



AFRICAN UNION ADVANCES CONTINENTAL INFRASTRUCTURE AND ENERGY TRANSITION AGENDA AT 5TH STC-T&E SESSION

The African Union Commission successfully concluded the Fifth Ordinary Session of the Specialised Technical Committee on Transport and Energy (STC-T&E) in Johannesburg, South Africa, bringing together ministers, policymakers, experts, and stakeholders from across Africa to strengthen collaboration and accelerate infrastructure integration across the continent.



The four-day session, hosted by the Republic of South Africa from 27–30 April 2026, focused on advancing Africa's transport and energy sectors through strategic policy discussions, regional cooperation, and infrastructure development initiatives. Key continental programs reviewed during the session included the Programme for Infrastructure Development in Africa (PIDA), the Single African Air Transport Market (SAATM), the African Single Electricity Market (AfSEM), and the Grand Inga Hydropower Project.

Ministers and experts also reviewed progress on several critical initiatives aimed at supporting Africa's energy transition and sustainable mobility goals. Important outcomes of the session included the endorsement of studies related to aviation infrastructure gaps, railway modernization, port digitalization, and development of green ports. The committee also approved the African E-Mobility Framework and the

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Pan-African Action Plan for Active Mobility, reflecting Africa's growing focus on sustainable and low-carbon transportation systems.

In the energy sector, delegates reviewed progress on the African Energy Transition Strategy and Action Plan, which aims to support reliable, affordable, and sustainable energy access across the continent while accelerating clean energy deployment and regional power market integration.

The session also highlighted significant governance milestones, including the entry into force of the Revised African Maritime Transport Charter in August 2025 and the African Road Safety Charter in March 2026. These frameworks are expected to strengthen regional cooperation, improve transport safety, and support long-term infrastructure planning across Africa.

The adopted Ministerial Declaration and Experts' Report will guide implementation efforts until the next ordinary session of the Committee. The African Union Commission reaffirmed its commitment to working closely with Member States, AUDA-NEPAD, the African Development Bank, UNECA, and development partners to mobilize investments and accelerate delivery of strategic transport and energy projects throughout Africa.

The event further reinforced Africa's collective commitment toward regional integration, sustainable infrastructure development, energy transition, and smart mobility as key pillars for the continent's long-term economic growth and resilience.

Article contributed by Abel Dider Tella, Director General, APUA



France Eyes Steps to Speed up Data Centre Grid Connections

France could allow large data centre projects to temporarily connect to underground cable systems as part of an overhaul of its grid connection system, as it tries to cut development times and attract investment. France, like much of Europe, has struggled in recent years with long and cumbersome electricity connection queues as data centre operators race to plug into the grid and get to market. The bottlenecks have encouraged so-called "ghost projects", where companies secure grid slots for developments that may never be built, crowding out rivals and, in some cases, allowing slots to be traded under a first-come, first-served system.

Read More: <https://bit.ly/4uhrpPK>

European Grid Operators Aim to Improve Management of Voltage Spikes Following The Iberian Blackout

Power grid operators in the EU are urging policymakers to regulate all new power plants to manage voltage fluctuations and prevent blackouts like the one that impacted Spain last year, according to the chair of Europe's power grid operators' association in comments to Reuters before the anniversary. Investigations revealed that a voltage surge likely caused the outage that left large sections of Spain and Portugal in darkness for up to 16 hours on April 28, 2025. Not all power plants can dynamically control voltage, which is essential for maintaining grid stability.

Read More: <https://www.energymarketprice.com/home/en/news/1178995>

Spain's Watchdog Probes Major Energy Companies Over Historic Blackout

Spain's energy and competition regulator said on Friday it had opened formal probes into the country's largest energy companies and the power grid operator over last year's unprecedented blackout in Spain and Portugal, after finding evidence that some power sector rules were breached over extended periods.

Read More: <https://bit.ly/4u8m2Tb>

US Joins Nearly Two Dozen Other Countries In Striking Back Against DDoS-For-Hire Platforms

The U.S. and 20 other countries teamed up this week to take down dozens of websites behind cyberattack-for-hire services. As part of an ongoing campaign dubbed Operation PowerOFF, authorities seized 53 web domains linked to distributed denial-of-service (DDoS) attack "booter" services, which let users rent access to tools that temporarily cripple websites by overwhelming them with traffic. The participating governments also made four arrests, executed 25 search warrants to seize the booter services' databases and sent more than 75,000 warning messages to the services' customers.

