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الذرية والمتجددة K•A•CARE

Energy Observatory
JOURNAL

December 2023

Renewable Energy News

Saudi Arabia announces 300% jump in renewable energy capacity under Saudi Green Initiative

Image: Saudi Green Initiative (SGI) Forum (saudigazette.com)

The third edition of the Saudi Green Initiative (SGI) Forum, aligned with COP28, showcased Saudi Arabia's commitment to climate action and sustainable innovation. Launched in 2021 by Crown Prince Mohammed bin Salman, the SGI oversees the Kingdom's climate change mitigation efforts, aiming for net zero by 2060. Saudi Arabia has invested over $188 billion in more than 80 public and private sector initiatives for a greener future. A key milestone is the 300% increase in renewable energy capacity since 2022, raising total capacity to 2,800 MW and powering over 520,000 homes. By the end of 2023, under-construction renewable projects will exceed 8 GW, with an additional 13 GW in development. The country is also reducing liquid fuel dependence, replacing it with gas and building plants with carbon capture technologies, totaling approximately 8.4 GW. The $8.4 billion green hydrogen plant in NEOM, set to be the world's largest, exemplifies Saudi Arabia's investment in future-proof fuels. The SGI has led to significant environmental achievements, including planting 43.9 million trees and rehabilitating 94,000 hectares of land. Future efforts include strategic afforestation and land rehabilitation, targeting 10 billion trees by 2030, and protecting land and marine environments. The initiative has also contributed to wildlife conservation, notably rewilding endangered species and supporting Arabian leopard conservation.

Source

Renewable Energy News

Cop: 118 countries pledge to triple renewable capacity

Image: COP28 President Sultan Ahmed al-Jaber speaks during national statements at the World Climate Action Summit during COP28 in Dubai. (Reuters)

At the UN climate summit in Dubai, Cop 28 President Sultan al-Jaber announced a significant global commitment: 118 countries have pledged to triple the world's renewable energy generation capacity by 2030 and to double global energy efficiency within the same timeframe. This ambitious pledge, initially endorsed by G20 leaders in September, is in line with the objectives of the Paris Agreement, which aims to limit global warming to well below 2°C, ideally to 1.5°C. The Cop 28 presidency emphasizes the importance of this commitment for achieving the goals of the Paris Agreement. The plan to triple renewable energy capacity aims to reach at least 11,000 GW by 2030, accounting for different national circumstances and starting points. Additionally, the signatories aim to double the global average annual rate of energy efficiency improvements from around 2% to over 4% annually until 2030. This pledge underscores a global effort to significantly advance renewable energy and energy efficiency, contributing to more sustainable and responsible energy consumption worldwide.

Source

Renewable Energy News

New Zealand to Test Renewable Energy-Powered Unmanned Surface Vessel

Image: The Bluebottle can run on solar, wind, or wave power, utilizing a rigid sail to provide wind propulsion and photo-electric cells on the sail to drive its motor. Photo: Royal New Zealand Navy

The Royal New Zealand Navy is gearing up to trial an innovative unmanned surface vessel (USV) named "Bluebottle," which operates entirely on renewable energy. Transported from Sydney to Auckland aboard HMNZS Aotearoa, Bluebottle is capable of harnessing solar, wind, and wave power for propulsion, featuring a rigid sail with photo-electric cells for driving its motor. Developed by Sydney-based Ocius Technology, this vessel is designed for diverse missions such as fishery and border protection, as well as meteorological data collection. Navy Maritime Component Commander Commodore Garin Golding emphasized the USV's significance in patrolling New Zealand's vast Exclusive Economic Zone, which spans over four million square kilometres. Bluebottle will be controlled from Devonport Naval Base in Auckland and can communicate via mobile phone signals and satellites. Its portable nature allows for easy transportation and deployment across New Zealand, enhancing the Navy's capability to efficiently monitor and manage its extensive maritime responsibilities.

