the updating and use of network plans by MIONWA;</li> <li>▪ Fill in the survey forms.</li> </ul>
13.	02/ 2022	<p>Oryx Benin SA 01B.P 464 RP   Buildings Maerk House  Domain OCBN lot 531  Cotonou-Benin</p>	Benin	<p><b>Project name:</b> Generation of site load profile as part of project N° 21100698-DA_ELECTRICAL CONSUMPTION SURVEY (SOLAR PROJECT)</p> <p><b>Main features:</b></p>

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		(Work carried out on behalf of Takaz-Eng, www.takaz-eng.com)		<ul style="list-style-type: none"> <li>▪ Install an electrical recorder to evaluate the low-voltage network and measure the electrical quantities for the three phases (voltage, current, power) on the ORYX site at the autonomous port of Cotonou;</li> <li>▪ Draw up a power profile (kVA, kW, kWh) for the site throughout the day.</li> <li>▪ Tasks carried out</li> <li>▪ Record and process power and energy data characteristic of the network;</li> <li>▪ Generate a PDF report containing daily power, energy and frequency profiles, etc.</li> <li>▪ Generation of an XLS (Excel) document containing all the recorded data.</li> </ul>
14.	02/ 2022 Ongoing	<p>Ministry in charge of Energy and Mines (MDEM) of Togo</p> <p><b>Operations Manager</b> for KYA-ENERGY GROUP/QINGDAO HITECH NEW ENERGY</p> <p>Name: Prof Yao K. AZOUMAH Tel: +228 91502149 Email: yao.azoumah@kya-energy.com</p>	Togo	<p><b>Project Name:</b> Supply and installation of solar street lighting equipment in the Maritime and Savannah Regions Contract amount: 1,096,456,000 CFA francs including VAT</p> <p><u>Key features</u></p> <ul style="list-style-type: none"> <li>▪ Ordering and receiving the equipment</li> <li>▪ Installation of solar street lamps in the Maritime and Savannah regions of Togo</li> <li>▪ Repair of some street lamps in the Maritime and Savannah regions</li> </ul> <p><u>Tasks performed</u></p> <ul style="list-style-type: none"> <li>▪ Mission team training;</li> <li>▪ Supervision of fieldwork</li> <li>▪ Drafting of mission reports.</li> </ul>
15.	11/2021-2022	<p>2iE Foundation (Centre for Higher Education and Research), Ouagadougou, Burkina Faso</p> <p><b>Associate Consultant, responsible for energy-related research</b></p> <p><u>Ref:</u> Name: Dr (MC) Daniel YAMEGUEU NGUEWO Position: Focal point of the mission at 2iE Contact : <a href="mailto:daniel.yamegueu@2ie-edu.org">daniel.yamegueu@2ie-edu.org</a></p>	Burkina	<p><b>Project Name:</b> Capitalisation of university research results in the energy field (solar PV, solar thermal, biomass, etc.)</p> <p><u>Key Features</u></p> <ul style="list-style-type: none"> <li>▪ Elaboration of a document to capitalize and popularize the results of 2iE's research in the energy field</li> </ul> <p><u>Activities performed:</u></p> <ul style="list-style-type: none"> <li>▪ To make a comprehensive inventory of research results and innovations at 2iE;</li> <li>▪ Document and structure scientific knowledge so that it is more easily accessible;</li> <li>▪ To propose a methodology and a budgeted action plan for the dissemination of 2iE's scientific results and innovations;</li> <li>▪ To propose a procedure for a better capitalization and popularization of the results and innovations resulting from the research at 2iE.</li> </ul>
16.	11-2021 to 01-2022	<p>Solariss-Ing (SARL)</p> <p><b>Design engineer</b></p> <p><u>Ref:</u> Name: Siaka Maliky Djamiyou Poste: DG Solariss-Ing Contact: <a href="mailto:solariss_ing@hotmail.com">solariss_ing@hotmail.com</a></p>	Benin	<p><b>Project Name:</b> Feasibility study for the off-grid electrification of four (4) localities in the Republic of Benin (GIZ funding)</p> <p><u>Key Features</u></p> <ul style="list-style-type: none"> <li>▪ Completion of the technical and economic feasibility study report (APS, APD) and the Environmental and Social Impact Assessment (ESIA)</li> <li>▪ Total length of LV network: 22.8 km</li> <li>▪ Installed peak power of each plant: 69 -- 277 kWp</li> <li>▪ Battery storage system: 200 -- 1061 kWh C20</li> <li>▪ Client: Agency Beninese de electrification Agency Beninese de electrification Rural (ABERME)</li> </ul> <p><u>Activities performed</u></p> <ul style="list-style-type: none"> <li>▪ Carrying out the demand study and load curves;</li> <li>▪ Proposal of a distribution of subscribers by categories;</li> <li>▪ Supervision of the field survey missions;</li> <li>▪ Supervision of the LV network sizing team;</li> <li>▪ Sizing of mini power plants;</li> <li>▪ Supervision of the team in charge of the impact study</li> <li>▪ Proposal of the economic and tariff model;</li> </ul>