Read More: <https://bit.ly/4wjqiVb>

China-Linked Hackers Using Everyday Devices to Hide Attacks, Cyber Agencies Warn

International cyberagencies urged organisations on April 23 to better defend against covert networks used by China-linked hackers to conceal malicious cyberactivity, according to Britain's National Cyber Security Centre (NCSC). The NCSC published the new guidance alongside industry and 15 international partners from across eight other countries: the US, Australia, Canada, Germany, Japan, the Netherlands, New Zealand and Spain. Covert networks, usually made up of what the NCSC described as vulnerable everyday internet-connected devices such as home routers and smart devices, are used to target critical sectors globally, steal sensitive data and maintain persistent access.

Read More: <https://bit.ly/4wphEk4>



GLOBAL NEWS APRIL 2026

Taiwan Launches Subsidy Scheme for Behind-The-Meter Energy Storage Systems

Taiwan's Energy Administration has launched a subsidy scheme for behind-the-meter energy storage systems, under which eligible businesses will receive NT USD 5 million per MWh. The scheme will primarily cover storage equipment using locally manufactured lithium-based battery cells. Meanwhile, the Bureau of Standards, Metrology and Inspection will support implementation through testing and certification programmes, with the regulatory framework being expanded from battery-level requirements to system-level integration. Further, the National Centre for Energy Storage System Technology is expected to begin providing testing services in 2026 to address earlier capacity constraints.

Read More: <https://shorturl.at/QE1xC>

Singapore Upgrades EV Charging Framework with New National Standard

The Government of Singapore has upgraded its electric vehicle (EV) charging framework by elevating Technical Reference 25 to a full national standard. The revised standard introduces tighter technical requirements to improve the safety, reliability and consistency of EV charging infrastructure across the country. It expands the regulatory scope to cover wireless power transfer, mobile charging systems and battery swapping for two-wheelers, four-wheelers and heavy goods vehicles.

Read More: <https://tinyurl.com/fra5h4m7>

SP Energy Networks Begins Five-Year \$15.85 Billion Rewiring Program of Central And Southern Scotland Electricity Grid

SP Energy Networks has initiated its five-year \$15.85 billion rewiring program of the central and southern Scotland electricity grid. The T3 investment will not only experience 12 new major substations built, over 570 km of lines upgraded or replaced but also create 1,400 direct jobs and support over 11,000 more in the supply chain. The network overhaul will help increase grid capacity, strengthen Britain's energy security, reduce constraint costs and help homes and businesses across the country move towards an all-electric future.

Read More: <https://tinyurl.com/4n3brtpb>

V2G Technology Now Profitable: EV Owners Can Earn Up to \$3,359 Per Year – Ud/Exelon Pilot

A landmark joint report from the University of Delaware and Exelon/Delmarva Power confirms that V2G-enabled passenger EVs can earn up to \$3,359 per year by providing grid services, based on 2021-2025 real market data. Fleet vehicles, delivery trucks, and school buses could earn over \$9,000 per vehicle annually. The findings validate V2G as a commercially viable model and could accelerate widespread deployment of bidirectional charging infrastructure across the United States.

Read More: <https://tinyurl.com/3aeavk4j>

Germany Activates MiSpeL Technical Framework for V2G in April 2026 – A Landmark for Europe

Germany's Federal Network Agency activated the MiSpeL technical framework in April 2026, completing the legal and technical infrastructure for Vehicle-to-Grid (V2G) in Europe's largest economy. This follows Germany's November 2025 parliamentary amendment to the Energy Industry Act that eliminated the double grid-fee penalty for EV owners feeding power back to the grid. Together, these regulatory changes are expected to unlock large-scale V2G deployment and energy market participation for EV owners across Germany.

Read More: <https://eleport.com/v2g-vehicle-to-grid/>



ASEAN'S SMART GRID TRANSFORMATION: ACCELERATING AI, DIGITALIZATION, AND INTELLIGENT GRID INNOVATION FOR ASEAN'S RENEWABLE ENERGY FUTURE

ASEAN is entering a new era of energy transformation driven by Artificial Intelligence (AI), Smart Grid technology, and digital infrastructure. As electricity demand continues to grow and renewable energy adoption accelerates across Southeast Asia, countries in the region are modernizing their power systems to become more adaptive, efficient, and sustainable. These developments became one of the key discussions during TransTech ASEAN 2026, where policymakers, utilities, researchers, and technology providers gathered to discuss the future of ASEAN's energy ecosystem.

One of the important presentations during the conference was delivered by Dr. Ir. Kevin M. Banjarnahor from PJCI through the session "Smart Grid & AI in Power Grids." The presentation highlighted how future electricity systems can no longer rely on conventional grid operations. Instead, utilities must transition toward intelligent and data-driven systems capable of supporting renewable integration and maintaining grid stability.