Source

Renewable Energy News

US residential PV up 24% through Q3, growth may slow in 2024, says WoodMac

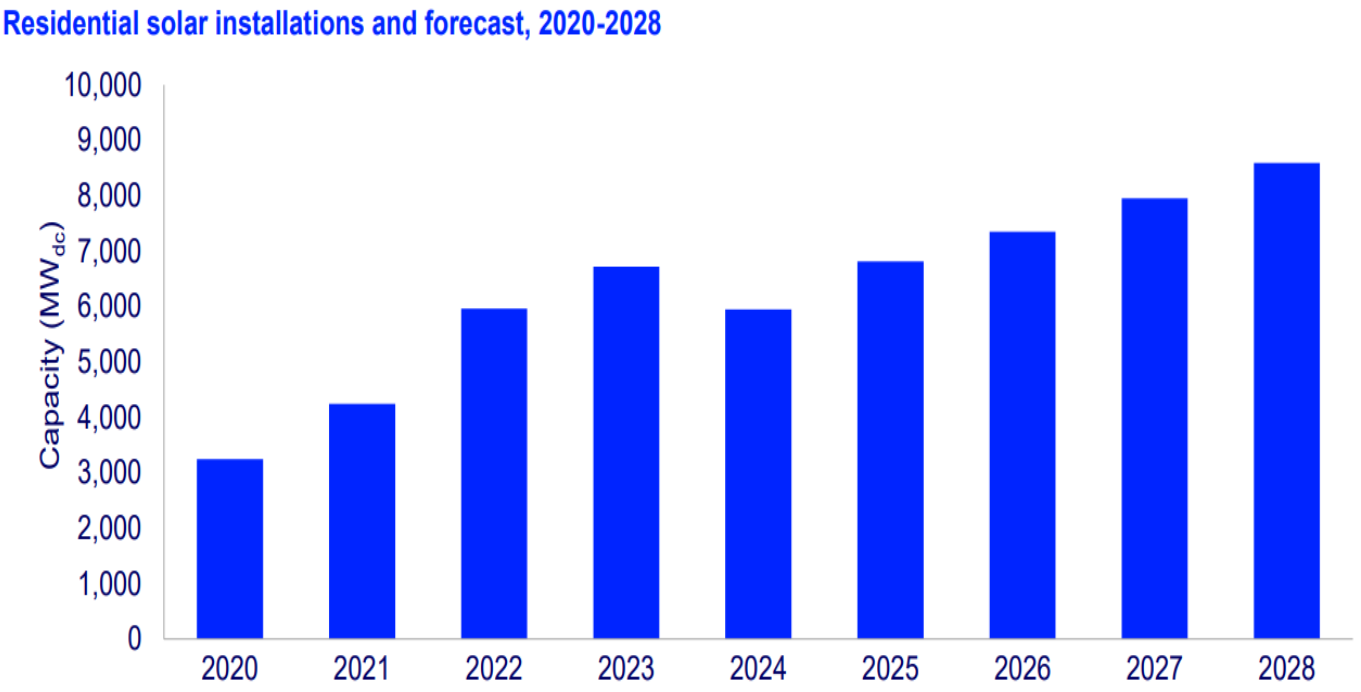


Image: Wood Mackenzie

Wood Mackenzie reports a 24% year-over-year increase in residential solar installations in the United States through the first three quarters of 2023, driven by improved supply chain conditions and Californians securing solar under a favorable rate structure before NEM 3.0's implementation. However, the outlook for 2024 is cautious due to high interest rates potentially dampening demand. Despite a new quarterly record of 1.8 GW installed in Q3 2023, major solar markets like Arizona, Florida, and Texas saw declines. Installers are adapting with operational efficiencies and varied pricing and product strategies. While 2024 may see a 12% contraction in the residential solar market, Wood Mackenzie anticipates a recovery from 2025, with a 10% average annual growth rate expected through 2028. The residential solar-plus-storage market is also expanding, with increased competition among battery vendors. Tesla, LG, and Enphase remain leading providers, though new entrants are gaining market share. The top five in residential solar-plus-storage hold 59% of the market, contrasting with only 24% in the residential solar market.

Source

Renewable Energy News

The Growth and Potential of Offshore Wind Energy in Coastal States

Image: Renewable Energy World

Louisiana has approved its first offshore wind agreements, marking a significant step in renewable energy. Governor John Bel Edwards and Secretary Tom Harris announced agreements for Diamond Offshore Wind Louisiana and Cajun Wind, showcasing distinct payment structures that could serve as blueprints for future projects. DOW Wind, a smaller area, offers higher upfront costs and rental fees, while Cajun Wind, larger in scale, features lower upfront payments but a higher energy royalty. These agreements underscore Louisiana's flexibility and fair compensation approach in utilizing resources. Recent legislation clarifying offshore wind project rules has attracted operators, supporting Governor Edwards' goal of achieving five gigawatts of offshore wind capacity by 2035.

Source

Renewable Energy News

China's Surging Solar Industry: CPIA's Revised 2023 Projections and Global Impact

Image: Renewable Energy World

China's solar industry is set for substantial growth in 2023, with the China Solar PV Industry Association (CPIA) revising its installation projections to a range of 345 GW AC to 390 GW AC. This adjustment is fueled by China's potential contribution of up to 180 GW AC to the global solar capacity. The CPIA cites China's remarkable 145% year-on-year surge in PV installations during the first 10 months of 2023, surpassing earlier predictions. Factors include declining prices, government policies promoting solar at the county level, and a surge in residential installations without subsidies. The forecast reflects China's expanding solar influence globally, with increased exports to diverse markets. Despite challenges, including protective measures in some regions, China remains a key player in the solar market.

Source

Nuclear Energy News

IAEA Director General Visit Highlights Saudi Arabia's Dynamic Nuclear Power Preparations

Image: Director General Rafael Mariano Grossi (left) with Minister of Energy Abdulaziz bin Salman Al Saud during a visit by Mr Grossi to Saudi Arabia.

IAEA Director General Rafael Mariano Grossi travelled to Saudi Arabia to meet with Minister of Energy Abdulaziz bin Salman Al Saud today. Relations between the IAEA and the Kingdom are growing stronger as preparations for Saudi Arabia's nuclear programme intensify. He also met with the country's regulator and a wide range of organizations during his visit to Riyadh.

Kicked off trip to Saudi Arabia by visiting @SaudiNRRC. The work of KSA's nuclear regulator is essential, particularly as SA advances towards its first nuclear power plant. @IAEAorg's actively involved, advising on laws and best practices, & will continue to support all the way. pic.twitter.com/2EMYEO4W6s— Rafael MarianoGrossi (@rafaelmgrossi) December 13, 2023

Source

Nuclear Energy News

IAEA Mission Says Belgium Committed to the Safe Management of Radioactive Waste and Spent Fuel, Encourages Further Development of National Waste Policies

Image: International Atomic Energy Agency IAEA

An International Atomic Energy Agency (IAEA) team of experts found that Belgium demonstrates commitment to the safe management of its radioactive waste and spent fuel, while also noting opportunities to enhance the national policies and arrangements for eventual disposal.

