

HYDROPOWER DATA, SECTOR HIGHLIGHTS, AND OUR UPCOMING EVENTS

WINDING UP HYDROPOWER INSIGHTS FROM PREFORMED WINDINGS

WELCOME

Welcome to the first issue of “Winding Up,” our monthly newsletter dedicated to the world of Hydro energy. At Preformed Windings, nuclear isn't just another sector we serve — it's a key part of our mission to support critical energy infrastructure. This newsletter will share insights into our work within the nuclear industry, our commitment to advancing generator coil and bar technologies, and a round-up of the latest global developments shaping this essential sector.

At Preformed Windings, we've spent over 55 years supporting global power infrastructure through our precision-engineered high-voltage coils and bars. Built on our core values of Partnerships, Quality & Service, we help nuclear operators meet the challenges of a demanding and evolving energy landscape with confidence and precision.



PARTNERSHIPS, QUALITY & SERVICE



Quality: Our patent-pending ultra-low Partial Discharge (PD) manufacturing processes and in-house high-voltage testing ensure coils of the highest durability, safety, and performance.



Partnerships: We collaborate closely with OEMs, utilities, and service providers across the nuclear sector to engineer tailored high-voltage solutions for critical applications.



Service: From R&D and technical design through to scaled production, we deliver a responsive, consultative approach, providing exceptional support to our nuclear clients worldwide.

LATEST INSIGHTS PREFORMED WINDINGS



PREFORMED WINDINGS ACHIEVES ISO 45001 CERTIFICATION

We are proud to announce that Preformed Windings has successfully achieved ISO 45001 certification, the internationally recognised standard for Occupational Health and Safety Management Systems.

This milestone reflects our commitment to protecting and enhancing the health, safety, and wellbeing of our team, while continuing to drive operational excellence across our business.

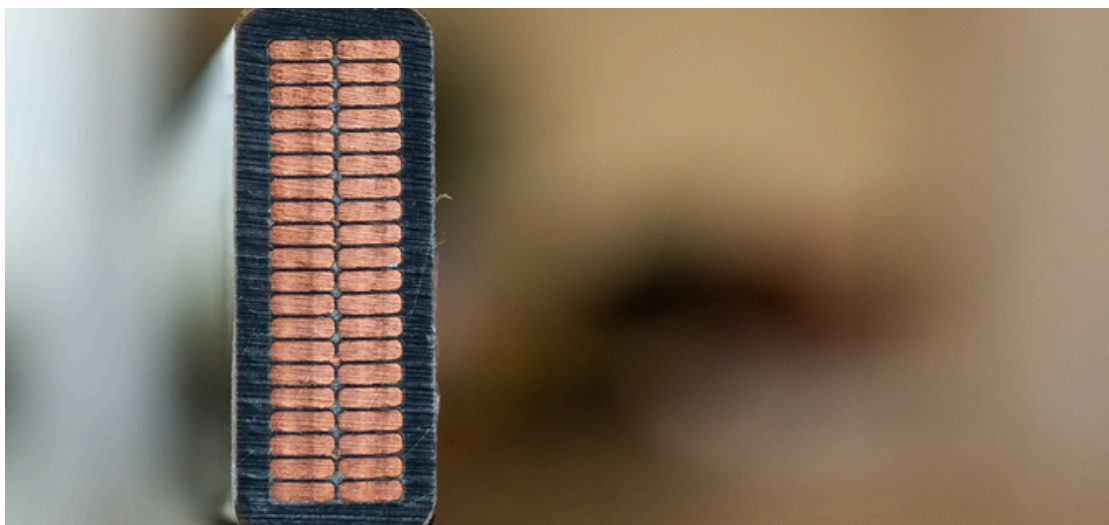
By adopting ISO 45001, we are not only improving safety in the workplace but also strengthening our ability to manage risk effectively and boost productivity.

LET'S SHAPE THE FUTURE OF HYDROPOWER – SUPPORT JAMES STEVENS FOR IHA 2025 BOARD

Our CEO, James Stevens, is proud to stand as a candidate for the International Hydropower Association (IHA) 2025 Board. With over 20 years of industry experience delivering innovation in coil and winding technologies across 30+ countries, James is passionate about driving collaboration, sustainability, and technical excellence within hydropower. His vision is clear: to help shape a future that's efficient, sustainable, and globally connected.

Please give him your vote.