Dr. Ir. Kevin M. Banjarnahor delivering a presentation on Smart Grid and AI transformation during TransTech ASEAN 2026.

Throughout the conference, discussions emphasized that ASEAN's energy transition now depends not only on renewable energy deployment, but also on the modernization of electricity infrastructure. Increasing renewable penetration introduces several operational challenges, including renewable intermittency, grid congestion, frequency instability, and transmission limitations. To address these issues, Smart Grid systems are increasingly being implemented across the region. Modern Smart Grid technology integrates IoT devices, SCADA systems, communication networks, AI-based analytics, and digital operational platforms to improve grid visibility, flexibility, reliability, and resilience. Utilities are also accelerating investments in smart control centers, real-time monitoring systems, sensor infrastructure, and digital operational platforms to support more interconnected and responsive electricity systems.

Artificial Intelligence became one of the most discussed technologies during the event. AI is increasingly used for load forecasting, renewable forecasting, predictive maintenance, fault detection, demand response optimization, and grid stability analysis. These technologies help utilities move from reactive operations toward predictive and autonomous systems that improve operational efficiency while reducing maintenance costs and disruptions.

The conference also highlighted the growing importance of Battery Energy Storage Systems (BESS), cybersecurity, and regional interconnection through the ASEAN Power Grid initiative. These



developments are expected to improve energy security, renewable energy sharing, and system flexibility across Southeast Asia. Discussions throughout the forum emphasized that ASEAN's future energy ecosystem will depend on strong collaboration between governments, utilities, technology providers, researchers, and regional organizations.



Panel discussion session on Artificial Intelligence, Smart Grid systems, and future digital electricity infrastructure during TransTech ASEAN 2026. TransTech ASEAN 2026 demonstrated that ASEAN is not only accelerating renewable energy adoption, but also building smarter, more resilient, and digitally connected electricity systems. Through AI, digitalization, and regional collaboration, ASEAN is gradually positioning itself as one of the fastest-growing smart energy regions in the world.

Article contributed by Perkumpulan Prakarsa Jaringan Cerdas Indonesia (PJCI)





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AVOID HOTEL CALIFORNIA SOLUTIONS FOR AI: CHECK YOUR DATA IN AND NEVER BE ABLE TO CHECK IT OUT

Global and large enterprises—especially those operating critical infrastructure such as electric utilities, cities, transportation systems, government agencies, and industrial networks—are rapidly adopting generative AI to improve efficiency, resilience, and decision-making. Platforms from companies like OpenAI, Anthropic, Google (with Gemini), and xAI (with Grok) are unlocking powerful new capabilities. However, with this opportunity comes a fundamental challenge: loss of control over data.

For organizations managing power grids, smart cities, telecommunications networks, and industrial operations, data is not just an asset—it is the backbone of national security, operational resilience, and competitive advantage. Sending sensitive operational, customer, or infrastructure data into external large language model (LLM) ecosystems introduces significant risks that cannot be ignored.

The Core Challenge: Data Sovereignty

When enterprises leverage third-party LLM APIs, their data often leaves their controlled environments. Even when providers offer assurances around privacy and non-training policies, the reality is more nuanced. Data may be processed, cached, logged, or used for system improvements depending on configurations and agreements.

For critical infrastructure operators, this creates several risks:

- **Regulatory exposure:** Utilities and infrastructure operators must comply with strict frameworks such as NERC CIP, GDPR, and other national regulations.
- **Operational security risks:** Grid topology, load data, cybersecurity configurations, and incident response strategies are highly sensitive.
- **Intellectual property leakage:** Proprietary algorithms, digital twin models, and system designs could inadvertently be exposed.
- **Geopolitical vulnerability:** Data processed in foreign jurisdictions may be subject to access under different legal regimes.

The result is a growing realization: adopting AI without a sovereign data strategy can undermine the very systems AI is meant to strengthen.

Why LLM Architectures Create Tension

Public LLM platforms are designed for scale, generalization, and shared infrastructure. This inherently conflicts with the needs of critical infrastructure organizations, which require:

- Deterministic behavior
- Full auditability
- Explainability
- Data lineage tracking
- Isolation of sensitive datasets

In a traditional cloud AI model, enterprises are effectively renting intelligence—but at the cost of visibility and control.

The Strategic Imperative: Sovereign AI Architecture

This is where new approach becomes essential. Creating AI-driven sovereign energy and digital infrastructure solutions means designing architectures where enterprises maintain full control over their data, models, and outcomes.