The Integrated Review Service for Radioactive Waste and Spent Fuel Management, Decommissioning and Remediation (ARTEMIS) team this week concluded an eleven-day mission to Belgium. The mission was carried out from 3 to 13 December at the request of Belgium and hosted by ONDRAF/NIRAS, the Belgian National Agency for Radioactive Waste and Enriched Fissile Material management.

Source

Nuclear Energy News

With IAEA Help, Countries Take Concrete Steps to Manage Disused Sealed Radioactive Sources

Participants gathered in Malaysia to witness borehole disposal operations for DSRS. (Photo: V. Pereira-Campos /IAEA)

The High Temperature Gas-Cooled Reactor - Pebble-bed Module (HTR-PM) in Shidao Bay, Shandong Province, China, has commenced commercial operation. The reactor features two small reactors, each with 250 MWt, driving a single 210 MWe steam turbine. Using helium as a coolant and graphite as a moderator, it utilizes over 400,000 spherical fuel elements, demonstrating high inherent safety characteristics. The project began in December 2012, with the plant connected to the grid in December 2021. Developed by Tsinghua University, China Huaneng Group, and China National Nuclear Corporation, HTR-PM is a Generation IV nuclear energy technology and a small modular reactor. The success of the project is considered a significant step in promoting safe nuclear power development in China. The technology's ability to provide high-temperature process heat is seen as valuable, especially in regions with limited freshwater resources. China plans a scaled-up version, HTR-PM600, featuring one turbine rated at 650 MWe driven by six reactor modules.

Source

Nuclear Energy News

China's demonstration HTR-PM enters commercial operation

The nuclear island of HTR-PM Demo (Image: Tsinghua University)

Sealed radioactive sources (SRSs) are used to facilitate industrial processes, deliver life-saving medicines and strengthen civil infrastructure. However, the safe and secure use and management of SRSs is a complex endeavour and relies on the implementation of a legislative framework and national regulations, as well as on the availability of suitable technologies, licenced facilities and well-trained staff. To protect the public from the hazards of ionizing radiation and to prevent disused sealed radioactive sources (DSRSs) falling out of regulatory control, the IAEA promotes 'cradle-to-grave' management of SRSs as an essential component of a strong regulatory infrastructure.

The IAEA launched an initial interregional project1/in 2012 that delivered hands-on training exercises to help national participants learn how best to handle, characterize, condition and store disused radioactive sources. Under two follow up projects2/, support has now expanded to 45 countries, with expert missions, coordination meetings and training courses to build national capacities in source management and support the use of appropriate technologies for different DSRSs management solutions, including recycling, re-use, and disposal. In 2023, project activities focused on bringing participating countries up to date with the latest developments in borehole disposal. Many counterparts were given an opportunity to view the ongoing project in Malaysia in September.

Source

Nuclear Energy News

Hyundai, KAERI team up for export of SMART SMR

The signing of the MoU by Joo (left) and Hong (Image: KAERI)

Hyundai Engineering and the Korea Atomic Energy Research Institute (KAERI) have signed a memorandum of understanding to collaborate on the commercialization and export of the Korean-designed SMART small modular reactor (SMR) overseas. Hyundai Engineering will handle business development, financing, and engineering, procurement, and construction (EPC), while KAERI will be responsible for support tasks like reactor design and licensing. The SMART (System-integrated Modular Advanced Reactor) is a 330 MWt pressurized water reactor designed for electricity generation and thermal applications. The collaboration aims to strengthen the business base in Canada initially and expand to other markets such as Uzbekistan, the United States, and India.

Source

Nuclear Energy News

TRIGA International to produce fuel for US microreactor

Two views of INL's concept for the MARVEL reactor, to be installed at TREAT (Image: INL)

TRIGA International, a joint venture between Framatome and General Atomics, has secured a contract to fabricate TRIGA-like fuel for the US Department of Energy's Microreactor Applications Research Validation and Evaluation (MARVEL) microreactor. The contract, awarded through Battelle Energy Alliance LLC, will be executed at Framatome's TRIGA manufacturing facility in France. TRIGA reactors, used for training, research, and isotope production, have unique fuel properties adaptable to non-TRIGA plants, including small modular, micro, or advanced reactors. This contract follows the restart of the TRIGA program after a nearly 10-year hiatus, with the CERCA Romans facility resuming operations in December 2021 after a modernization project. The MARVEL microreactor is designed to produce 85 kW (thermal) and is expected to be operational by the end of the next year at the Idaho National Lab.

Source

Nuclear Energy News

Ministerial declaration puts nuclear at heart of climate action

Sama Bilbao y León said the significance of the declaration could not be overstated (Image: WNA)

Twenty-two countries, including the US, the UK, Japan, Canada, and France, have signed a declaration at the UN's COP28 climate change conference, committing to the goal of tripling global nuclear energy capacity by 2050. The signatories aim to achieve global net-zero greenhouse gas emissions and carbon neutrality by mid-century while keeping the temperature rise within 1.5 degrees Celsius. The declaration recognizes the role of new nuclear technologies in supporting decarbonization beyond the power sector and highlights the importance of high-level political engagement and financing for new nuclear projects. The signatories commit to annual progress reviews and encourage other countries to join the declaration.

