



# CASE STUDY: BOLTIGHT WHITEPAPER

**Renewable energy sector white  
paper underpins Boltight's  
digital media campaign**



# CASE STUDY

British manufacturer Boltight offers specialist hydraulic bolt tensioning solutions to businesses working on major infrastructure projects. Boltight recognised the potential of the renewable energy market and turned to Wylde Connections to produce a white paper addressing the challenges and opportunities facing the sector. [\*Power Generation from Wave to Wind: Creating Tension and Maintaining it\*](#), highlights the importance of Boltight's technological solutions. The white paper was then used as a key piece of collateral for Boltight's digital marketing campaign, helping raise the profile of the business as a valuable partner in renewable energy supply chain for delivering safe and robust projects.

Boltight has built a reputation within the power generation industry for its technical expertise. As part of the Nord-Lock Group, its hydraulic bolt tensioning tools sit alongside the group's Expander System, Nord-Lock wedge locking washers, and Superbolt mechanical tensioning systems. The manufacturer identified huge growth potential within the renewable energy market in helping OEMs guarantee the structural integrity of major infrastructure projects.

On behalf of its client, Wylde Connections embarked on producing a 20-page white paper which would help establish Boltight as a thought leader and trusted manufacturing partner within the renewables sector. We have extensive knowledge of the manufacturing sector and our expertise and contacts stood us in good stead when embarking on this project.

We began by conceptualising the white paper and identifying the key focus areas. It was decided that the paper should assess current demand and growth forecasts for the renewables market, before exploring what Boltight's technological innovations have to offer. It concludes with a look into the future potential of power sources such as wind, wave and solar and what a key role innovation will play in reaping their benefits.

## POWER GENERATION FROM WAVE TO WIND: CREATING TENSION AND MAINTAINING IT



**BOLTIGHT™**  
PART OF THE NORD-LOCK GROUP

**By 2022**

renewables will  
account for

**29%**

of the global  
energy market.

# FUTURE GROWTH OF RENEWABLE ENERGY SECTOR



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We carried out extensive research into the market and produced a detailed briefing document. It then liaised with Boltight's technical team to gain more insight into the products' specific capabilities and applications.

Producing the white paper was just the start of the process. We advised Boltight on how to use the document as a marketing tool and the driver for a digital marketing campaign, in particular using banner advertising to help drive traffic to their website.

# WHEN SAFETY REALLY MATTERS.

Nearly 20 years of advancing and perfecting our hydraulic bolt tensuring technology has cultivated our expertise in bolting. As global leaders, we are up to any challenge. We'll do anything in our power to help you eliminate breakdowns, control downtime and ensure safety for your entire team.

Get in touch with your nearest Boltight representative today.



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## BOLTIGHT LEADS THE WAY

UK manufacturer Boltight offers a complete range of hydraulic bolt tensuring systems used around the world for demanding applications in their oil and gas, power generation, wind energy, industrial engineering, construction and mining industries.

The UK business has been at the forefront of the sector for almost 20 years and Boltight's hydraulic bolt tensuring systems have a global reputation for innovation and quality.

Boltights are manufactured to the highest standards and employ advanced technology to ensure the greatest levels of performance and reliability. Incorporating the latest technology, composite material tools, in particular of those comprising alloy and safety to achieve high modulus bolt stresses.

In addition, Boltight's range of specialist equipment has been used across the energy sector and includes grout, concrete compressor, tower bolt tensioners, turbine bolt joint tensioners, hydraulic closure systems and compact flange tensioners.

Boltight has gained a reputation as a market leader in supplying bolt tensuring solutions to the energy market.

For many years Boltight has supplied equipment to the oil, petrochemical and offshore sectors. Its tensioners are used on offshore flanges, compressor flanges, heat exchangers, chimneys, turbines, valves and other critical bolting applications. It also supplies the onshore and offshore, which provide a fast and accurate

method for monitoring bolt elongation using the latest ultrasonic technology.

In recent years, supplying equipment to the renewable energy market has become an ever more integral part of Boltight's business.

For instance, within the wind power industry Boltight tools are used on wind turbine tower base bolts, frame bolting and blade root joints, with a variety of bolt tensioners, foundation bolt bolting and a compact electric 1500bar pump.

Its tools have been designed to meet the demands of the major OEM wind turbine manufacturers, including General, Siemens, GE, Nordex, Siemens, GE Power and Mitsubishi Heavy Industries. They are particularly popular with contractors providing alternative installation and maintenance solutions. Through its worldwide distribution network, Boltight has recently supplied tools for wind farms in India, China and the US.

