



KenGen

Energy for the nation.

IGNITE 
SPARK THE CHANGE

**12th G2G GLOBAL
INNOVATION SEMINAR**

MAY 2024 | KISUMU

UNPACKING SOLUTIONS FOR BUSINESS RESILIENCE

INNOVATION COUNCIL



Innovationcouncil@KenGen.co.ke



0711 036 419



OUR TEAMS

G2G Innovation Council

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Eng. Alfred Abiero	Chairman
Sally Karau	Vice Chair
Joshua Nyandika	Process Owner
Joseph Mbugua	Secretary
Beatrice Osamba	
Daniel Saitet	
Dominic Kaleke	
Elizabeth Njoroge	
Evans Muli	
Francis Makhanu	
Isaac Tarus	
James Kahutu	
Joseph Mwambui	
Kennedy Rokorio	
Maggie Ogutu	
Martha Kihara	
Muhumed Abdi	
Nancy Kihara	
Peris Muthiaru	
Philip Barasa	
Ronoh Kibet	
Wilson Kamau	

COPI Committees

Central Office COPI Committee

Frank D Ochieng	Chairman
Julie Mwaluma	Vice Chair
Kaarina Luvango	Secretary
Andrew Muturi	
Charity Wanjohi	
Christopher Mbuya	
Daniel Mwendandu	
Domitila Waititu	
Evelyn Mwaura	
Freda Nyambura	
George Akelola	
Joseph Gitati	
Mercyline Mochama	
Rebecca Wanyonyi	
Sheila Jenny	

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Esther Amani	Secretary
Nganyi Ong'weni	

Western Region COPI Committee

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James Gitonga	Secretary
Eric Munyi	
Faith Muriithi	
Frank Ombongi	
Martha Kihara	
Mary Anne M'Nairobi	
Phenadis Ayola	
Wycliffe Kiptisia	
Zachary Bosire	

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Francis Kimolo	Secretary
Adan Hassan Ibrahim	
Eng. Boaz Adegü	
Florence Mwele	
Fredrick Kamau	
Joseah Kipyegon	
Josphine Kagiri	
Muhumed Abdi	
Nixon Ndugire	
Pamela Maingi	
Phenny Ogeto	
Teresse Nduku	
Triumph Mwongeli	

Upper Tana COPI committee

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Elizabeth Kiilu	Chair
Moses Langat	Vice Chairperson
Emmy Chepkirui	Secretary
Allan Kubai	
Andrew Orlando	
George Mwolobi	
Kennedy Mwangi	
Michael Kimani	
Mike Chege	
Patrick Wamathai	

Geothermal Region COPI Committee

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Daniel Saitet	Vice Chair
David Imaidi	Secretary
Asaria Onsoti	
Dr. Anna Mwangi	
Edwin Wafula	
Isaac Belio	
James Nyandigisi	
Joseph Tuarari	
Martin Mbugi	
Mercy Chepkorir	
Miriam Ngina	
Nelly Chelangat	
Risper Sangut	
Samson Ogweno	