A sovereign AI architecture includes:

1. Data Localization & Control

All sensitive data remains within controlled environments—on-premises, private cloud, or sovereign cloud infrastructure. External APIs are either restricted or used only with anonymized, non-sensitive data.



2. Hybrid AI Models

Organizations deploy a mix of:

- Local fine-tuned models for sensitive operations
- External LLMs for non-critical tasks

This allows enterprises to benefit from cutting-edge AI while protecting core assets.

3. Retrieval-Augmented Generation (RAG)

Instead of sending raw data to external models, RAG architectures enable AI systems to query internal data repositories securely and return context-aware responses without exposing underlying datasets.

4. Secure Model Orchestration

An AI control layer governs how and when different models (internal or external) are used, enforcing policies on data access, compliance, and auditability.

5. Digital Twin Integration

For utilities and cities, AI is most powerful when combined with digital twins—real-time simulations of infrastructure systems. These must remain fully controlled environments, as they contain highly sensitive operational intelligence.

Critical Infrastructure Use Cases

For electric utilities, sovereign AI enables:

- Grid optimization without exposing SCADA or EMS data externally
- Predictive maintenance using internal asset performance datasets
- Cybersecurity anomaly detection within closed environments for cities and large industrial organizations:
- Smart city orchestration without compromising citizen data
- Industrial process optimization without revealing proprietary methods
- Secure integration of IoT, edge computing, and AI

The Cost of Getting It Wrong

Enterprises that rush into AI adoption without a clear data strategy risk:

- Data breaches and regulatory penalties
- Loss of customer and stakeholder trust
- Exposure of critical infrastructure vulnerabilities
- Long-term dependency on external AI providers

In contrast, organizations that invest in sovereign AI architectures gain strategic independence, resilience, and long-term scalability.

The GSEF Perspective

GSEF's mission is to bridge this gap—helping enterprises harness the full power of AI while maintaining complete control over their data and infrastructure. This is not just a technical challenge; it is a strategic imperative.

In a world where data is power, and AI is the engine transforming it into action, the winners will not be those who simply adopt AI fastest—but those who deploy it most intelligently, securely, and sovereignly.

For critical infrastructure leaders, the message is clear: AI without data control is not innovation—it is risk. Sovereign AI is the future.

Article contributed by Andres Carvallo, CEO and Founder of 512CMG and Project Austin and GSEF's expert Jury on the Panel for ISGAN Award of Excellence



JAPAN OFFERS ENERGY LOAN, AMMONIA TECHNOLOGY TO SOUTH AFRICA



Japan plans to fast-track talks with South Africa on a yen-denominated energy loan, while promoting its technology to blend ammonia with coal to reduce carbon emissions in a country that still generates most of its electricity from one of the dirtiest fossil fuels. The loan would be used by South Africa to extend its own energy transition aims, Japanese diplomatic officials said, asking not to be identified in line with government practice, during a visit by its Foreign Minister Toshimitsu Motegi. The size of the loan was not specified.

Japan's offer of energy transition assistance for South Africa adds to about \$10-billion in climate finance pledged to the continent's biggest economy by European nations in a formal pact. Countries such as Germany and Japan are seeking to boost the presence of their companies in the nation, which has some of the world's best solar power and green hydrogen production potential.

The loan was first mooted in a meeting between South African President Cyril Ramaphosa and former Japanese leader Shigeru Ishiba in a meeting in Yokohama in August at an Africa-focused summit. Japan has been promoting a technology known as ammonia co-firing, where a portion of the coal used at power plants is replaced with the hydrogen derivative to curb emissions of climate-warming gases.

South Africa's abundant sun and wind should, in theory, allow it to use renewable energy to split water to produce so-called green hydrogen. The clean-burning fuel is then combined with nitrogen to produce ammonia, which is easier to transport.

Still, the technology has attracted criticism for potentially prolonging the life of coal-fired plants. South Africa produces about three-quarters of its electricity from coal.

Article Contributed by Nick Singh, GSEF Ambassador - Anglophone Countries in Africa

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EXCERPTS FROM THE INAUGURAL AND VALEDICTORY ADDRESSES BY REJI KUMAR PILLAI AT INDIA SMART UTILITY WEEK (ISUW) 2026



Reji Kumar Pillai
President, India Smart Grid Forum
Chairman, Global Smart Energy
Federation

Welcome

Ladies and gentlemen, it is my privilege and pleasure to extend a very warm welcome to all of you to ISUW 2026 in New Delhi. Thank you for being with us today.

