الشبكات الذكية
Smart Grid

وزارة الطاقة
MINISTRY OF ENERGY

المؤتمر السعودي الحادي عشر
2023 للشبكات الذكية
The 11th Saudi Arabia Smart Grid Conference

نحو شبكات المستقبل
Towards Grid of the Future

Conference Agenda

18 - 20 December

Riyadh
Riyadh Hilton

Under Patronage of:

HRH Prince Abdulaziz bin Salman Al-Saud

Minister of Energy

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Smart Grid

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موهبة

Main Topics

- Renewable Energy and Grid Integrations
- Standards for Smart Grid and Grid Codes
- Energy Efficiency Measures and Methodologies
- Electric Vehicles and Energy Storage
- Regulatory Aspects and Energy Policies
- Technologies in the 4th Industrial Revolution
- Cyber Security Applications in Smart Grid
- Localization of Smart Grid Services and Technologies
- International Successful Grid Smart in Practices
- Electric Power System Resilience and Reliability
- Smart Meters and Advanced Solutions for Data Management
- Artificial Intelligence and BlocKchain Studies in Smart Grid

SASG 2023 Main Goals

- Encouraging academic and industrial researchers to present their scientific and applied experiences in the fields of smart grids.
- Discussing the role of government agencies and the private sector in applying the concepts of smart grids and benefiting from successful global experiences in the field of legislation and strategies related to the operation of smart grids.
- Encouraging investment through the transfer and localization of technologies related to smart meters and network equipment.
- Raising the efficiency of the electrical system through the use of load management systems and reducing losses in the network.
- Discuss the challenges, opportunities and lessons learned from the use of smart applications in the electricity networks of countries that have begun to implement these systems with the aim of enhancing the services provided to consumers and increasing their efficiency.
- Developing energy storage fields and their integration with traditional and renewable energy production sources.
- Exchanging experiences related to the rationalization of electricity consumption and the means of its application in light of the increasing demand for electric energy.
- Establishing the concept of economical operation of power plants while ensuring the safety and reliability of electrical networks.

Day 1

Monday

18 Dec 2023

Day 1

Monday | 18 Dec 2023

Workshop 1

9:00- 11:00 am

Enabling Technologies and Innovations for Energy Transition
NetZero and 100% Renewable Grids, Part I

ENOWA. NEOM

Shehab Ahmed
Professor and Program Chair
Electrical and Computer Engineering

Grain Adam
HVDC Technology Manager
Head of Modelling and Studies Team

ENOWA. NEOM

Vineet Gahtori
Senior Consultant

SIEMENS energy

Adham Atallah
Grid Consulting Team Lead

SIEMENS energy

Omar Jasim
Consulting Engineer

GE VERNOVA

Workshop 2

9:00- 11:00 am

How Smart Metering Delivers Success in Digital Transformation
Lessons and Best Practices.

CUCULUS
عناية النظم Technology Care

Horst Toddenrott
Director Energy Radar

CUCULUS

Lars Molske
Director Product Management

CUCULUS

Artemy Voroshilov
Sales Director

CUCULUS

Arndt Telschow
Product Management Head

CUCULUS

Hassan Farhangi
Chief Technology Officer

عناية النظم Technology Care

Workshop 3

9:00- 11:00 am

Power Conservation smart solution

صناعات الخرجف Alkhorayef Industries

Dr. Pietro Lorenzetti
Managing Director

ENERGY SAVERS TECHNOLOGY LIMITED

Charif Khodr
Product development Director

GULFPOWER ELECTRICAL POWER GENERATORS

Coffee Break

Workshop 4

11:30- 01:30 pm

Enabling Technologies and Innovations for Energy Transition
NetZero and 100% Renewable Grids, Part 2

ENOWA. NEOM

Charalambos Konstantinou
Assistant Professor Electrical and Computer Engineering

Malik Al Hajji
Strategic Interconnection Planning Division Manager

نقل الكهرباء National Grid SA

Nagaraju Pogaku
Strategic System Planning Manager

ENOWA. NEOM

Nand Kishor Singh
Director- System Planning and Optimization

ENOWA. NEOM

Workshop 5

11:30- 01:30 pm

Utility Grade Battery Energy Storage Systems and Applications

林洋 LINYANG
عناية النظم Technology Care

Hassan Farhangi
Chief Technology Officer

عناية النظم Technology Care

Denny Fang
Senior Vice President

林洋 LINYANG

Workshop 6

11:30- 01:30 pm

Enabling the Transition to a Consumer-Centric Grid

Roderick Buchanan
Chief Technology Officer - ampx

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Technical Visit

02:00- 06:00 pm

Gulf Power Factory GULFPOWER ELECTRICAL POWER GENERATORS

AlOjaim Industrial City مجموعة عجيم العجيمي AL AJAIMI AL AJAIMI GROUP

Opening Ceremony

07:00- 08:00 pm

- Royal Anthem
- Holy Qura'an
- Open Show
- Conference Opening Speech
- President and CEO, IEEE Speech
- Ministry of Energy Address
- Signing Ceremony
- Honouring Ideathon Winners
- Honouring the Sponsors