👉 [James Stevens – 2025 IHA Board Election Video](#)





WHITE PAPER LAUNCH - COMPARISON OF NEW AND OLD HIGH VOLTAGE DIAMOND COIL ELECTRICAL INSULATION PERFORMANCE FOR HYDRO ELECTRIC GENERATORS

Our CTO, Arwyn Thomas, and his technical team have been instrumental in forging key strategic partnerships across the hydropower industry — including a significant collaboration with the U.S. Army Corps of Engineers. Together, we are proud to launch our latest white paper: “Comparison of New and Old High Voltage Diamond Coil Electrical Insulation Performance for Hydro Electric Generators.”

This benchmark study is already influencing industry best practices, driving advancements in coil design, and helping shape the future of hydropower standards. The result? Windings that last longer, perform better, and deliver proven reliability — even in the most demanding applications and aging infrastructure.

Arwyn recently presented this white paper at the IEEE EIC 2025 Conference in Texas (8–12 June 2025). If you would like a copy or to discuss the findings, please don't hesitate to reach.



**US Army Corps
of Engineers®**



LATEST INSIGHTS – HYDROPOWER INDUSTRY GLOBALLY

EUROPE SPOTLIGHT: THE IBERIAN BLACKOUT & BEYOND

On 28 April 2025, Spain and Portugal experienced a massive blackout, with Spain losing approximately 15GW (around 60% of demand). Restoration was made possible thanks to hydropower plants with black-start capability, including Aldeadávila (Spain) and Castelo do Bode (Portugal), highlighting the critical role of hydropower in grid resilience (Financial Times)

[Hydropower.org](https://www.hydropower.org)

EUROPE'S HYDROPOWER RECOVERY

In 2024, Europe generated a decade-high 680TWh of hydropower, supported by favourable rainfall and enhanced pumped-storage capacity ([Hydropower.org](https://www.hydropower.org)). This recovery demonstrates hydropower's importance in balancing intermittent renewables during extreme weather events.

Conversely, in the UK, SSE reported a 40% drop in hydropower output (down to ~393GWh) in early 2025 due to drought, underscoring the impact of climate-driven variability (Financial Times).



USA & CANADA MARKET UPDATE

RECORD-BREAKING HYDRO DEAL: GOOGLE & BROOKFIELD

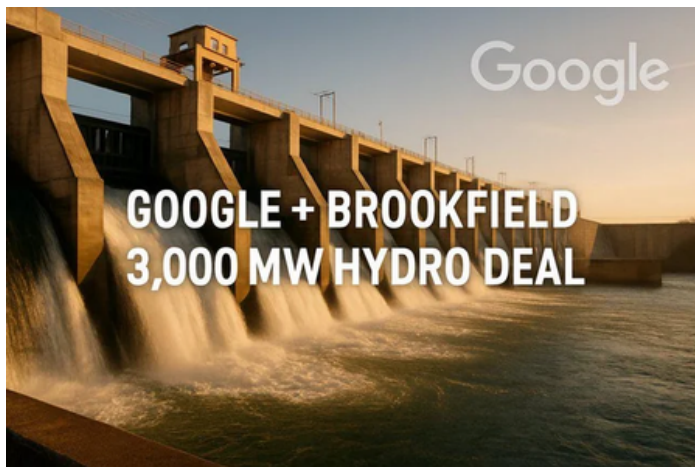
In July 2025, Google finalised a \$3billion Power Purchase Agreement with Brookfield Renewable to secure up to 3GW of U.S. hydropower, initially sourcing 670MW from Holtwood and Safe Harbor dams in Pennsylvania under 20-year contracts. This is the largest corporate hydropower deal in history and signals a shift toward firm, renewable energy sources for powering AI-driven data centres (Financial Times).

POLICY SUPPORT & STORAGE EXPANSION

The U.S.'s new "Big Beautiful" fiscal bill extended hydropower tax credits through 2036, while phasing out incentives for wind and solar — strengthening hydro's place in the long-term energy mix (Financial Times).

GENERATION FORECASTS & CLIMATE RISK

The U.S. Energy Information Administration forecasts U.S. hydropower generation will grow 7.5% to 259.1 BkWh in 2025, though it remains 2.4% below the 10-year average due to lingering drought effects. Canada also experienced capacity reductions from drought, leading to a drop in electricity exports to the U.S. and greater reliance on imports. (EIA, Financial Times).