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8th
MAY



DAY ONE

Session 1:
Deepening Partnerships

Session 2:
Business Sustainability



9th
MAY



DAY TWO

Session 3:
Resource Optimization

Session 4:
Innovation- Creating Value

Session 5:
Research & Development



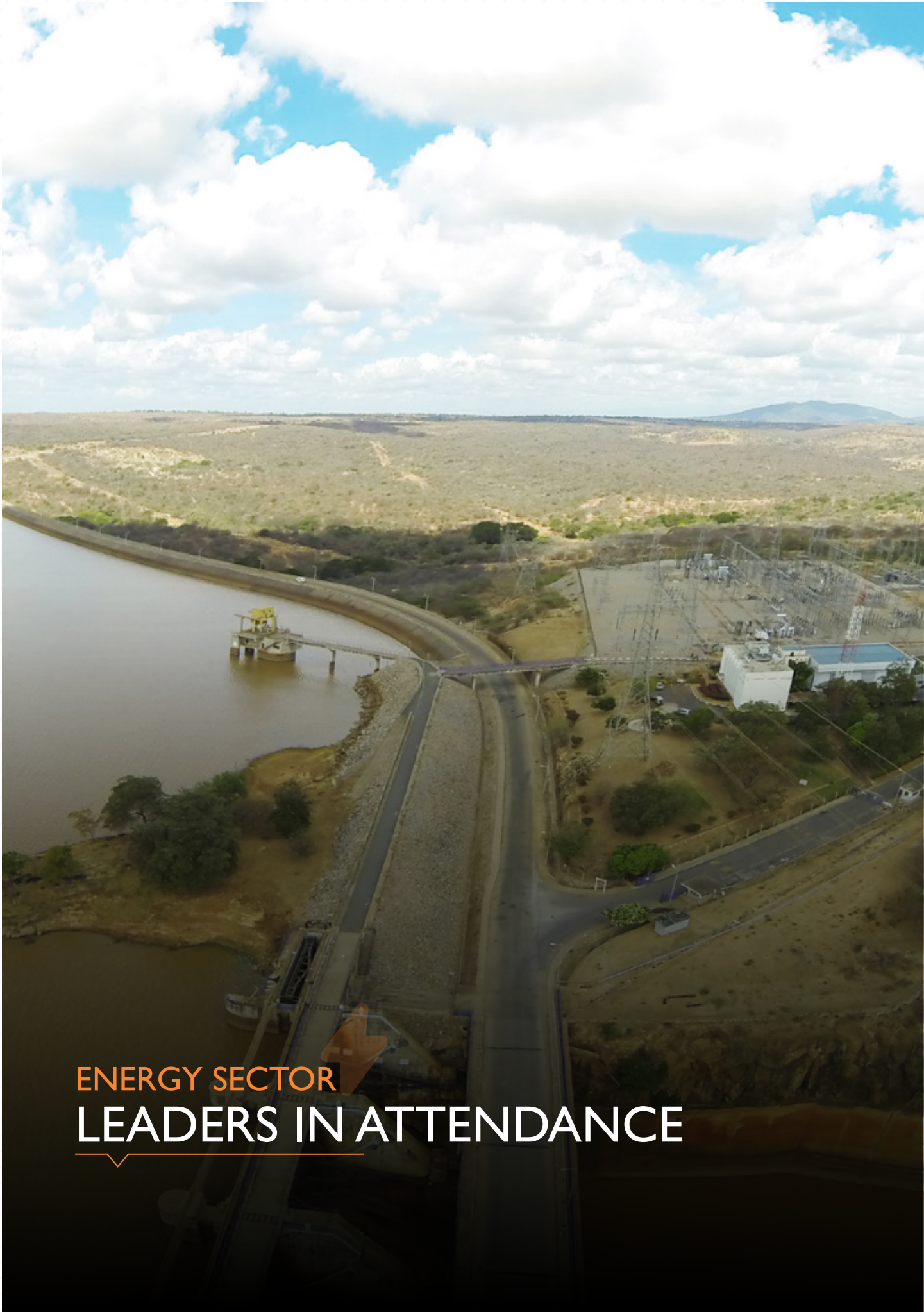
10th
MAY



DAY THREE

Session 6:
Technological Advancement

Session 7:
Process Improvement



ENERGY SECTOR
LEADERS IN ATTENDANCE

CS. Davis Chirchir, EGH
Cabinet Secretary, Ministry of Energy & Petroleum



"We are amidst an unprecedented transition towards clean energy, a vital shift away from fossil fuels. It is imperative that we align with global efforts to mitigate greenhouse gas emissions, collectively addressing the challenges of global warming and securing our planet's future."



PS. Alex Wachira, CBS
Principal Secretary, State Department for Energy



"I recognize the vital role of innovation. It propels us to challenge established norms, venture into unexplored realms, and pave the way for transformative change. By harnessing this unwavering drive for progress, we can revolutionize our energy landscape and effectively address the pressing challenges we encounter."



Mr. Julius Ogamba, EBS
Chairman of the Board - KenGen PLC



"I am acutely aware of the rapid pace at which technology is evolving. It is imperative that we stay attuned to these advancements, as failure to do so risks permanent exclusion from the forefront of progress."



Eng. Peter Njenga
Managing Director & CEO - KenGen PLC



"Innovation stands as the driving force behind progress and transformation in every aspect of human endeavor. It is the creative spark that propels societies, industries and individuals toward new solutions and advancements."





Why Attend

The 2024 G2G Global Innovation Seminar will bring together industry experts to exchange energy related innovations, share first-hand insights from the field, and provide direction on the future of the industry. Additionally, the forum will provide participants with an opportunity to showcase their innovative ideas that allows for in-depth learning and knowledge-transfer for business growth.

EVENT 
PARTNERS





Why Exhibit

The 2024 G2G Global Innovation Seminar brings together energy sector professionals across the globe, to keep abreast with the latest trends and emerging issues in the electricity supply chain. This conference covers a broad spectrum of ideas geared towards energy sustainability and covers renewables, distributed energy, digital transformation, operations and maintenance, climate change mitigation, and workforce development.



OFFICIAL PROGRAM

DAY ONE | Wednesday, 8th May 2024

TIME	ACTIVITY	LEAD
08:00 - 08:45	Registration	Joshua Nyandika
08:45 - 09:00	Safety Brief / Opening Prayers / KenGen Anthem	Frank Ochieng
09:00 - 09:15	Innovation Council Chairman	Eng. Alfred Abiero
09:15 - 09:30	General Manager- Business Development & Strategy (Patron)	Elizabeth Njenga, OGW
09:30 - 09:45	KETAWU General Secretary's Remarks	Ernest Nadome
09:45 - 10:00	Managing Director & CEO	Eng. Peter Njenga
10:00 - 10:15	Chairman of the KenGen Board	Julius Ogamba, EBS
10:15 - 10:30	Cabinet Secretary Ministry of Energy & Petroleum	CS. Davis Chirchir, EGH
10:30 - 11:00	TEA BREAK/EXHIBITION	
	Session 1: Deepening Partnerships	Moderator: Dr. Dan Kemei
11:00 - 11:05	Day Chair Opening Remarks	William Rahedi
11:05 - 11:20	Keynote address	Dr. Martin Oduor
11:20 - 11:35	Strategy	Adam Kendall (McKinsey & Co.)
11:35 - 11:50	Energy Park	Stephene Mbatha
11:50 - 12:05	Neway Valve	William Liu
12:05 - 12:30	e-mobility & clean cooking	Ministry of Energy & Petroleum
12:30 - 12:55	Panel Discussion	Panel
12:55 - 14:00	LUNCH BREAK/EXHIBITION	
	Session 2: Business Sustainability	Moderator: Eng. Julius Odumbe
14:00 - 14:20	Electricity pricing- Which way for Kenya's public utilities	Edison Ochieng
14:20 - 14:40	Regaining KenGen's market leadership for the next 70 years	Emmanuel Wandera
14:40 - 15:00	Embracing Circularity in Management of Cooling Tower Fill Packs in partnership with Jua Kali Entrepreneurs	Rose Wambui
15:00 - 15:20	Design of Effective Baboon-Proof Waste Bins at Tana Power Station	Mike Chege & Shadrack Ekai
15:20 - 15:40	Panel Discussion- Regional Power Integration	Sector Players
15:40 - 16:00	Panel Discussion	Panel
16:00 - 16:20	TEA BREAK/EXHIBITION	
16:20 - 16:40	Day I Reflections	Dr. Rosemarie Wanyoike
16:40 - 19:00	C O C K T A I L	