Inauguration of Exhibition

08:00- 08:30 pm

GALA DINNER

Day 2

Tuesday

19 Dec

2023

Day 2

Tuesday | 19 Dec 2023

AI Applications In Smart Grids

09:00- 10:30 am

Abdullah Alhussain

Machine Learning Approach for Short-Term Load Forecasting in Smart Grids

Muhannad Alghamdi

Deep Learning Model for Anomaly Detection in Smart Grid for Network Security

Bassem Alsebhani

Improving HVDC Transmission System Performance through Reinforcement Machine Learning-Based STATCOM

Farhan Almufleh

Deploying Evolution Algorithm to secure Data of Electrical Power State Estimation from False Data Injection Attack Scenario

Fahad Alsaeidi

Cybersecurity for Line Differential Protection in an Islanded Microgrid

Chairman

Dr. Maad Alowaifeer
Coordinator, SDAIA-KFUPM JRC for Artificial Intelligence

Grid Modernization

11:00- 12:00 pm

HE Dr. Abdulrahman Al-Ibrahim
Advisor to HRH Minister of Energy
Ministry of Energy

HE Dr. Rumaih AL-Rumaih
Deputy Minister, Ministry of Transport and Logistic Services

Dr. Talal Alsedairy
Senior Vice President
KACST

Eng. Fahad Alajlan
President
KAPSARC

Moderator

Sara Murad
Senior TV presenter and Entrepreneur.

Powering the Energy Revolution

12:30- 01:30 pm

Eng. Nasser Al-Qahtani
Assistant Minister
Ministry of Energy

Eng. Bassam Al-Bassam
Deputy Minister
Ministry of Communications and Information Technology

Dr. Ayman A. Alabduljabbar
Vice Governor for Technical Affairs
Water and Electricity Regulatory Authority

Eng. Mohammed Al-Swailem
Deputy Minister
Ministry of Industry and Mineral Resources

Eng. Sami bin Hajilan
Executive Vice President
Local Content and Government Procurement Authority

Moderator

Osama Alansari
Human Resources Consultant

Keynote Speech

01:50 - 02:00 pm

Build a Power System Based on New Energy for Facilitating a Low Carbon Energy Transition

Mr. Liang Chengzhong
Chief Representative
State Grid Corporation of China

STATE GRID CORPORATION OF CHINA

Shaping Utilities of the Future

02:00- 02:45 pm

Eng. Ibrahim AlKhenizan
EVP, Distribution and Customer Services
SEC

Mazen Al-Bahkali
CEO
Principle Buyer

Peter Terium
CEO
ENOWA NEOM

Raad Al-Saadi
Vice Chairman and MD
ACWA Power

Ahmed Hawsawi
CEO
Siemens Saudi Arabia

Moderator

Dr. Hussain Bassi
Energy Consultant

Managing Electrification

02:45- 03:30 pm

Khaled Sharbatly
CEO Desert Technologies

Mohammad Alsemaan
Business Development Manager
Mohammed Al Qaimi Group

Yasser Alshahrani
VP, Trading (A)
Principal Buyer

Christian Ohler
Head of Global Product Group
Switchgear, Hitachi Energy

Moderator

Dr Amro Elshurafa
Program Director for Utilities & Renewables, KAPSARC

LUNCH

Social Trip

04:00 - 07:00 pm

Noor Riyadh

NOOR RIYADH
A RIYADH ART PROGRAM

Diriyah Gate

DIRIYAH

Day 3

Wednesday

20 Dec

2023

Day 3

Wednesday | 20 Dec 2023

Renewable Energy and Grid Integration

09:00- 10:30 am

Muhammed Hayat — KAPSARC

Can waste-to-energy with carbon capture play a role in the power sector and in decreasing emissions in Saudi Arabia?

Khalid Alhadhrami — KAPSARC

Competitiveness of Renewable Hydrogen Production in Saudi Arabia: Insights from a P2X model

Mohammed Al-Mutairi — الشركة السعودية للكهرباء

Flexibility Assessment of Home Manageable Loads in Connection with EV and Rooftop PV Systems.