No.	Period	Employer's name, job title/position held Contact information for references	Country	Summary of activities carried out in relation to this assignment
17.	07-2021 to 11-2021	<p>Solariss-Ing</p> <p><b>Design engineer</b></p> <p>Réf : Name: Siaka Maliky Djamiyou Poste : DG Solariss-Ing Contact: <a href="mailto:solariss_ing@hotmail.com">solariss_ing@hotmail.com</a></p>	Benin	<p><u>Project Name:</u> Regional Programme for the Development of Renewable Energy and Energy Efficiency (PRODERE 2) (UEMOA funding)</p> <p><u>Key Features</u></p> <ul style="list-style-type: none"> <li>■ The study has three components:</li> <li>■ Installation of micro solar power plants in 22 villages spread from north to south.</li> <li>■ Acquisition and installation of 830 All-In-One solar street lamps in selected border areas and 10 toll and weigh stations.</li> <li>■ Substitution of 2500 public lighting lamps by low consumption lamps in 06 communes.</li> <li>■ Objective: Carrying out the Detailed Preliminary Project Study (DPS) and the Environmental and Social Impact Assessment (ESIA) of the three components</li> <li>■ Client: Agency Beninese de électrification Beninese Agency for Rural Electrification (ABERME)</li> </ul> <p><u>Activities Performed:</u></p> <ul style="list-style-type: none"> <li>■ Carrying out the demand study and load curves;</li> <li>■ Proposal of a distribution of subscribers by categories;</li> <li>■ Supervision of field surveys;</li> <li>■ Supervision of the LV network sizing team;</li> <li>■ Sizing of mini power plants;</li> <li>■ Supervision of the team in charge of the preliminary environmental and social impact study;</li> <li>■ Sizing of the solar PV street lighting system</li> </ul>
18.	03/2021 to 08/2021	<p>TAKAZ-Eng</p> <p><b>Head of Mission</b></p> <p>Réf : Name: TOSSA Séraphin Position: DG Takaz-Eng Contact: <a href="mailto:seraph_tossa@yahoo.fr">seraph_tossa@yahoo.fr</a></p>	Benin	<p><u>Project Name:</u> MONITORING AND CONTROL OF THE INSTALLATION WORKS OF THE MINI SOLAR POWER PLANT OF THE NATIONAL DOCUMENTATION CENTRE ON ENERGY IN BENIN (CNDEB)</p> <p><u>Key Features</u></p> <ul style="list-style-type: none"> <li>■ Verification of compliance with the initial technical specifications and provisional acceptance of the various equipment installed in the CNDEB mini solar power plant;</li> <li>■ Monitoring and control of the various works involved in the installation of the CNDEB mini solar power plant in order to ensure that the works are carried out in accordance with the required methodology;</li> <li>■ Verification of the respect of the standards and specifications in the installation of the CNDEB mini power plant;</li> <li>■ Contribution to the respect of the execution schedule</li> </ul> <p><u>Activities Performed:</u></p> <ul style="list-style-type: none"> <li>■ Supervision of field teams;</li> <li>■ Verification and correction of execution plans;</li> <li>■ Exchanges with the client and the executing company;</li> <li>■ Drafting of monitoring mission reports.</li> </ul>
19.	01/2020-06/2021	<p>KYA-Energy Group</p> <p><b>Technical Director</b></p> <p>Reference: Position: DG Name: Prof Yao K. AZOUMAH Tel: +228 91502149 Email: <a href="mailto:yao.azoumah@kya-energy.com">yao.azoumah@kya-energy.com</a></p>	Togo	<p><u>Project name:</u> Technical assistance for the follow-up and validation of the technico-economic feasibility studies of the 50 MWp plant in Blitta Monitoring and control of the construction works of the 50 MWp solar power plant on the Blitta site</p> <p><u>Key Features</u></p> <ul style="list-style-type: none"> <li>■ Togolese Rural Electrification and Renewable Energy Agency (AT2ER)</li> </ul> <p><u>Activities Performed</u></p> <ul style="list-style-type: none"> <li>■ Analysis and approval of execution plans and methodologies;</li> <li>■ Control and supervision of the power plant construction works and related activities;</li> <li>■ Development of the commissioning (partial and total) and acceptance procedures of the power plant and the various performance tests of the power plant;</li> </ul>

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				<ul style="list-style-type: none"> <li>■ Factory acceptance of the equipment including transformers, inverters, PV modules;</li> <li>■ Provisional acceptance of the power plant.</li> </ul>
20.	From 05 to 11/04/2021	<p>2iE Foundation (Centre for Higher Education and Research)</p> <p><b>Trainer</b></p> <p><u>Ref:</u> Name: Edem Ntsoukpoe. Position: Lecturer-researcher responsible for enhancing the skills of doctoral students</p> <p>Contact: <a href="mailto:edem.ntsoukpoe@2ie-edu.org">edem.ntsoukpoe@2ie-edu.org</a></p>	Burkina Faso	<p><u>Activities Performed</u></p> <ul style="list-style-type: none"> <li>■ Training of the 2iE Foundation masters in Burkina on grid-connected solar PV systems (configuration, design)</li> <li>■ Conducting projects and practical work on grid-connected systems</li> <li>■ Training of young researchers (PhD students) on energy system modelling in the Simulink environment of Matlab</li> </ul>
21.	04/2021	<p>Benin Agency for Rural Electrification and Energy Management (ABERME)</p> <p><b>Trainer</b></p> <p><u>Reference :</u> Name: Adjahounzo Olivier Position: Director of Energy Management (DME) / ABERME</p> <p>Contact: <a href="mailto:oadjahounzo@yahoo.fr">oadjahounzo@yahoo.fr</a></p>	Benin	<p><u>Project Name:</u> Training in solar PV system sizing</p> <p><u>Activities Performed:</u></p> <ul style="list-style-type: none"> <li>■ Training workshop for ABERME staff on a new approach to solar photovoltaic system sizing</li> <li>■ Discovery and practical work on the KYA-Sol Design software</li> </ul>
22.	2020 -- 2021	<p><b>KYA-Energy Group</b></p> <p><b>Technical Director</b></p> <p><b>Reference:</b> <b>Positioned : Managing Director</b> <b>Name: Prof Yao K. AZOUMAH</b> <b>Tel: +228 91502149</b> <b>Email: <a href="mailto:yao.azoumah@kya-energy.com">yao.azoumah@kya-energy.com</a></b></p>	Togo	<p><b><u>Project Name:</u> Solar Electrification of Health Facilities in Sub-Saharan Africa (USAID Funding No. PAOP-RFA-2020-004)</b></p> <p><b><u>Key Features:</u></b></p> <ul style="list-style-type: none"> <li>■ Electrification of 20 health center's in rural Togo</li> <li>■ Installation of a set of solar systems consisting of : <ul style="list-style-type: none"> <li>■ PV generators from 5 to 20 kW with 03 lithium batteries of 100 Ah 48 V</li> <li>■ Rechargeable tables for 18 phones in simultaneous charge</li> <li>■ Solar and automatic hand washing kits</li> <li>■ Solar refrigerators</li> </ul> </li> </ul> <p><b><u>Activities Performed:</u></b></p> <ul style="list-style-type: none"> <li>■ Active participation in the project set-up ;</li> <li>■ Supervision of the mission team in charge of : <ul style="list-style-type: none"> <li>- collecting data in 20 health centers in rural Togo</li> <li>- Assessing the energy needs of the 20 center's;</li> <li>- supplying and installing solar systems of 5 to 20 kWp in the health center's</li> <li>- install automatic hand-washing systems;</li> <li>- Design or renovate the electrical installations of the health center's;</li> </ul> </li> <li>■ Propose an economic model to ensure the sustainability of the installations (maintenance and renewal of components at the end of their life)</li> </ul>

