TRAINING SURVEY 2019

EENOVATORS

FOREWORD

Efficient use of resources is necessary for the continuous survival of the human race, but to get there, continuous learning is even more necessary. It is heart-warming to study the results of this survey as what stands out most is that energy professionals have taken ownership of their own personal development where two-thirds of respondents fund their training needs themselves.

Professionals qualify from institutions that are formed and shaped by similar principles and practices around the world. Most qualifications carry more or less much the same value when compared with each other. To be successful in career and life, survival of the fittest comes into play.

Energy engineering professionals that actively develop an array of soft skills, business skills, together with advancing and keeping their technical skills current will elevate themselves above their peers through continuous learning.

By Yolanda Lange

Manager Energy Training Foundation and Association of Energy Engineers Associate for Africa

"Learning is not compulsory… neither is survival"

W EDWARDS DERNING, AUTHOR & POLITICIAN

FOREWORD

This survey has highlighted that energy professionals self-recognize these requirements, attesting to the preference of international certification programs being sought-after due to the continuous learning requirements to maintain certification.

A concern is the lack of corporate dedication to nurture the skills of their professionals, which could be ascribed to Kenya not having a requirement of and energy management system, where corporates have to conform to continuous education in energy.

If all professionals in the engineering field actively pursue developing holistic skills sets, the world will experience unimaginable progress and technological advancement to solve the global environmental challenges.

By Yolanda Lange

Manager Energy Training
Foundation and Association
of Energy Engineers
Associate for Africa

"We cannot solve our problems with the same thinking we used when we created them."

ALBERT EINTSTEIN

CONTENT

ENERGY IN KENYA

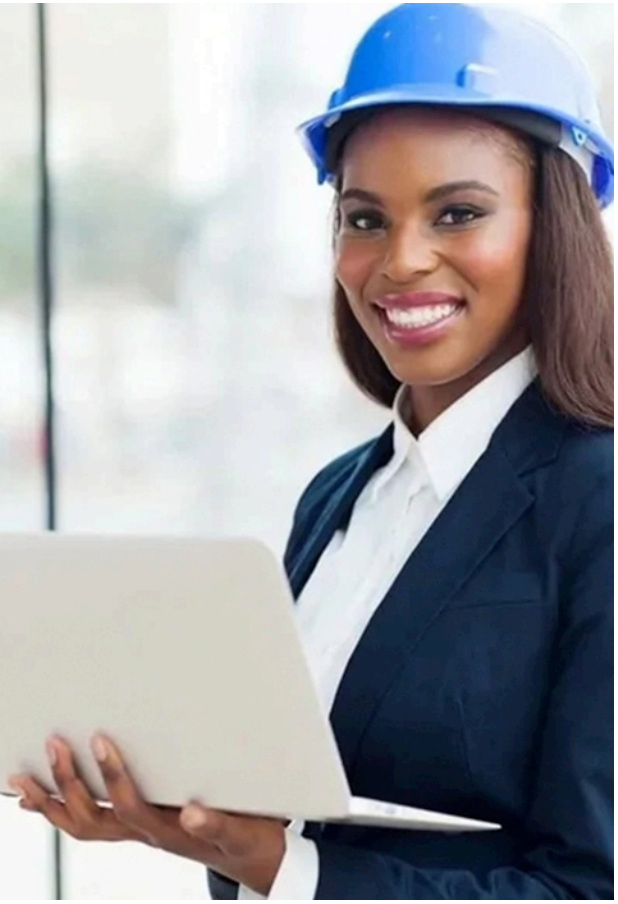
EENOVATORS

ENERGY IN KENYA

"Africa is simply tired of being in the dark. It is time to take decisive action and turn around this narrative: to light up and power Africa-and accelerate the pace of economic transformation…driving the much needed industrialization to create jobs" – AKINWUMI ADESINA, AFDB PRESIDENT

Access to energy is crucial in Africa, and the role of energy in achievement of broad spectrum of ten SDG's (1, 2, 5, 6, 7, 8, 10, 11, 13, and 15), needs to be further underscored towards the delivery of these global goals. The need for conservation and sustainable use of energy and other resources is significant and should not be taken lightly, bearing in mind its role as a driver towards the attainment of good health and household development, as well as reducing the cost of doing business and reduce negative environmental effects. The economic potential that would be unlocked by a key focus in the energy space in Africa would translate to much needed job opportunities, for Africa's youth. The continent has great potential especially in the renewable energy and energy management space, and if utilized effectively, would provide the backdrop to an array of solutions for the worlds environmental concerns.

OBJECTIVES OF THE STUDY



This study was conducted to assess the state of Energy Professionals' training landscape in mainly Kenya; and to determine a baseline for the existing and most needed interpersonal, business related and technical skills training in the energy sector.

The specific objectives to evaluate Energy Professionals' training needs were:

- To determine the most relevant technical training areas of interest.
- To determine the nature of training programs already undertaken and the specific preferences.
- To establish needs in the region for both technical and nontechnical programs and the causal factors for respondent's motivation to attend.
- To determine the ideal framework for energy training program delivery in terms of length and funding sources.
- To identify gaps in the capacity building spectrum and the relevant training programs required in the coming years.

KEY FINDINGS OF THE RESEARCH

The most preferred technical training areas are in renewable energy and real-time monitoring and analytics.

- The Certified Energy Manager (CEM®) and Solar Photovoltaic (PV) programs have been most undertaken.

- Written communication was a skill most felt they had competency in and project management is what they felt they had least developed.

