



Lowest-Cost Long-Duration Energy Storage

Overview Presentation

Company Snapshot

Based in **Toronto, Canada**

Founded in 2013

31 FTEs and 5 consultants

Completed **demonstration system in 2019**

Closed **\$6M private financing in 2020**

Awarded **\$6.5M in grants in 2020**

**First in-field commercial deployment
scheduled for Q4 2021**

3 projects already secured for 2022



James Larsen, PEng, MBA
CEO



Dr. Gregory Zhang, PhD
Founder



Nicole Ballestrin, CPA, CA
CFO



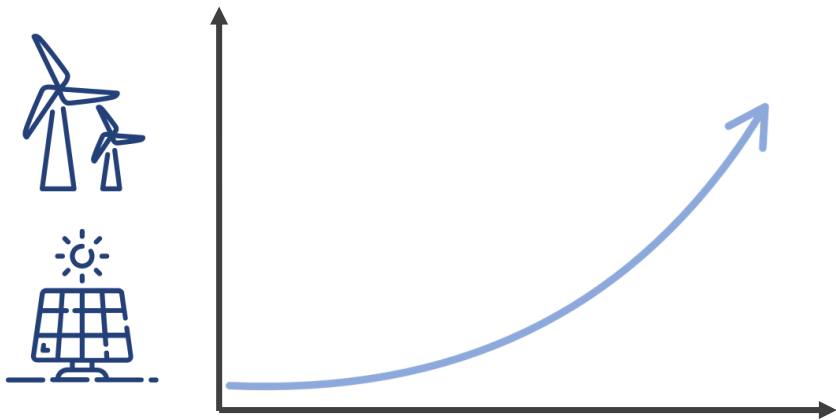
Pieter de Koning, PEng, MBA
VP Engineering



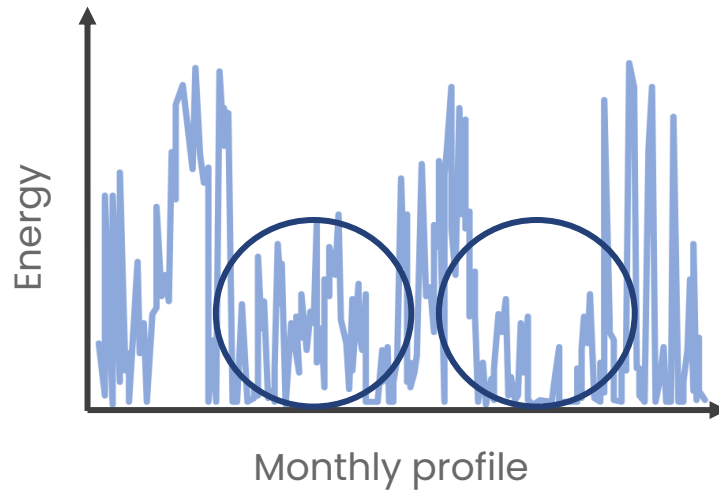
Dr. Tyler Schon, PhD
Director of Tech Development

The Challenge

Rapid renewables growth...



