

In a [video statement](#), Zinc8's Ron MacDonald underscores the significance of today's news.

First Agreement Outside of North America

SETTING THE STAGE FOR A GLOBAL LAUNCH:

Zinc8 Energy Solutions signs co-operation agreement with global transformer manufacturing powerhouse Vijai Electricals

Once again, Zinc8 Energy Solutions Inc. grabs the headlines as the emerging battery manufacturer today announced the signing of an Agreement in Principle with [Vijai Electricals Ltd.](#), one of the most trusted and reputed brand names in the global grid and utility space. Headquartered in Hyderabad, India, Vijai Electricals is among the world's largest manufacturers of Electrical Power & Distribution Transformers and a global player in the T&D (Transmission & Distribution) utility sector with 47 years of experience including +150 T&D projects. Since 2014, Vijai Electricals' T&D division is part of the Toshiba Group as the Japanese multinational conglomerate invested \$200 million USD to get a foot into the electrical power market in India and beyond.

According to today's [news-release](#), Zinc8 and Vijai "have agreed to explore joint-venture projects concerning the deployment of Zinc8's patented Zinc-Air Energy Storage System. Additionally, they have agreed to explore the potential of manufacturing components of the Zinc-air Energy Storage System in India."

"The agreement that we announced would see us examine a number of things", such as an investment into the company, forming a subsidiary in India, looking at Vijai's high-tech engineering and manufacturing capabilities, as well as finding joint-venture projects. He emphasized that Zinc8's goal is not only to step into the large Indian market but also into all of South Asia with the help of Vijai and its high-profile connections to the electric power industry.

According to today's [video news statement](#) from Ron MacDonald (President & CEO of Zinc8):

Company Details



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Shares Issued & Outstanding: 90,563,457

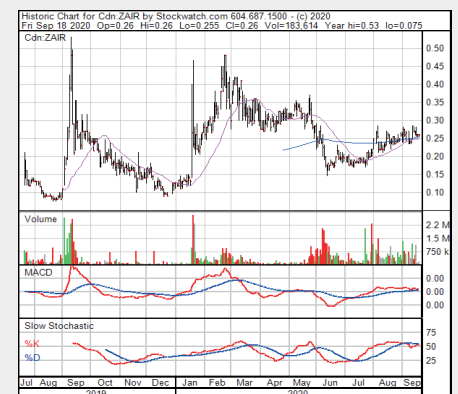


Chart Canada (CSE)

Canada Symbol (CSE): [ZAIR](#)
 Current Price: \$0.26 CAD (09/18/2020)
 Market Capitalization: \$24 Million CAD



Chart Germany (Tradegate)

Germany Symbol / WKN: [0E9 / A2P15E](#)
 Current Price: €0.1655 EUR (09/18/2020)
 Market Capitalization: €15 Million EUR



Ron MacDonald (President & CEO of Zinc8) commented in today's news-release: "I have been impressed by Vijai's 47-year track record in distributed energy and manufacturing, its commitment to quality, and its trusted partners in India and over 40 other countries. This Agreement is an important step as Zinc8 enters the global long duration energy storage market."

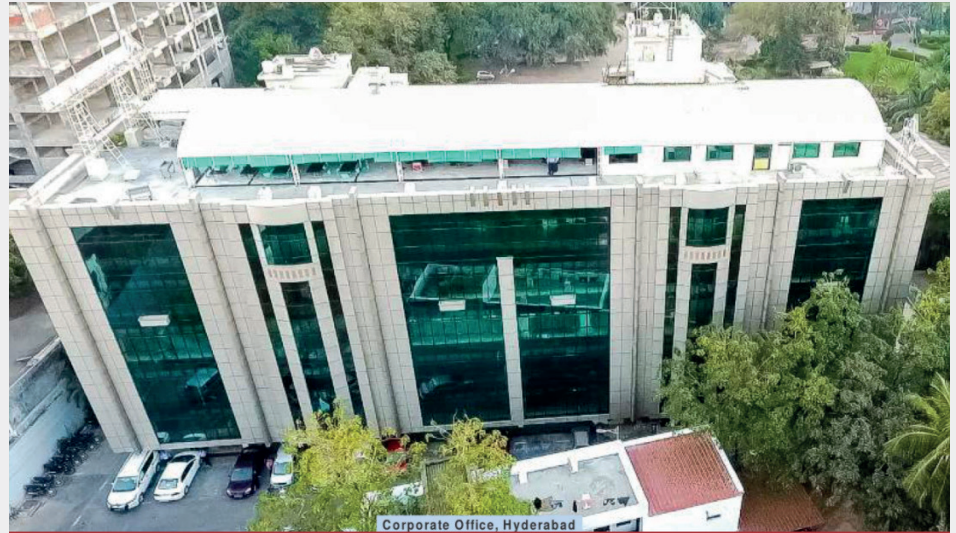
Dasari Jai Ramesh (Chairman of Vijai Electricals) commented: "Vijai is happy to work with Zinc8, a pioneer in cost effective Battery Energy Storage System (BESS) for longer durations. With Vijai's extensive manufacturing strength and the advantage of India's educated and relatively inexpensive workforce, we are confident that this solution will go a long way to serve the needs of long duration BESS. For countries like India which need round the clock renewable energy systems, it is expected that Zinc8 BESS would fill the need in an effective way. Vijai, with its past experience of successfully serving export utility markets around the world, will be proud to work towards fulfilling this need."