DAY TWO | Thursday, 9th May 2024

TIME	ACTIVITY	LEAD
08:35- 08:45	Opening Prayers	
08:45 - 09:00	Day Chair Opening Remarks	Umuro Wario
	Session 3: Resource Optimization	Moderator: Peketsa Mangi
09:00 - 09:40	Motorized operated valve Redesign & Modification Process	Joseph Odhiambo
09:40 - 10:00	Corporate Furniture Leasing	Noel Awuor & Mzungu Dullu
10:00 - 10:20	Establishment of KenGen Field Service Team	Manasseh Ngai
10:20 - 10:40	Session Panel for Question & Answer	Panel
10:40 - 11:00	TEA BREAK/EXHIBITION	
	Session 4: Innovation- Creating Value	Moderator: Erick Audi
11:00 - 11:20	Design and Fabrication of Olkaria V Turbine Casing Stanchions	Sarah Gichonge
11:20 - 11:40	Rehabilitation of Gitaru Medium Voltage Switchgear	David Ambetsa & Dennis Wangariria
11:40 - 12:00	Online Maintenance to Improve Plant Efficiency	Jamal Swabu
12:00 - 12:20	Design of Olkaria IV Geothermal Power Plant Agitator Pulley Drive System	Victor Ouma
12:20 - 12:40	Session Panel for Question & Answer	Panel
12:40 - 14:00	LUNCH BREAK/EXHIBITION	
	Session 5: Research & Development	Moderator: Austin Ouko
14:00 - 14:20	Well Headsteam Turbine Blade Retrofit With Olkaria I AU 4&5 Spare Tubine Blades.	Laureen Muloli & Peter Gitau
14:20 - 14:40	Unveiling Extremophiles: The Key to Industrial Enzymes Production at Olkaria	Martin Njuki
14:40 - 15:00	Brake Disc Extraction Jig for The Wind Turbine Maintenance	Stanley Abukuse & Thomas Nderitu
15:00 - 15:20	KenGen Gothermal Steam Energy Storage Concept	James Nyandigisi
15:20 - 15:50	Session Panel for Question & Answer	Panel
15:50 - 16:20	TEA BREAK/EXHIBITION	
16:20 - 16:40	Day 2 Reflections	Hon. Stephen Mutai

DAY THREE | Friday, 10th May 2024

TIME	ACTIVITY	LEAD
08:15 - 08:20	Opening Prayers	
08:20 - 08:30	Day Chair Opening Remarks	Josephine Koisaba
	Session 6: Technological Advancement	Moderator: Mary Maalu
08:30 - 08:50	Optimizing Recording of Data at KenGen's Installations for Better Operations Management	Solomon Muthoka & Kibet Sang
08:50 - 09:10	Navigating The Future: Kengen's Bold Leap With Digital Twin Technology	Erick Mbeta Williams & Erick Indasio
09:10 - 09:30	KenGen's 3D Web-based virtual tourism	James Nyandigisi
09:30 - 09:50	Motor Vehicle tracking System Using Internal Resources	Benedict Malomba & David Kahoro
09:50 - 10:20	Session Panel for Question & Answer	Panel
10:20 - 10:50	TEA BREAK/EXHIBITION	
	Session 7: Process Improvement	Moderator: Philip Yego
10:50 - 11:10	Infrared Spectroscopy for Real-Time Detection of Swelling Clays In Geothermal Drill Cuttings. A Case of Olkaria, Kenya	Vincent Bosire
11:10 - 11:30	Digital solution for mileage Data Capture - Mileagen App	Alfred Agunda & Emelda Kogai
11:30 - 11:50	Cleaning In Place (CIP) for Plate Heat Exchanger	Kenneth Otieno & John Nungari
11:50 - 12:10	Integrated Fire Hydrant System for Wanjii Power Station	Moses Langat & Francis Aswani
12:10 - 12:40	Session Panel for Question & Answer	Panel
12:40 - 14:00	LUNCH BREAK/EXHIBITION	
14:00 - 14:10	Tree planting	Frank Ochieng
14:10 - 14:20	Day 3 Reflections	David Muthike
14:20 - 14:30	Overall Seminar Reflections	Frank Konuche Chair, Board Strategy Committee
14:30 - 14:50	Judges' Feedback	Judges
14:50 - 15:30	Award Ceremony	MD & CEO
15:30 - 16:00	Closing Remarks	MD & CEO
16:00 - 18:00	C O C K T A I L	

POST-CONFERENCE | Saturday, 11th May 2024

TIME	ACTIVITY	LEAD
07:30 - 08:15		
08:15 - 08:30	Pick up from Hotel	Joseph Mwambui
08:30 - 09:00		
09:00 - 09:15	Safety Brief	Philip Barasa
10:00 - 10:30	TEA BREAK/NETWORKING	
10:30 - 13:00	Sondu Miriu Power Station	Eng. Alfred Abiero (Power Generation Manager, Western)
13:00 - 14:00	LUNCH BREAK	
14:00 - 16:00		Joseph Mwambui



INNOVATION CULTURE

To institutionalize the innovation culture, KenGen leveraged on different platforms that gave its employees the opportunities to share their ideas on how the overall organizational performance could be improved.



a. The G2G Global Innovation Seminar.

This is an event that provides a platform for its employees to advance innovative ideas that improve business processes for the Company's financial success. The G2G seminar promote an innovative culture and continuous improvement philosophy through action-oriented translation of the initiatives into commercial applications that generate growth for the company.



Delegates during the 2023 G2G Seminar in Mombasa

b. Communities Of Practice & Innovation (COPI)

Communities of Practice and Innovation (COPI) is a forum that provides employees with a platform to share innovations, best practice knowledge at a regional level. The forums held biannually per region, stimulates ideas on how the existing systems and business models can be improved or create value.



Delegates during the 11th Central Office COPI Forum in March 2024

c. Ignite Fridays

These are innovation sessions that happens every last Friday of the month where employees from each section breakout for a two hour discussion on matters innovation.

d. The Ignite Portal

This is a KenGen's digital tool that ensures quick, efficient and systematic capturing and implementation of Innovation ideas. Through Ignite portal, staff are able to share ideas at the comfort of their desk as well as follow idea status. Ignite portal therefore encourage individual sharing of ideas anywhere anytime.

IGNITE FRIDAY
NO MUDA
 The Secret to Success is Achieving More with Less. – Vilfredo Pareto

Schedule

2.00 - 2.15	Chief - Opening Remarks
2.15 - 2.30	Each person writes his or her own list of waste reduction ideas for the section
2.30 - 3.00	Individuals share their ideas with the team. One person at a time.
3.00 - 3.30	Team members discuss with one another (asking clarifying questions and offering advice). 3 to 5 min. per person and one person at a time
3.30 - 4.00	Each team uploads their refined idea on Ignite - NO MUDA

MUDA
 Muda is a Japanese word that denotes wastefulness in operation.
 The Muda challenge requires each section to find ways of reducing wastage and shedding-off the non-essentials in their section.
 How? Outline how to cut out
 - Activities that adds cost or time but no value
 - Activities whose elimination will not affect the processes or stakeholders.