No.	Period	Employer's name, job title/position held Contact information for references	Country	Summary of activities carried out in relation to this assignment
23.	11/2020 – 02/2021	<p>KYA-Energy Group</p> <p><b>Technical Director</b></p> <p>Reference: Position: Managing Director Name: Prof Yao K. AZOUMAH Tel: +228 91502149 Email: yao.azoumah@kya-energy.com</p>	Togo	<p><u>Project Name:</u> Installation of a 32 kWp solar backup system at the AT2ER (GIZ funding)</p> <p><u>Key Features:</u></p> <ul style="list-style-type: none"> <li>■ 32 kWp PV array</li> <li>■ 03 hybrid inverters of 10 kW</li> <li>■ 24 x 529 Ah C10 batteries (25.39 kWh)</li> </ul> <p><u>Tasks performed:</u></p> <ul style="list-style-type: none"> <li>■ Preparation of the execution file</li> <li>■ Ordering and acceptance of equipment</li> <li>■ Constitution and supervision of the teams (electricians, boilermakers) mobilised for the installation;</li> <li>■ Continuous monitoring of the installation work;</li> <li>■ Continuous monitoring of the installation work; Completion file.</li> </ul>
24.	10/2020-10/2021	<p>KYA-Energy Group</p> <p><b>Technical Director</b></p> <p>Reference: Position: Managing Director Name: Prof Yao K. AZOUMAH Tel: +228 91502149 Email: yao.azoumah@kya-energy.com</p>	Guinea Bissau	<p><u>Project Name:</u> Technical assistance to ensure the long-term sustainability of the clean energy mini-grid projects supplying the villages of Bambadinca and Bissora (ECOWAS - ECREEE funding)</p> <p><u>Key Features:</u></p> <ul style="list-style-type: none"> <li>■ Installed capacity of the Bambadinca plant: 312 kWp</li> <li>■ Installed capacity of the Bissora plant: 500 kWp</li> <li>■ Length of LV network Bambadinca: 07 km; Bissora: 11 km</li> <li>■ Length of MV network Bambadinca: 03 km; Bissora: 3 km</li> <li>■ Battery storage: Bambadinca: 1987 kWh; Bissora: 1728 kWh</li> </ul> <p><u>Tasks performed:</u></p> <ul style="list-style-type: none"> <li>■ Diagnosis of the current state of each of the mini-power stations;</li> <li>■ Make costed proposals for repairs and reactivation;</li> <li>■ Make costed proposals for extension to better cover the beneficiary populations;</li> <li>■ Make a study of the current tariff schedule and make proposals for improvement.</li> </ul>
25.	08/ 2020 02/2021	<p>Ministry of Mines and Energy (MME), Togo</p> <p><b>Operations Manager for KYA-ENERGY GROUP/QINGDAO HITECH NEW ENERGY</b></p> <p>Name: Prof Yao K. AZOUMAH Tel: +228 91502149 Email: yao.azoumah@kya-energy.com</p>		<p><u>Project Name:</u> Supply and installation of equipment for the maintenance of solar street lamps in Togo</p> <p>Contract amount: 295 480 155 F CFA HT/HD</p> <p><u>Key Features</u></p> <ul style="list-style-type: none"> <li>■ Ordering and receiving material</li> <li>■ Repair of solar street lamps in Togo</li> </ul> <p><u>Tasks performed</u></p> <ul style="list-style-type: none"> <li>■ Training of mission teams;</li> <li>■ Supervision of fieldwork</li> <li>■ Drafting of mission reports.</li> </ul>
26.	07-11/2020	<p><b>Enabel - Belgian Development Agency (BDA)</b></p> <p>Consultant, Head of Mission</p> <p>Reference : Position: Leading civil servant Name: Bonaventure Otchoun Tel: Email: <a href="mailto:bonaventure.otchoun@enabel.be">bonaventure.otchoun@enabel.be</a></p>	Benin	<p><u>Project Name:</u> Feasibility study for the electrification of small-scale economic production units in rural areas using solar PV systems (BDA funding)</p> <p><u>Key Features:</u></p> <ul style="list-style-type: none"> <li>■ The study focused on identifying the needs and conducting feasibility studies for the installation of solar systems for 22 different types of artisanal pineapple juice and dried pineapple processing units</li> </ul> <p><u>Tasks performed:</u></p> <ul style="list-style-type: none"> <li>■ Supervision of the data collection team and assessment of the energy needs of the 22 units;</li> <li>■ Supervision of the data collection teams from the solar companies in Benin;</li> <li>■ Sizing of the solar systems for each of the units;</li> <li>■ Study of the technical and economic profitability of the sized systems;</li> <li>■ Determination of the optimal level of subsidy for the sustainability of the systems</li> </ul>

No.	Period	Employer's name, job title/position held Contact information for references	Country	Summary of activities carried out in relation to this assignment
27.	04/2020 – 08/2020	<p>KYA-Energy Group</p> <p><b>Technical Director</b></p> <p>Reference: Position: DG Name: Prof Yao K. AZOUMAH Tel: +228 91502149 Email: yao.azoumah@kya-energy.com</p>	Togo	<p><u>Project Name:</u> Vulnerable Population Support Programme (PAPV)</p> <p><u>Key Features</u></p> <ul style="list-style-type: none"> <li>■ Solar street lighting works in the framework of the construction of the complementary infrastructures of the new fishing port of Lomé</li> <li>■ Main activities: supply, installation and maintenance of twenty-one (21) double-sided solar streetlights and 15 floodlights with solar modules, batteries and regulator</li> </ul> <p><u>Tasks performed:</u></p> <ul style="list-style-type: none"> <li>■ Preparation of the execution file;</li> <li>■ Ordering and acceptance of equipment;</li> <li>■ Supervision and control of the installation teams (electrician, civil engineer) in the field;</li> <li>■ Drawing up the completion file.</li> </ul>
28.	03-05/2020	<p>KYA-Energy Group</p> <p><b>Technical Director</b></p> <p>Reference: Position: DG Name: Prof Yao K. AZOUMAH Tel: +228 91502149 Email: yao.azoumah@kya-energy.com</p>	Togo	<p><u>Project Name:</u> Technical and economic feasibility study for the installation of a photovoltaic power plant for a factory in Togo (private funding)</p> <p><u>Key Features:</u></p> <ul style="list-style-type: none"> <li>■ Installed capacity of the solar power plant: 2 MWp</li> <li>■ Client: Société Ivoirians de parfumeries (SIVOP) General management of the Société Ivoirians de parfumeries (SIVOP)</li> </ul> <p><u>Tasks performed:</u></p> <ul style="list-style-type: none"> <li>■ Estimation of the plant's daily profile and the plant's annual energy expenditure;</li> <li>■ Sizing of several solar PV systems to meet the needs with different penetration rates;</li> <li>■ Techno-economic analysis of the different types of solar systems sized on the basis of the discounted cost per kWh (LCOE)</li> </ul>
29.	02-2020 au 02-2021	<p>KYA-Energy Group</p> <p><b>Technical Director</b></p> <p>Reference: Position: DG Name: Prof Yao K. AZOUMAH Tel: +228 91502149 Email: yao.azoumah@kya-energy.com</p>		<p><u>Project Name:</u> Promotion of productive solar equipment (PESoP)</p> <p><u>Description:</u> Through this project, GIZ/ProEnergie, in agreement with the Togolese government, grants financial incentives to KYA-Energy Group to market refrigerators and solar pumps at reduced costs. The disbursement of funds is results-based.</p> <p><u>Tasks performed:</u></p> <ul style="list-style-type: none"> <li>■ The pumps sold and installed in this project are Grundfos SQF pumps; Lorentz PS2-200; Lorentz PS2-600; Lorentz PS2-1800 and Lorentz PS2-1400</li> <li>■ The solar refrigerators sold and installed are: SunDanzer DC50 Freezer; SunDanzer DC165 Refrigerator/ Freezer; Phocos FR170MP; Metropolitan MEFR48C1</li> </ul>
30.	01/ 2020 02/2020	<p>Ministry of Mines and Energy (MME), Togo</p> <p><b>Operations Manager for KYA-ENERGY GROUP/QINGDAO HITECH NEW ENERGY</b></p> <p>Name: Prof Yao K. AZOUMAH Tel: +228 91502149 Email: yao.azoumah@kya-energy.com</p>		<p><u>Project Name:</u> Supply and installation of equipment for the maintenance of solar street lamps in Togo <b>Contract amount 854 640 345 F CFA HT/HD</b></p> <p><u>Key Features</u></p> <ul style="list-style-type: none"> <li>■ Ordering and receiving material</li> <li>■ Repair of solar street lamps in Togo</li> </ul> <p><u>Tasks performed</u></p> <ul style="list-style-type: none"> <li>■ Training of mission teams;</li> <li>■ Supervision of fieldwork</li> <li>■ Drafting of mission reports.</li> </ul>
31.	12/2019	<p>KYA-Energy Group</p> <p><b>Trainer</b></p>	Togo	<p><u>Project Name:</u> Training for different actors in the energy sector in Togo</p> <p><u>Key Features:</u></p> <ul style="list-style-type: none"> <li>■ Capacity building of SAFER technicians on the installation and maintenance of PV systems.</li> </ul>

