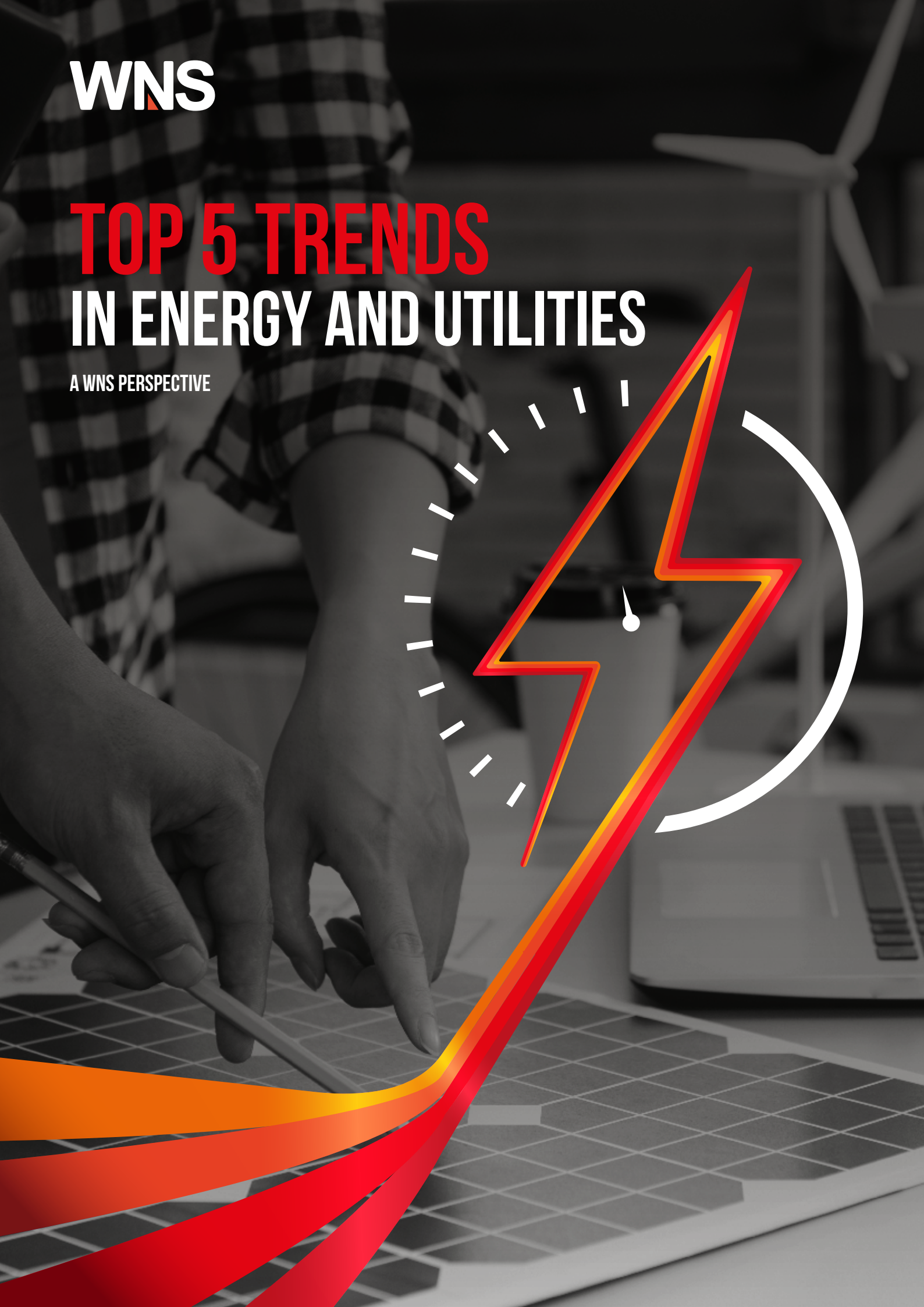


WNS

TOP 5 TRENDS **IN ENERGY AND UTILITIES**

A WNS PERSPECTIVE





**Raising the Bar
on Sustainability**



**New-age
Technologies
Moving into
a Higher Gear**



**Portfolio
Innovation**



**Greater
Involvement
in Smart Cities**



**Creating New-gen
Talent Hub**

TOP 5 TRENDS IN ENERGY AND UTILITIES

A WNS Perspective

In April 2016, two residents in Brooklyn, New York, came together for the first-ever peer-to-peer energy transaction. Today, this has grown into the Brooklyn Microgrid (BMG), a marketplace for locally-generated solar energy. Through blockchain technology, BMG has developed Exergy, a permissioned data platform to create localized energy marketplaces for transacting energy across existing grid infrastructure. The BMG marketplace allows residential and commercial solar panel owners to sell the excess solar energy they generate to New Yorkers who choose to use renewable energy over fossil fuel energy.

BMG represents the face of transformative trends in the Energy and Utilities (E&U) industry that are influencing the energy model of the future, and the behaviors of energy providers and consumers. Let us dig deeper into the top five trends that are causing this shift.

