

Fenwicks Shombe Musonye., CEM®, PMP®, PhDc

MAEE, MPMI, MAEPEA,MEBK, MNQI

Curriculum Vitae

Surname, First Names	Musonye, Shombe Fenwicks
Nationality	Kenyan
Date of Birth	15-02-1984
Languages	English , Kiswahili, Luhya and Lingala (Proficient in all), French (Reading)
Postal Address	P.O Box 1456, Kakamega
Telephone Contact	0722 508 983
e-mail address	fenshombe@gmail.com
Professional Expertise Area	<ul style="list-style-type: none">✓ Energy Efficiency✓ Renewable Energy✓ Business and Research Proposal Writing✓ Industrial Process Heat Integration✓ Project Management✓ Quality Management✓ Carbon Trade and Environmental Change✓ Modelling and Simulation✓ Mathematical Programming Techniques✓ Information Management System

Current Employer and Position	1. Senior Energy Efficiency Officer at Energy and Petroleum Regulatory Authority of Kenya 2. Adjunct Faculty at Institute of Energy and Environmental Technology
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Work and Employment History		
Date	Institution	Job/Consultancy Description
01-09-2014 to May 2017	Energy Regulatory Commission of Kenya	Assistant Technical Officer, Energy Efficiency and Conservation <ul style="list-style-type: none"> ✓ Carrying out Energy Audits for facilities ✓ Carrying out compliance audits for selected government facilities ✓ Evaluation of EIA Reports for proposed energy projects in Kenya ✓ Evaluation of energy audit reports from licenced auditors to ensure compliance with quality requirements ✓ Setting and marking of exams for energy auditors ✓ Carrying out oral interviews for energy auditors ✓ Evaluation of energy policy documents submitted by medium and high users of energy in the country ✓ Carrying out sensitization workshops about energy management regulations, solar photovoltaic regulations and solar water heating regulations ✓ Team Leader of all research initiative in the Renewable Energy Department ✓ Team Leader for all biomass energy initiatives in the department ✓ Carrying out compliance inspections in facilities that deal with solar photovoltaic and solar water heating systems ✓ Team leader in research of modeling and simulation of bio ethanol production in Kenya

June 2017 to June 2018	Energy Regulatory Commission of Kenya	<p>Technical Officer, Appliances' Energy Performance and Labelling</p> <ul style="list-style-type: none"> ✓ Heading the team for adoption and rollig out and enforcement of the Minimum Equipment Energy Performance Regulations, 2016. ✓ Team leader for Minimum Equipment Energy Performance testing and issuance of star labels ✓ Carrying out Energy Audits for facilities ✓ Carrying out compliance audits for selected government facilities ✓ Evaluation of EIA Reports for proposed energy projects in Kenya ✓ Evaluation of energy audit reports from licenced auditors to ensure compliance with quality requirements ✓ Leading research initiatives in the department
July 2018 to present	Energy and Petroleum Regulatory Authority of Kenya	<p>Senior Energy Efficiency Officer</p> <ul style="list-style-type: none"> ✓ Carrying out of research in energy efficiency and conservation in Kenya and advising the government ✓ Evaluation of efficiency of appliances, through Standards and Labeling Framework ✓ Evaluation of EIA reports for energy projects in Kenya Interviewing and licensing energy auditors in Kenya Evaluation of quality of energy audits carried out by licensed auditors ✓ Development of Regulations in the energy efficiency and conservation sector ✓ Carrying out of energy audits ✓ Supervision of Energy Efficiency Officers
May 2019 to present	Institute of Energy and Environmental Technology- JKUAT	Adjunct faculty, lecturing Energy Economics and Policy for MSc (Energy Technology) Class.