No.	Period	Employer's name, job title/position held Contact information for references	Country	Summary of activities carried out in relation to this assignment
		Reference: Position: Managing Director Name: Prof Yao K. AZOUMAH Tel: +228 91502149 Email: yao.azoumah@kya-energy.com		<ul style="list-style-type: none"> <li>Training of Green Solar Academy trainers in Togo on the rules of installation and maintenance of solar PV systems.</li> <li>Capacity building of the technicians of the Autonomous Port of Lomé on solar photovoltaic systems, in particular solar power plants connected to public electricity networks</li> </ul>
32.	08/ 2019 12/2019	Ministry of Mines and Energy (MME) of Togo  <b>Operations Manager for KYA-ENERGY GROUP/QINGDAO HITECH NEW ENERGY</b>  Name: Prof Yao K. AZOUMAH Tel: +228 91502149 Email: yao.azoumah@kya-energy.com		<p><b>Project Name: Supply and installation of equipment for the repair of solar street lamps</b> <b>Contract amount: 290 700 000 F CFA inclusive of tax</b></p> <p><u>Key Features</u></p> <ul style="list-style-type: none"> <li>Ordering and receiving material</li> <li>Repair of street lamps in different regions of Togo</li> </ul> <p><u>Tasks performed</u></p> <ul style="list-style-type: none"> <li>Training of mission teams;</li> <li>Supervision of fieldwork</li> <li>Drafting of mission reports.</li> </ul>
33.	08-09/2019	KYA-Energy Group  <b>Technical Director</b>  Reference: Position: Managing Director Name: Prof Yao K. AZOUMAH Tel: +228 91502149 Email: yao.azoumah@kya-energy.com	Togo	<p><b>Project Name: Technical assistance to the Authority of Regulation of the electricity (ARSE) in Togo for the conformity inspection of applications for the installation of solar photovoltaic plants</b></p> <p><u>Key Features:</u></p> <ul style="list-style-type: none"> <li>Inspection of the application files for the installation of the PV power plants of the Port Autonome de Lomé, with a total capacity of 2.4 MWp;</li> <li>Inspection of the application file for the installation of the Blitta solar PV power plant (30 MWp)</li> <li>Client: Electricity Sector Regulatory Authority (ARSE) of Togo</li> </ul> <p><u>Tasks performed:</u></p> <ul style="list-style-type: none"> <li>Examination of the application file submitted by the Port Autonome de Lomé (PAL) with a view to highlighting shortcomings and making recommendations;</li> <li>Visit, inspection and control of the sites that will house the power generation facilities as well as the evaluation of the project's risks on the environment with a view to granting the installation authorization.</li> </ul>
34.	08/2019 – 11/2019	KYA-Energy Group  <b>Technical Director</b>  Reference: Position: Managing Director Name: Prof Yao K. AZOUMAH Tel: +228 91502149 Email: yao.azoumah@kya-energy.com		<p><b>Project Name:</b> Control and supervision of the installation of 10,000 solar street lamps in Togo within the framework of the Emergency Community Development Program (PUDC) (UNDP funding)</p> <p><u>Key Features:</u></p> <ul style="list-style-type: none"> <li>Installation of 576 street lights in the Maritime region of Togo (lot 1)</li> </ul> <p><u>Tasks performed:</u></p> <ul style="list-style-type: none"> <li>Monitor and control the general installations of the site</li> <li>Carry out the activities of control and follow-up of the installations of the 576 solar lamp posts in the localities of the Maritime region, beneficiaries;</li> <li>Verify that the layout of the installations of the solar lamp posts per locality defined by the topographic study is respected;</li> <li>Collect the GPS coordinates of the installation points;</li> <li>Ensure that the schedule of the executing company is respected.</li> </ul>
35.	10/2019 – 12/2019	KYA-Energy Group  <b>Technical Director</b>  Reference: Position: DG Name: Prof Yao K. AZOUMAH Tel: +228 91502149 Email: yao.azoumah@kya-energy.com		<p><b>Project Name:</b> Supply and installation of lightning conductors and lightning arrestors on the cafeterias of the Défalé and Alédjo toll booths and on the toll booths of Défalé, Tabligbo I and II</p> <p><u>Key Features:</u></p> <ul style="list-style-type: none"> <li>PDA lightning conductor with support and fixing accessories to be installed on the highest building of each substation.</li> <li>Modular single-phase lightning arrester on the mains side: Supply, installation and connection of a lightning arrester assembly in a PVC box with fuse holder and fuses at the general circuit breaker</li> </ul>