- In 2019, energy professionals are interested in up-skilling themselves most in project management and energy auditing training

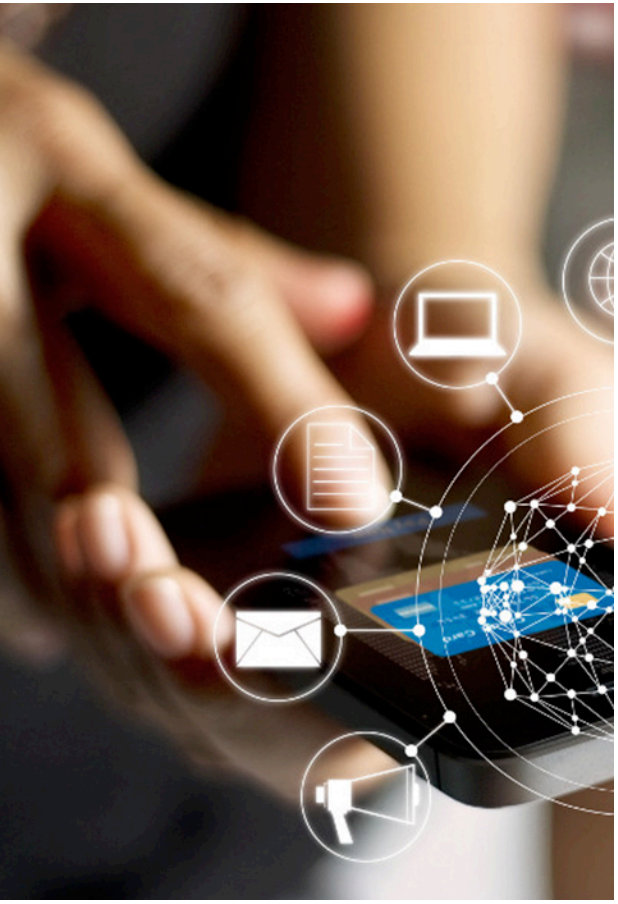
- Career growth and acquisition of new skills were identified as the key drivers for participating in energy related workshops and programs.

- More than two-thirds fund training personally.

SUMMARY OF KEY FINDINGS

- **28%** of the survey participants - forming the majority of respondents - prefer to attend training programs on renewable energy.
- With a rating of 7.61/10, project management was the least developed competence amongst energy professionals.
- **77%** of the participants preferred industry specific courses as opposed to general courses. This difference was attributed to the acquisition of specialized technical skills in industry specific courses.
- 4-5 days as reported by a majority, **44%**, was the most ideal length for energy training workshops.

RESEARCH METHODOLOGY



The research study was conducted via a structured questionnaire created on Google forms, and administered online via a link shared through the following channels to reach the target audience of energy professionals:

- Direct emails
- Text messages
- On social media

Although the study targeted 100 respondents working within the energy industry in Kenya, a total of 128 respondents completed the survey.

The survey had 10 questions in total excluding the demographics based questions. Both qualitative and quantitative based questions were asked to address the survey objectives.

The study was conducted over a period of one month from March 2019 - April 2019.

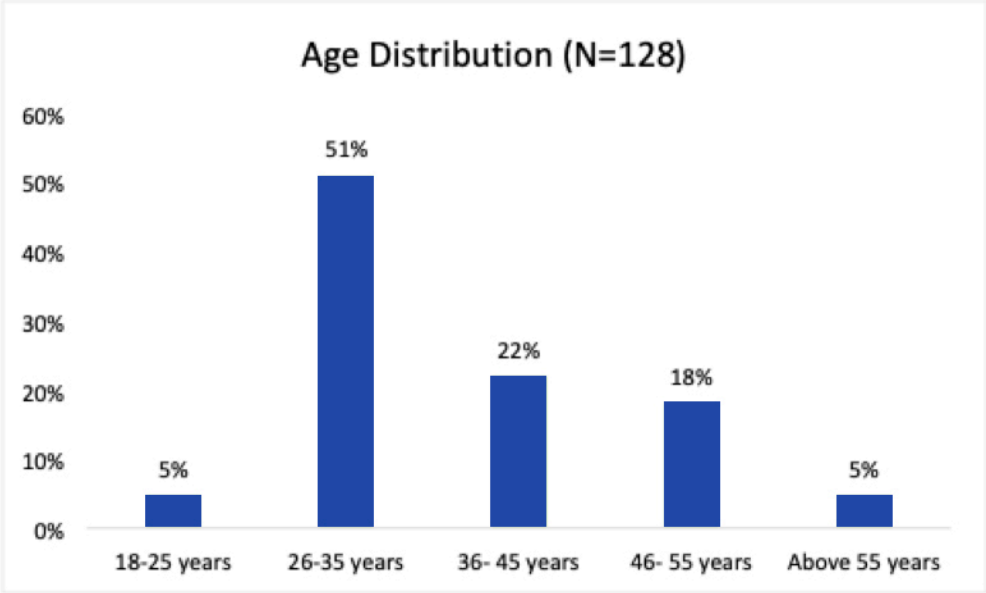
FINDINGS OF THE STUDY

DEMOGRAPHICS

Age and Gender

The survey had 128 participants: 86% were males while 14% were females.