Established in 1973, Vijai Electricals Ltd. is a proven high-quality technology and manufacturing company active in the distributed energy and grid space. Vijai has successfully partnered with globally branded companies to deliver top-notch products.

Vijai Electricals has established global partners and an extensive distribution network in over 40 countries, as well as an established customer base, which is being examined as a potential **pipeline of projects** for the Zinc8 energy storage system.

With labour costs in India being significantly lower than in North America, Zinc8 also sees opportunity in **manufacturing components of its energy storage system in India** to lower even more the cost of its **award-winning** low-cost, long-duration BESS.

Backed by its long history of manufacturing transformers, switchgears, conductors and cables, Vijai Electricals is currently **among the top 5 power transformers**



4

Patents

21

Locations & SBUs

47

Years' experience

150+

T&D projects

2000+

Workforce

business
Portfolio

Vijai Electricals Ltd.



DC Line (Power: 220 kV)



Substations (Power: 220 kV & 132 kV)



Switchyard (Power 220 kV)



Generator Transformers (Power: 1 x 42 MW)



Underground Cable Laying (Power: 220 kV)

Source: Vijai Electricals Ltd.

manufacturing companies in India and the world leader in distribution transformers. Vijai Electricals provides global markets with a wide range of high-voltage power **transmission and distribution equipment** as per diverse demands of Industry and public sectors. Export of products meets the customization and their application across different sectors such as oil, gas, marine, mining, petro-

chemical, and industrial manufacturing.

Furthermore, Vijai Electricals is actively involved in the **rural and urban electrification** by designing, engineering, procuring, constructing and commissioning turn-key projects including transmission lines and substations up to 400 kV. **Clients** include 3 federal utilities and 34 state utilities in India alone.



In 2014, Japanese electrical major [Toshiba Corporation](#) acquired Vijai Electricals' power transmission and distribution businesses for \$200 million USD.

The acquired assets include power transformers, distribution transformers and switchgear businesses.

With this acquisition, Toshiba is strategically positioning itself as "a core production base for expanding its transmission and distribution business in India and the global market, along side its other bases in Japan, China, Brazil, Russia and Southeast Asia".

Takeshi Yokota, Corporate Vice President of Toshiba, said: "The acquisition is necessary for our global T&D strategy, and Vijai's products and sales channel provide us with an ideal fit for our T&D business in India and beyond. It will support us not only in the Indian market, where we aim to secure a 20 per cent market share within five years, but in reinforcing our position in the global market, by strengthening our worldwide network."

Dasari Jai Ramesh (Chairman of Vijai Electricals) said: "We are proud that our technology strengths and people capabilities will become part of Toshiba Group and will provide them a powerful platform for their business growth and market expansion."

Excerpts from the article "India is going to need more battery storage than any other country for its ambitious renewables push" (Claudia Pavarini, WEO Energy Analyst at IEA.org, January 2020):

"With ambitious plans to use renewables – particularly solar PV – to satisfy rapidly increasing electricity demand, India will be the country with the greatest need for additional flexibility in the coming decades, according to IEA analysis. In 2018, India's investment in solar PV was greater than in all fossil fuel sources of electricity generation combined.

