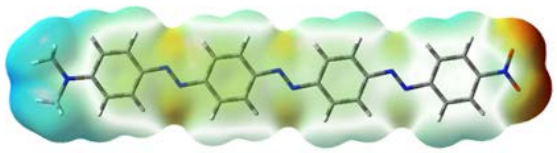
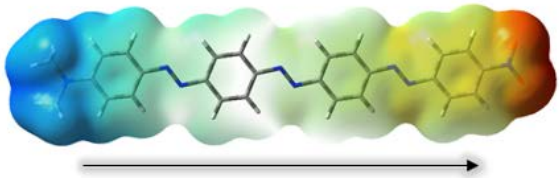
Executive Summary

The Proposition: High Density, Economically-Viable and Safe Energy Storage

Capacitor Sciences has developed novel dielectric materials for energy storage devices with energy and power densities of more than 10X of lithium ion batteries at a significantly lower price. Capacitive energy storage devices made from the Company's novel, polarizable materials store energy in an electric field in a capacitor instead of in the electrochemical potential of a lithium metal oxide in a battery. Capacitor Sciences' materials are inherently safe, non-explosive and capable of rapid charging and discharging. The Company intends to develop and market capacitive energy storage modules for economic electrification of the electric vehicle, residential, commercial, industrial and utility energy storage markets.



Electron Cloud at Zero Electric Field (Discharged State, Not Polarized)



Electron Cloud at High Electric Field (Charged State, Polarized)

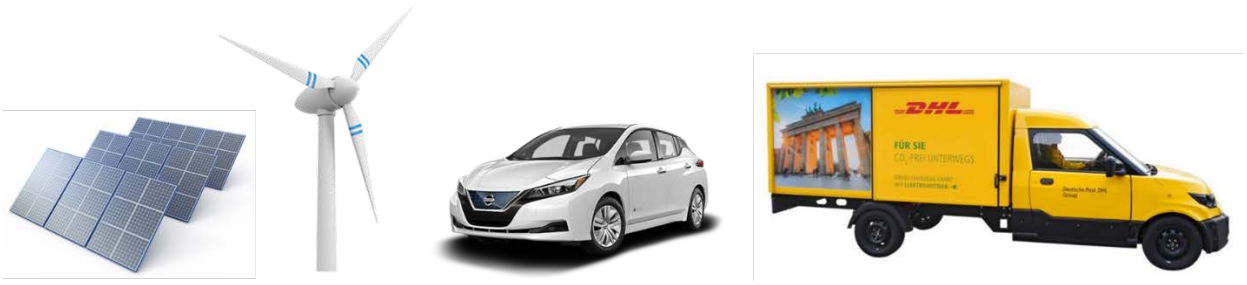
Energy Storage is Required for the Economic Electrification of All Sectors

The proliferation of intermittent renewable energy sources and the electrification of the transportation sector require energy storage of higher energy density, greater raw materials availability and lower cost than those of lithium ion batteries. Capacitor Sciences is developing the materials technology for ubiquitous and economically viable energy storage, the missing element required for the accelerated electrification in industrial, commercial, residential and transportation sectors.

Investment Opportunity

Capacitor Sciences seeks strategic corporate partners and financing for device development and manufacturing engineering.

Electrifying cars, buses and trucks requires a global manufacturing network of over 1,000 factories, each capable of producing 10 GWh/year. Each of these 10 GWh/year factories could generate $1 billion in annual revenue and could provide attractive operating income. One thousand of these 10GWh/year factories could generate over $1 trillion in annual revenue. This advanced energy storage technology presents a disruptive opportunity to grow and dominate the missing link in the electrification value chain and generate a significant return on investment.



Economically Viable Energy Storage For Clean Energy Generation and Electric Transportation