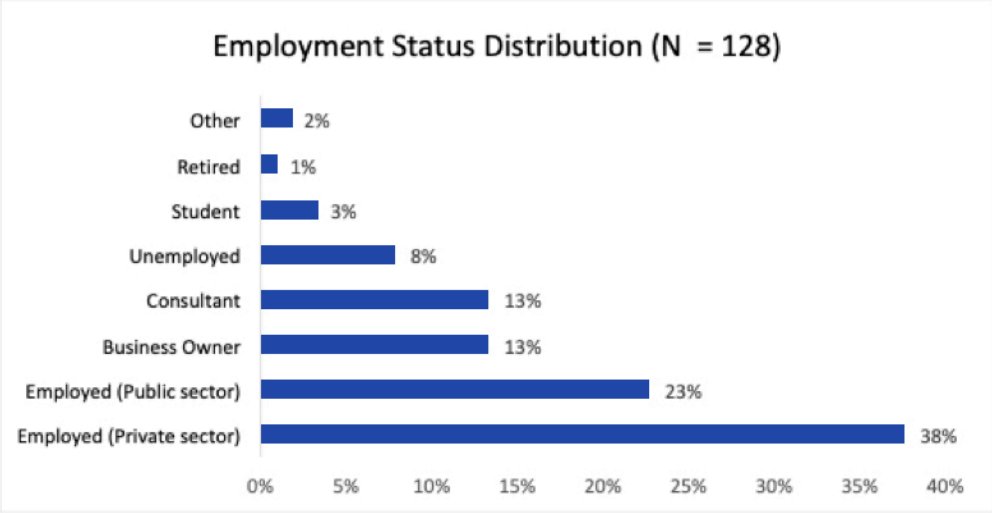
Majority of the participants were aged between 26-35 years (51%), 22% were aged between 36-45 years, 18% were aged between 46-55 years while 5% were aged between 18-25 years and Above 55 years.



DEMOGRAPHICS

Employment Status Distribution

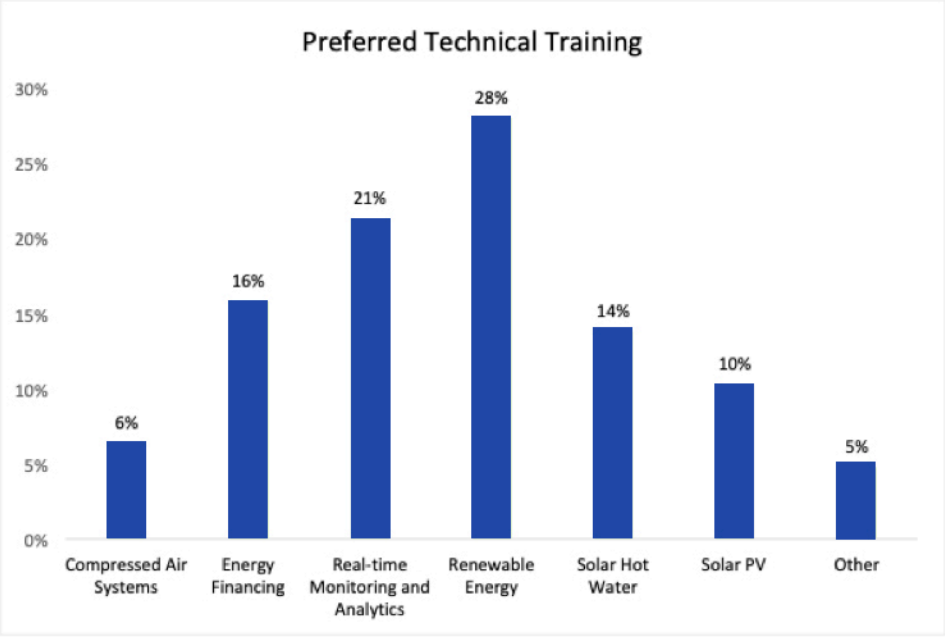
Majority (38%) of the participants were from the private sector, 23% were employed in the public sector, 26% were consultants (13%) or business owners (13%).



MOST PREFERRED TECHNICAL TRAINING

According to the participants, the most preferred technical training was renewable energy that accounted for 28%, second ranked was real-time monitoring and analytics accounting at 21%.

The third and fourth most preferred, energy financing and solar water heating accounting for 16% and 14% respectively. Others included: solar PV (10%), compressed air systems (6%) and others (5%). Others included, Geographical Information Systems(GIS) and remote sensing, control systems, energy policy, regulations and research.



MOST PREFERRED TECHNICAL TRAINING

The underlying reasons for renewable energy programs being the preferred choice for technical training, versus the rest of the programs, is steeped in the global focus that climate change has attracted in the past few years.

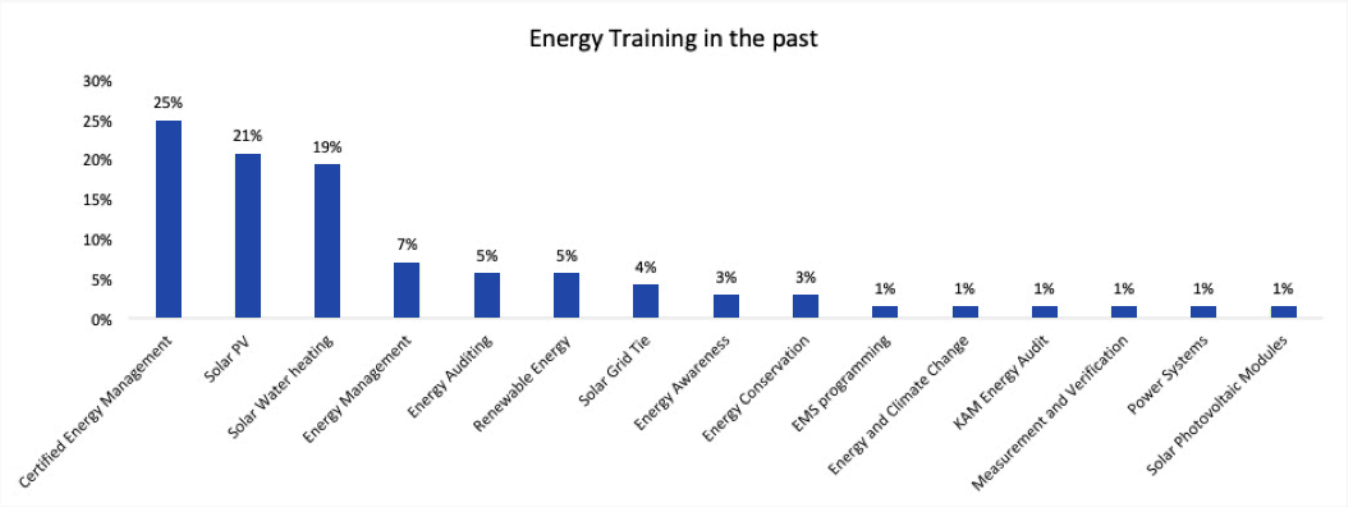
The challenges that climate change continues to pose globally has paved the way towards world agreements being signed for adoption to collaborate efforts in reducing emissions.