Source

Nuclear Energy News

Six SMR power plants approved in Poland

The locations applied for (Image: OSGE)

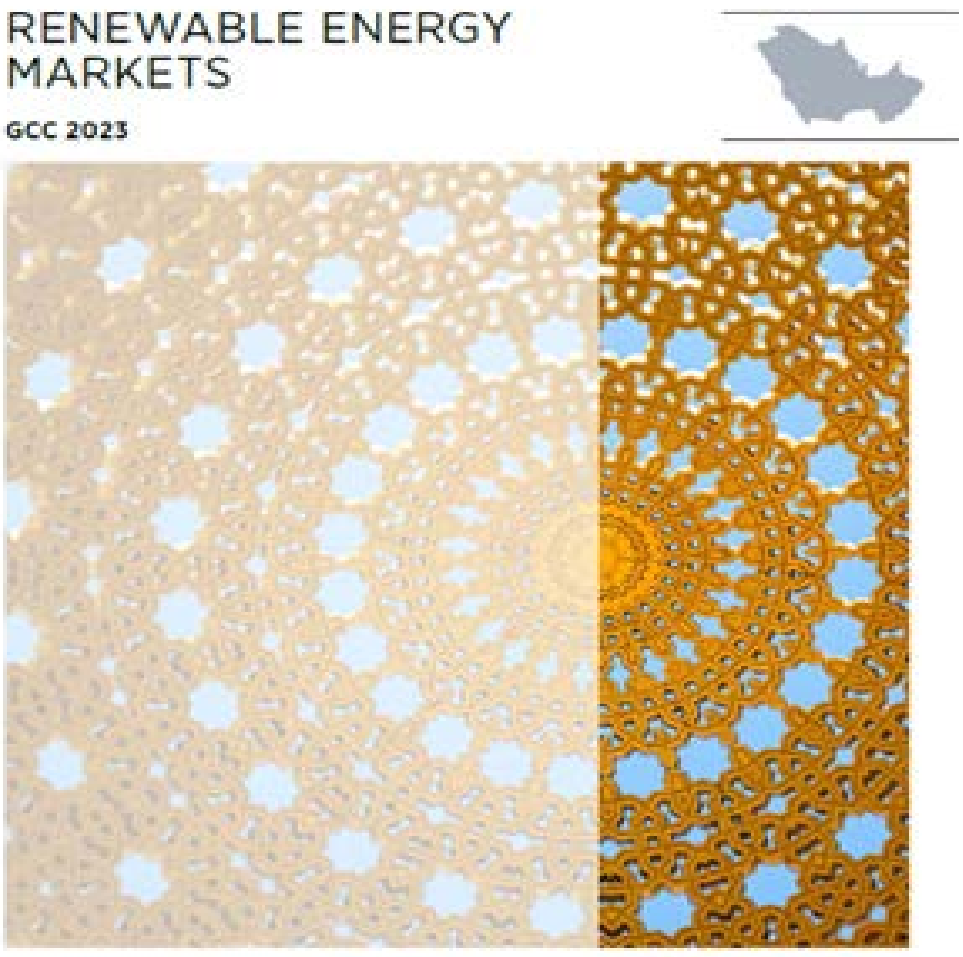
Poland's Ministry of Climate and Environment has granted decisions-in-principle for the construction of power plants based on GE Hitachi Nuclear Energy's BWRX-300 small modular reactor (SMR) at six locations. Orlen Synthos Green Energy (OSGE) plans to install a total of 24 BWRX-300 reactors at these sites, contributing to Poland's goal of deep decarbonization. The decision-in-principle marks the initial step in the administrative permits process for nuclear power investments in Poland, enabling OSGE to apply for further arrangements such as a siting decision or construction license. The BWRX-300 reactors aim to provide zero-emission, stable energy for Poland's energy, industry, and heating sectors.

Source

Report title: Renewable energy markets: GCC 2023

The report highlights that renewable energy deployment is growing in the GCC countries; albeit the share of renewables in the electricity mix of the GCC region remains negligible, accounting for only 3% of the region's generation capacity in 2022. Investments and deployments are expected to accelerate across all GCC states as they implement their renewable energy plans. It has a solid energy infrastructure that can be leveraged and built on for increased shares of renewables. Domestically, investments in renewables in the GCC are expected to reach new heights in the years to come following COP28. While fossil fuels have clearly shaped the region's past, its future may well be shaped by renewables.