Remember to write your team members names in the description.

KenGen **IGNITE**
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 Search New idea

Welcome to KenGen's Digital Innovation Platform
 What's your KenGen idea? Big or small. We want to hear about it! Spark change!

INNOVATION STATUS UPDATE



Concepts | 16

At this stage innovators have just conceptualized their ideas and submitted an abstract for review.



Detailed Proposal | 142

The ideas at this stage are awaiting the innovators to submit detailed paper about their concept. At this stage, the key focus is to get the problem statement, proposed solution and the cost benefit analysis.



Project Preparation | 100

This is a critical stage in the implementation process. The ideas have been peer reviewed and await commitment of human and financial resources to commence implementation. As from last year, all the Divisions are required to identify innovation initiatives to pursue to full implementation.



Ongoing implementation | 78

This stage contains ideas that are at different stages of implementation. The pace of implementation is only slowed by budget allocation and dedicated human resource to pursue the ideas.



Implemented /Completed projects | 250

This is the total number of the ideas that have been implemented and piloted since 2012.



Best Practice | 34

These are ideas whose presentation has led to process improvement due to the valuable lessons learnt.



Parked ideas | 171

Ideas at the parked state means that they cannot be implemented or pursued in their current state unless the innovator provides more information or sufficient resources are allocated. Once these barriers are removed the ideas can be un-parked to follow the normal implementation structure.

Projects under Research & Development

1. R&D Centre and Corporate archive

A hub of Innovation, Research & Development and Knowledge is underway in Upper Tana Region This innovation acceleration hub will transform the pace and culture of experimentation within the Business.



2. Mineral Extraction

Research is ongoing on identification and extraction of Minerals from Geothermal brine. The potential minerals in our geothermal brine include Fluorides, Silica and Lithium.

The project objectives are:

- Determine the commercial viability of minerals present in geothermal brine
- Develop mineral extraction technology
- Apply the developed technology in design of a pilot mineral extraction plant



Implemented Innovations

The following are some of the innovation initiatives presented in different innovation seminars and implemented.

2022 G2G Seminar

I. The Water Master and Geotubes : Cost Effective Dredging Solutions

The de-silting of Sondu Miriu intake reservoir and hippo grass removal using an amphibious watermaster was an innovation idea presented in the 2022 G2G Seminar. The implementation of this project addressed community agitations on issues surrounding accessibility of water at Sondu Miriu River as well as increase reservoir holdings capacity thus guarantee Hydro power generation.



Fig: Dredger at work: Removal of Hippo grass

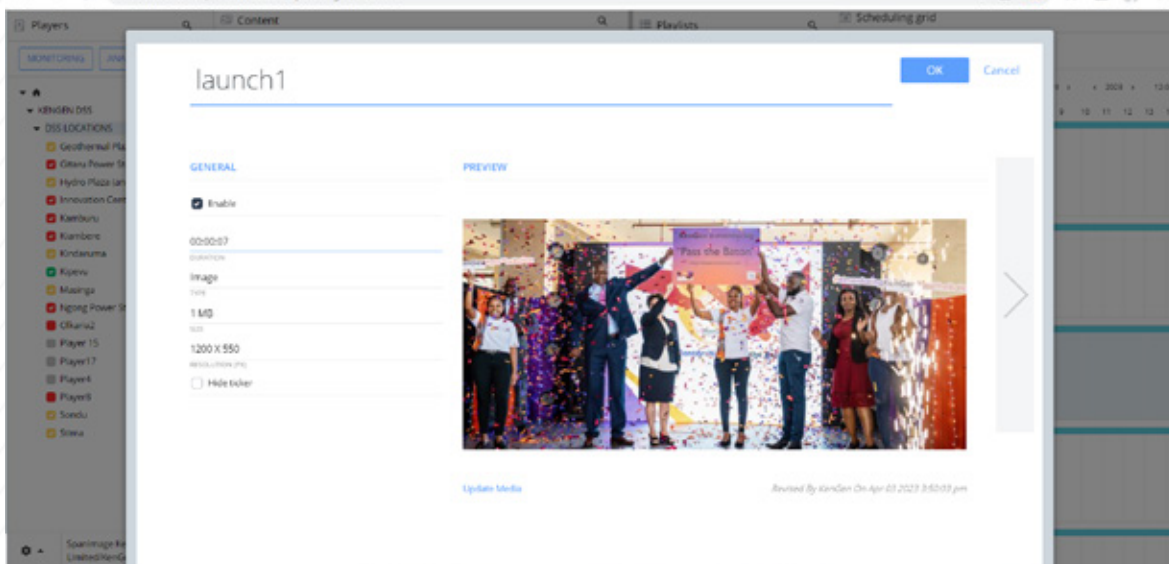


Fig: Dredger at work: Pumping out mud

2. KenGen E-mentorship

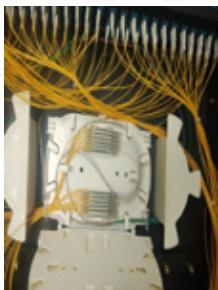


To ensure sharing of knowledge for business continuity, we have adopted an electronic mentoring platform. This is a digital platform through which mentees meet their mentors for knowledge sharing.



2020 G2G Seminar

I. Installation of an Optical Ground Wire (OPGW) in Geothermal Region



This idea was presented at the 2020 G2G Seminar to enhance connectivity of the power stations in Olkaria Geothermal Field. KenGen Geothermal Power Plants Olkaria IAU, Olkaria IV and Olkaria V are automated and run on a distributed control system (DCS) and the plants and corporate data of the plants is transmitted through the Optical Ground Wire (OPGW). Installation works for the Optical Ground Wire (OPGW) in Olkaria was completed and commissioned. The Implementation of this project saved the Company on the cost initially incurred in leasing.

2019 G2G Seminar

I. KenGen Data Center

Clean modern technology for clean power back up when primary power source fails. This initiative was presented in 2019 and launched in 2023.