...with undependable energy

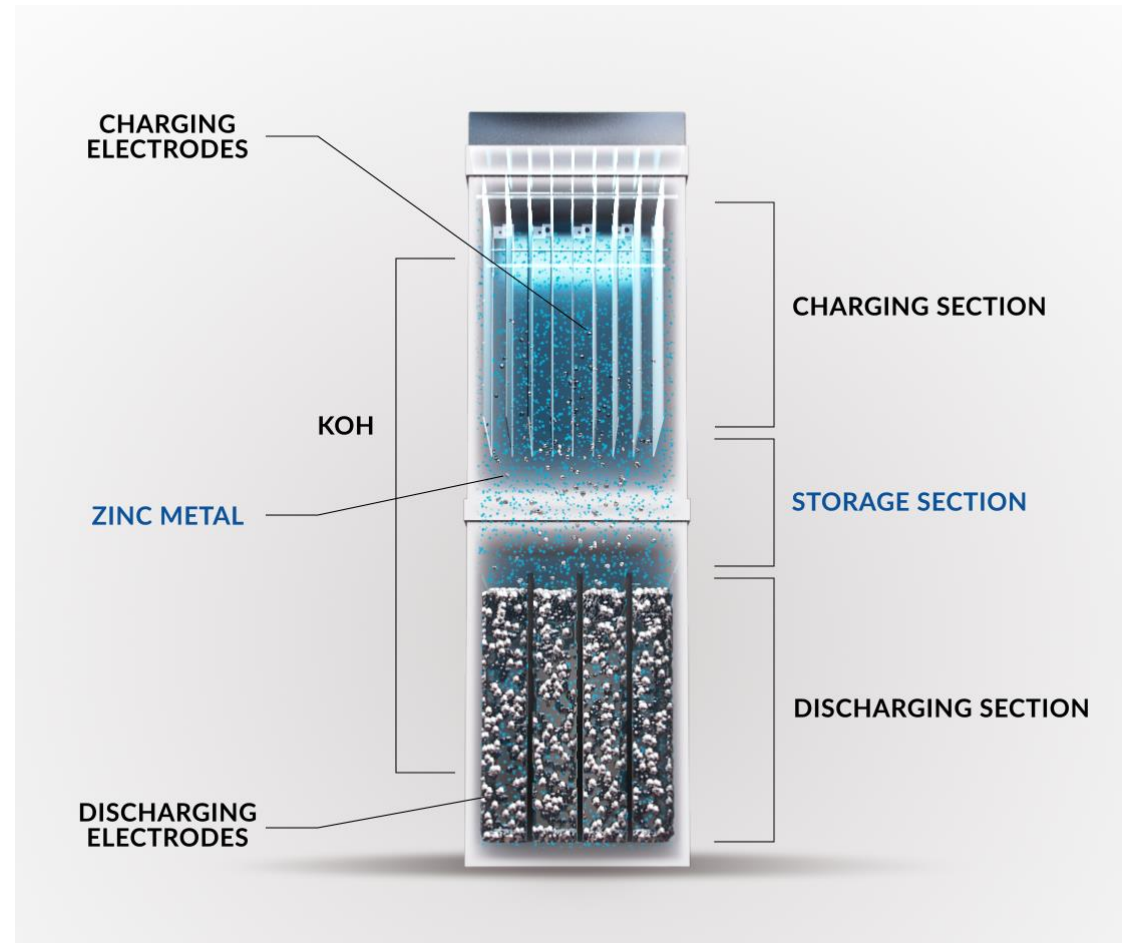


Long-duration energy storage is required

Solution

Zinc as an “energy carrier”

Video can be viewed at:
www.e-zinc.ca/technology



Solution: Zinc as an “energy carrier”

Lowest Capital Cost

Scale energy capacity independently from power

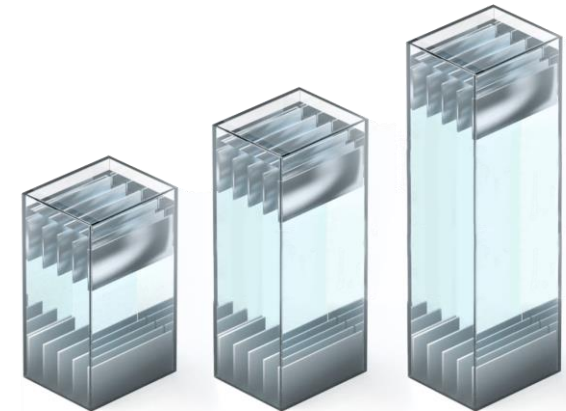
Up to **90% less than li-ion cost** for energy capacity

Flexible & scalable

Energy: hours, multi-day, or longer

Power: residential (kW) to grid/utility (MW)

Scale energy/runtime by simply increasing cell volume and adding more electrolyte and zinc



Duration:

24hr

48hr

72hr

Other Competitive Advantages



Long lifetime

(retains 100% of capacity)



Large operating temperature

(-30°C to 60°C)



Fire resistant



Recyclable / reusable

International Recognition

 greentechmedia:

Follow [this link](#) to read article 1

Follow [this link](#) to read article 2



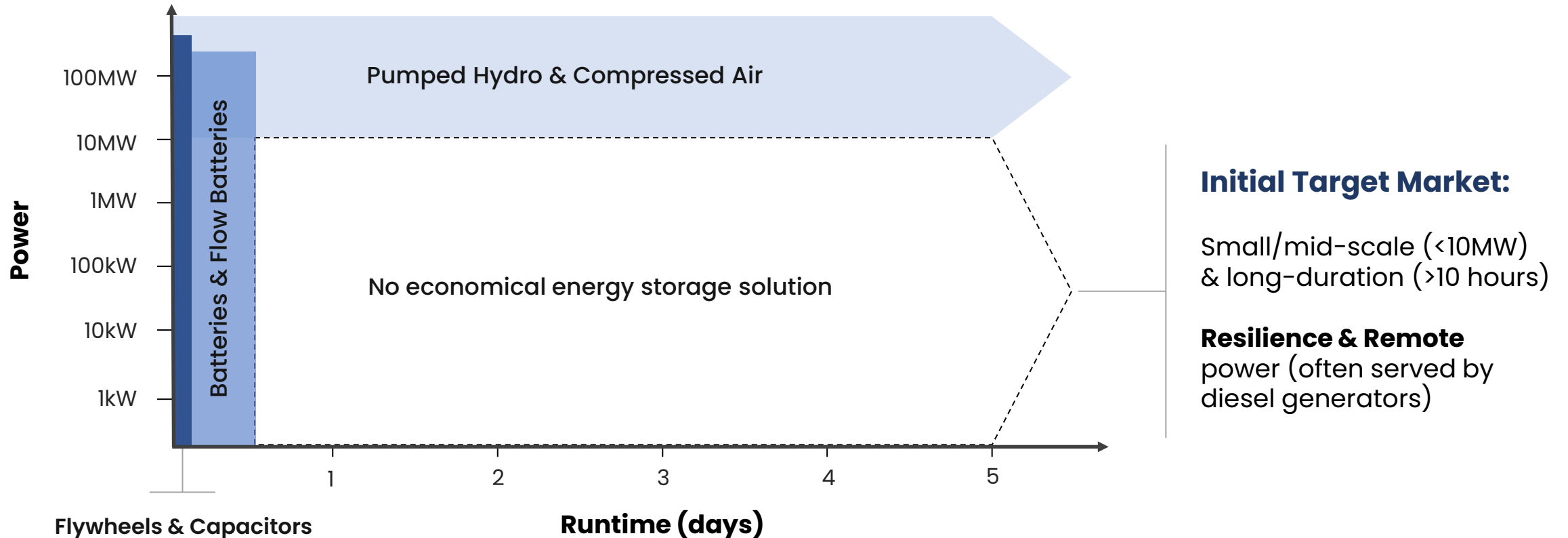
**BNN
Bloomberg**

Follow [this link](#) to watch the interview

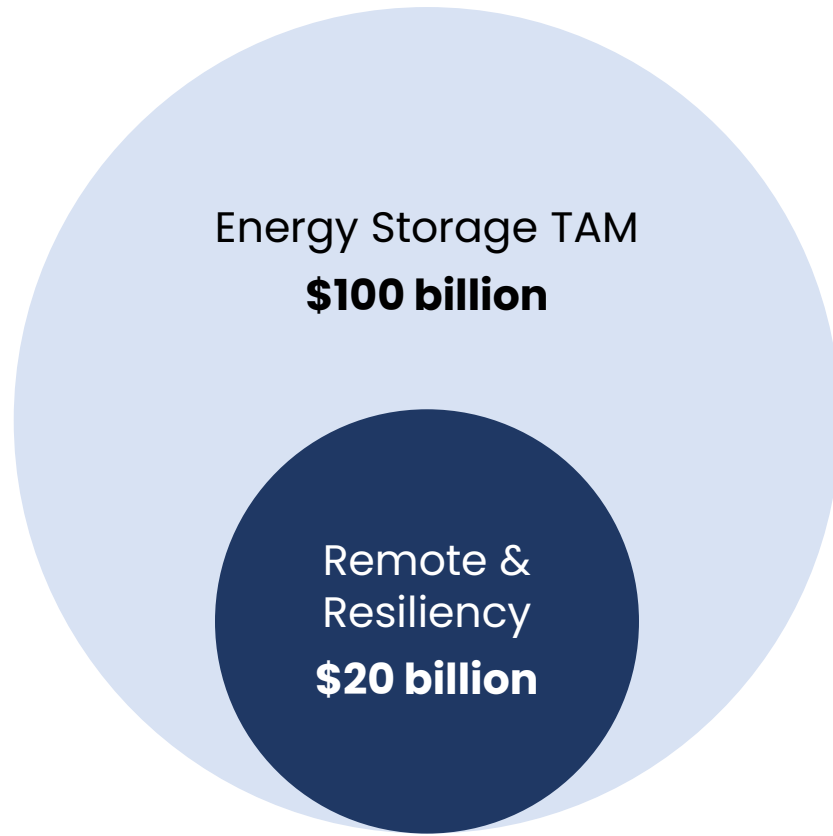


Market Opportunity

Energy Storage Technology Landscape



Target Market: Resilience & Remote



Phased Go-to-Market Approach

Horizon I:
Resilience

- Non-Wire Alternatives (NWA)
- Back-up power systems

Horizon II:
Remote

- Off-grid residences / C&I
- Remote communities
- Developing countries
- Military bases
- Mining operations

Horizon III:
100% Renewables

- On-grid renewables balancing
- Seasonal storage

Horizon I: Resilience (Back-up)

Backup power with daily cycling

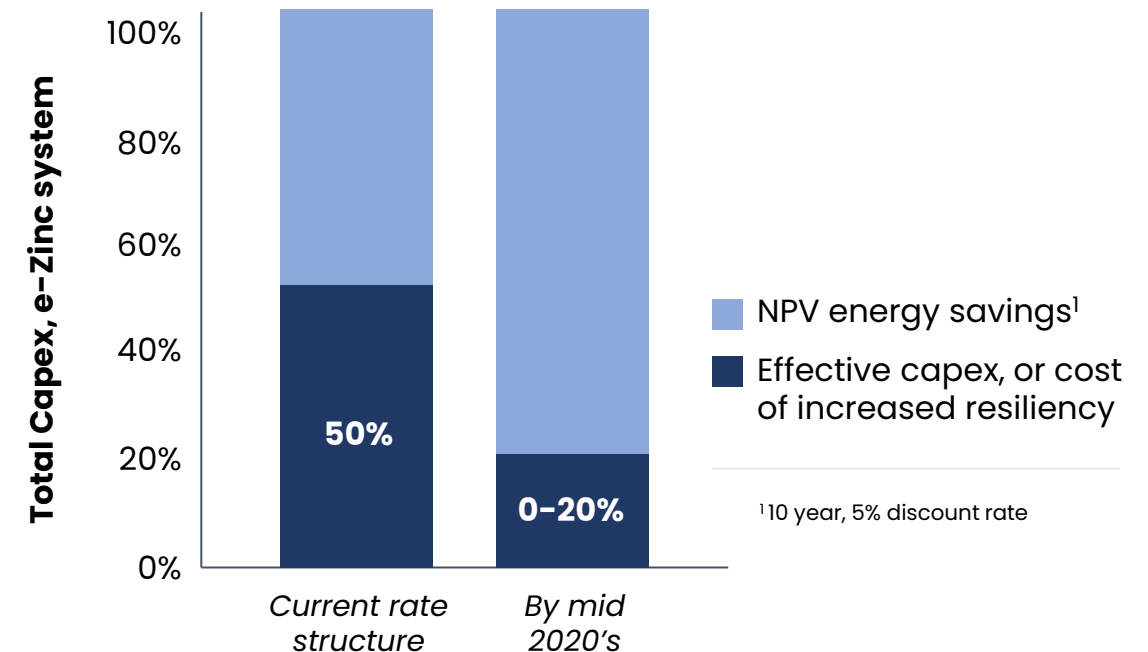
Energy benefits: daily cycling to reduce costs (demand charge reduction or TOU shifting), with adequate stored energy for unexpected outages