No.	Period	Employer's name, job title/position held Contact information for references	Country	Summary of activities carried out in relation to this assignment
				<ul style="list-style-type: none"> <li>■ Type 1+2 lightning arrester: Supply, installation and connection of a type 1+2 lightning arrester assembly in a PVC box at the general distribution cabinet</li> </ul> <p><u>Tasks performed:</u></p> <ul style="list-style-type: none"> <li>■ Preparation of the implementation file;</li> <li>■ Constitution of the teams in charge of the field mission;</li> <li>■ Ordering and acceptance of equipment;</li> <li>■ Supervision and control of lightning conductor installation works;</li> <li>■ Drawing up the recollection file.</li> </ul>
36.	03-10/2019	KYA-Energy Group  <b>Trainer of trainers</b>  Reference: Position: Managing Director Name: Prof Yao K. AZOUMAH Tel: +228 91502149 Email: yao.azoumah@kya-energy.com	Togo	<p><u>Project Name:</u> ... <b>COMPONENT C OF THE CIZO PROJECT FOR RURAL ELECTRIFICATION BY SOLAR PHOTOVOLTAIC KITS: CREATION OF REGIONAL SOLAR ACADEMIES IN TOGO</b></p> <p><u>Key Features:</u></p> <ul style="list-style-type: none"> <li>■ Creation of five regional solar academies in Togo</li> <li>■ Training of 50 trainers in the field of solar PV in the academies</li> <li>■ Training of 3000 technicians in the installation and maintenance of solar PV systems in the academies (600 technicians per academy and per region of Togo)</li> </ul> <p><u>Tasks performed:</u></p> <ul style="list-style-type: none"> <li>■ Selection of five (5) training centers (one center per region) according to well-defined criteria. Each selected center will house a solar academy;</li> <li>■ Identification and quotation of didactic and pedagogical materials required for each center;</li> <li>■ Recruitment of 50 trainers according to well-defined criteria (10 trainers per region and therefore per center);</li> <li>■ Coordination of the training (in Lomé) of the 50 trainers recruited by two multipliers (trainer of trainers);</li> <li>■ Recruitment, according to a well-defined profile, of 3,000 technicians in the 1,500 villages benefiting from the CIZO project, at the rate of one or two technicians per village;</li> <li>■ Coordination of the training of the 3000 technicians by the 50 trained trainers. Each center was provided with 10 trainers and trained 600 technicians. The ratio of technicians per trainer is therefore 60 technicians/trainer;</li> <li>■ Elaboration of modules and planning for the two types of training mentioned above (training of trainers and training of technicians).</li> </ul>
37.	05-10/2019	KYA-Energy Group  <b>Technical Director</b>  Reference: Position: DG Name: Prof Yao K. AZOUMAH Tel: +228 91502149 Email: yao.azoumah@kya-energy.com	Togo	<p><u>Project Name:</u> <b>Audit and supervision of the rehabilitation of 4 solar mini-grids in Togo</b></p> <p><u>Key Features:</u></p> <ul style="list-style-type: none"> <li>■ The mini-grids are located in Takpakpiénié (100 kWp), Kountoum (100 kWp), Assoukoko (250 kWp) and Bavou (150 kWp).</li> <li>■ Client: Compagnie Energy Electric du Togo (CEET)</li> </ul> <p><u>Tasks performed:</u></p> <ul style="list-style-type: none"> <li>■ Visit and diagnosis of the general operating condition of the components of each of the 04 mini-grids;</li> <li>■ Checking the condition of PV modules, batteries (voltage - electrolyte level), inverters;</li> <li>■ Verification of the state of earthing, earth resistance, insulation resistance of cables;</li> <li>■ Verification of the conformity of the protection elements and cable sections;</li> <li>■ List of all the elements necessary for restoring the 04 installations to working order;</li> <li>■ Supervision of the work to restore the 04 installations to working order.</li> </ul>
38.	04/2019 – 10/2019	KYA-Energy Group  <b>Technical Director</b>	Togo	<p><u>Project Name:</u> Vulnerable Populations Support Programme (PAPV) - Rural electrification of a hospital by solar PV system in Agou-Nyogbo</p> <p><u>Key Features:</u></p> <ul style="list-style-type: none"> <li>■ Supply, installation and commissioning of a 50 kWp solar PV mini power plant at Bethesda Hospital in AGOU-NYOGBO</li> </ul>

No.	Period	Employer's name, job title/position held Contact information for references	Country	Summary of activities carried out in relation to this assignment
		Reference: Position: DG Name: Prof Yao K. AZOUMAH Tel: +228 91502149 Email: yao.azoumah@kya-energy.com		<u>Tasks performed</u> <ul style="list-style-type: none"> <li>■ Preparation of the execution file</li> <li>■ Ordering and acceptance of equipment</li> <li>■ Constitution and supervision of the teams (electricians, boilermakers) mobilised for the installation;</li> <li>■ Continuous monitoring of the installation work;</li> <li>■ Continuous monitoring of the installation work; Completion file.</li> </ul>
39.	01/2019 – 04/2019	KYA-Energy Group  <b>Technical Director</b>  Reference: Position: DG Name: Prof Yao K. AZOUMAH Tel: +228 91502149 Email: yao.azoumah@kya-energy.com	Togo	<u>Project Name:</u> <b>Electrification by solar PV systems of an axle load station in Djéréhouyé (SAFER funding)</b>  <u>Key Features</u> <ul style="list-style-type: none"> <li>■ Installation of an 18 kWp photovoltaic generator</li> <li>■ Construction of the security fence for the photovoltaic field</li> <li>■ Refurbishment of the existing technical room</li> </ul> <u>Tasks performed</u> <ul style="list-style-type: none"> <li>■ Preparation of the execution file;</li> <li>■ Ordering and acceptance of equipment;</li> <li>■ Constitution and supervision of the teams (electricians, boilermakers) mobilised for the installation;</li> <li>■ Continuous monitoring of the installation work;</li> <li>■ Continuous monitoring of the installation work; Completion file.</li> </ul>
40.	From 15/08/2018 to 10/02/2019	KYA-Energy Group  <b>Technical Director</b>  Reference: Position: Managing Director Name: Prof Yao K. AZOUMAH Tel: +228 91502149 Email: yao.azoumah@kya-energy.com	Togo	<u>Project Name:</u> Technical and economic analysis mission of 04 multifunctional platforms of Toulé 1, Koumdé, Atchintsé, and Betoé all of 10,4 kWp  <u>Key Features:</u> <ul style="list-style-type: none"> <li>■ Analysis of the operation of the Toulé all-solar platform and the hybrid platforms in Koumdé, Atchintsé, and Betoé over a period of six months</li> </ul> <u>Tasks performed</u> <ul style="list-style-type: none"> <li>■ Monitor on a monthly basis and for a period of six months, the technical performance of the different solar equipment's and carry out their maintenance if needed,</li> <li>■ Analyze the use of PTFMs by beneficiaries and propose new practices for the possible optimization of the installations;</li> <li>■ Evaluate the solar penetration to ensure optimal profitability of the different hybrid PTFMs, i.e. evaluate the share of solar energy to be provided in order to have a better economic profitability of the hybrid PTFMs,</li> <li>■ Evaluate the optimal engine speed for the same quality of service to be rendered (milling of maize, soya, etc.),</li> <li>■ Analyze the increase in revenue due to the contribution of solar energy and evaluate the related Internal Rate of Return (IRR),</li> <li>■ Evaluate the amount of CO2 avoided through solar hybridisation and determine its equivalent in terms of the number of shrubs planted,</li> <li>■ Make recommendations to stakeholders,</li> <li>■ Produce monthly reports and a final report that will specify the optimal conditions for the sustainability and extension of solar PV hybrid PTFMs.</li> </ul>
41.	06/2018 – 09/2018	KYA-Energy Group  <b>Technical Director</b>  Reference: Poste: DG Name: Prof Yao K. AZOUMAH Tel: +228 91502149 Email: yao.azoumah@kya-energy.com	Togo	<u>Project Name:</u> <b>RECHARGE AND RESTOCKING BATTERIES FOR SOLAR LAMPS (UNDP funding)</b>  <u>Key Features:</u> <ul style="list-style-type: none"> <li>■ Carrying out maintenance on 4,180 batteries that have been stored for several months and will be used for solar streetlight installations in the near future.</li> </ul> <u>Tasks performed</u> <ul style="list-style-type: none"> <li>■ Setting up and supervising the mission teams at the two sites where the batteries are stored;</li> <li>■ Testing the condition of each battery;</li> </ul>