Adeeb Alameen — alfanar

Electric vehicles and energy storage

Salem Alshahrani — سابك sabic

Minimizing Active/Reactive Power Losses in Electricity Networks Based on Optimal Location of Battery Energy Storage System

Fahad Alharbi — مدينة الملك عبدالعزيز للعلوم والتقنية KACST

A potential of wind energy case study in Al Qiddya region, Saudi Arabia

Yazeed Alzoom — Car Xpert

Energizing Tomorrow: Unveiling the Potential Renewable Energy Development by means of Resource Assessment and Engineering studies in Saudi Arabia"

Abdallah AL-Guraishi
Director, Power Systems
Saudi Aramco

Chairman

Grid Security, Resilience and Reliability

11:00- 12:00 pm

Arndt Telschow — CUCULUS

A new method for assessing resilience and predicting outages in power grids

Mohamed Gad — alfanar

Quality, Innovation and Advanced Technology TrainingManager

Yagoob Alsharief — الشركة السعودية للكهرباء Saudi Electricity Company

Performance Evaluation of Traveling-Wave Based Relays For Protection of Series-Compensated Transmission Lines

Mohamed Etligani — الشركة السعودية للكهرباء Saudi Electricity Company

Detection of Live Downed Conductor Utilizing Smart Grid

Mohammad Alnaeem — ENOWA, NEOM

Innovative Planning, Design, and Operation for Future Grids through Microgrid Embedded Distribution Systems

Dr. Omar Konash
Engineering Specialist
Saudi Aramco

Chairman

Women in Power

12:30- 01:30 pm

Dr. Eng. Basma El Zein
Director General, techno - valley ,
University of Business and Technology

Dr.Fatmah Baothman
CEO Abdullah Alothaim Al and R&D Company

Adah Abdulaziz Alfayez
Research & development Manager
Saudi Investment Recycling Company

Hessah Alabdulmohsin
Project Engineer
ENOWA

Dr. Aseel Addawood
Consultant, Date Science
and AI

Moderator

Innovations in Energy

01:30- 02:00 pm

Gifted Students - Mawhiba

Assessment of Emerging Technologies

02:00- 03:30 pm

Abdulrahman AL-Kelbi — نقل الكهرباء Rahmat SAR

Demand Side Management in KSA Integrated with a Market Model and Smart Grid Technologies

Ahmed Albalawi — KAPSARC

Assessment of Floating Offshore Wind Turbines Potential for Saudi Arabia in The Red Sea

LiFei Liu — HUAWEI

Thrive with Digital, Accelerate Electric Power Intelligence

Abdulaziz Albarakah — King Saud University

Modelling of Cryogenic Liquid Air Storage to Lower Renewable Energy Curtailment: Saudi Arabia Case Study

Arturo Fraile — alfanar

Smart Grid Solutions Updates and Localization

Abdulrahman Assal — GLOBALTRONICS

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Dr Thamer Alquthami
Strategic Planning Director
Principal Buyer

Chairman

CLOSING SESSION

LUNCH

Poster Session

Session 1

Tuesday | 19 Dec 2023 | 12:00- 01:30 pm

1	A Supercapacitor-Based Train Fueled by Solar Energy in Saudi Arabia's Eastern Region	Mussab Aleraij	KFUPM / SABIC
2	Condition Assessment of RTV Silicone Rubber Coating to Predict Flashovers in High Voltage Substations	Ghulam Hashmi	Saudi Aramco
3	Integrated Smart Monitoring and Decision Support System for Distribution Networks	Mohammed Tiro	Saudi Electricity Company
4	Strategic Deployment of ESS in Active Distribution Networks Considering Energy Security of Critical Loads	Abdulaziz Altalhi	Saudi Aramco CSD
5	Grid Forming Power Conversion Control and Frequency Stability Assessment in Power Systems	Abdulaziz Altalhi	Saudi Aramco CSD
6	Enhancing SCADA System Performance and Reliability: Method for Defining Binary Control Response Times	Maha Abduh	Saudi Aramco
7	Data Integrity Analysis Within Digital Substation for IEC 61850	Abdullah Althaqib	Saudi Aramco
8	Developing smart solar powered E-bikes stations at coastal cities	Ateyah Alzahrani	Umm Alqura University
9	AI-Enabled Energy Management Device for Sustainable QoL	Husam S. Samkari	University of Tabuk
10	Reliability and Lifetime Assessment of PV Inverter with Monte Carlo Method	AZRA MALIK	JAMIA MILLIA ISLAMIA
11	Advanced Conductor Technologies as Net Zero Decarbonization Enablers within the Power Grid in the Context of Renewable Energy Sources Integration	Mohammed AlAqil	King Faisal University
12	Design of a Novel Wave Power Generator for Electric Vehicle Charging	Hadeel Alawur	King Abdulaziz University
13	Short Circuit Faults Prediction Using Machine Learning in Large-Scale Power System	Ahmed AlAwami	Saudi Electricity Company
14	Negative Sequence based Directional Overcurrent Adaptive Protection Scheme for Distributed Generation	V.N.Jagadish N.	Saudi Electricity Company
15	Wide Area Frequency based Power Sharing Scheme in Hybrid Multiple Subgrids	V.N.Jagadish N	Saudi Electricity Company
16	Development of an Intelligent Energy Management System for PEMFC-Battery-Supercapacitor Hybrid Unmanned Aerial Vehicles	Mohammad Alzyod	King Fahd University of Petroleum and Minerals
17	Study of Dust sensor protection system for solar PV system	Khaled Shatwi	Saudi Electricity Company
18	New Feed-in Metering Policy for Enabling Distributed Solar PV Generation in Saudi Arabia	Sami Alalwani	Yanbu Industrial College