I must acknowledge the extraordinary circumstances in which we have gathered. ISUW 2026 is being conducted against the backdrop of a new and fierce conflict that has broken out closer to India, seriously disrupting international air traffic. Many of our confirmed speakers and exhibitors were unable to reach Delhi. Some will deliver their presentations virtually over the coming days. A very big thank you to all those who made the effort to be here in person - I assure you that these four days will be well worth the journey, and you will cherish this memory.

We Are Entering the Most Transformative Decade in Human History

Despite wars and other dystopian predictions, there are several extraordinary things happening in the world particularly in the realm of technology. I want to touch upon a few of them, because they are all deeply connected to electricity. Nothing works without electricity. Every new technology runs on electrons, and electric utilities are at the very heart of this transformation.

We are entering the most transformative decade in human history. In the next ten years, the world will change more than it has in the last thousand years combined. We are witnessing the convergence of exponential technologies. Unlike earlier technological revolutions shaped by one or two major inventions, this era is defined by the simultaneous acceleration of many powerful technologies: Artificial Intelligence, Robotics, Biotechnology, Synthetic Biology, Quantum Computing, Clean Energy and Energy Storage, Blockchain, and Immersive Digital Environments. Individually, each of these technologies is disruptive. Together, they create a multiplier effect accelerating innovation cycles, lowering costs, and compressing decades of progress into just a few years or even months. The world is shifting from linear change to exponential change. And the most important trend is not any single technology. It is their convergence.

AI accelerates robotics by improving perception and decision-making. Robotics accelerates manufacturing by enabling automation at scale. Biotechnology uses AI and quantum computing to design molecules, vaccines, and therapies faster than ever before. Digital twins and IoT sensors feed real-time data into intelligent systems that optimise cities, energy networks, and transport. This interconnected ecosystem means breakthroughs no longer occur in isolation. Innovation now moves in waves, where progress in one domain triggers advancement in others dramatically reducing time to market, increasing scalability, and unlocking possibilities that were unimaginable even a decade ago.

From Scarcity to Abundance: The Economic Transformation

Historically, societies have struggled with scarcity - limited energy, limited food, limited information, limited healthcare access. These exponential technologies are enabling a world where abundance in everything becomes achievable. Consider the numbers. During the four centuries from 1500 to 1900, world GDP grew at just 0.6 percent. In the last 125 years from 1900 to 2025 world GDP grew at 3 percent. That is a fivefold improvement, driven by the industrial revolution: steam engines, IC engines, railroads, automobiles, and electricity. The convergence of technologies I have just described has the potential to deliver a tenfold improvement in GDP growth in the next decade moving from 3 percent to 30 percent or more. Even conservative financial forecasters project GDP growth of 15 percent or more annually from 2030 or 2035 onwards. We are ushering into an era of universal abundance.

This creates the possibility of a Universal High Income society, and ultimately Universal Basic Income for every person and every household. That is the challenge and the opportunity societies must navigate ensuring this abundance is equitably distributed, not concentrated in the hands of a few.

The Humanoid Robot Revolution

One of the most disruptive near-term technologies is the humanoid robot. The latest projections suggest there will be 5 - 10 billion humanoid robots in operation by 2035. Many of you may find that hard to believe today. But consider this: in 1995, when Airtel was launched it was asked how many mobile customers



would be there by 2000. The answer was about 30,000, but there were 3 million plus in five years. Those days if anyone had predicted that every person on the street would have a mobile phone with him in 10-15 years, nobody would have believed. A mobile phone cost was thousand dollars, and a one-minute call at peak time was fifty cents. Yet that became reality.

The same trajectory applies to robots. Companies like Figure AI one of the leading robotics firms in USA besides Tesla - are set to commercialise their third-generation robots by end of this year or early next year, available on lease at approximately \$300 per month. At \$10 per day, running 24 hours, 7 days a week, with no breaks and no holidays! Only electricity to charge it. Compare that to the minimum wages of \$22 to \$35 per hour.

When one robot in a neural network learns something, all robots in that network learn it simultaneously. And from 2027 onwards, robots will build robots. The factories making today's robots will manufacture the next generation, which will be born already trained with the intelligence of their predecessors. This revolution will transform every industry from construction to healthcare to energy and these robots will also be the first to go to the Moon and Mars to build human colonies. The direct implication for utilities is clear: the rise of the hybrid workforce - part human, part robotic will transform industrial energy demand patterns in ways we must start planning for today.