June 2010 to 31-08-2014	Energy Advisory Ltd	<p>Energy Consultant: Energy Auditing and Consultancy</p> <ul style="list-style-type: none"> ✓ Carrying out energy audits of factories ✓ Making and presenting audit reports for factories ✓ Preparation of Training Manuals for Energy Efficiency trainings <p>Audits done for Various Thermo Chemical Industries, Flower Farms, Electro Mechanical Factories, Large Energy Consuming Buildings, Petro Chemical Companies, Food Processing Plants and Fresh Food Exporting Companies (See attached list).</p>
02-05-2013 to 15-08-2013	Orbit Chemical Industries Limited	<p>Energy Efficiency Researcher:</p> <ul style="list-style-type: none"> ✓ Collected data and came up with optimum energy targets in Sulphonation plant ✓ Designed a heat exchange network for the targets ✓ Did an investment appraisal for the heat exchange network ✓ The design came up with energy savings of KShs 6 810 254 per year with a 3 year payback period.
15-12-2008 to 15-12-2012	Safaricom Ltd	<p>Customer Service Operatives</p> <p>Main Areas of Work;</p> <ul style="list-style-type: none"> ✓ Management of M-Pesa Accounts for customers ✓ Management of voice, sms and data lines
10-09-2007 to	Unilever (k) Ltd	<p>Attachment at Total Production Manufacturing Department (TPM) :</p> <p>Areas of work;</p>

30-11-2007		<ul style="list-style-type: none"> ✓ Implementation of Autonomous Maintenance (AM) and 5s ideals of TPM ✓ Preparation of Cleaning, Lubrication and Maintenance Checklists and Implementing them ✓ Machines' Minor stops and breakdown analysis
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Research and Projects

Research/Project	Institution	Deliverables
Design of Mechanical Automated Packing Machine for Vim Powder	Unilever (k) Ltd	Came up with a machine design that could replace manual packing of the powder
Investigation of perception of NEMA employees about problems hindering recycling of plastic bags in Kenya	National Environmental Management Authority	A project report about problems affecting plastic bag recycling in Kenya
Energy Efficiency Research	Orbit Chemical Industries Ltd	Came up with a heat exchange network that would achieve thermodynamically feasible optimum heat requirements in Sulphonation Plant
Energy Efficiency Research	JKUAT	Modeling, Simulation and Optimization of Internal Heat Recovery using Process Integration Tool of Pinch Analysis-for PhD (ongoing).
Bio-fuel energy balance research	Energy Regulatory Commission	Modeling and simulation of bio ethanol production from sugar cane in Kenya (ongoing)

Green energy awareness and piloting in Makueni and Kilifi Counties	Energy Regulatory Commission	Awareness workshops, training the beneficiaries and demonstrating to them the use of improved biomass cook stoves. Distributing the cook stoves and measuring the improvement in efficiencies (Completed).
Green energy awareness and piloting in Baringo TTI, Katine TTI, Bumbe TTI and Kisii National Polytechnic	Energy Regulatory Commission	Energy Clinics. Seminar involved demonstration of renewable energy technologies and energy efficiency to students and lecturers (Completed).
MSc (Renewable Energy) Curriculum Development	Pwani University	I was a member of the committee that developed the curriculum (Completed).
Energy Efficiency Training	Kisumu County Officials	I conducted energy efficiency capacity building to county government employees (Completed).
Energy Efficiency Training	Shopping Center Association of Kenya	I conducted capacity building to the Association members about saving of energy in shopping centers (Completed)
Assessment of use of Biomass Cook Stoves in Institutions in Kenya	Clean Cookstoves Alliance of Kenya	I am giving technical guidance to CCAK and this includes development of the TOR, selection of a suitable consultant for the work and monitoring of the progress of the consultancy (ongoing).
Development of Nationally Accepted Mitigation Actions (NAMAS) for Solid Waste Management in Kenya	UNDP LOW EMISSION CAPACITY BUILDING (LECB) PROGRAMME	I was a member of the technical committee that developed the NAMAS.