No.	Period	Employer's name, job title/position held Contact information for references	Country	Summary of activities carried out in relation to this assignment
				<ul style="list-style-type: none"> <li>Sorting of recoverable batteries and recharging of discharged batteries.</li> </ul>
42.	03-04/2018	KYA-Energy Group  <b>Team Leader</b>  Reference: Poste: DG Nom: Prof Yao K. AZOUMAH Tel: +228 91502149 Email: yao.azoumah@kya-energy.com	Ghana	<p><b>Project Name: Mission for the installation of a renewable energy laboratory at the University of Mines and Technology (UMaT), (Tarkwa - Ghana)...</b></p> <p><u>Key Features:</u></p> <ul style="list-style-type: none"> <li>Installation of renewable energy systems (fuel cells, solar systems, wind turbines)</li> <li>Training of beneficiaries in the use and maintenance of equipment</li> </ul> <p><u>Tasks performed</u></p> <ul style="list-style-type: none"> <li>Assembly of the hydrogen fuel cell experimental benches;</li> <li>Supervision of the technicians for the assembly of the other experimental benches;</li> <li>Preparation of the final mission report.</li> </ul>
43.	07/2017-02/2018	KYA-Energy Group  <b>Technical Director</b>  Reference: Poste: DG Nom: Prof Yao K. AZOUMAH Tel: +228 91502149 Email: yao.azoumah@kya-energy.com	Togo	<p><b>Project Name: Development of the Energy Information System in Togo</b></p> <p><u>Key Features</u></p> <ul style="list-style-type: none"> <li>Data collection and preparation of the energy information system report (EIS-Togo 2017)</li> </ul> <p><u>Tasks performed</u></p> <ul style="list-style-type: none"> <li>Supervision of the data collection mission from companies and structures;</li> <li>Compilation and processing of data;</li> <li>Drafting of the mission report.</li> </ul>
44.	07/2017-02/2018	KYA-Energy Group  <b>Technical Director</b>  Reference: Poste: DG Name: Prof Yao K. AZOUMAH Tel: +228 91502149 Email: yao.azoumah@kya-energy.com	Togo	<p><b>Project Name: ... CIZO RURAL ELECTRIFICATION BY SOLAR KITS PROJECT -- REALISATION OF A SOCIO-ECONOMIC AND TECHNICAL FEASIBILITY SURVEY RELATING TO THE INSTALLATION OF SOLAR KITS IN RURAL HOUSEHOLDS IN TOGO (PLATEAUX AND SAVANES REGIONS) (financed by the Ministry of Mines and Energy of Togo)</b></p> <p><u>Key Features</u></p> <ul style="list-style-type: none"> <li>Realization of a socio-economic and technical feasibility survey on the installation of solar kits in rural households in Togo (Plateaux and Savanes regions)</li> </ul> <p><u>Tasks performed</u></p> <ul style="list-style-type: none"> <li>Supervision of the socio-economic surveys in the different localities selected;</li> <li>Evaluation of the capacity of the beneficiary populations to pay for the non-subsidized part of the kits;</li> <li>Measuring the acceptability of the solar kits in rural households;</li> <li>Estimation of the real needs of the population for electricity;</li> <li>Estimation of the daily/monthly amount that can be borne by the beneficiaries;</li> <li>Determination of the means of payment suitable and favorable to the beneficiaries;</li> <li>Definition of the desired level of services and their categorization;</li> <li>Determination of technical constraints to be taken into account in the production of the kits;</li> <li>Identification of possible risks to the success of the project.</li> </ul>
45.	2017 -- 2018	KYA-Energy Group  <b>Technical Director</b>  Reference: Poste: DG Nom: Prof Yao K. AZOUMAH Tel: +228 91502149 Email: yao.azoumah@kya-energy.com	Mali	<p><b>Project Name: PRODERE-V2 (Renewable energy development project) lot 2: electrification of eight (08) rural localities by solar mini-grids in the regions of Sikasso, Ségou and Mopti (SABER funding)</b></p> <p><u>Key Features</u></p> <ul style="list-style-type: none"> <li>Supply, installation and commissioning of 08 hybrid micro power plants (solar photovoltaic-diesel thermal);</li> <li>The peak power of the micro power plants varies between 15 and 25 kWp;</li> <li>Renovation and extension of 1km of existing LV networks in the beneficiary localities;</li> <li>Installation of solar street lights</li> <li>Connection of new customers</li> </ul> <p><u>Tasks performed</u></p> <ul style="list-style-type: none"> <li>Preparation of execution files;</li> <li>Ordering and receiving equipment;</li> <li>Deployment of personnel and equipment to the sites;</li> <li>Control of installation work;</li> </ul>