2018 G2G Seminar

I. Leading the transition to Electric Vehicles (EVs)

We are keen on encouraging the use of Electric vehicles (EV) within the country aiming at reducing global greenhouse gas emissions, reducing reliance on imported fuel, improve balance of payment and creation of demand for electricity. Two EV Chargers have been installed for the piloting phase of this project. The ultimate goal is to ensure that KenGen is the leader in provision of EV infrastructure across the Country.



KenGen launched its EV Pilot project in November 2022 during which the Company unveiled four electric vehicles including, two Sport Utility Vehicles (SUVs) and two double-cabin pickups that will primarily be used for data collection and policy development.

2. Automation of Door Lock & CCTV for Sondu Control

The Sondu Control room now has a digital door lock with security cameras to detect and deter against intruders or uncontrolled access. This has ensured the security & safety of the equipment's and shift controllers is maintained.



Fig: Digital Lock



Fig: CCTV Footage in the Sondu Control rum

3. Implementation of Digital Signature

This project aimed to implement a complete workflow automation of the signature thus eliminating the manual one. This project has been implemented and has significantly reduced on the time taken in waiting to sign physical documents hence improved on efficiency.



4. Real Time Testing of Rock Cutting

Smectite and mixed-layer (smectiteillite) clays are the predominant clay alteration products that occur at the shallower zones of the geothermal wells within the temperature range of 50 to 200°C. These clays are significant during drilling operations and can be used as mineral geothermometers as well as predict changes in permeability structure of the reservoir. They depict low resistivity characteristics which can be used to delineate the geothermal resource. However, abundance of these clays can pose potential drilling hazards due to swelling characteristics of smectite.



Implementation of this project resulted in a more effective and cheaper method of cutting rocks for effective and faster drilling wells in Geothermal fields.

I. Gitaru water bottling plant

The idea to tap crystal clear seepage water coming from pervious rocks in the powerhouse at Gitaru Hydro Power Station, purifying and bottling it for consumption was conceptualized by Gitaru team in 2015. The concept was presented in 2017 G2G Innovation Seminar. The implementation of this idea has saved the Company on costs of procuring drinking water for staff. The facility provides safe and clean water for KenGen employees.



2. Implementation of Smart Metering solution using the advanced metering infrastructure technology (AMI)

Bulk energy meters are essential and resourceful devices that measure the amount of electricity that we generate. The data generated by these devices is what is used for billing and payment of power. It is important for the company to acquire accurate and real-time data for the purpose of timely billing, efficiency in data acquisition, energy management and revenue protection. In addition, automation of data acquisition is also necessary to eliminate human error and improve business processes.



This project is thus aimed at implementing a technology that will provide a platform for real time and accurate data acquisition from our energy meters for the purpose of monitoring, analysis, compilation, trending and billing of power generated from all KenGen power stations. The implementation of this project saves the company approximately Ksh15 million annually.



2016 G2G Seminar

I. KenGen Calibration Centre

It is a state of the art calibration centre offering services within the region. It is made up of three (3) laboratories:

- Electrical lab
- Pressure Lab
- Temperature Lab

In 2023, the centre was granted as a calibration laboratory after meeting all the ISO requirements.



2015 G2G Seminar

I. Grid tie Solar Project

The Company also made strides in the actualization of the solar power project targeting the growing demand for solar related products in Kenya. The Piloting of the grid tie projects at Kipevu and Eastern Region are completed.



40KW Solar project at Kipevu power station



30KW Solar project at the Hydro plaza

I. KenGen Geothermal Spa

This is the largest health facility of its kind in Africa. It is an innovative way through which the Company has diversified its geothermal resource utilization.



Fig: KenGen Geothermal Spa

2. Adopting an E-library Portal

KenGen subscribes to Books24x7 an Electronic Library portal that has unlimited access to a broad and deep repository of best in class on-demand resources where thousands of digitized business, technical, engineering and audio books, research reports, book summaries and best practices. This initiative is supporting critical areas such as project management, management & leadership, business strategy & innovation, organizational development and it technologies among many others.



3. Implementation of E-newspapers

The idea focused on adoption and implementation of digital newspapers across the Company. The Implementation of this initiative has reduced previous cost spent on newspapers and all employees are now able to access the newspapers across the business at a click of a button. This project has also saved the Company on the cost initially incurred in purchasing hard copy newspapers.



DAILY NATION

• Mar 12th, 2024



THE EAST AFRICAN

• Mar 12th, 2024

BUSINESS DAILY

BUSINESS DAILY

• Mar 12th, 2024



STANDARD

• Mar 12th, 2024

• Mar 11th, 2024

• Mar 10th, 2024

4. Improving Drilling Performance using PDC Bits.

The project highlighted and analyzed the performance of Polycrystalline Diamond Compact PDC bits while drilling. The implementation of this project has accrued the benefits for the Company including; maximizing drilling performance and reduced drilling time.



Drilling Rig

Cutter

Blade Nozzle



PDC Bits

I. Commercial Drilling

KenGen is offering Commercial Drilling services beyond Kenyan border. These include:

- Ethiopia Drilling Projects:
 - a. Alluto project - So far 3 wells were successfully drilled
 - b. Tulu Moyo Project So far 5 wells successfully drilled.