Session 2

Tuesday | 19 Dec 2023 | 02:00 - 03:30 pm

19	"Fiber-Optic Enabled Smart Meters: Real-Time Data Integration for Multiutility Meters and Smart Grid Management"	Dina Alfarsi	NEOM
20	Efficient PV Power Processing for Charging Battery	Ahmad Alzahrani	Najran University
21	SF6 -free arc interruption in atmospheric air using axial magnetic field	Asif Islam	KFUPM
22	A Proportional and Weight based Autonomous Decentralized Charge Controller of Electric Vehicles for the Improvement of Local Voltage Profile	Md Ismail Hossain	KFUPM
23	Harmonic Mitigation and Reactive Power Management in Modern Power Systems	Ali Assiri	King Khalid University
24	A developed DQ control method for shunt active power filter to improve power quality in transformers	Abdulwahab Shah	King Khalid University
25	The Role of Smart Grid Integration to Enhance Electricity Market Performance Challenges and Opportunities	Abdulrahman Alyamani	Saudi Aramco
26	Deep neural network (DNN) and long-short-term memory (LSTM) method for wind speed prediction in Saudi Arabia	Arwa Alabdulhadi	IAU & IRC for Renewable Energy and Power Systems, KFUPM
27	High Gain Chopper Supplied from PV System to Fed Synchronous Reluctance Motor Drive for Pumping Water Application	Saad Al-Gahtani	King Khalid University
28	Iot in Smart Grids	Abdulaziz Aldawood	King Saud University
29	Efficient Energy Scheduling for Microgrids Under Uncertainties	Ammar Sonbul	KFUPM
30	Renewable Energy Multi-use flying device	Turki Aldulami	King Fisal University
31	Enhancing Power Electronics Design with Artificial Intelligence	Aroob Alhassani	King Abdulaziz university
32	Remote Real Time Monitoring System For Oil And Gas Wells Based on IoT, Powered By Solar Tracking System	Abdulrahman Hakami	Jazan University
33	Performance Monitoring for Supercapacitor Storage System	Nasser Alanazi	University of Tabuk
34	INCREASING THE ENERGY EFFICIENCY OF BUILDING SYSTEMS THROUGHN AIR CONDITIONING WASTES	Ayah Onaybisi	King Abdulaziz university
35	Decentralized Optimal Dispatch For Islanded DC Microgrids	Mohamed Zaery	KFUPM
36	Design, Simulation, And Optimization Of A Solar Photovoltaic Cell For Space Applications (Software-based)	Mohammad Alnassar	Qassim University

Session 3

Wednesday | 20 Dec 2023 | 12:00- 01:30 pm

37	Smart Home Energy Management	Ruba Aljauid	ENOWA -NEOM
38	Energy From Sand By Thermal Energy Storage	Talaq Altalk	ENOWA -NEOM
39	Rapid Active Power Control of Grid-connected PV System for Grid Frequency Support	Shatha Albalawi	ENOWA -NEOM
40	Energy Efficiency Measures and Methodologies for Sustainable Construction	Raghad Alyami	ENOWA -NEOM
41	Hybrid Energy Storage Integration in Electric Vehicles: Optimizing Efficiency and Range	Mosaed Alharbi	ENOWA -NEOM
42	DESIGN & DEVELOP AN INTEGRATED SYSTEM ON CHIP FOR BIOIMAGING APPLICATIONS	Abdulaziz Alhoshany	Qassim University
43	Aero-Drive: Unleashing the Power of Air	Yusuf Atwa	King Faisal University
44	Solar Solutions: A Deep Dive into Renewable Energy in KSA	Mohamed Albrahim	King Faisal University
45	A Feasibility Analysis of Utilizing the Grid-connected PV systems in Government Schools Based on Saudi Regulations	Fadi Almotairy	Qassim University
46	An Effective Security Scheme IEC 61850 Sample Value Messages in Automated Substations	Muhammad Hussain	KFUPM
47	A New Sparse and Boost Solar-PV Microinverter	Mohammad Ali	KFUPM
48	Design of a BIPV System for Office Buildings in KSA	Mounir Bouzguenda	King Faisal University
49	Novel Microinverter Strategy for Cost Efficient and Reliable PV System	Ahmed Alqurashi	KFUPM

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