Company Status

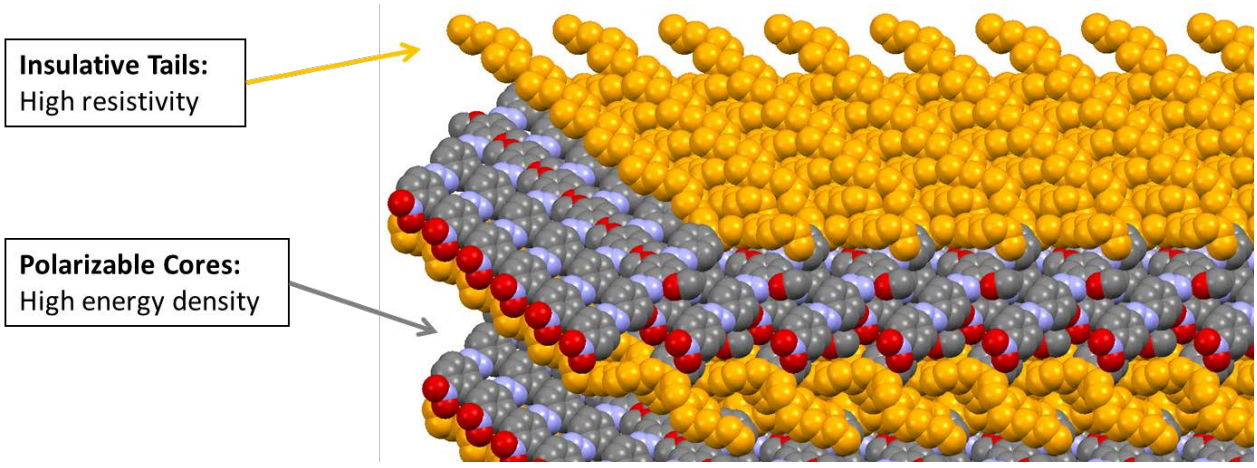
Capacitor Sciences was founded in 2014 and was acquired in 2016 by Blue Solutions, part of the Bollore Group (EPA: Bol). The Company's molecular modeling and experimental results demonstrate the materials-based performance required to produce capacitive energy storage cells with a capacity of greater than 2.5 kWh/kg, ten times the specific energy of commercially available lithium ion batteries. The Company is now scaling up the production of its metadielectric materials for device development and testing. The Company plans to enter pilot production in 2020-2021 and engage in mass-market commercialization through corporate partnerships.

Intellectual Property

The Company continues to develop a robust Intellectual Property portfolio and has filed over 30 applications resulting in ten allowed patents. These patent applications have been structured to include coverage of dielectric materials, dielectric films made from the dielectric materials, capacitors made from the dielectric films and energy storage capacitors in residential, transportation, industrial and utility markets. Capacitor Sciences' IP portfolio provides protection in the major markets of North America, Europe, Japan and China.

The Technology: Capacitive Energy Storage Devices Storing Energy in an Electric Field

Capacitor Sciences' metadielectric materials have polarizable cores and resistive envelopes that, together, can create high performance energy storage devices. Energy is stored when an external electric field polarizes the electron cloud of molecular cores. This stored energy is maintained within the structured crystalline film by insulation provided by an envelope of highly resistive materials. These novel, solid-state, composite materials are designed to perform multiple functions that are not possible in inorganic crystalline materials, including self-assembly to form flexible crystalline films, polarizability to absorb energy and resistivity to store energy.



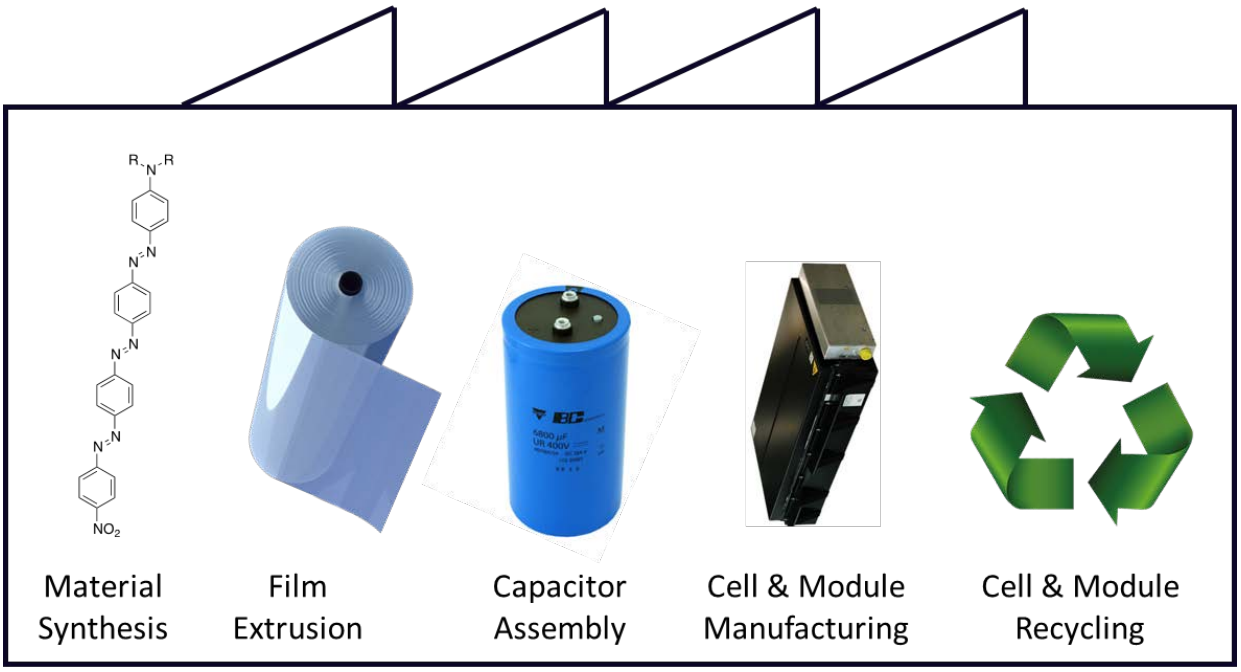
Crystal film structure of CSI K204 material depicted from X-Ray Diffraction (XRD)