REST OF THE WORLD HIGHLIGHTS

GLOBAL HYDROPOWER HIGHLIGHTS (2024)

24.6 GW of new capacity added in 2024:

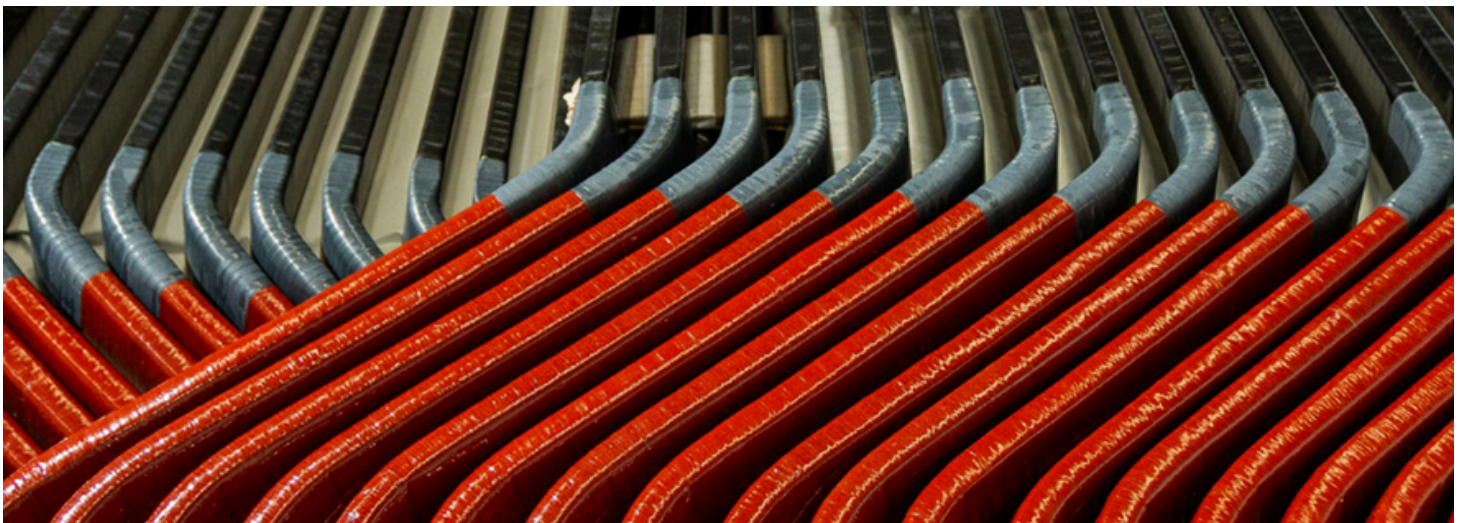
- 16.2 GW conventional hydropower
- 8.4 GW pumped storage
- Global generation rose 10% year-on-year to 4,578 TWh.
- Project pipeline now exceeds 1,075 GW, including 600 GW pumped storage.

(Sources: Hydropower.org, REN21)

REGIONAL UPDATES

Africa: Added 4.5 GW of new hydropower in 2024, more than doubling output from previous years. (Source: Hydropower.org)

Latin America: The IEA warns hydropower output could decline by 10% or more due to prolonged droughts, underscoring the need for adaptive infrastructure. (Source: Financial Times)





PREFORMED WINDINGS: POWERING PRECISION IN THE GRID TRANSITION

AT PREFORMED WINDINGS, WE DELIVER:

- High-voltage coils and bars for nuclear projects.
- Ultra-low PD engineering and UK-based in-house HV testing, eliminating reliance on overseas testing.
- Training & educational pipelines via partnerships with UTC Sheffield and Sheffield Hallam University.

**These capabilities position us as
a trusted partner for global
OEMs and utilities deploying
grid-scale, firm renewable
infrastructure.**



MEET THE PFW TEAM WE WILL BE ATTENDING

UPCOMING EVENTS

IHA Pumped Storage Forum

9-10 September 2025 – Paris

Our CEO James Stevens will be presenting.
PFW is an IHA partnership event sponsor.

Clean Currents 2025

14-17 October 2025 – Pittsburgh

“We Can with Hydro, We Can’t without You” - if we can support in anyway, please don't hesitate to reach out and book a call today.

Plus, don't forget to follow us today on LinkedIn for further updates.

Paris | 9 - 10 September 2025



**International
Forum
Pumped
Storage
Hydropower**

I'M SPEAKING



James Stevens
Chief Executive Officer
Preformed Windings

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A MEETING