No.	Period	Employer's name, job title/position held Contact information for references	Country	Summary of activities carried out in relation to this assignment
				<ul style="list-style-type: none"> <li>Inspection of installation work; Completion file.</li> </ul>
46.	10/2017 – 01/2018	KYA-Energy Group  <b>Technical Director</b>  Reference: Poste: DG Nom: Prof Yao K. AZOUMAH Tel: +228 91502149 Email: yao.azoumah@kya-energy.com	Togo	<p><u>Project Name</u> ... TOTAL'S PETROL STATION SOLARISATION PROJECT IN TOGO</p> <p><u>Key Features</u></p> <ul style="list-style-type: none"> <li>Supply of a grid connected solar system (17 kW) for the Total Akossombo-Lomé Station</li> </ul> <p><u>Tasks performed</u></p> <ul style="list-style-type: none"> <li>Preparation of the APS and APD files;</li> <li>Verification of the scrupulous respect of safety and hygiene rules on the site;</li> <li>Deployment of personnel and equipment to the site;</li> <li>Control of the installation work;</li> <li>Inspection of the installation work; Completion file.</li> </ul>
47.	04/2017-04/2018	KYA-Energy Group  <b>Technical Director</b>  Reference: Poste : DG Name: Prof Yao K. AZOUMAH Tel: +228 91502149 Email: yao.azoumah@kya-energy.com	Benin	<p><u>Project Name</u>: <b>PROVES - Renewable energy project (SABER funding)</b></p> <p><u>Key Features</u>:</p> <ul style="list-style-type: none"> <li><b>Monitoring and control of the works on the project sites (8 departments in Benin):</b></li> <li><b>Installation of 70 solar micro power plants (30 to 40kWp each)</b></li> <li><b>Installation of nearly ten thousand (10,000) solar street lamps</b></li> </ul> <p><u>Tasks performed</u>:</p> <ul style="list-style-type: none"> <li>Deployment of personnel and equipment required for site control;</li> <li>Supervision of the teams mobilised for the control of the installation works of the executing companies;</li> <li>Assisting the project owner with the acceptance of the equipment;</li> <li>Identification of defects or irregularities in the installations;</li> <li>Assisting the executing companies in making corrections;</li> <li>Technical acceptance of the installation work;</li> <li>Drafting of monthly reports and the final mission report.</li> </ul>
48.	10/2017 – 01/2018	KYA-Energy Group  <b>Technical Director</b>  Reference: Poste: DG Name: Prof Yao K. AZOUMAH Tel: +228 91502149 Email: yao.azoumah@kya-energy.com	Togo	<p><u>Project Name</u>: <b>Electrification of rural localities by solar PV and hybrid systems (PV/diesel) (financed by the Ministry of Grassroots Development, Handicrafts, Youth and Youth Employment (MDBAJEJ))</b></p> <p><u>Key Features</u></p> <ul style="list-style-type: none"> <li>Supply and installation of a 10 kW solar multifunctional platform in the village of Toulé, central region</li> <li>Supply of solar equipment (10 kW) and hybridization (diesel) of one (01) standard multifunctional platform in the village of Bétoe, canton of Ountivou, prefecture of Ogou, Plateaux region</li> <li>Supply of solar equipment (10 kW) and hybridisation (diesel) of one (01) standard multifunctional platform in the village of Atchintsè, prefecture of Blitta, central region</li> <li>Supply of solar equipment (10 kW) and hybridization (diesel) of one (01) standard multifunctional platform in the village of koumdé, canton of Massedena, prefecture of Doufelgou, Kara region</li> </ul> <p><u>Tasks performed</u></p> <ul style="list-style-type: none"> <li>Preparation of the execution file;</li> <li>Ordering and acceptance of equipment;</li> <li>Constitution and supervision of the teams (electricians, boilermakers) mobilized for the installation;</li> <li>Continuous monitoring of the installation work;</li> <li>Continuous monitoring of the installation work; Completion file.</li> </ul>

No.	Period	Employer's name, job title/position held Contact information for references	Country	Summary of activities carried out in relation to this assignment
49.	2017- 2018	SOLARISS-Ing Sarl  <b>Consultant in charge of studies</b>  <u>References:</u> Name: Siaka Maliky Djamiyou Position: Managing Director Solariss-Ing Contact: <a href="mailto:solariss_ing@hotmail.com">solariss_ing@hotmail.com</a>	BURKINA FASO	<b>Project Name: Project for the acquisition, installation and commissioning of solar photovoltaic systems for socio-community infrastructure in the Centre-South and South-West regions of Burkina Faso (funded by the Ministry of Energy)</b>  <u>Key Features:</u> <ul style="list-style-type: none"> <li>■ Carrying out feasibility studies (APS/APD) and preparing tender documents (DAO).</li> </ul> <u>Tasks performed</u> <ul style="list-style-type: none"> <li>■ Participation in the overall mission consisting of :</li> <li>■ Identify and list all the socio-community infrastructures (CSPS, primary schools, CEG,) and all public places in need of lighting;</li> <li>■ Carry out an assessment of the existing electrical installations of the various infrastructures with an evaluation and consideration of future needs;</li> <li>■ Determine the available space (roofs, ground) for the installation of solar fields and technical cabins;</li> <li>■ Carry out a technical study (dimensioning of the installations, technical specifications of the equipment) and a financial evaluation of the project;</li> <li>■ Carry out an analysis of the project's risks and environmental and social impact;</li> <li>■ Drawing up tender documents.</li> </ul>
50.	10/2013-02/2017	2iE Foundation (Centre for Higher Education and Research)  Researcher on the Flexy-Energy project Lecturer, assistant  <u>Ref:</u> Name: Yrèbégnan Moussa SORO. Position: Head of the Electrical Engineering Department of 2iE  Contact: <a href="mailto:moussa.soro@2ie-edu.org">moussa.soro@2ie-edu.org</a>	Burkina Faso	<b>Project Name:</b> Sustainable electricity generation for rural and peri-urban populations in Africa: developing the Flexy-Energy concept.  <u>Key Features:</u> <ul style="list-style-type: none"> <li>■ This project focuses on the development of an intelligent module for optimizing the operation of PV/Diesel systems.</li> <li>■ The project will result in the construction of two power plants for full-scale testing of the designed smart module;</li> <li>■ Construction of two PV/diesel hybrid solar power plants of 100kW each (one in Bilgo, Burkina Faso and one in Siby, Mali)</li> </ul> <u>Tasks performed:</u> <ul style="list-style-type: none"> <li>■ Active participation in the Flexy concept development team;</li> <li>■ Modelling and simulation of the Flexy-Energy module in the Simulink environment of Matlab.</li> </ul>
51.	05/2013-08/2013	SOLARISS-Ing  <b>Head of Mission</b>  <u>Ref:</u> Name: Siaka Maliky Djamiyou Position: Managing Director Solariss-Ing Contact: <a href="mailto:solariss_ing@hotmail.com">solariss_ing@hotmail.com</a>	Bénin	<b>Project Name: Renewable Energy and Energy Efficiency Development Programme (PRODERE I) : Photovoltaic mini-grids (funding: WAEMU)</b>  <u>Key Features:</u> <ul style="list-style-type: none"> <li>■ Preparation of Feasibility Studies (APS/APD), Environmental and Social Impact Assessment (ESIA) and CAD</li> </ul> <u>Tasks performed:</u> <ul style="list-style-type: none"> <li>■ Carrying out the demand study and load curves;</li> <li>■ Proposal of a distribution of subscribers by categories;</li> <li>■ Supervision of field surveys;</li> <li>■ Supervision of the LV network sizing team;</li> <li>■ Data processing and sizing of mini-power plants;</li> <li>■ Supervision of the team in charge of the preliminary environmental and social impact study;</li> <li>■ Sizing of the solar PV street lighting system</li> </ul>
52.	10/2011-09/2012	SOLARISS-Ing  <b>Head of Mission / Technical Director of the executing company (SOLARISS-Ing)</b>  <u>Ref:</u> Name: Siaka Maliky Djamiyou Position: DG Solariss-Ing	Benin	<b>Project Name: ... ACQUISITION AND INSTALLATION OF SOLAR PANELS FOR GNSS/CORS STATIONS (Millennium Challenge Account (MCA) funding)</b>  <u>Key Features:</u> <ul style="list-style-type: none"> <li>■ Installation of autonomous solar photovoltaic systems for the seven GNSS/CORS stations of the National Institute of Geography IGN of Benin (Cotonou, Abomey, Savalou, Natitingou, Parakou Nikki, Kandi)</li> <li>■ Unit installed capacity: 07 x 1.04 kWp</li> </ul>