Advanced Film Capacitors for Energy Storage

The innovation that Capacitor Sciences brings to film capacitors is that of replacing the standard polypropylene dielectric film with the Company's highly polarizable and resistive metadielectric materials. Similar to conventional capacitor polypropylene dielectric, Capacitor Sciences' dielectrophore materials are highly plastic and elastic, enabling them to withstand the high pressures that develop between oppositely charged electrodes. The remaining components of standard film capacitors, including electrodes, leads, potting and housing, remain the same. Commercially available industrial capacitors have operational life-times of more than 100,000 hours without significant degradation of the dielectric material and Capacitor Sciences expects capacitors made from its materials to have similar operating life-time performance. Lithium ion batteries are electro-chemical devices that suffer from declining storage capacity during each charge/discharge cycle due to electrolyte degradation. In addition, the cost-performance of lithium ion batteries is approaching a point of diminishing returns – decreases in price ($/kWh) and increases in specific energy (kWh/kg) are becoming increasingly difficult to achieve. Capacitor Sciences solid-state, capacitive energy storage cells are electrostatic devices that should far exceed the capacity, lifetime and economics of lithium ion batteries.

The Economics: Market Leading Price-Performance for All Segments

The available energy storage market forecasts assume high cost per kWh and, consequently, a limited market penetration. According to Bloomberg New Energy Finance, the average price of battery packs for Electric Vehicles (EVs) is now under $200/kWh but still needs to decrease to under $100/kWh to achieve mass-market penetration. Capacitor Sciences intends to deliver energy storage modules for product integration at $50/kWh for EVs to reach price-performance parity with internal combustion engines and for the price of stationary storage of electricity not to exceed $0.01/kWh per cycle.



Global Network of 10 GWh/Year Capacitive Energy Storage Manufacturing

Device Development, Pilot Production and Gigafactory Commercialization Plans

In addition to the ongoing research in new materials, Capacitor Sciences is now preparing for storage device development, materials and film production, device engineering and commercialization. The Company has developed the following plans for Device Development and Manufacturing Engineering and Pilot Production.

Device Development and Manufacturing Engineering (2019)

Device Development and Manufacturing Engineering activities include:

- Engage chemical manufacturers to synthesize 100's of kilograms of metadielectric materials
- Complete the extrusion processes for a standalone film
- Develop printed and co-extruded electrodes
- Complete testing systems for CSI and 3rd party verification testing
- Manufacture and test prototype capacitors
- Engineer power electronics to provide a constant output voltage
- Manufacture and test capacitive energy storage systems

Pilot Production (2020 – 2021)

After the completion of Device Development and Manufacturing Engineering outlined above, the Company plans to build a pilot production line and produce commercial grade capacitive energy storage systems with which to seed the EV and stationary energy storage markets.

- Finalize supply contracts for the large-scale synthesis of metadielectric materials
- Finalize commercial scale suppliers for the extruded capacitor film
- Complete development of the polymeric conductor and charge injection blocking layers
- Manufacture cells at a level leading to commercial scale (100 MW/year, 100,000 cells/year)
- Complete engineering and subcontract the manufacture of power electronics
- Manufacture, test and distribute industrial grade capacitive energy storage systems

Mass-Production, GWh/Year-Scale (2022 – 2024)

After Pilot Production Capacitor Sciences plans to develop a multi-GWh mass-production supply chain and subcontract manufacturing network with which to begin commercial sales of its capacitors and capacitive energy storage cells to electric vehicle and stationary energy storage customers.

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