The Solar Energy Revolution

At \$0.03 per kilowatt hour, solar power is the cheapest form of electricity humanity has ever produced. And new developments are driving this cost towards almost zero marginal cost. Let me put this in a deeper historical perspective. For millions of years, life on earth was driven by sunlight absorbed by plants through photosynthesis. All food, all fuel, and all the energy systems we used for millennia are what plants saved through the photosynthesis process. The average efficiency of photosynthesis is just one percent. Now humanity has mastered the art of converting solar energy directly from the sun to electricity. Today's solar cells operate at 20 percent efficiency, a twenty-fold improvement over photosynthesis! Technologies currently in laboratories, expected to be commercialised in a decade will have 30 percent or more efficiency. So, within the next decade, solar PV systems will be 30 times more efficient than natural photosynthesis. We are moving rapidly towards a Type 1 civilisation on the Kardashev scale - one capable of harnessing most of the energy arriving on the surface of our planet.

One disruptive consequence deserves particular attention for utilities. With robotic taxis and passenger drones, the present automobile stock in the United States, some 140 million cars could shrink to 20 million vehicles or fewer. Most parking lots will be converted to vertical farms, growing food within cities. The energy demand profile of the entire transport sector will be fundamentally rewritten.

Data Centres Going to Orbit

At our Distribution Utility Meet in Bombay in early November 2025, we spent two hours debating how to power data centres that require gigawatt-scale power connections. Within a week of that meeting, an H100 NVIDIA GPU was launched on the Starcloud 1 satellite into orbit and it has reportedly been functioning perfectly for the past two months. In late January, Elon Musk announced plans to launch a million satellites that will host data centres in space. The advantages are obvious: solar energy is available 24 hours a day, 7 days a week, in orbit, and the cooling load for space-based data centres is nearly negligible. If significant share of data centres migrate to orbit, the implications for trillions of dollars of planned grid infrastructure investment are profound and this is something we do not yet have an answer to.

We have dedicated sessions in ISUW 2026 exploring square-mile-size data centres requiring gigawatt-scale connections, as well as the broader impact of breakthrough technologies on power systems. I encourage everyone to participate.

Digital Health, Longevity, and the Future of Human Life

The convergence of technologies is also transforming human health. Today's AI diagnostic systems achieve 97 percent accuracy compared to human doctors who are somewhere in the fifties, and human-plus-AI combinations achieving around 70 percent. AI tutors are delivering personalised education at scale, making learning accessible to every child regardless of geography. Digital health solutions are democratising medical expertise, enabling early detection and preventive care for millions who previously lacked access.

Perhaps most remarkable is the concept of longevity escape velocity. The latest estimates suggest we will achieve this by 2032 or 2033 the point at which medical progress adds more than one year of life expectancy for each calendar year that passes. Thereafter, those who embrace these technologies could potentially extend their lives indefinitely. Vertical farming, precision agriculture, and lab-grown proteins are already transforming food systems to be more efficient and climate-resilient, further supporting humanity flourishing at scale.



OpenClaw: The Latest Revolution in AI

Before I move to our conference programme, I want to briefly highlight a development that is less than two months old and that most of you may not yet have heard of: OpenClaw. Throughout 2025, the AI world has been debating when frontier models will achieve recursive self-learning the ability to improve themselves without human intervention. Some said Grok 4 was almost there. Some said Claude was close. Then, a one-man company released OpenClaw – an open-source, fully customisable, self-learning, self-improving, and self-evolving personal AI assistant. In less than a month, over 200,000 people downloaded it from Github, and over 1,000 contributors have already created different variants: Peacock Claw, Iron Claw, and dozens more versions. We are witnessing a Cambrian explosion of AI Agents. What makes this particularly significant for our sector is that these are compact AI models that run on edge devices and all you need is an Apple Mini or even a smartphone. In the not-too-distant future, we will see one-person companies running 100 to 200 of these AI Agents in parallel, with a Claude Opus or other models orchestrating a full team of specialised agents handling engineering, finance, operations, and more. A single individual with this toolkit could build a unicorn company. This is not a prediction for 2035 it could happen in 2026 itself.

ISUW 2026 have dedicated sessions on AI agents and how to build and deploy them. On 13th March, we will also conduct a hands-on session on building OpenClaw models. I encourage those who are interested to join.

Conference Highlights and Themes

Over these four days, we are discussing several topics that you will be hearing about in other conferences a year or two from now. Among the most important themes being explored by our distinguished speakers and panellists are digitalisation roadmaps, data governance and management for utilities, rise of “flexumers” and digital tools for DER management, grid-interactive buildings and campuses, grid integrated vehicles, district cooling systems. We also dedicated an important session to gender balance in the power sector. Traditionally, the power sector has had a poor gender balance. While we are beginning to see more women in senior positions, the overall percentage remains low. The ongoing wave of energy transition where new technologies are being implemented at an extraordinary pace is a momentous opportunity to correct this historic imbalance. ISGF has signed up for the international program Equal by 2030 movement the first organisation in India to do so at the Clean Energy Ministerial in 2025. We will work with our member utilities and partners to achieve at least 50 percent women representation in utilities by 2030.