December 2023

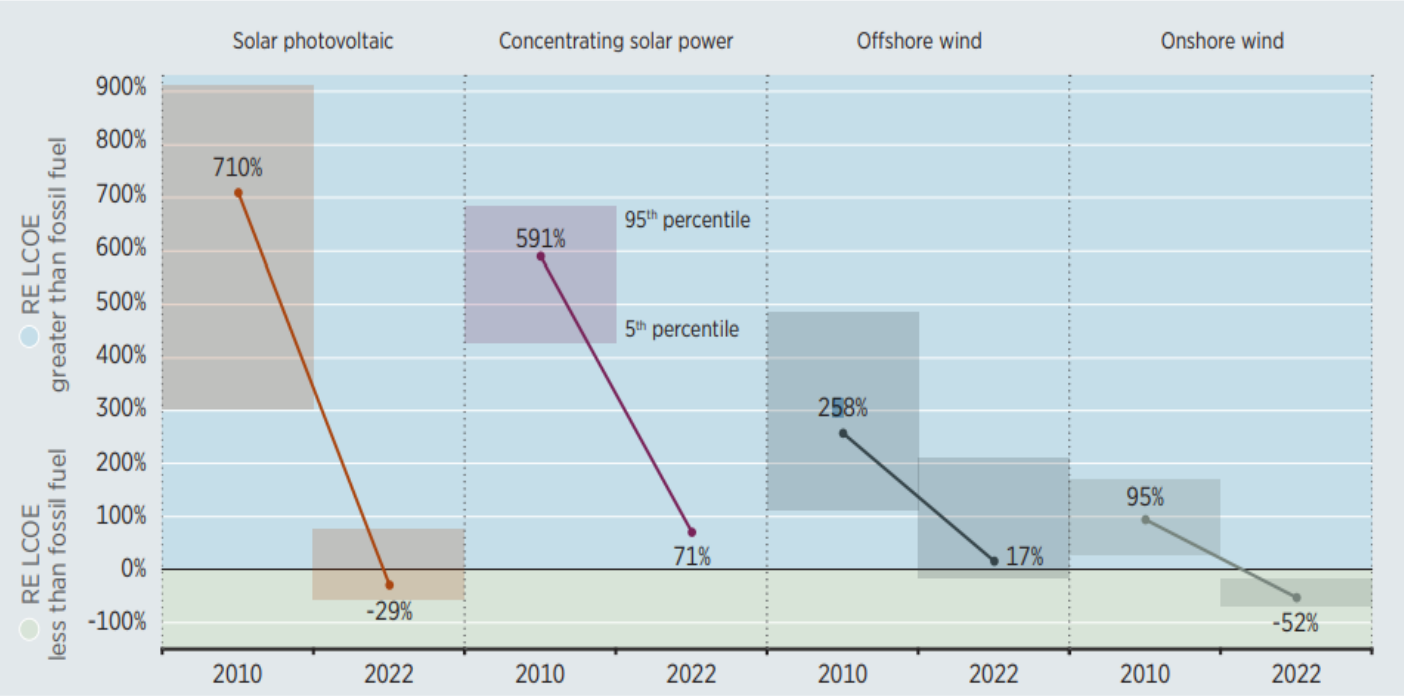


Prepared by: Ahmed Alshehri

Source

Renewable Power Generation Costs in 2022

Figure S.1 Change in competitiveness of solar and wind by country based on global weighted average LCOE, 2010-2022



Note: The global weighted average LCOE data by technology and the fossil fuel LCOE data used to derive this chart is presented in detail in Chapter 1; RE = renewable energy.

Data source: IRENA (2023), Renewable power generation costs in 2022, International Renewable Energy Agency.

IRENA's Power Generation cost of 2022 (released in 2023) presented a graph visualizing the price change in multiple renewable energy technologies. In 2022, the renewable energy sector demonstrated resilience against the backdrop of increasing costs for materials and equipment, as the prices for key renewable technologies—such as solar photovoltaics (PV), onshore wind, and bioenergy—continued to fall. These renewable energy (RE) technologies are becoming more competitive with conventional energy sources.

Over the past decade, from 2010 to 2022, there has been a substantial decrease in the Levelized Cost of Electricity (LCOE) for renewables. Notably, the LCOE for onshore wind has plummeted by 69%, while utility-scale solar PV has seen an even steeper decline of 89%.

These trends underscore a significant advancement in renewable technologies, suggesting a promising future for the sector in terms of both technology and cost-efficiency.

Prepared by: Mohammed Al Essa

Source

Materials selection for nuclear applications: Challenges and opportunities

P. Hosemann a,*, D. Frazer a, M. Fratoni a, A. Bolind a, M.F. Ashby b
a University of California, Berkeley, Department of Nuclear Engineering, United States
b University of Cambridge, United Kingdom

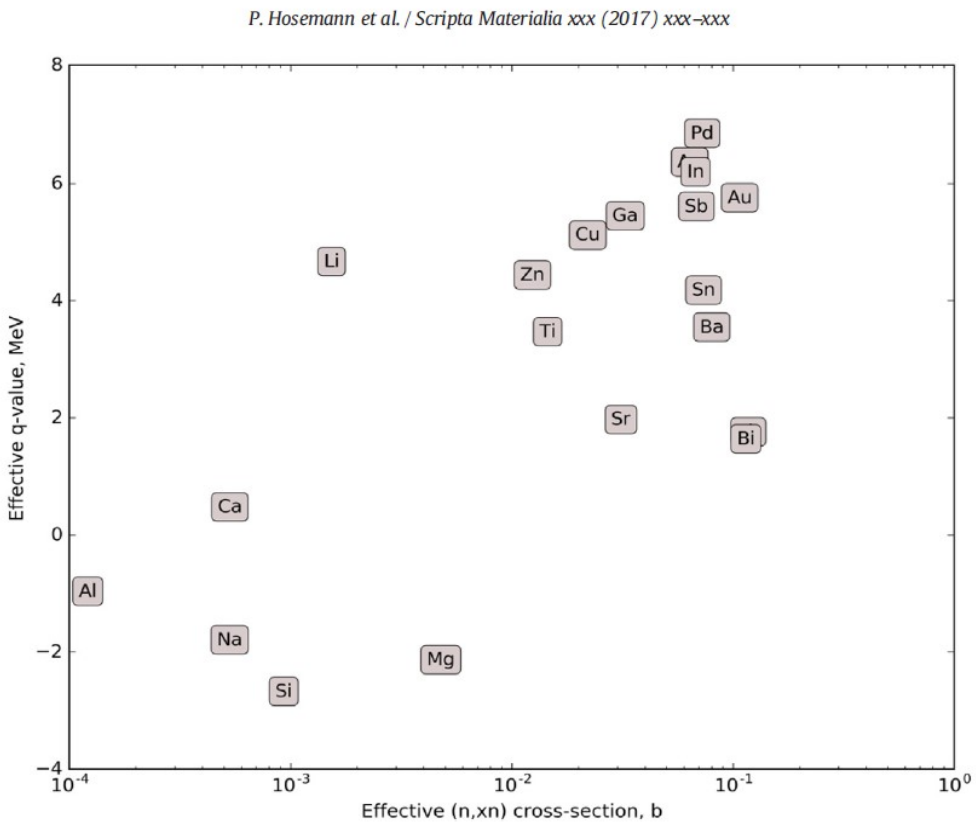


Figure 6. Effective q-value versus effective (n,xn) cross section as calculated using a representative inertial confinement fusion blanket neutron spectrum for candidate alloy components of blanket coolants.