Fig: Tulu Moyo drilling project- Ethiopia

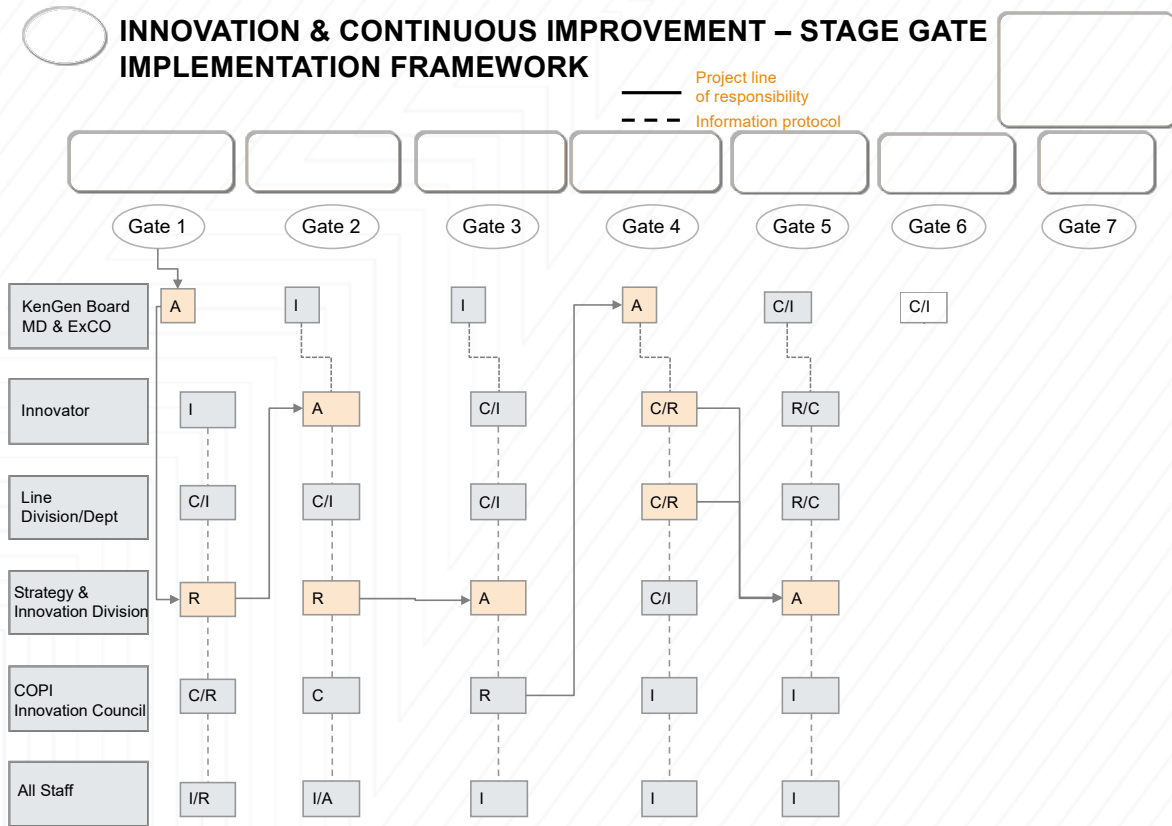
- Djibouti project at Galla Le Koma- so far one wells successfully drilled at a depth of 1450m.



Fig: Galla Le Koma Drilling project- Djibouti

INNOVATION IDEAS IMPLEMENTATION STRUCTURE

The implementation of ideas follows a stage gate process that brings on board several stakeholders. The Strategy & Innovation Division is responsible and accountable to proof of concept at Gate 5. This structure is intended to expedite implementation of ideas by ensuring that every party understands their role in the whole chain.



REWARD AND RECOGNITION

WATT AWARDS

WATT Awards (2020- going forward)

An approval by the Board was also granted for all the implemented ideas during the evaluation period from 2020 going forward. The cash prizes for the different categories is as illustrated in Table 2 below;

Table 1: Cash awards under each category.

Awards (Ksh)				
	Award Category	Overall Winner	Runners up	1st Runner up
1	Terawatt Award	500,000	400,000	300,000
2	Gigawatt Award	400,000	300,000	200,000
3	Megawatt Award	300,000	200,000	150,000
4	Kilowatt Award	200,000	150,000	100,000
5	Watt Award	100,000	75,000	50,000
	Sub-Total	1,500,000	1,125,000	800,000
	Totals			3,425,000

KEY:

- **Terawatt Award** – Individuals or Teams who implement innovation initiatives that result in **new revenue generation**.
- **Gigawatt Award** – Individuals or Teams who implement innovation initiatives that result in **cost savings**.
- **Megawatt Award** – Individuals or Teams who implement process improvement ideas that result in **turn around efficiency**.
- **Kilowatt Award** – Exemplary leaders who go beyond the call of duty **to support the implementation of innovation initiatives**.
- **Watt Award** – Recognizing individual or team effort and courage to pilot, prototype or test an **innovation initiative that did not result in success but lessons**.

Table 2: Intellectual Property Status to date

	Type of IP	IPs application since 2017	IPs Under KIPI/KECOBO Review	Certificates issued
1	Patents	21	6	3
3	Trademarks	37	5	30
4	Copyrights	108	0	100
5	Utility models	3	0	2
	Totals	169	11	135

PREVIOUS G2G SEMINAR PHOTOS



Delegates during the 2023 Seminar



External Exhibitor during the 2023 G2G Seminar

Key note speaker during the 2019 G2G Seminar at the Kenya School of Government.











PREVIOUS G2G SEMINAR WINNERS

2012 Winners

Category	Ranking	Name of winner	Paper
Research Papers	Winner 2012	Paul Wambugu	The Economics of KenGen diversifying into drilling for domestic oil
	Runners up	Kaara Wainaina	Exploiting Socialmedia to build KenGen brand and as a tool to communicate to various stakeholders
	Third Place	Julius Odumbe	Reducing transmission losses through repairs on Birikani-Kipevu water supply line

2013 Winners

Category	Ranking	Name of winner	Paper
Technical Projects	Winner 2013	Pekesta Mangi	Geothermal SPA & Dem. Center progress Rpt
	Runners up	Ruth Wamalwa	Assessment of downhole geochemical report
	Third Place	Henry Wesula	Olkaria I_Way forward 30 years later
Management & Policy papers	Winner 2013	Michael Ogonji	Capacity billing in Kengen
	2 nd runners up	Catherine Nyambala	Challenging Status quo
	3 rd runners up	Mariiti Muchiri	Role of Universities in geothermal Dev.
Research / Proposals	G2G Winner 2013	Christopher Kutwa	Performance up-turn through Heat Exchanger
	1 st Runners up	Fred Wekesa	Real time relaying of mgt of Geothermal fields
	2 nd Runners up	Ronoh Kibet et al	Wellhead technology

2015 Winners

Category	Ranking	Name of winner	Paper
Technical Projects	Winner 2015	Francis Makabwa & Winnie Apiyo	Automatic blockage grid energy Backfeed project
	Runners up	Joyce Okoo & Ammon Omiti	Conceptual model of Olkaria geothermal Resource
	Third Place	Edison Ochieng	Developing Strategic plan for Central Eng. Workshop