Boltight designs tools to meet the requirements of specific sectors across the energy and power generation markets. For instance, its specialist

hydraulic bolt tensuring tool, Typhoon, provides a simple, accurate and reliable solution for tightening critical bolted joints on today's modern wind turbines.

Optimised for size, weight and load capacity, it is ideal for tightening high load bolts used in confined spaces to precise measurements. Applications on wind turbines include blade bolting, bearing to hub bolting, tower bolting, foundation bolting, outer frame bolting and hub to blade bolting.

Since 2015 Boltight has been part of the Nord-Lock Group. The Swedish group is a world leader in bolt tensuring systems and as part of a strong network of global companies, Boltight now offers customers access to a range of unique technologies. The combined strength of Nord-Lock's Expansion System wedge locking washers, its Scanlock mechanical tensioning systems and Boltight's innovative hydraulic bolt tensuring systems, offer a world-first proposition.

Likewise, the combined distribution outlets available within the group, Boltight can grow and diversify its technology more easily and offer enhanced support on a worldwide stage.



Wind turbine project – US and China



Hydro-electric plant Italian Alps



Wind turbine solution



Hydro-electric plant Norway

Boltight worked with customers in the US and China on massive turbine blade greasing and bearing. Together with pump and hoisting, Boltight used its Multi-Typhoon and 600T Typhoon tensioners. These tensioners offer a high-load, low-profile solution for specialised applications demanding high and accurate pressures.

Boltight worked with an Italian hydroelectric supplier to provide a combination of tools to create the required tensioning force on a turbine valve flange. The challenge was to provide responsive solutions to suit bolts of various sizes including both round and hex not applications. Boltight responded to the customer's challenges with a range of standard and semi-customised tools.

Boltight was selected by a US agent for Enso for work on tower foundation and tower bolting project involving a Clippier Windtower Liberty turbine. It supplied a safe and reliable solution for project engineers. Bolts must be secured by quality reliable welders for optimum load distribution. It is essential that accurate and reliable tools can be used to ensure bolts are in the right tension or torque.

Customer Helios Norway turned to Boltight to assist with the bolt tensuring for a turbine turbine project. Boltight analysed the customer's requirements and designed a direct fit hydraulic tool with interlocking pulley sleeves to fit M120 and M140.

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Wylde Connections has also exploited the white paper to boost press coverage and worked with Boltight to have articles published in titles including Nuclear Engineering International magazine and Wind Energy magazine. This sits alongside ongoing work to raise the profile of the business by using press coverage and social media to tell stories and highlight the applications of its solutions.

To read the white paper visit: <http://web.nord-lock.com/cn/aop9q/windenergy>

“ We were so happy with the work done on this paper. It gave us everything we wanted. Using the white paper assisted us in running a very successful digital campaign drawing new followers to our social media channels and views on our website. ”

Sandy Andringa  
Marketing Manager, Boltight

## CREATING TENSION AND MAINTAINING IT...

### Holding it together

As renewable energy infrastructure projects become ever ambitious and more complex, so too do the engineering challenges they present. Be it wind turbines or offshore platforms, these complex structures mean wear and tear and designers are continually pushed to find solutions which ensure they can withstand the significant pressures placed upon them during operation and then throughout their lifecycle.

Much of that attention focuses on the myriad of bolted joints which form the structure together. Wind turbines for instance comprise a series of bolted joints which are under constant attack from the elements. Dealing with vibration proves a huge challenge for virtually all energy projects and failure can cause equipment failure and potentially catastrophic consequences.

As engineers develop ever larger power stations, towers and bridge structures, these problems are accentuated. Both fatigue, relaxation and corrosion in a single component can present engineers. Bolts must be secured by quality reliable welders for optimum load distribution. It is essential that accurate and reliable tools can be used to ensure bolts are in the right tension or torque.

Hydraulic bolt tensuring tools are now widely used to assist with the bolt tensuring for a turbine turbine project. Boltight analysed the customer's requirements and designed a direct fit hydraulic tool with interlocking pulley sleeves to fit M120 and M140.

It does not use torque or require any forceful turning. Other methods would force which can up to 90% of the torque energy applied to the bolt. Instead, it applies a consistent force, meaning the applied load can be controlled for more accuracy. It is uniform, stress free and the load transfer factor is 100% reliable. Other benefits include less fire points, even compression of the gasket and the opportunity for simultaneous bolt tightening.



Single Stage Typhoon® Circular Foundation Tensioner Foundation Tensioner



Multi-Stage Typhoon® Multi-Stage Typhoon® Multi-Stage Typhoon®

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