"If the costs of battery storage systems were to fall below one-third of today's level, investment decisions in new power capacity would change considerably, especially in India. Coupling solar PV

Manufacturing



Products Locations Plant & Machinery

Transformers



Description : Wound core, Oil filled
Type : CRGO
Phase : 1
Voltage (HV Side) : HV: Up to 33kV
Rating : Up to 167 KVA



Description : Wound core, Oil filled
Type : CRGO
Phase : 3
Voltage (HV Side) : Up to 33kV LT: 433 V
Rating : Up to 2000 KVA



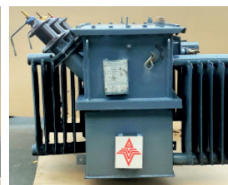
Description : Oil filled
Type : AMT
Phase : 1
Voltage (HV Side) : HV: Up to 33kV
Rating : Up to 167 KVA



Description : Oil filled
Type : AMT
Phase : 3
Voltage (HV Side) : Up to 11kV LT: 433 V
Rating : Up to 1000 KVA



Description : Completely self-protected
Type : AMT/CRGO
Phase : 1
Voltage (HV Side) : Up to 11kV
Rating : Up to 167 KVA



Description : Completely self-protected
Type : AMT/CRGO
Phase : 3
Voltage (HV Side) : Up to 11kV LT: 433 V
Rating : Up to 315 KVA



Description : Power Transformers
Type : CRGO
Phase : 3
Voltage (HV Side) : Up to 33kV LT:11kV
Rating : 15 MVA

Conductors



Product : All Aluminium Conductor (AAC)
Size : 300 sq mm
Type : Up to 400kV



Product : Aluminium Conductor Steel Reinforced (ACSR)
Size : 560 sq mm
Type : Up to 400kV



Product : All Aluminium Alloy Conductor (AAAC)
Size : 724 sq mm
Type : Up to 400kV



Product : Aluminium Conductor Steel Reinforced for EHV (ACSR)
Size : Up to 800 sq mm
Type : 400kV, Above up to 800kV (Lapwing)

Products Locations Plant & Machinery



ROD PLANT
Rods Manufactured : Aluminium EC (9.5 mm), Alloy grade (7.6 mm)
Process : Continuous Casting Technique in the Properzee Plant
Capacity : 1800 MT per month



CONDUCTOR PLANT
Machines : Slip, Non-Slip
Process : Break Down, Ageing Furnace for the Alloy conductors, 61 Strand Rigid Stranding Machine, Skip Machines and Tubular Stranding Machines etc.



AB CABLE PLANT
Machine : 80 mm sheathing line, 1*3 Laying

"Vijai is a manufacturer of electrical distribution transformers and small power transformers. Vijai Electricals has played a significant role in the global market development of Amorphous Metal Core Distribution Transformers (AMDT) which are energy efficient. They also manufactured extra high voltage transformers up to 400kV, 315 MVA for large scale power generation and transmission applications and, world's highest voltage class 1200kV, 333 MVA single phase for Indian system R&D purposes. Vijai Electricals also manufactures conductors up to 800kV system and aerial bunched cables. Vijai have been a strong Engineering, Procurement and Construction player for electrical transmission and distribution projects, overhead and underground, in India and abroad. In addition, Vijai is foraying into smart metering solutions." (Source: [Text](#) / [Image](#))