Technical Proposals	Winner 2015	Omar Salim	Water Recovery Project at Kipevu Diesel III
	Runners up	Jane Mbogo & Josephat Kebu	Deformation monitoring of Olkaria geothermal field
	Third Place	Kizito Opondo & Naomi Gichuki	Extraction of lithium from Brine
Management Projects	Winner 2015	Francis Mkhanu	Draft energy & Petroleum policy and bills 2015: Opportunities for KenGen
	2 nd runners up	Nimo Hussein & Charles Wainaina	Efficient supply chain logistics process
	3 rd runners up	Mike Njeru	Modern community guidelines
Management Proposals	Winner 2015	Eric Munyi & Wangechi Mwangi	Enhancing ERP to optimize KenGen operations
	1 st Runners up	Susan Wauna	Frame Work Contracts: A strategic supply chain process
	2 nd Runners up	Michael Ogonji	How design of plants affects availability
Overall winners	G2G Winner 2015	Francis Makabwa & Winnie Opiyo	Automatic blockage grid energy Backfeed project
	1 st Runners up	Omar Salim	Water Recovery Project at Kipevu Diesel III
	2 nd Runners up	Jane Mbogo & Josephat Kebu	Deformation monitoring of Olkaria geothermal field

2016 Winners

Category	Ranking	Name of winner	Paper
Management Proposal & Project	Winner 2016	Joseph Mbugua & Wangechi Mwangi	Aligning information management and business processes at KenGen
	Runners up	James Nyandigisi & Joyce Okoo	Commercialization of Geothermal & Mineral laboratories & services
	Third Place	Catherine Nyambala	Solar powered tuktuk
Management Proposal & Project	Winner 2016	Abel Rotich	Geothermal strategy development
	2 nd runners up	Peter Esekon	Residing performance through culture change
	3 rd runners up	Brenda Nyota & Moses Murigu	Analysis of non-productive time- Olkaria case study

Technical Proposal	Winner 2016	James Gitonga & R. Onyango	Sang'oro Talirace water back pressure control
	2 nd runners up	Omar Salim & Edward Mbaya	Re-design of HT cooling water system at Kipevu I
	3 rd runners up	Pius Owiti & James Nyandigisi	Production of drilling detergent to reduce the cost of drilling
Technical Projects	Winner 2016	Francis Karanja	Rehabilitation of Mesco using KenGen's internal team
	2 nd runners up	Paul Mutuku	Kamburu SF6 breaker repairs
	3 rd runners up	Mwania & Ammon Omiti	Significance of Geothermal site surveys
Overall winners	G2G Winner 2016	James gitonga & R Onyango	Sang'oro Talirace water back pressure control
	1 st Runners up	Abel Rotich	Geothermal strategy development
	2 nd Runners up	Francis Karanja	Rehabilitation of Mesco using KenGen's internal team

2017 Winners

Category	Ranking	Name of winner	Paper
Management Proposal & Project	Winner 2017	Julie Mwaluma & Tereza Koech	Experiential Nav. Of change
	Runners up	Philip Barasa	Application of Precautionary Principle in KenGen
	Third Place	Caxton Mwangi & Harrison Cira	Kengen mobile App
Technical Proposal & Project	Winner 2017	James Nyandigisi	Production of liquid detergent to reduce cost of drilling
	2 nd runners up	Elizabeth Kiilu & C. Ngetich	Implementation of automatic meter reading (AMR) for bulky energy meters
	3 rd runners up	Walter Waziri	Design of Fire Protection Controller for KenGen Power Plants
Technical Projects	Winner 2017	Christopher Kutswa	KWG4 Unit I Diaphragm Repair
	2 nd runners up	Peter Chege	The 5MW Pilot Plant & 75.6MW Wellheads Projects: KenGen's Journey to World Class innovation
	Third Place	Athanas Katune & Richard Chea	Lubricating Oil Centrifuge Retrofit Project
Exhibition	Winner 2017		Experiential Navigation of change

Overall winners	G2G Winner 2017	Christopher Kuswa	KWG\$ Unit I Diaphragm Repair I
	1 st Runners up	James Nandigisi & Pius Owiti	Production Of Liquid Detergent To Reduce Cost Of Drilling2
	2 nd Runners up	Elizabeth Kiilu & Catherine Ngetich	Implementation of Automatic Meter Reading (AMR) Bulk Energy Metres2

2018 Winners

Category	Ranking	Name of winner	Paper
Technical Proposal & Project	Winner 2018	Catherine Nyambala	Pawa World why KenGen should embrace ESS
	Runners up	Joseph Gitau	Provision of Tracer flow Testing
	Third Place	Omar Salim	Installation of Radar Gauges at Kipevu I to minimize errors
Management Proposal & Project	Winner 2018	Josephine Kamatu	KenGen's Flexi Time
	2 nd runners up	Freda Nyambura	Dynamics and Risks of KenGen portfolio Revenue budgeting.
	3 rd runners up	Kepha Omuoso	Optimization of Academic visits in 7 forks.
Exhibition	Winner 2018	Amos Mbutu	Schools green initiative challenge
	Runners Up	James Nyandigisi	Manufacture of Drilling Detergent
Overall winners	G2G Winner 2018	Irene Rono	Real time testing of rock cuttings during drilling
	1 st Runners up	Andrew Orlando	Augmented reality to enhance provision of plant information (A case study of Kipevu Power Station).
	2 nd Runners up	Margret Iregi	Rehabilitation of fire protection systems using internal capacity.