Welcome to Our Distinguished Dignitaries

I now have the privilege of welcoming our esteemed dignitaries on the dais.

Closing Remarks and the Road Ahead for ISUW

As we close this twelfth edition of ISUW, we want to express our deep gratitude to every organisation and individual who has supported us. This has been one of our most challenging editions to organise, and your partnership made it possible.

We want to be candid with you about the future of ISUW. As you know the industry is experiencing event fatigue. Every week, sometimes every other day, there is a conference related to power sector. In January, India Energy Week ran for four to five days with a substantial government-backed budget. Next week, the Bharat Electricity Summit is being held as a Ministry of Power event. When ministries organise events at this scale, organisations like ours face genuine difficulty competing for attention, sponsorship, and delegates. Normally at the end of ISUW, we would announce the dates for the next edition a full year in advance. This time, we are pausing. We will consult ISGF Board, ISGF members, our utility partners, and our supporting organizations in the coming months, and we will decide by June 2026 on whether to hold a thirteenth edition of ISUW and if so, in what format, at what time of the year, and in what configuration. The same ISUW format may evolve into something different – a different avatar that perhaps better serves the community and the moment we are in. Watch this space. We will communicate our decision clearly.

Ladies and gentlemen, everything I have described today from the humanoid robot revolution to orbital data centres, from the solar energy transformation to longevity escape velocity, all of it runs on electrons. The utility sector is not a passive observer of these changes. You are the essential infrastructure on which this entire technological revolution depends.

The work we do at ISGF, and the conversations we have had over these four days, are how we prepare the sector for the evolving future. Thank you for your engagement, your support, your ideas, and your commitment to this mission. Thank you very much.

YouTube Links:

Inaugural Address (11 March 2026): <https://youtu.be/Inaugural>

Valedictory Address (13 March 2026): <https://youtu.be/Veledictory>



GULF PEACE COULD STILL IMPACT S/SE ASIAN T&D UTILITIES FINANCIALLY



As I pen this article there appears continued skirmishes between Iran and the United States, while both are still working towards a peace MOU. Global crude oil prices are hovering around US\$ 100 per barrel, much higher than US\$ 70 per barrel before the hostilities began. A 40% price increase is bad for Asian and Australasian economies who import fuel from the gulf. As disconnected as it may appear, this could negatively affect South/Southeast Asian T&D utilities financially. This article unpacks these issues.

Till date, the Gulf crisis has removed 1.5 billion barrels of oil supply to Asian and

Australasian countries. Mercifully, 1.0 billion barrels of strategic reserves and other floating inventories saved these economies from a sharp supply shortfall. This buffer now stands depleted. Notwithstanding spot crude prices, the delivered price to many Asian countries is already at US\$ 130-150 per barrel. This crucial O&G energy supply combined caters to (a) industrial (heat); (b) residential (heating, cooking); and (c) transportation (road/rail/boat) at 30% each. The electricity sector consumes only 10%. However, many countries import all their petroleum fuels for transportation.

Since the crisis began, many Asian countries have raised petrol prices and begun fuel rationing (Sri Lanka, Myanmar, Thailand, Cambodia, Philippines). Others have decreed work-from-home policies and a shorter working week. LPG shortages in India have closed many restaurants. Airlines have cut hundreds of regional flights due to jet-fuel shortages. This pain is likely to become acute in the next few months even as peace is being restored (below):

1. **Long Transport Cycle:** Oil and LNG shipment cycle time to South/Southeast Asia is 50 days (25 + 25 return). With limitations on the Strait of Hormuz (max 120-145 ships daily each way), additional shipments may not be possible. It is estimated that streamlined shipping could take as much as 6-9 months to restore normalcy.
2. **Resumption of Gulf O&G Plants:** A few oil and gas plants were damaged or were shut down for safety in Kuwait, Qatar, UAE, Bahrain and Saudi Arabia. These could take up to 9 months to return to their full production.
3. **Strategic Reserves Make-up:** Countries eager to fill their depleted strategic reserves could drive the supply chain even more aggressively, thereby keeping prices high. A refill of 1.0 billion barrels would require 1,400 tankers (average capacity 750,000 barrels/ship – range 0.4 to 1.5 million). This effort alone could take more than 1-2 years.