Choosing materials for nuclear applications is a complex balancing act. Unlike conventional engineering, it demands materials that excel in not just physical/chemical properties, but also withstand intense radiation and satisfy strict safety standards. This paper argues for a more systematic approach, highlighting challenges like limited data and harsh environments, but also opportunities like advanced materials and computational tools.

Notably, Figure 6 explores the trade-off between energy release and stability in ICF blanket coolants, suggesting elements like Pb, Sn, and Sr as promising candidates. By addressing data gaps and exploring new materials, we can create safer and more efficient nuclear technologies.

Prepared by: Talal Al Harbi

Source

An Overview of Optimization Approaches for Operation of Hybrid Distributed Energy Systems

Dr. Abdullah Mohammed Al Zahrani

Renewable Energy Engineer II

27 December 2023

Abstract:

Humanity is presently confronting a global energy crisis this is due to an insufficiency in traditional energy sources while the energy demands are worldwide increased. In response to this crisis, improving energy efficiency and sustainability are becoming significantly important. Therefore, distributed energy systems are extremely important in terms of having multiple energy sources to meet time-varying consumer demands. Recently, hybrid distributed energy systems have become widely applied to raise system reliability and improve power quality instead of depending on one type of conventional energy sources. Yet, it faces some challenges in its widespread deployment such as unpredictable nature and intermittently varying renewable energy sources. Hence, it is important to review the recent promising approaches for the optimization of hybrid systems to reduce the operation cost and total network losses. This work encompasses a review of the recent optimization approaches for hybrid energy systems to give the basis for solving difficult and intricate real-world problems related to distributed energy system operation.

Introduction:

The traditional energy sources have become rarer as a result of the increase in the electrical load for the community such as commercial area, industrial area, residential area, etc. Considering alternative energy resources (such as wind energy, solar panel, hydroelectricity, and geothermal energy) is most common in the last decade to improve the power system reliability and efficiency. Renewable energy is being used beside non-renewable energies to cover the required loads and to maximize power efficiency. Therefore, hybrid energy is the most popular option that has been applied to give a better choice than relying on one type of power source in terms of minimizing the cost and improving the power efficiency of the system. The hybrid energy is commonly composed of two or more power sources utilized altogether to offer a greater balance in energy supply. Several types of hybrid energy combinations are convenient to be used but they depend on the power system location and which kind of power sources are available and suitable to be proposed to cover the required demand loads at lowest cost.

Therefore, increases in the use of distributed energy systems have risen parallel with price reductions in solar, wind and inverter technologies. By taking the maximum benefits of the hybrid energy system, the reliability of the power system is required due to the adoption of a hybrid energy combination system that allows multiple power sources. One way to increase the reliability of the hybrid energy system is to develop a robust optimization method to operate and plan hybrid distributed energy systems. This review article sheds light on the diverse existing optimization methods applied to the operation of various power sources. The focus is on finding a way of solving the problem of integrating and operating a variety of power units. A synopsis grouping all the discussed optimization methods provided at the end will help to choose the most effective technique to model a similar problem and solve it.

Optimization Approaches:

Some recent optimization approaches that should enable us to solve power system operation problems. For this, it is necessary to optimize the operation of a power system, minimizing or maximizing one of its multi objectives such as the total power cost, power loss, power system stability, etc.. This kind of operation problem can be solved based on the choice of optimization technique. It is significantly substantial to carry out a systematic optimal solution process. The degree of precision and the realistic optimal result alter with the adopted technique. There are a lot of efforts that have been put down to develop such a technique that can be used to solve this kind of problem. The researchers generally agree that there are mainly two unique sorts of optimization approaches, namely; deterministic and stochastic approaches. In this article, a third optimization approach is also introduced to solving more complicated optimization problems. Hereafter, a brief synopsis of the approaches is presented in (Fig. 1). An overview of the most recent approaches adopted in literature is discussed below.