Development of NAMAS for access to clean energy in rural kenya through innovative market based solutions	UNDP LOW EMISSION CAPACITY BUILDING (LECB) PROGRAMME	I was a member of the technical committee that developed the NAMAS.
Development of Energy Efficiency Kenyan Standards for Television sets.	Kenya Bureau of Standards and Low Emission Carbon Resilient Development Program	I was a member of the technical committee that developed the Standards.
Preparation and Maintenance of Standards in the Air Conditioning and Refrigeration Sector	Kenya Bureau of Standards	I am a member of the technical committee for development of standards for factory assembled air conditioners, heat pumps, dehumidifiers, refrigerants and other systems currently not covered by ISO technical committees.
Technical Evaluation of applicants for Energy Management Award (EMA)	Kenya Association of Manufacturers	I am a technical committee member. This committee evaluates applications for EMA awards and allocates scores.
Preparation of Energy Efficiency Strategy for Kenya	Ministry of Energy	I am a technical committee member. This committee was charged with formulation of energy efficiency strategy for the country.

Higher Education and Trainings

Date	Institution	Achievement
2016-2019	Jomo Kenyatta University of Agriculture and Technology	PhD (Energy Technology) Thesis: Modeling, Simulation and Optmization of Internal Heat Recovery using Process Integration Tool of Pinch Analysis
May 2011 to November, 2014.	Jomo Kenyatta University of Agriculture and Technology	MSc (Energy Technology).
September 2003 to August 2008	University of Nairobi	BSc (Mechanical Engineering)
July 2010 to December 2011	Kenya Institute of Management	Diploma in Project Management
February 2012	Element K e-learning	Certificates in: Lean Six Sigma MS Office applications MS Project (Basic, Web Access, Professional).
2013	Fininfo Ltd	PLS-CADD Proficiency
2013	Self Taught	Matlab, SPSS, .php, Python and Auto-CAD.
2017	EcoMod Modelling School (Washington D.C)	Modelling and Simulation using GAMS
2017	Computer Pride College	Preparation for Project Management Professional Exams

2017	Eastern and Southern African Management Institute (Arusha)	Leadership and Change Management Training
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Certifications and Memberships

Body	Certification	Number
National Environmental Management Authority (NEMA)	Environmental Impact Assessment (EIA) Associate Expert	6076
Energy Regulatory Commission (ERC)	Solar Water Heating System Technician	ERC/SWHST/00039
Energy Regulatory Commission (ERC)	Solar Photovoltaic Systems Technician	ERC/SPVT/00186
Energy Regulatory Commission (ERC)	Energy Auditor-Class A	ERC/EA/00041
Engineers' Board of Kenya	Graduate Engineer	B6807
Association of Energy Engineers (Atlanta, USA)	Certified Energy Manager (CEM)®	94028
Project Management Institute (Pennsylvania, USA)	Project Management Professional (PMP)®	2148629
Association of Energy Professionals of Eastern Africa (Nairobi, Kenya).	Member	Member
Kenya Bureau of Standards	QMS Lead Auditor	1008/NQI/2019
National Quality Institute	Member	Member

Hobbies and Interests

Intellectual	Energy Efficiency, Global Warming, History, Geopolitics, Macroeconomics, Philosophy and Religion
Physical	Dancing
Social	Debating

Speaking Engagements

1. Guest speaker at Masinde Muliro University of Science and Technology, during the careers' week in February 2018. Theme of the speech was, **“Energy career opportunities for engineering students”**.
2. Panelist at Strathmore University, during the University Symposium Week in November 2017. Theme of the engagement was, **“The Role of Industry and Academia in the Advancement of Energy Research”**.
3. Panelist at Africa Renewable Energy Leaders' Summit in April 2017 at Intercontinental Hotel, Nairobi. Theme of the Engagement was, **“Aligning policy, investment and infrastructure development to drive sustainable energy outcomes”**.
4. Speaker at Women in Energy Conference at Strathmore University, in December 2017. Theme was, **“Renewable Energy Career Opportunities for Women”**.
5. Speaker at the Chevening Kenya Alumni Network Dialogue on **Energy, Gender and Disability**, held on 28th March 2019 at ACK Guest

Publications

Musonye, S, F, Kinyua, R & Aganda A (2014). Energy Efficiency Study using Pinch Technology. A Case Study of Orbit Chemicals Industry. *JOSR Journal of Mechanical and Civil Engineering*. Volume 11, Issue 1, pages 90-107.