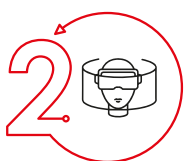


RAISING THE BAR ON SUSTAINABILITY

Since December 2018, when a U.S.-based utility holding company became the first in the country to commit to going 100 percent carbon-free by 2050 (and 80 percent by 2030),¹ more organizations have followed suit on climate change goals. Beyond consumer demand for cleaner energy sources and technology enablers, we foresee multiple players and stakeholders pitching in to achieve bigger outcomes in the coming years.

For example, investors are expecting E&U companies to amend policies to enable the larger goal of limiting the global average temperatures. Credit rating agencies are pitching in to introduce climate risk into credit assessments.² In July 2019, a U.S.-based insurer announced it would desist from insuring and investing in coal – joining the ranks of other European and Australian insurers.

Clearly, the coming years will see firmer policies that will increase Research and Development (R&D) efforts to achieve higher and more ambitious clean energy goals.



NEW-AGE TECHNOLOGIES MOVING INTO A HIGHER GEAR

Traditionally branded as being averse to the adoption of new technologies, E&U organizations will begin investing rapidly in emerging technologies. Besides big data, Internet of Things, cloud computing and robotics that have broken ground, the

following technologies will assume center stage in 2020:



Artificial Intelligence (AI)

To process the voluminous data being collected by multiple devices and derive actionable insights. AI systems will be used in minimizing power leakage through efficient monitoring, predicting power outages, and assessing demand versus supply of planned renewables projects



Digital Twins

To optimize performance and costs. As cloud-based virtual models of assets, digital twins will be used to gain real-time and predictive insights on performance, and also to improve the integration of Distributed Energy Resources (DER)



Edge Computing

To create faster and more efficient data analysis by placing processing devices closer to the subjects. For example, equipment repair and updates can be considerably speeded up with edge computing



Blockchain

To support peer-to-peer energy exchanges and bring greater trust between parties



Cybersecurity Technologies

To proactively ward off cyber attackers, and protect infrastructure

¹ <https://www.vox.com/energy-and-environment/2018/12/5/18126920/xcel-energy-100-percent-clean-carbon-free>

² <https://insideclimatenews.org/news/04082019/climate-change-ratings-agencies-financial-risk-cities-companies>



PORTFOLIO INNOVATION

As emerging technologies find firmer footing in the industry, we will see energy companies expand their portfolio into new areas – for both clean energy transition, and new revenue sources

- Smart Grid, DER and Microgrid Development
– In the U.S., Hawaii has led the way with microgrid tariffs. Several leading power companies are doing the same in other regions across the globe. Smart grids will create value for individual consumers, communities and shareholders through smart city programs. DER strategies will further evolve to meet renewable mandates in utilities, reduce peak demand, bring down costs of expansion, and better engage with customers
- Corporate Power Purchase Agreements (PPA)
– In 2019, technology giants such as Google, Amazon, Facebook and Microsoft signed PPAs with energy companies. This trend will continue to impact the E&U sector as a result of the expanding data center market



GREATER INVOLVEMENT IN SMART CITIES

As smart cities grow in numbers, E&U companies will increasingly become the epicenter of smart city initiatives across the globe. Companies can create immense value in the following ways:

- Leverage their equipment and devices to assess air quality, detect water leaks, monitor security, and power smart lighting systems
- Deploy their comprehensive databases and insights on energy customers for decision-making
- Embed clean energy goals into plans
- Boost resilience in disaster management plans
- Design connected charging stations for electric vehicles, solar parking canopies and smart street lighting



CREATING NEW-GEN TALENT HUB

The increased role of E&U companies in renewable energy and emerging technologies will make the industry attractive to the new-generation workforce. Companies will need to effectively brand themselves as providers of opportunities for socially-minded digital natives who wish to work in technology-driven edge markets of solar and wind energy, electric vehicle infrastructure, energy storage and efficiency, and grid modernization. If done right, this industry could play a pivotal role in developing talent hubs.

Opportunities abound for the E&U industry to emerge as a leader in multiple fields – be it in the transition to clean energy, raising the quality of living, driving technology innovations, creating new business models or developing multi-faceted talent. Challenges, both existing and new ones, will certainly accompany the pursuit of progress – such as managing the burgeoning cyber risks, complying with changing regulatory mandates, and constantly improving customer experiences. Achieving these outcomes at optimized costs will be a tightrope walk.

About WNS

WNS (Holdings) Limited (NYSE: WNS) is a leading Business Process Management (BPM) company. We combine our deep industry knowledge with technology, analytics and process expertise to co-create innovative, digitally led transformational solutions with over 400 clients across various industries. The industries include banking and financial services, consulting and professional services, healthcare, insurance, manufacturing, media and entertainment, retail and consumer packaged goods, telecommunications and diversified businesses, shipping and logistics, travel and leisure, and utilities and energy. We deliver an entire spectrum of BPM solutions including industry-specific offerings, customer interaction services, finance and accounting, human resources, procurement, and research and analytics to re-imagine the digital future of businesses. We have delivery centers worldwide including in China, Costa Rica, India, the Philippines, Poland, Romania, South Africa, Spain, Sri Lanka, Turkey, the United Kingdom and the United States.

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