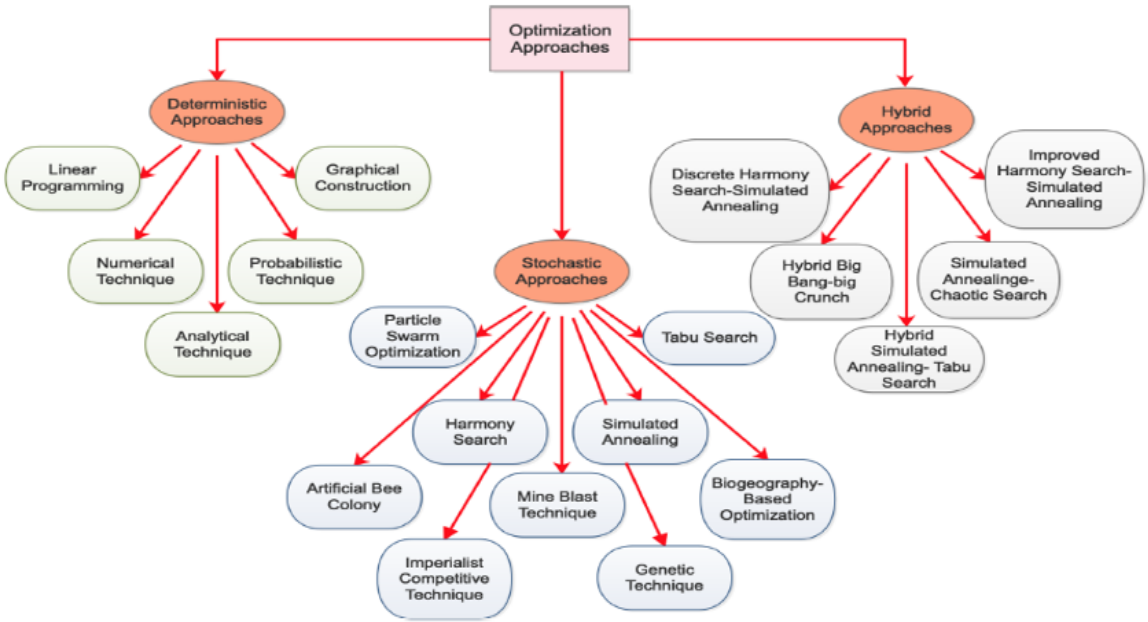


Fig.1 Diversity of Optimization Approaches

I- Deterministic Approaches:

The deterministic approaches consist of some techniques such as linear programming, graphical construction, numerical, probabilistic, and analytical techniques, etc.. The deterministic approaches apply the analytical characteristics of the problem to produce a positive definite sequence of points and converge in probability to a global minimum solution. The deterministic approaches always seek the local solution space based on a deterministic procedure and entirely employ the analytical characteristics of the problem, which effectively enhances computational efficiency. The exhaustive technique is a deterministic approach that usually seeks a discrete space by assessing all potential minimum solutions and choosing the most minimal or best one. This technique has been applied to renewable energy systems in order to lower the initial investment cost of the system. Due to a huge number of explanatory variables in the exhaustion optimization process, a large amount of time is needed. As a result of the literature review, the exhaustive method has a poor accuracy performance, and it is not appropriate for large-scale power problems.

II- Stochastic Approaches:

Recently, the use of stochastic approaches has been broadly considered in renewable energy operations; because of that renewable energy suffers from what is known as intermittency issues. They have also some advantages over the use of the deterministic approach. These approaches have the ability to solve small or large-scale power system operations. The stochastic approaches have a variety of methods that have been widely used; they are presented in (Fig 1). In contrast with the deterministic approaches, the stochastic approaches only depend on utilizing random operators to avert entrapment in local optima. The stochastic approaches also have the ability to accurately locate the global optimum solution to a problem.

III- Robust Approaches

Robust optimization approaches have been existed in literature since the 1950s; yet, they have not been fully studied in association with power systems till recently. The main key element of robust optimization approaches, to employ uncertainty sets to capture uncertain system parameters, is advantageous to analyze numerous power systems operational associated studies. The growing scale of intermittent renewable resources in electrical power systems is basically including extra complexities to power system operations. The standard power system operational tools, offered today, are not competent in analyzing these uncertainties to its full scope. Consequently, existing power systems optimization packages are either ineffective by overcommitting generation in terms of dealing with the uncertainties or the solutions may endanger reliability by not accounting for such uncertainties. The robust optimization approaches employ a limited distribution of uncertainty and target on reducing the influence of the worst-case scenario. If the objective, for instance, is to minify the cost of electricity, a robust optimization problem would reduce the upper limit that a consumer would pay. Consequently, robust optimization approaches are necessarily conservative.

IV- Hybrid Approaches

As the complexity of power system operation grows, the hybrid technique is widely considered to solve non-convexity problems. Therefore, the hybrid approaches are highly required for more sophisticated and precise optimization techniques to be used in order to maintain pace with the swift progression on the use of renewable energy integration. Consequently, a lot of efforts have been recently made to develop such an optimization technique, called hybrid optimization approaches, to be applied in renewable energy operations. Hybrid optimization approaches are basically a merging of two well-known stochastic optimization techniques. This association between two different methods offers a significant feature in such a way as to enhance or emphasize the qualities of both methods in terms of solving complicated optimization problems.

The novelty of developing the hybrid approach is to define multiple search strategies for enhancing the replacement of the worst solutions from two or/ and three algorithms with the best solutions from the other algorithm with consideration of the uncertainty of different parameters. Therefore, the hybrid optimization approach will provide the decision-makers with an effective tool to achieve better management and operation for the power system. This new development of hybrid approaches offers some advantages as follows: (1) it has greater success at finding the global optimal to a wide variety of functions; (2) it can be robust and it can rapidly discover and provide a good solution for many combinatorial problems; (3) it can be efficient for solving problems presenting difficulty to find accurate mathematical models; and (4) using the hybrid optimization approach an early convergence and immature solutions can be avoided. Finally, many researchers have recently studied and developed new algorithms to solve various power system operation problems using optimization techniques. However, new hybrid algorithms are highly needed to solve difficult and complicated real-world problems related to power system operation.

Conclusion:

Optimization techniques are a critical key in power system operation, especially for systems with renewable energy. This article reviews the recent optimization approaches for hybrid energy systems. A different type of optimization approaches is presented to give a better understanding of the operation of hybrid energy systems. As a key finding, deterministic methods are not efficient for large power systems, stochastic and robust methods are becoming more popular. As the complexity of power system operation grows, the hybrid technique is introduced to solve non-convexity problems. This review article sheds light on the important optimization techniques for the operation optimization of hybrid energy systems.