Thus, even if the hostilities were to cease today (and shipping lanes magically opened tomorrow), it could still take more than a year to restore supply volumes to pre hostility levels. In other words, the price of oil is unlikely to fall to US\$ 70 per barrel any time soon. This means for smaller countries, continued supply shortage and elevated fuel prices will drive higher inflation. Developing countries of S/SE Asia who are dependent on fuel imports will be hit hard as they need them to maintain their GDP growth.

On the surface, direct impact on T&D utility's activities appears minimal. The IEA's power generation fuel mix (2023), notes O&G generation at 25%, coal power at 35%, Hydroelectric at 15% and nuclear at 10% with the remaining 15% renewables and others. Electricity consumption is largely industrial (42%), residential (27%) and commercial (20%) with electrified transportation at only about 3%. So, other than diesel gensets and remote backup power there appears to be no severe baseload generation shortfall. However, over a 100,000 MW of gas generation is being developed in Vietnam, Philippines, Indonesia, Malaysia and Thailand. All these projects will add to future potential fuel risk.

The regulated T&D utility sector is a "cost of service" monopoly with a defined ROA (return on assets) and ROE (return on equity). Even though their own fuel utilization is small, this fuel supply crisis and higher inflation could impact it significantly as noted below:

1. **Rising O&M Costs:** O&M expenses, subcontracts and labour costs will likely rise due to higher fuel costs. Most utilities budget their O&M prudently with almost no cushion for price volatility. This rising cost could lead to O&M budget overruns and/or work deferment.
2. **Government Price Caps:** A low "rate-base" is a close second to a low "tax-base" for economic growth. During crisis, any rate increase leads to government price caps. Therefore, additional cost recovery could take a few years.



3. **Market Cost of Money:** As inflation rises so do interest rates in the bond markets. With T&D utilities leveraged at 65% debt, their borrowing costs will go up. Capital project borrowing is long-term (30 years), while O&M financing is short-term (1-5 years).
4. **Depreciating Currency:** High fuel prices in developing countries who import fuel, typically see currency depreciation (5-10% p.a.) as higher import bills bite into the government's current account deficit. Despite this, countries have little option, as their GDP growth is directly tied to energy. For T&D utilities, this means 5-10% increase in cost of imported goods and higher leasing costs.

The next two years could see elevated fuel prices and high inflation in S/SE Asia. Regulated utility equity shares are sensitive to interest rates due to their high debt structure. A small increase in interest rates can significantly impact their financial health. Their interest rate sensitivity (beta) in capital markets is 1.22 (behind banks at 1.35 and real estate at 1.28). For utilities, a typical 1% increase in borrowing costs could lead to lower equity share price by 6-10%.

Given the above scenario, T&D utilities in S/SE Asia appear vulnerable to rising interest rates. Even in the event of a recession, with the government lowering short-term interest rates, it will still be "net inflationary" in debt markets due to declining currency.

Every crisis teaches us lessons and this one does too. Countries that import 80-90% of their fuels need to reduce their reliance with domestic alternatives (a) biofuels; (b) RE power; (c) EVs; and (d) electrified rail transportation. This is what China has done (on all 4 counts) followed by India on two counts (RE and rail electrification), followed by Australia and New Zealand (RE only). All S/SE countries have a long road ahead to derisk fossil fuel dependency.

A crude awakening indeed.

Article contributed by Ravi Seethapathy, GSEF Ambassador for Americas

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19th-21st May 2026

Adelatom 26
Enlit Africa 2026, Cape Town, South Africa
www.enlit-africa.com/

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Adelatom 26
Buenos Aires, Argentina
www.adelatomconferencia.com

26th - 28th May, 2026

Japan Energy Summit & Exhibition,
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CIREC Brussels (Belgium)
<https://2026brussels.cired.net/>

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Asia Clean Energy Forum (Acef) 2026,
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<https://asiacleanenergyforum.adb.org/>

15th -18th June 2026

Finland 2026 Symposium On Microgrids
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Centre, Dubai
<https://www.middleeast-energy.com/en/home.html>

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Enlit Asia
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18th Latin American Smart Grid Forum,
SAO Paulo, Brazil
www.Smartgrid.com.br/eng

11th - 13th October, 2026

17th Clean Energy Ministerial (CEM17),
October 2026, Riyadh, Kingdom of Saudi
Arabia
<https://www.cleanenergyministerial.org/>

11th -15th October, 2026

25th WPC Energy Congress, Riyadh, Saudi
Arabia
<https://www.wpcenergy.org>

26th - 30th October 2026

SIEW 2026, Singapore
www.siew.gov.sg/

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& Conference Center Adipecc, Abu Dhabi,
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Adipec.com

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