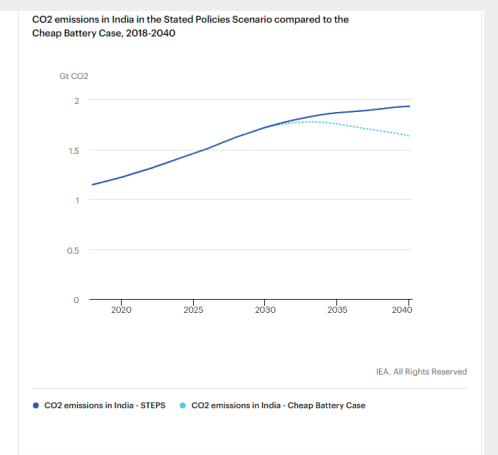
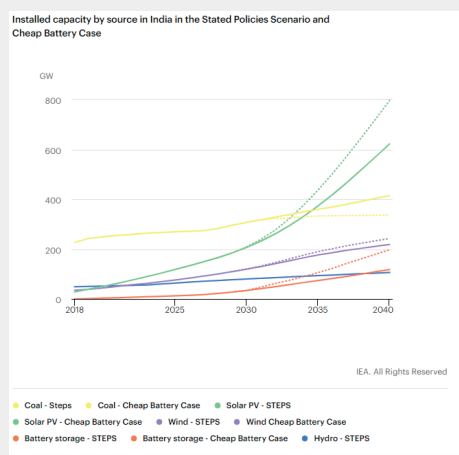
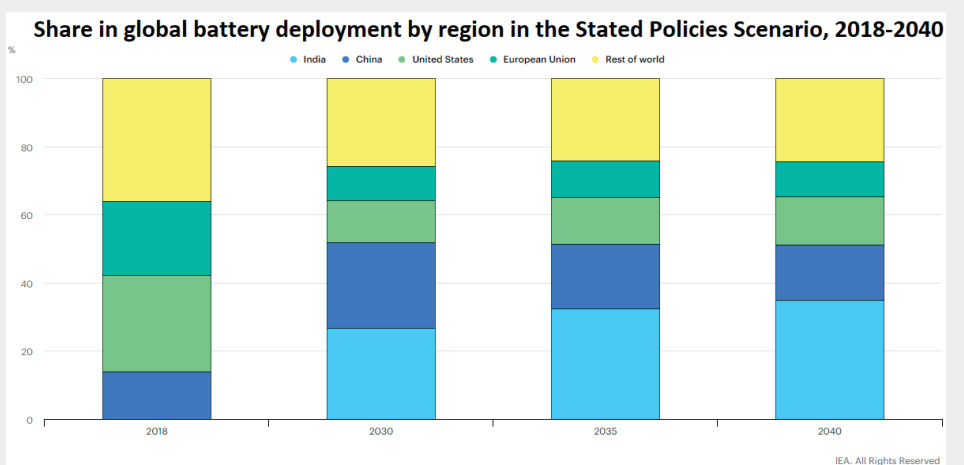
with affordable batteries offers an attractive means to provide electricity and flexibility in India. This combination would become competitive with new coal power plants in the near future and enable the deployment of larger amounts of cost-effective solar PV.

“In this “Cheap Battery Case,” power generation capacity from coal could plateau in the 2030s without compromising system reliability or the affordability of electricity. In India alone, solar PV capacity could reach 800 GW by 2040. This would ultimately result in India’s power-related CO2 emissions starting to decline just after 2030 and would also reduce outdoor air pollution, which causes more than half a million premature deaths each year in the country.

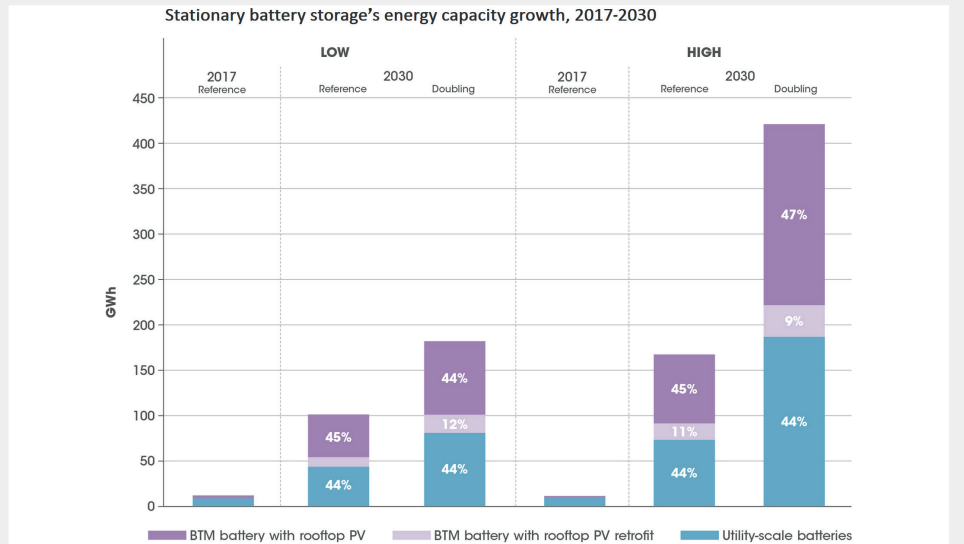
“For the “Cheap Battery Case” to happen, battery system costs would need to decline much more quickly than the recent pace of cost reductions. This would be possible if improved battery chemistries enter the market, further lowering the floor costs of batteries. Also, economies of scale in manufacturing and learning-by-doing would be essential to further drive down costs.”