Musonye, S, F, Oimeke, R & Bukachi, N (2017). An assessment of curricular and pedagogical issues in educating and training of energy efficiency experts. (Submitted for publication).

Referees

Mr Benard Kibe

Sulphonation Plant Manager

Orbit Chemicals Limited

P.O Box 48870,

Nairobi.

Tel 0722879751

Prof Robert Kinyua

Director, IEET

Jomo Kenyatta University of Agriculture and Technology

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Joseph Njuguna

Energy Consultant

Energy Advisory Ltd

Tel 0727 451 822

APPENDIX: SOME OF THE FACILITIES WHERE WORK WAS CARRIED OUT

Facility	Work
Uchumi Headquarters-Donholm	Energy Audit
Uchumi Buruburu	Energy Audit
Uchumi Koinange	Energy Audit
Black Petals Farm	Energy Audit
Vert Fresh Industry-Nairobi	Energy Audit
Maridadi Flowers-Naivasha	Energy Audit
Simbi Roses-Gatanga	Energy Audit
Orbit Chemical Industries	Energy Audit
Comfort Hotel-Milimani	Energy Audit
Comfort Hotel-Givanjee	Energy Audit
Village Market Shops(over 60 facilities)	Energy Audit
Greenlands Agroproducers Ltd-Makuyu	Energy Audit
Alpha Knit Ltd-Ruiru	Energy Audit
Nairobi Plastics	Quality Control Audit
Umoja Rubbers Ltd	Quality Control Audit
Red Plum Ltd	Quality Control Audit
Krystaline Salt Ltd	Quality Control Audit
Engen Ltd	Quality Control Audit
Styroplast Ltd	Quality Control Audit
Oserian Development Co.	Quality Control Audit
Agro Chemicals and Food Ltd-Muhoroni	Quality Control Audit
White Coal Industries-Kisumu	Quality Control Audit
East Africa Fish Processors Ltd-Kisumu	Quality Control Audit
London Distillers Ltd	Quality Control Audit
Agri Flora Ltd	Quality Control Audit
Kipchabo Tea Factory	Quality Control Audit
Mogeni Tea Factory	Quality Control Audit
Base Titanium Ltd	Quality Control Audit
Naivas Supermarket-Ukwala	Quality Control Audit
Momul Tea Factory	Quality Control Audit
Nairobi Bottlers Ltd	Quality Control Audit
Equator Bottlers Eldoret	Quality Control Audit
Sunset Hotel Kisumu	Quality Control Audit
Acacia Hotel Kisumu	Quality Control Audit
Moi Teaching and Referral Hospital	Quality Control Audit
Tenwek Mission Hospital	Quality Control Audit
Access Kenya-6 reports	Evaluation of EIA report for power plants
AMU Power	Evaluation of EIA report for power plants

AM Ventures	Evaluation of EIA report for power plants
Carenger Energy System	Evaluation of EIA report for power plants
Chagem Power	Evaluation of EIA report for power plants
DWA Estate	Evaluation of EIA report for power plants
Green Millenia	Evaluation of EIA report for power plants
Kengreen	Evaluation of EIA report for power plants
KTDA Hydro Projects-3	Evaluation of EIA report for power plants
Malindi Solar Group	Evaluation of EIA report for power plants
Northern Energy	Evaluation of EIA report for power plants
Quiant Energy	Evaluation of EIA report for power plants
Power Engineers	Evaluation of EIA report for power plants