Undertaking renewable energy capacity building is seen as a frontline strategy towards tackling the situation.

The carbon tax initiative is also taking effect in Africa, with South Africa already at legislation stage.

This opens up the opportunity for the adoption of renewable energy and in its wake, energy professionals have the desire to gear up for change.

ENERGY TRAINING PROGRAMS DONE IN THE PAST



According to the participants, Certified Energy Manager (CEM®) the program of choice accounting for 25% of all the listed programs. Solar PV was the second most undertaken program accounting for 21% while solar water heating was the third accounting for 19%. Other programs included, energy management, energy auditing and renewable energy.

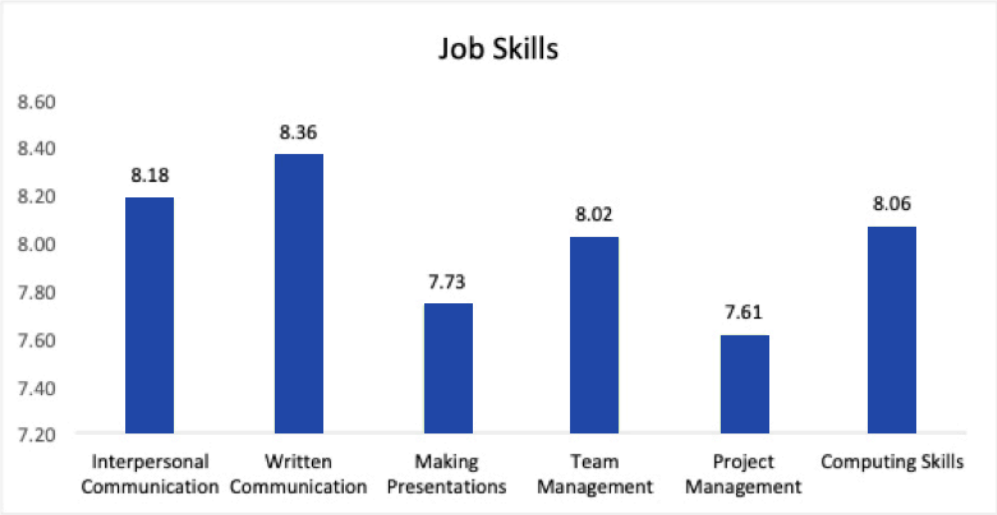
The factors influencing certification programs' popularity versus the rest of the energy training programs is due to the need for global recognition. Most certification program are internationally recognized, giving energy professionals with these certifications the opportunity to expand their professional sphere of impact by working across boarders. In Kenya, because of the requirement for certification to become a licensed energy auditor, most aspiring auditors feel the obligation to get certified for credibility and recognition purposes.

COMPETENCY OF SKILLS AT THE WORKPLACE

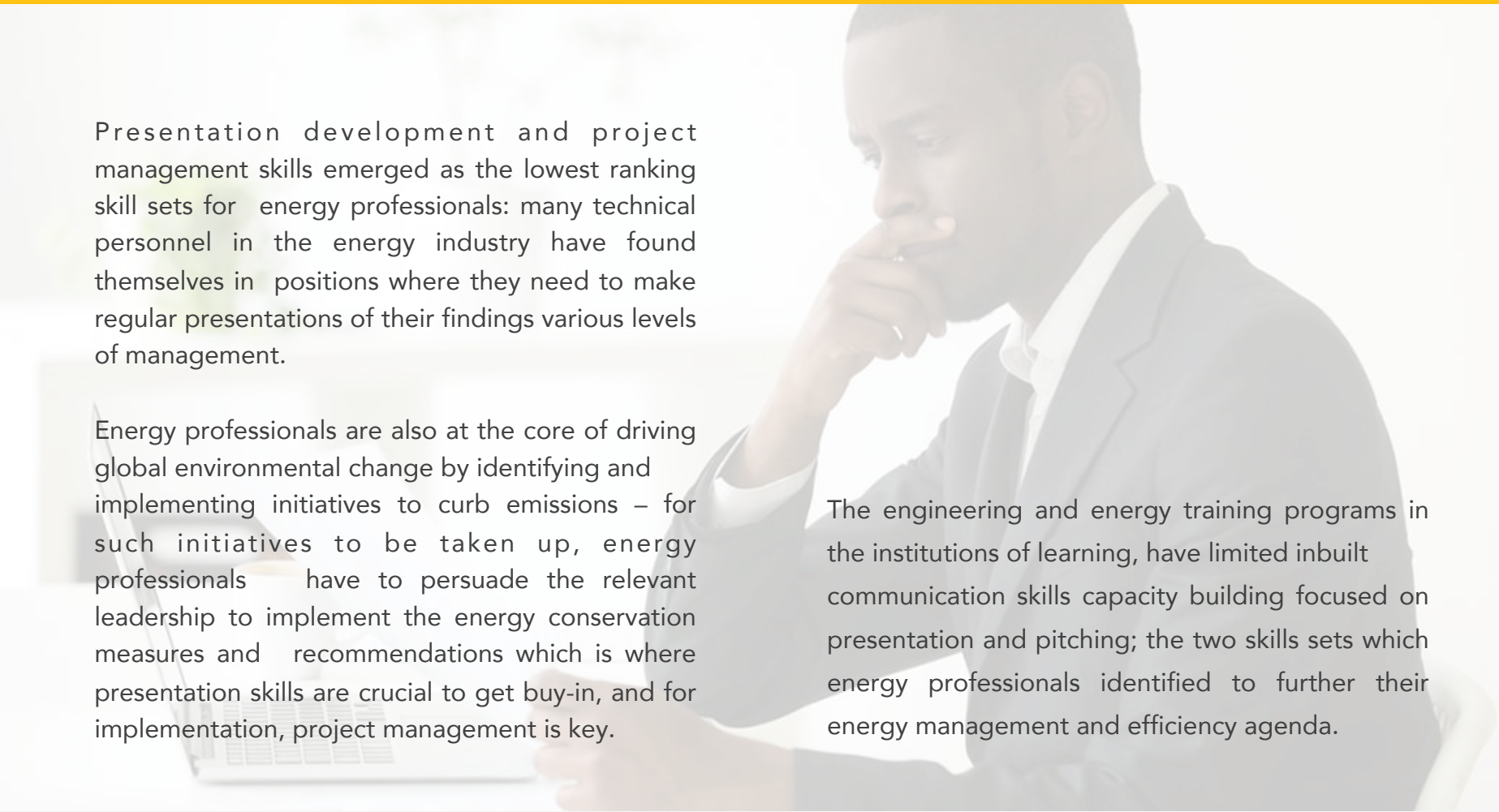
The skills were scored out of 10.