5th FANUS (Federation of African Nutrition Societies) Conference (Organized in Cooperation with the IAEA)

The 5th Annual FANUS Conference (Federation of African Nutrition Societies) will be held from 19 to 24 November 2023 in Dakar, Senegalese. The conference will bring together around 500 nutrition experts from all over the world. The theme of this year's conference is "A Multisectoral Approach to Strengthening Food Systems and Achieving Sustainable Nutrition Targets in Africa." The programme will include the opening ceremony, Plenary Sessions, Scientific/Technical Sessions, Workshops, Symposium, Special Presentations, Exhibitions, Networking, Social and Sightseeing Tours among others. The programme will be a one-of-a-kind and valuable experience that consolidates efforts to overcome malnutrition in Africa.

19-24 November 2023, Dakar, Senegal

Source

Technical Meeting on Good Practices in and Lessons Learned from the Long Term Operation of Nuclear Power Plants

The event's goal is to offer a global platform for exchanging best practices and insights gained from long-term nuclear power plant operation. Reviewing a draft publication tentatively titled "Good Practices and Lessons Learned from the Long Term Operation of Nuclear Power Plants" will also be possible during the event.

21 – 24 Nov 2023 , Gyeongju-si, Republic of Korea

Source

International Conference on Research Reactors: Achievements, Experience and the Way to a Sustainable Future

The objective of the Conference is to foster exchange of information on operating and planned research reactors. It is a forum in which reactor operators, managers, users, regulators, designers and suppliers can share experience in all relevant areas including safety, security, operation, fuel front and back-end options, utilization, infrastructure and capacity building, and management, and showcase how achievements and experience attained with research reactors in these areas, contribute to a sustainable future.

27 November – 1 December 2023, Dead Sea, Jordan

Source

COP28 UAE - United National Climate Change Conference

ICONS 2024 will provide a global forum for ministers, policymakers, senior officials and nuclear security experts to discuss the future of nuclear security worldwide, whilst providing opportunities for exchanging information, sharing best practices and fostering international cooperation.

20-24 May 2024, Vienna, Austria

Source

Saudi Arabia Smart Grid 2023

With more than 2500 participants and 70 exhibitors, this prestigious event provides an excellent opportunity to promote products, services, ideas and business in a comprehensive way as it attracts the attention of the regional governmental, scientific, business and technological community.

18 – 20 December 2023, Riyadh

Source

Decommissioning Conference

The event focuses on contemporary challenges, innovations, and accomplishments in nuclear decommissioning. Industry leaders, including keynote speaker Bryan Hanson, will discuss the sector's future. Attendees can network, undergo professional training, and take a technical tour of the San Onofre Nuclear Generating Station. A full-day decommissioning training by NEI and EPRI covers transitioning from operations to decommissioning, risk management, groundwater protection, and the complex license termination process. The conference is relevant for domestic and international decommissioning communities, regulatory bodies, and media representatives.

Jan. 30–Feb. 1, 2024, Oceanside, California

Source

6 EVENTS

Intersolar Middle East

Intersolar Middle East is held in Dubai World Trade Centre Dubai on 16 to 18 April 2024 showing the companies news of United Arab Emirates and internationals related to sectors Solar energy, Renewable energies.

April 16–18, 2024, Dubai World Trade Center

Source

26th World Energy Congress 2024

The 26th World Energy Congress is a critical turning point for leadership on clean and inclusive energy transitions worldwide and an opportunity to spring forward in redesigning energy for people and planet.

22-25 April 2024, Rotterdam, Netherlands

Source

International Conference on Nuclear Security: Shaping the Future

ICONS 2024 will provide a global forum for ministers, policymakers, senior officials and nuclear security experts to discuss the future of nuclear security worldwide, whilst providing opportunities for exchanging information, sharing best practices and fostering international cooperation.

20-24 May 2024, Vienna, Austria

Source

Nuclear Innovation Conference

The Nuclear Innovation Conference 2024 (NIC2024), hosted by NRG|PALAS in collaboration with the IAEA, emphasizes the importance of nuclear energy in achieving energy security and meeting climate goals. The conference aims to facilitate collaboration to address the evolving landscape of nuclear energy. Seeks to bring together key players in the nuclear industry, fostering collaboration and showcasing high-potential initiatives. The content of the conference, supported by NRG|PALLAS's expertise and partnerships, reflects a collective vision for a sustainable future in nuclear energy. Participants can engage in presentations and discussions with global representatives from energy utilities, vendors, regulators, and other stakeholders, providing a unique opportunity to expand networks and contribute to the progression of nuclear energy.

5-6 June 2014, Amsterdam, Netherlands

Source

International Conference on Nuclear Knowledge Management and Human Resources Development

The International Atomic Energy Agency (IAEA) is organizing the Nuclear Knowledge Management and Human Resources Development Conference in response to challenges and opportunities in the evolving global nuclear landscape. The event aims to address the need for a knowledgeable and experienced multigenerational workforce in the nuclear industry, emphasizing the importance of preserving and transferring knowledge as experienced professionals approach retirement. The conference will review global developments, discuss challenges and opportunities, and provide practical solutions for organizational, national, and international levels. Targeting professionals from various sectors, the conference will focus on sustainability by following 'green meeting' guidelines, incorporating paper-smart documentation, waste reduction, and environmentally friendly catering.

1-5 July 2024, Vienna, Austria

Source