According to “Energy Storage in India – a perspective” (ETEnergyWorld, May 2020):

“With increased focus on climate change globally, there has been a shift towards renewable energy. India too is seeing a steady transition from fossil fuels towards renewable energy sources. With an ambitious target of achieving 40% of installed capacity based on renewable sources by 2030, energy storage appears to be the key to unlock the true potential of renewable energy and realize this target... The India Energy Storage Alliance (IESA) has estimated over 70 GW and 200 GWh of energy storage capacity in India by 2022, which is among the highest in the world. However, the roadmap for assured supply of clean energy indicates the need for a clear-cut policy and regulatory framework for energy storage, similar to India’s policy on renewable energy, plus investment incentives, improved storage technology, and realistic targets for developing storage capacity.”



“Increasing deployment of variable renewables and changes in electricity demand patterns will double the global need to source power system flexibility, including from batteries. Under stated policies, renewables make up two-thirds of all additions to global power generation capacity through 2040, and solar PV becomes the largest source of installed capacity around 2035. These trends will drive a significant increase in the use of battery storage, led by India, which is projected to account for more than one-third of total deployment by 2040.” (Source: “India is going to need more battery storage than any other country for its ambitious renewables push” by Claudia Pavarini, WEO Energy Analyst at IEA.org, January 2020)



Source: “Energy Storage in Emerging Markets to Increase by Over 40% Every Year Until 2025” by Anjana Parikh, MercomIndia.com, April 2020)



FURTHER READING

[New article: "Low-Cost, High Duration Batteries Will Redefine Energy Landscape"](#) by Ron MacDonald, President & CEO of Zinc8, September 2020

PREVIOUS ROCKSTONE COVERAGE

[Report #10: "Zinc8 accepted into the ACRE Cleantech Incubator Program at Urban Future Lab"](#)

[Report #9: "The Empire State is accelerating renewable energy development as part of its COVID-19 recovery efforts"](#)

[Report #8: "Supporting the Clean Energy Industry Through the COVID-19 Response"](#)

[Report #7: "Renewable energy stocks could be the first to recover, says JPMorgan"](#)

[Report #6: "Death of an ill-fated bull market and birth of a clean energy infrastructure of resilience"](#)

[Report #5: "First Private Sector Energy Storage Deployment Contract for Zinc8 Energy Solutions: Second Commercial Agreement in New York City"](#)

[Report #4: "Visiting the Zinc8 Energy Storage Development & Production Facility: The Dawn of the Utility-Scale Battery Era"](#)

[Report #3: "The Largest State-Owned Power Utility in the USA Announces Collaboration with Zinc8 Energy: Cooperation Agreement with the New York Power Authority \(NYPA\) to Deploy Zinc-Air Battery System"](#)

[Report #2: "Reborn as Zinc8 Energy Solutions"](#)

[Report #1: "Bridging the Renewable Energy Infrastructure Gap: A Mass Energy Storage Battery Company Goes Public"](#)