The skills that the participants reported to be most skilled at were, written communication (8.36), interpersonal communication (8.18), and computing skills (8.06).

On the other hand, the least developed skills were, making presentations (7.73) and project management (7.61).



COMPETENCY OF SKILLS AT THE WORKPLACE



Presentation development and project management skills emerged as the lowest ranking skill sets for energy professionals: many technical personnel in the energy industry have found themselves in positions where they need to make regular presentations of their findings various levels of management.

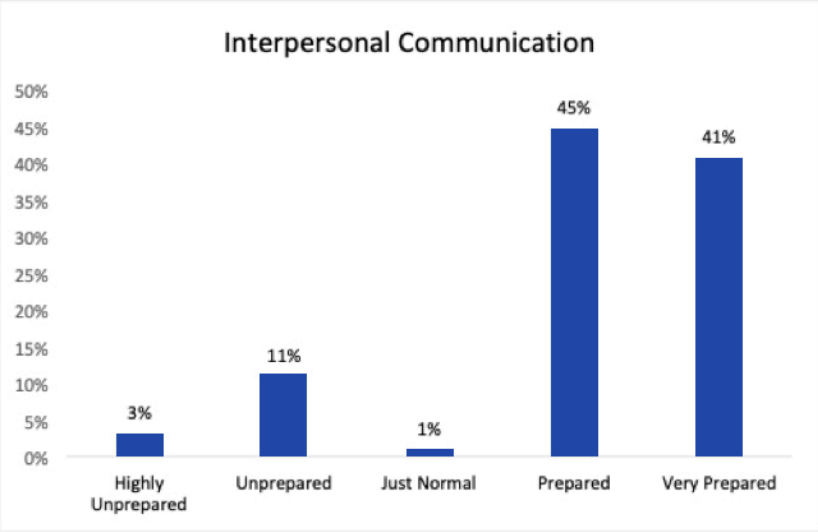
Energy professionals are also at the core of driving global environmental change by identifying and implementing initiatives to curb emissions – for such initiatives to be taken up, energy professionals have to persuade the relevant leadership to implement the energy conservation measures and recommendations which is where presentation skills are crucial to get buy-in, and for implementation, project management is key.

The engineering and energy training programs in the institutions of learning, have limited inbuilt communication skills capacity building focused on presentation and pitching; the two skills sets which energy professionals identified to further their energy management and efficiency agenda.

INTERPERSONAL COMMUNICATION

Overall there was a score of 8.18/10 for the skill, interpersonal communication qualifying to be the second most developed skill.

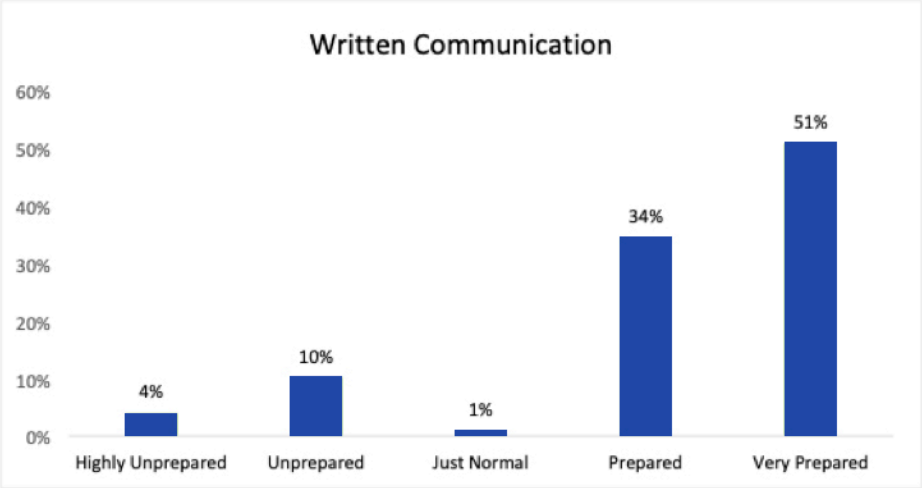
Of the 128 respondents, 41% felt that they were very prepared, 45% were prepared, 11% wereunprepared and 3% were highly unprepared with respect to interpersonalcommunication.