No.	Period	Employer's name, job title/position held Contact information for references	Country	Summary of activities carried out in relation to this assignment
		Contact: <a href="mailto:solariss_ing@hotmail.com">solariss_ing@hotmail.com</a>		<u>Tasks performed</u> <ul style="list-style-type: none"> <li>■ Preparation of the execution file;</li> <li>■ Constitution of the mission teams;</li> <li>■ Ordering and acceptance of equipment;</li> <li>■ Supervision and control of installation work.</li> </ul>
53.	01/2012-10/2012	<b>SOLARISS-Ing</b>  <b>Project Manager / Technical Director of the executing company (SOLARISS-Ing)</b>  <u>Ref :</u> <b>Name: Siaka Maliky Djamiyou</b> <b>Position: DG Solariss-Ing</b> <b>Contact:</b> <a href="mailto:solariss_ing@hotmail.com">solariss_ing@hotmail.com</a>	Benin	<b>Project Name: SUPPORT PROJECT FOR INCOME-GENERATING PHOTOVOLTAIC APPLICATIONS</b> <b>(financed by NGO World Solidarity/ Centre Afrika Obota (CAO))</b>  <u>Key Features:</u> <ul style="list-style-type: none"> <li>■ Installation of a 10 kWp photovoltaic system for a cassava processing unit in Lokogohoue</li> <li>■ Electrical installation of the premises;</li> <li>■ Installation of a solar pumping system;</li> <li>■ Installation of a solar cooker</li> <li>■ Installation of solar freezer and refrigerators</li> </ul> <u>Tasks performed:</u> <ul style="list-style-type: none"> <li>■ Supervision of the installation works of the photovoltaic system;</li> <li>■ Supervision of the installation works of the pumping system and the solar cooker;</li> <li>■ Supervision of the electrical installation of the premises (lamps, sockets, solar DC refrigerator, etc.);</li> <li>■ Raising awareness among the beneficiaries and the population</li> <li>■ Formation of a maintenance and management committee</li> <li>■ Training of technicians in the maintenance of the installations</li> </ul>
54.	01/2009-12/2015	Solariss-Ing  <b>Installer technician</b>  <u>Ref :</u> <b>Name: Siaka Maliky Djamiyou</b> <b>Position: Managing Director Solariss-Ing</b> <b>Contact:</b> <a href="mailto:solariss_ing@hotmail.com">solariss_ing@hotmail.com</a>	Bénin	<b>Project Name: Various projects of deployment of photovoltaic systems (Financing NGO WORLD SOLIDARITY "WSM")</b>  <u>Completed projects:</u> <ul style="list-style-type: none"> <li>■ Project to support income-generating photovoltaic applications: ice-making, beverage and fresh produce services, mobile phone chargers and lighting, water pumping stations.</li> <li>■ Research-Action projects on renewable energy powering of machine tools for processing agricultural products and on solar cookers, design of an engine running on diesel and jatropa oil;</li> <li>■ Solar photovoltaic electrification of health centres (dispensaries and maternity wards) in the most disadvantaged villages.</li> </ul> <u>Tasks performed:</u> <ul style="list-style-type: none"> <li>■ Participation in various installation missions</li> <li>■ Information, training and awareness-raising activities on the financial management and maintenance of installed solar PV systems, both for project beneficiaries and supervisory staff.</li> </ul>

#### Membership of professional associations and publications achieved:

Member of the Association Interprofessional of Specialists of Energies renewable (AISER-Benin); 02 BP 8155 Cotonou – Benin

#### Scientific publications:

- A. Sarr, Y. M. Soro, **A. K. Tossa**, et L. Diop, « A new approach for modelling photovoltaic panel configuration maximizing crop yield and photovoltaic array outputs in agrivoltaics systems », *Energy Convers. Manag.*, 2024, doi: <https://doi.org/10.1016/j.enconman.2024.118436>.
- A. Sarr, Y. M. Soro, A. K. Tossa, et L. Diop, « Agrivoltaic, a Synergistic Co-Location of Agricultural and Energy Production in Perpetual Mutation: A Comprehensive Review », *Processes*, vol. 11, no 3, p. 948, mars 2023, doi: 10.3390/pr11030948
- Guy Clarence SEMASSOU, Alain TOSSA, Roger Houéchéne AHOUANSOU, et Neal ADJOVI, « Simulation of the operation of a prototype of indirect solar dryer for drying cassava », *GSC Adv. Res. Rev.*, vol. 12, no 3, p. 051-063, sept. 2022, doi: 10.30574/gscarr.2022.12.3.0231.
- Yao K. Azoumah, Alain K. Tossa, Rock A. Dake. Towards a labelling for green energy production units: Case study of off-grid solar PV systems; *Energy Volume 208*, 1 October 2020, 118149, <https://doi.org/10.1016/j.energy.2020.118149>
- K. Tossa et al., "Artificial intelligence technique for estimating PV modules performance ratio under outdoor operating conditions," *J. Renew. Sustain. Energy*, vol. 10, no. 5, p. 053505, Sep. 2018, <https://doi.org/10.1063/1.5042217>
- K. Tossa, Y. M. Soro, L. Thiaw, Y. Azoumah, L. Sicot, D. Yamegueu, C. Lishou, Y. Coulibaly, and G. Razongles, "Energy performance of different silicon photovoltaic technologies under hot and harsh climate," *Energy*, vol. 103, pp. 261–270, May 2016; <https://doi.org/10.1016/j.solener.2014.09.043>
- K. Tossa, Y. M. Soro, Y. Azoumah, and D. Yamegueu, "A new approach to estimate the performance and energy productivity of photovoltaic modules in real operating conditions," *Sol. Energy*, vol. 110, pp. 543–560, Dec. 2014; <https://doi.org/10.1016/j.energy.2016.02.133>

**Spoken languages: (excellent, good, fair, poor)**

Language	Reading	Listening & Speaking	Writing
French	Native language		
English	Good	Good	Good

**Statement:**

I, the undersigned, certify that this CV accurately describes me, my qualifications and professional experience and that I am available to carry out the assignment, should the contract be awarded. Any false statement or incorrect information provided in this CV may result in my disqualification or dismissal by the Client and/or sanctions by the Bank.

**Kossoun Alain TOSSA (PhD)**

Signature:

**Date: 16/12/2025**