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The reader is referred to the Zinc8's public filings for a more complete discussion of such risk factors and their potential effects which may be accessed through documents filed on SEDAR at www.sedar.com. All statements in this report, other than statements of historical fact, should be considered forward-looking statements. Much of this report is comprised of statements of projection. Statements in this report that are forward looking include that that Zinc8's energy storage system ("battery") will enter the market and Zinc8 will succeed in commercializing a market leading, efficient, long-duration, low-cost zinc-air energy storage system; that Zinc8 is setting the stage for a global launch of its battery; that Zinc8 and Vijai Electricals Ltd. ("Vijai") will explore joint-venture projects concerning the deployment of Zinc8's patented Zinc-Air Energy Storage System and to explore the potential of manufacturing components of the Zinc-air Energy Storage System in India; that the agreement announced today would see Zinc8 and Vijai examine a number of things¹, such as an investment into the company, forming a subsidiary in India, looking at Vijai's high-tech engineering and manufacturing capabilities, as well as finding joint-venture projects; that Zinc8's goal is not only to step into the large Indian market but also into all of South Asia with the help of Vijai and its high-profile connections to the electric power industry; that this Agreement is an important step as Zinc8 enters the global long duration energy storage market; that Zinc8's solution will go a long way to serve the needs of long duration Battery Energy Storage System ("BESS"); that for countries like India which need round the clock renewable energy systems, it is expected that Zinc8 BESS would fill the need in an effective way; that Vijai, with its past experience of successfully serving export utility markets around the world, will be proud to work towards fulfilling this need; that Vijai's customer base which is being examined as a potential pipeline of projects for the Zinc8 energy storage system; that Zinc8 also sees opportunity in manufacturing components of its energy storage system in India to lower even more the cost of its award-winning low-cost, long-duration BESS; that Toshiba's acquisition of parts of Vijai will support Toshiba not only in the Indian market, where Toshiba aims to secure a 20 per cent market share within five years, but in reinforcing Toshiba's position in the global market, by strengthening Toshiba's worldwide network; that Vijai will provide Toshiba a powerful platform for their business growth and market expansion; that India will be the country with the greatest need for additional flexibility in the coming decades and that India is going to need more battery storage than any other country for its ambitious renewables push; that if the costs of battery storage systems were to fall below one-third of today's level, investment decisions in new power capacity would change considerably, especially in India; that coupling solar PV with affordable batteries offers an attractive means to provide electricity and flexibility in India, and that this combination would become competitive with new coal power plants in the near future and enable the deployment of larger amounts of cost-effective solar PV; that in this "Cheap Battery Case", power generation capacity from coal could plateau in the 2030s without compromising system reliability or the affordability of electricity; that in India alone, solar PV capacity could reach 800 GW by 2040 and that this would ultimately result in India's power-related CO₂ emissions starting to decline just after 2030 and would also reduce outdoor air pollution, which causes more than half a million premature deaths each year in the country; that for the "Cheap Battery Case" to happen, battery system costs would need to decline much more quickly than the recent pace of cost reductions, and that this would be possible if improved battery chemistries enter the market, further lowering the floor costs of batteries, and that economies of scale in manufacturing and learning-by-doing would be essential to further drive down costs; that with increased focus on climate change globally, there has been a shift towards renewable energy; that with an ambitious target of achieving 40% of installed capacity based on renewable sources by 2030, energy storage appears to be the key to unlock the true potential of renewable energy and realize this target; that the roadmap for assured supply of clean energy indicates the need for a clear-cut policy and regulatory framework for energy storage, similar to India's policy on renewable energy, plus investment incentives, improved storage technology, and realistic targets for developing storage capacity; that

Vijai is foraying into smart metering solutions; that increasing deployment of variable renewables and changes in electricity demand patterns will double the global need to source power system flexibility, including from batteries; that under stated policies, renewables make up two-thirds of all additions to global power generation capacity through 2040, and solar PV becomes the largest source of installed capacity around 2035, and that these trends will drive a significant increase in the use of battery storage, led by India, which is projected to account for more than one-third of total deployment by 2040. Such forward-looking statements are subject to a variety of risks and uncertainties and other factors that could cause actual events or results to differ materially from those projected in the forward-looking information. Risks that could change or prevent these statements from coming to fruition include that the coronavirus pandemic turns out worse than expected, shutting down economies and businesses, including renewables, energy storage and Zinc8; that the agreement with Vijai does not go forward or doesn't provide the expected sales, exposure and other benefits; that Zinc8's technology proves to be too expensive to implement broadly; that customers do not adapt Zinc8's products for being too complex, costly, or not fitting with their current products or plans; that Zinc8's competitors may offer better or cheaper solutions for battery storage; that aspects or all of the process development may not be successful; that the technology may not be cost-effective; that the technology may not work as expected in commercial applications; that the costs may not reduce as much as expected on large storage uses; general economic, market and business conditions; increased costs and expenses; that Zinc8 may not raise sufficient funds to carry out its plans, and obligations as per past agreements; changing costs for development, manufacturing and marketing; increased capital costs; interpretations based on current data that may change with more detailed information; the availability of labour, equipment and markets for the products produced; inability to retain qualified employees; that Zinc8's patents may not provide protection as expected and Zinc8 may infringe on the patents of others; changing political landscape, e.g. to hinder the Green New Deal or any of its goals; and certain other risks detailed from time to time in Zinc8's public disclosure documents including, without limitation, those risks identified in news releases and other documents, copies of which are available on Zinc8's SEDAR profile at www.sedar.com. Readers are cautioned that the foregoing list of factors is not exhaustive and are cautioned not to place undue reliance on these forward-looking statements. The writer assumes no responsibility to update or revise such information to reflect new events or circumstances, except as required by law.

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Stephan Bogner studied Economics, with specialization in Finance & Asset Management, Production & Operations, and Entrepreneurship & International Law, at the

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