Increased resiliency: ultra-low cost of e-Zinc energy capacity enables affordable backup power for 1-2 days (or longer)

Greenhouse gas emission reductions: charge off-peak (or with excess solar), discharge on-peak, to displace electricity otherwise supplied by fossil-fuel utility peaking units

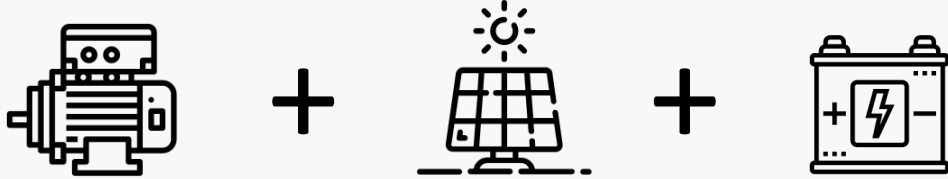

California example

Small C&I customer with onsite solar + e-Zinc

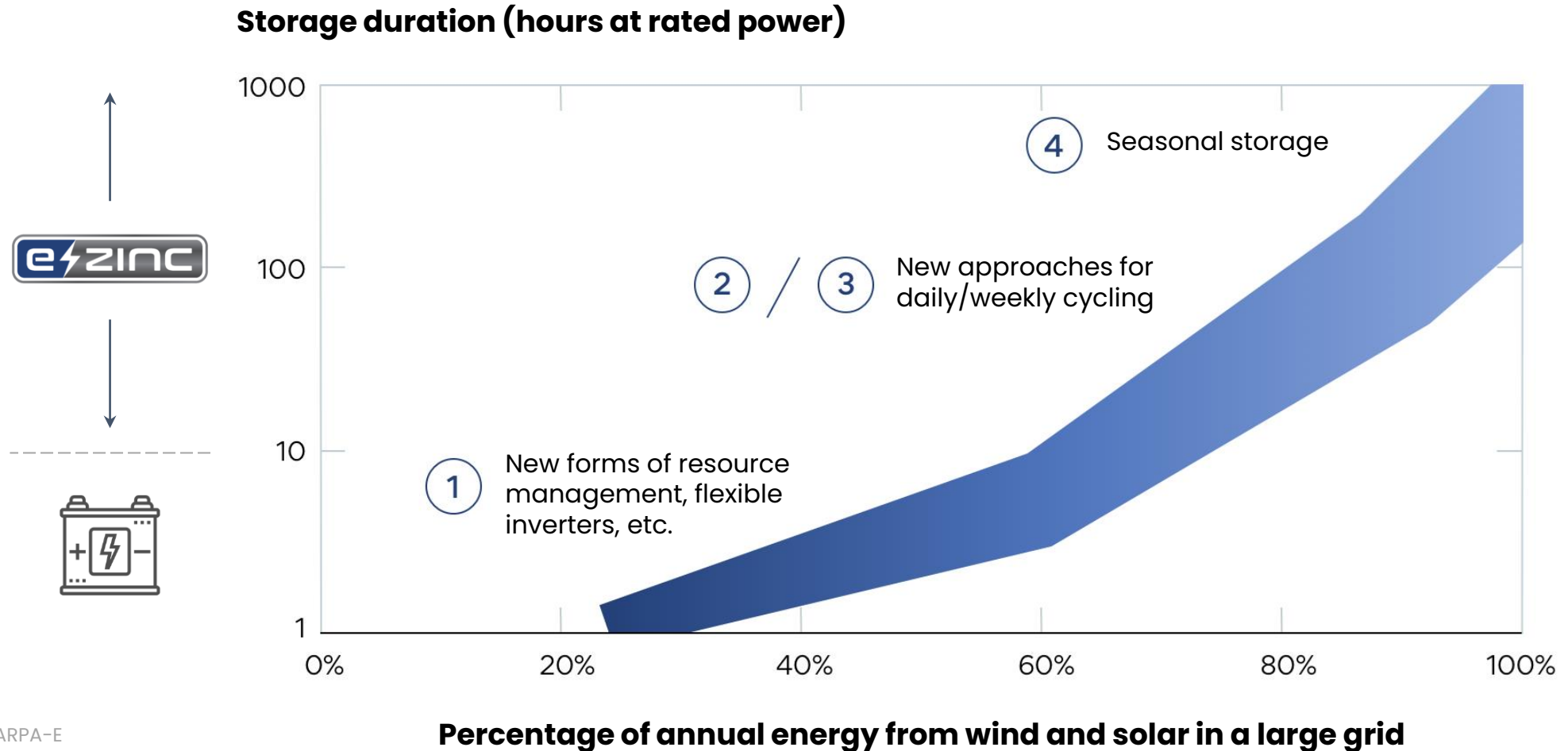


Increased energy savings by mid-2020's driven by reduced opportunity cost of charging with excess onsite solar. As % of solar on the grid goes up, the export rate (or net metering rate) for solar will go down.

Horizon II: Remote Microgrids

		<u>Savings vs. 100% Diesel</u>	<u>Environmental Impact</u>