WRITTEN COMMUNICATION

With an overall score of 8.36/10, written communication was reported as the most developed skill.

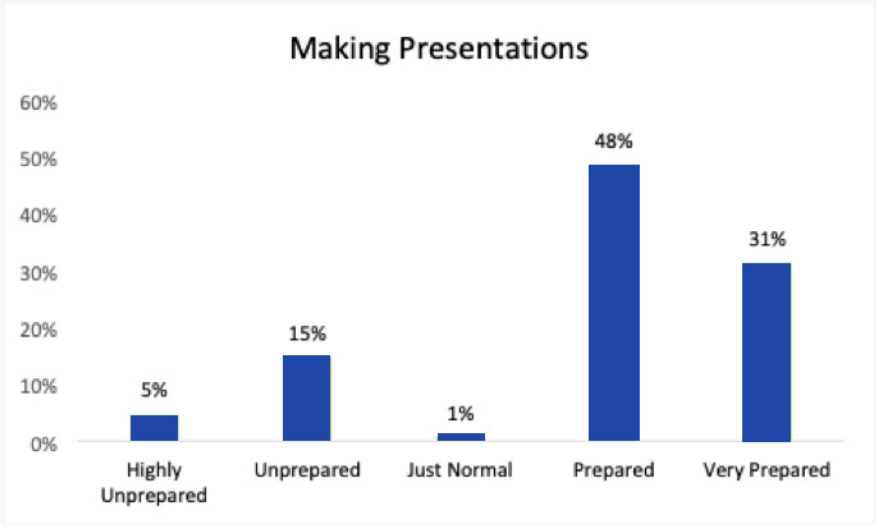
51% of the participants felt that they were very prepared, 34% were prepared, 10% were unprepared while 4% were highly unprepared.



MAKING PRESENTATIONS

With an overall score of 7.73/10, making presentations was the second least developed skill.

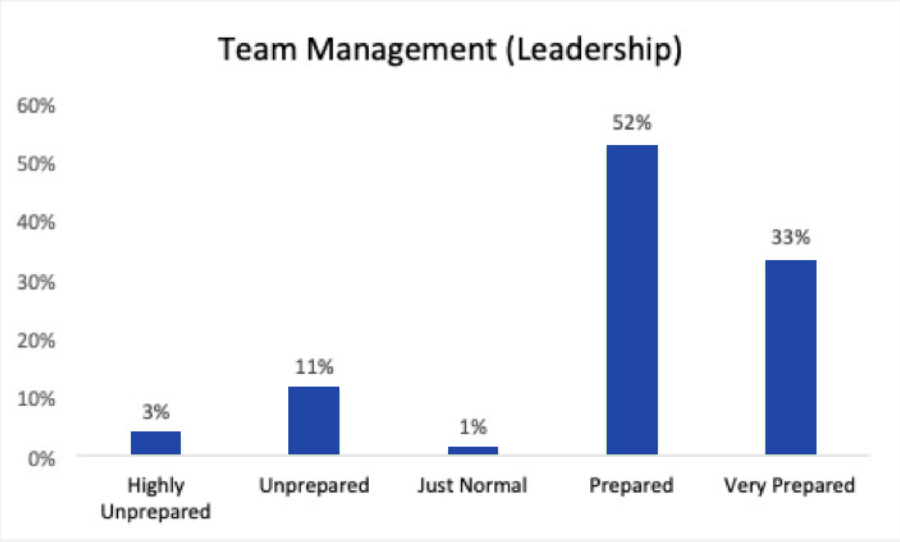
Only 31% of the participants felt that they were very prepared, 48% were prepared, 15% were unprepared while 5% were highly unprepared.



TEAM MANAGEMENT (LEADERSHIP)

With an overall score of 8.02/10, team management was the fourth most developed skill.

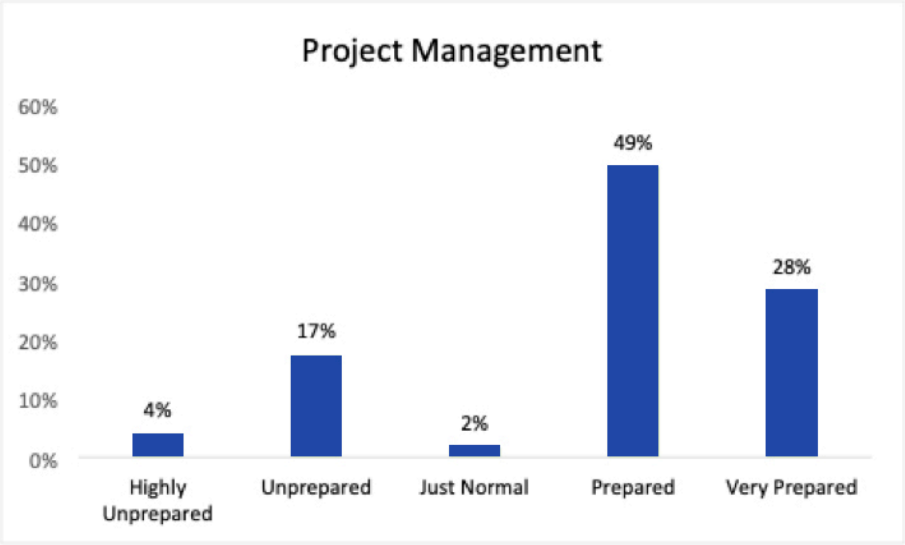
33% of the participants felt that they were very prepared, 52% were prepared, 11% were unprepared while 3% were highly unprepared.