2019 Winners

Category	Ranking	Name of winner	Paper
Technical Proposal & Project	Winner 2019	Omar Salim	O&M of Kipevu III by KenGen
	Runners up	Munyau Maithya	Olkaria IAU Main pipe failure RCA
	Third Place	Eunice Bonyo	Real Time Monitoring Of Steam Purity Using Online Analyzers
	Fourth Place	Eliud Wanyonyi	Connection Of Well Ow-39d Using Steamfield Internal Resources
	Fifth Place	Pharis Mukeyu	Improved cooling tower basins

Management Proposal & Project	Winner 2019	Joan Chahenza	Paper on Proposal for equity partnerships with IPPs in Kenya & SSA through PE and Co investments
	2 nd runners up	Omar Salim	Improved Performance At Kipevu I With Implementation Of Energy Efficiency Measures
	3 rd runners up	Zeddy Bariti	Kengen Online Brand Ambassadors Employee Advocacy Program Paper
Overall winners	G2G Winner 2019	Duncan Muchendu	Introducing Biogas as an Alternative Source of energy at KenGen (Detailed Proposal)
	1 st Runners up	Duncan Omollo	Automatic braking system for GT generator
	2 nd Runners up	James Nyandigisi	Geobrine electric power generation concept

2020 Winners

Category	Ranking	Name of winner	Paper
Technical Proposal & Project-Revenue Diversification	Winner 2020	Antony Langat	Hydrogen gas as an alternative source of revenue
	2 nd runners up	Allan Kubai	
	3 rd runners up	Oswald Ngeti	Discovery of black gold at Kipevu
Technical Proposal & Project - Process Improvement	Winner 2020	Dr. Anna Mwangi	Establishment of a real time seismic observatory in Olkaria to monitor seismic activity in the region
	2 nd runners up	Solomon Muthoka	Proposed installation of OPGW at geothermal division
	3 rd runners up	Richard Obiero Onyango	Testing of electrical plant equipment from first principles
Exhibition	Winner	Betty Ouko	Brine skincare products
Overall winners	G2G Winner 2020	Catherine Nyambala	Pawaworld 2.0: why KenGen cannot ignore the li-ons?
	1 st Runners up	Christopher Kutswa	KWG 12 turbine rotor 1st stage repairs: static balancing, simulation and re-blading
	2 nd Runners up	James Nyandigisi	Proposal for mobile money investment into geothermal power generation

2021 Winners

Category	Ranking	Name of winner	Paper
Technical Proposal & Project	Winner 2021	Duncan Omollo	Replacement Of Gt2 Bearing Number 2
	2 nd runners up	Aggrey Ochieng	Kiambere New Shaft Seal Design
	3 rd runners up	Pius Owiti	Electrical Energy Storage And Transportation Using Nanotechnology.

Management Proposal & Project	Winner 2021	James Gitonga	Optimization Of Cost Through Use Of Lean Six Sigma Amidst Covid-19 Pandemic
	2 nd runners up	Bethwel Ogwayo	Employee Virtual On-Boarding Process In Kenya Electricity Generating Company Plc
	3 rd runners up	Fred Wekesa	Kengen Integrated Spatial Resource Management System (IRMS)
Exhibition	Winner	Joseph Odhiambo	Well Head Cooling Tower Motor Relocation
Overall winners	G2G Winner 2021	Munyao Maithya	Repair Of Steam Pipe Lines Using Internal Resources
	1 st Runners up	Dennis Wangariria	Refurbishment Of Kiambere Unit Control Boards Using Internal Capacity
	2 nd Runners up	George Ngomi	Interactive Geothermal Power Generation Process Model

2022 Winners			
Category	Ranking	Name of winner	Paper
Management Proposal & Project	2 nd Runners Up	Salesa Halake	Automation Of Permit To Work In Kengen
	1 st Runners Up	Marion Omanga	Adventure The Olkaria Geothermal Field With Ziplining
	Winner 2022	Felicity Otieno	Enhancing Mentoring Experiences In Kengen Through E-Mentoring
Technical Proposal	3 rd Runners Up	Thomas Muteero	Sustainable Solutions To Lengthy Breakdowns Case Study Ow37 Kwg01 Unit 2 Pinion Shaft
	2 nd Runners Up	Lydia Gathuku	The Watermaster And Geotubes - Cost Effective Dredging Solution
	1 st Runners Up	Kipkoech Langat	Improving Hot Gas Path Inspection Maintenance Process For Frame 6 Gas Turbines
	Winner 2022	James Gitonga	Improvement Of Cooling Water System For Sondu And Sang'oro Machines
Technical Project	1 st Runners Up	Kenneth Kipkoech & Zipporah Cheruiyot	Repair Of Tana Unit 3 Stator Using Internal Resources
	Winner 2022	Wilson Bett	The Upgrade & Re-Engineering Of Sagana Hepp Water Ways Structures
Exhibition			Real Time Reservoir Pressure Monitoring

Overall Winners	2 nd Runners Up	Omar Salim	Implementation Of Kdp3 O&M By Kengen
	1 st Runners Up	Joseph Odhiambo	The Design And Fabrication Of Generator Rotor Removal (Threading Out) Equipment (For Wellhead Generators)
	Winner 2022	Thomas Murimi	Kipevu Iii Wireless Big End Temperature Monitoring System

2023 G2G Seminar Winners

Category	Ranking	Name of winner	Paper
Technical Proposal	Winner 2023	Sheila Sergon	Hydro-Battery Hybrid Plants For Flexibility, Improved Efficiency And Grid Stability In Western Region
	1 st runners up	Antony Langat	Waste To Green Hydrogen
	2 nd runners up	Dr. Xavier Shioya	Energy Systems Modeling For A Secure, Affordable, Clean, And Sustainable Energy Service.
Technical Project	Winner 2023	Joseph Odhiambo	Governor Yoke design change for Olkaria 4
	1 st runners up	Evans Mwangangi Mulli & Moses Mungai	Masinga Unit 1 & 2 Runner Overhaul Using Internal Resources
	2 nd runners up	Duncan Omollo & Luka Munyi	Full Capacity Payment Restoration At Muhoroni Gas Turbines Power Plants
Management Proposal & Project	Winner 2023	Francis Kivore & Aggrey Ganira	Development of a Hydro center
	1 st runners up	Christopher Muchiri	Environmental Management And Sustainability Consulting Services For Business Resilience
	2 nd runners up	Richard Chea	Keeping Production Local By Collaborating With NMC
Exhibition	Winner	Stephen Mbatha & John Omino	KenGen Green Energy Park
Overall winners	G2G Winner 2023	George Ngomi	Restoration Of Olkaria I Additional Units 4 And 5 After Turbine And Generator Rotor Bearing Failures.
	1 st Runners up	Catherine Nyambala & Bob Osoro	PawaWorld 3 How KenGen has embraced a LI-Ion.
	2 nd Runners up	Dennis Githinji & Abdalla Ali	Sondu Outlet Channel Water Level Monitoring System



KenGen

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