Current Off-Grid "Renewable" Model:	 Diesel + renewables + batteries	20-40%	GHG emissions
Fully Renewable Model:	 Renewables + e-Zinc	40-60%	Clean

Horizon III: 'Hundreds' of hours of storage duration required

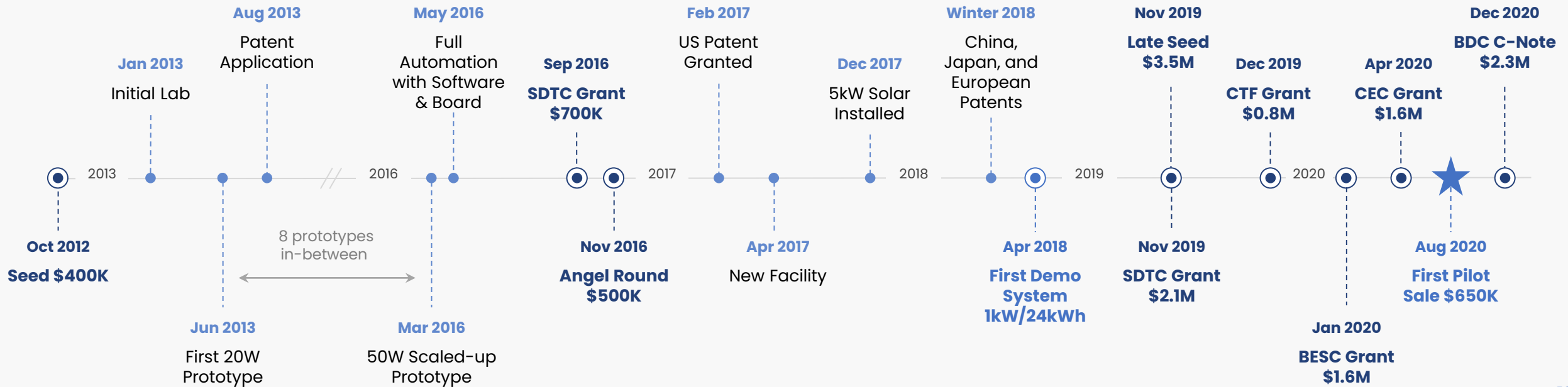


Company History & Major Milestones

**Prototyping
2013-2016**

**Lab Demonstration
2017-2018**

**Commercial Prep
2019-2020**



Go-Forward Plan



Summary

- 1 Breakthrough technology** First in the world to “metalize electricity”
- 2 Global patent protection** U.S., China, Japan, Europe, granted; Canada pending
- 3 Unique value proposition** Economically serving a white space in the market
- 4 Demonstrated market pull** POs, LOIs and MOUs with commercial partners



“Metalized Electricity”



James Larsen, CEO

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