PROJECT MANAGEMENT (LEADERSHIP)

With an overall score of 7.61/10, project management was the least developed skill.

Only 28% of the participants felt that they were very prepared, 49% were prepared, 17% were unprepared while 4% were highly unprepared.



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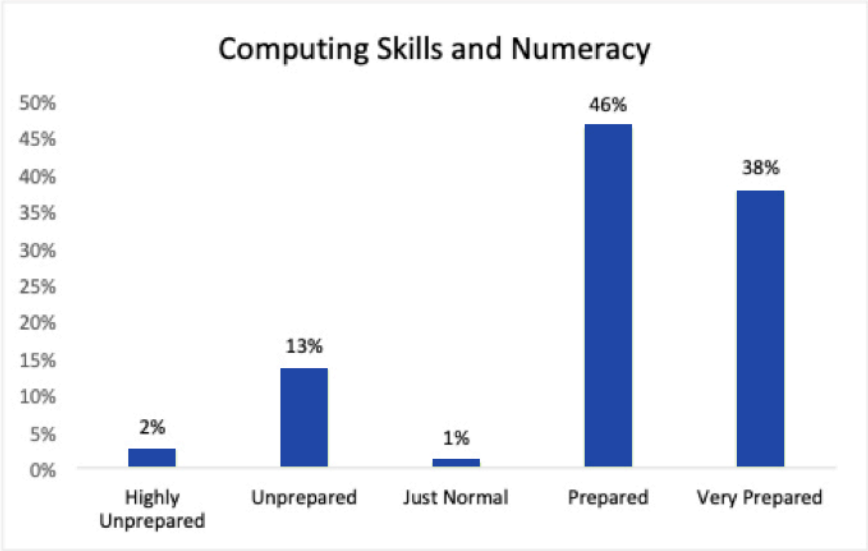
COMPUTING SKILLS AND NUMERACY

With an overall score of 8.06/10, computing skills and numeracy was the third most developed skill.

38% of the participants felt that they were very prepared, 46% were prepared, 13% were unprepared while only 2% were highly unprepared.



OTHER SKILLS

Respondents indicated that the skills they wish to acquire in the short term were project management (16%), energy auditing (15%), energy use management (7%), among others.

4%

Skill	Count	%
Business Management Skills	2	4%
CMVP	2	4%
Computer Programming	2	4%
Data Analytics	2	4%
Financial Analysis	2	4%
Monitoring and Evaluation	2	4%
Project Financial Literacy	2	4%

2%

Skill	Count	%
Automation	1	2%
Big Data	1	2%
BMS integration	1	2%
Business Development	1	2%
Communication and Presentation Skills	1	2%
Computer Aided Design	1	2%
Contract Management	1	2%
Corporate Leadership	1	2%
Employee Management Skills	1	2%
HVAC design	1	2%
Measurement and Analysis	1	2%
PLC Training	1	2%
Project Partnerships	1	2%
QMS	1	2%
Real-Time Monitoring Analytics	1	2%
Renewable Energy Management	1	2%
SMA Technology	1	2%
Solar PV	1	2%
Solar Water Heating	1	2%
Strategic Management	1	2%

%

Skill	Count	%
Project Management	9	16%
Energy Auditing	8	15%
Energy Use and Management	4	7%

OTHER SKILLS

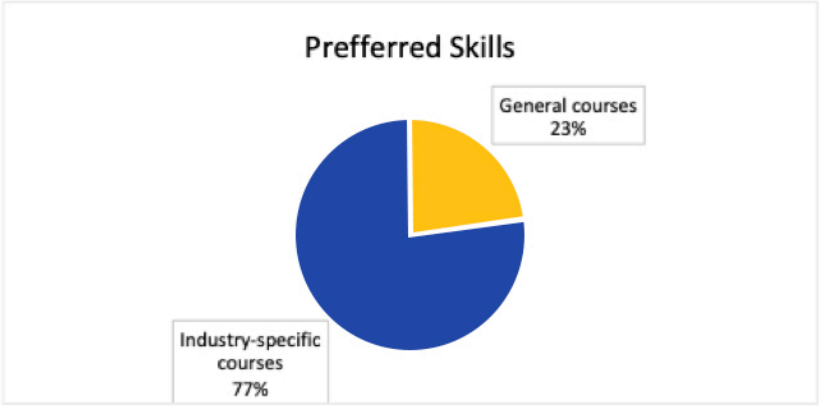
Energy professionals prefer to upskill in project management and energy auditing over other training programs in the short term, mostly because the implementation of various projects in the energy industry ranging form building power plants to the implementation and maintenance of energy efficiency projects are already ongoing.

There have been numerous renewable energy projects across the continent as well, both self and donor funded, making project management a valuable skill over and above having the technical competence in energy.

Energy auditing, in Kenya particularly, is a much needed skill for aspiring energy auditors who want to become licensed. With the demand for energy auditing compliance - that received an enforcement boost four years ago - for facilities that consume more than 180,000 kWh of both Electrical and Thermal Energy, opportunities are still abound for licensed auditors to find useful engagement.

COURSE PREFERENCE

When asked what type of skills they preferred, **77%** of the participant chose industry-specific courses while **23%** chose general courses.



Reasons

The majority of respondents required the development of technical skills as the main reason for citing industry specific courses as a preference.

Comments noted were:

"Courses tailored at enhancing technical skills"

"Industry-specific courses are practical and teach skills that can be applied in the real working environment"

On the other hand, participants preferring general courses reported a requirement to have an all rounded skill set as a priority, rather than industry specific.

