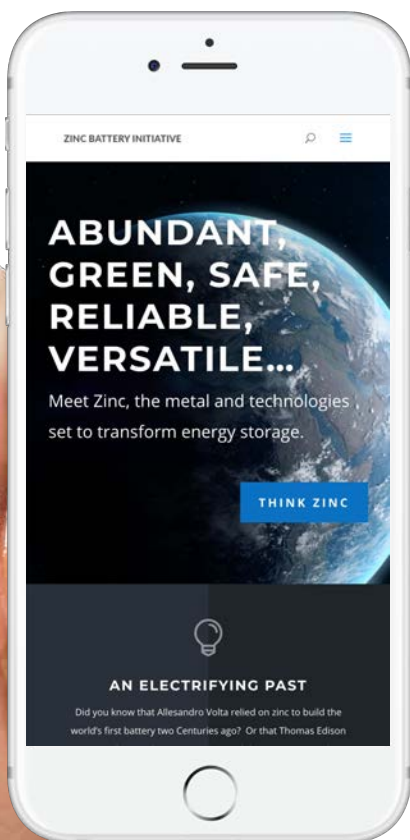

Zinc Battery Overview

LDESAC – Zinc Battery Initiative Webinar

June 16, 2021

Morgan Frederick





ZBI: A Partnership to Advance Energy Storage

- ① Zinc Battery Initiative was formed in late 2020 to promote the new wave of rechargeable zinc batteries.
- ① Eight leading battery producers.
- ① Principal sponsor is the International Zinc Association.

ZINC | international
zinc association



An Electrifying Past & Bright Future

Zinc is especially well-suited to electrochemistry, and includes:

- First electric battery “Voltaic pile”
- First rechargeable battery
- Edison utilizes zinc air and nickel-zinc batteries
- Alkaline batteries (AA, C, D, etc) based on zinc

... And today's most exciting technologies!



What Others are Saying...



If you look past lithium ion, probably zinc is the next metal that's the most popular for energy storage and it does appear to be able to provide performance equal to or better than lithium if given a chance.

MIKE GRAVELY

California Energy Commission



Zinc is pretty low when it comes to toxicity. So that impact on both cost and the handling and ultimate disposal of batteries makes it so that there's a reason why folks are really interested to push zinc forward.

JASON BURWEN

Energy Storage Association



Zinc Batteries are Versatile

- Zinc has been developed across a wide range of chemistries and applications.
- Hybrid systems offer potential for zinc to meet most critical needs.



Advantages of Zinc Batteries go Beyond Performance



SAFETY

Zinc batteries are non-flammable and non-toxic.



SUSTAINABILITY

Zinc is abundant, recyclable, and has the lowest GHG emissions.



SUPPLY CHAIN

From mine to manufacturing in USA + Canada, fully integrated supply chains in major regions.

⤵ Long life (15-20 years)

⤵ Flexible operating temps
(-20C to +40C – or higher)

⤵ Low operating cost

⤵ Non-hazardous transport

Thank You!

PLEASE VISIT OUR WEBSITE

www.ZincBatteryInitiative.com

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