"I would like to have an extensive general knowledge rather than industry specific"

"I think equipping energy professionals includes more than just the technical aspects"

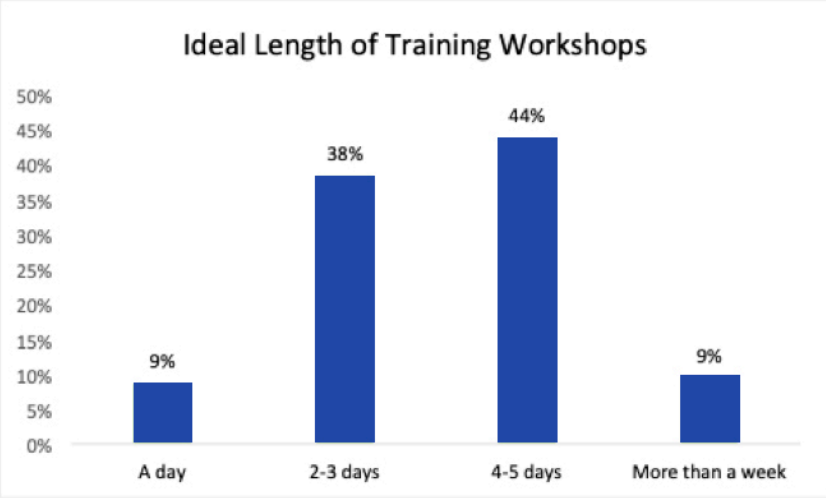
MOTIVATION FOR TRAINING

Respondents cited career progression as the main motivation for training at 37%.

This was followed by 35% preferring learning a new skill.

Other motivations for training included to begin an own business (14%) and to grow a business (13%).

One participant (other) said that they wanted to improve their measuring and monitoring skills.



MOTIVATION FOR TRAINING

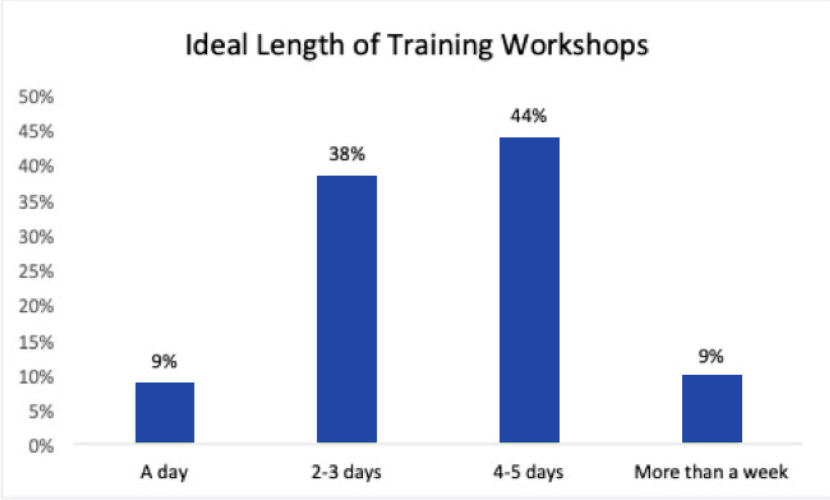
The motivation for training is skewed more towards the corporate energy space versus energy entrepreneurs owing to the fact that most energy professionals are either working in a corporate environment or seek to enable corporates to implement energy projects.

The energy training in place is also designed for workplace implementation and there is a distinct lack of energy programs geared towards developing successful businesses in the energy sector or energy consulting to diversify into opportunities in the informal sector.

IDEAL TRAINING LENGTH

44% of the participants felt that 4-5 days were ideal for training workshops, 38% felt that 2-3 days were enough.

9% felt that a day was enough and the same proportion (9%) felt that more than a week was ideal.



FUNDING FOR PROFESSIONAL DEVELOPMENT TRAINING

At 53% a large majority of respondents self-sponsored their professional development training while 28% were company sponsored.

Most of the "other" reported to be both self-sponsored as well as company sponsored.

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MOTIVATION FOR TRAINING

A large majority of energy professionals self-sponsor their training programs, with corporates less inclined to pay for training programs for their staff. There seems to be a general lack of understanding, by decision makers in the work place, of the full value and return on investment for energy training.

The general understanding of budgetary and investment implications for energy efficiency and renewable energy initiatives is still at a stage where significant education and awareness is required ahead of getting the necessary buy in.

The energy certification programs are also quite costly, together with the lack of rounded skills sets to successfully justify the training needs for funding, at decision maker level.

CONCLUSION

This research study has served to create a baseline for the state of energy professionals training in mostly Kenya and has provided insights into the energy field and the training requirements thereof. It has clearly communicated the gaps that exist in the development of professionals in this particular sector as well as the need for the more "softer" essential skills towards complimenting their technical expertise. The study has revealed the expressed lack of competence in key skills areas such as making presentations and project management as well as the desire to up-skill in energy auditing. In addition there is an evident passion for renewable energy and more professionals want to engage and understand this area better.

The study also brings out a gap with respect to funding of professional training or programs with self sponsorships being the main driver for energy capacity building. Organizations need to invest more in funding training programs for their teams involved in driving the energy agenda forward to enable quality delivery.

It is anticipated that this survey will inspire improved initiatives towards informed decision making both at the individual and corporate level. It is paramount that those responsible for design and implementation of energy programs deliberately think through the expressed training gaps, needs and strengths and use these to develop solid strategies for change. With well equipped energy professionals in place, the continent will take its rightful place as the disruptive energy conservation and sustainability hub of the world.

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