



Qpacity LLC's Proprietary Opportunities

2023

CONFIDENTIAL INFORMATION

Proprietary Opportunities

The Qpacity Story

Qpacity is a U.S. based company that represents and distributes a breakthrough-battery product for the best solution—dare we say, only *real* solution—as an alternative to Lithium, Lithium hybrid and all sorts of “flow” batteries for energy storage. It is a **Graphene Supercapacitor-Battery Breakthrough**. It has proven itself for over five years now and is in production for worldwide use. Three manufacturing plants in the world currently satisfy the current customer base. Demand is rapidly increasing as knowledge of our technology is spreading. By design, this technology has been kept quiet until now. We are planning for massive growth over the next few years. As you learn more about our technology, you will understand why. (For more details of our technology, ask for one of our white papers.)

The Overall Business Model

Qpacity LLC is a holding company that owns the worldwide distribution rights to the graphene battery technology. Those rights include the right to license and sub-license, to manufacture and assemble, to provide white label licensing, to create subsidiaries and to joint venture, all for the purpose of exploiting the technology around the world as quickly and prudently as possible.

Qpacity is creating separate businesses, subsidiaries, and joint ventures for each type of battery product and for various markets in the vast battery industry space. Our technology is available for implementation into any battery size, everything from an AAA battery—to a mobile phone battery—to an automotive battery—to a shipping container size utility grid backup battery. The list of opportunities we have researched and are now moving forward with are listed here with the expected financial impact. If you do not see a market listed here in which you believe our technology should be used, feel free to let us know your interest.

Each listed market is structured as a separate business/company in which there is currently an opportunity to invest or otherwise associate yourself with in some meaningful way. Let us know your interests.

The Qpacity Executive Team

The three principals of Qpacity LLC will serve in various capacities for each company and business, whether simply on the board of directors or in day-day management, as is required.

Joel Ward (CEO of Qpacity)—Resident of Florida, USA. Mr. Ward provides legal, securities, and other executive management skills.

██████████ (President and CEO of East Asia for Qpacity)—██████████

██████████ provides merchant business, import/export experience and other executive management skills.

██████████ (Sr. VP, Chief Operations Officer, and Chief Marketing Officer for Qpacity)—██████████ brings production management, marketing, and other executive management skills.

The Opportunities

Summary of Market Segments Revenue Projections (in Millions USD \$)

	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
All-Electric Golf Carts & Batteries.....	46	61	81	107	142	437
EV Batteries.....	202	398	780	1,532	3,008	5,921
Conventional Automotive Batteries.....	228	376	620	1,022	1,686	3,931
EV Charging Ports/Stations.....	105	176	296	496	833	1,906
e-Motorcycles & Batteries.....	24	32	42	56	74	228
ESS (Utility Grid Backup Batteries).....	246	349	494	700	992	2,781
Micro-Grid Systems.....	189	292	450	693	1,069	2,693
VPP Systems.....	140	213	326	498	761	1,938
Aircraft Batteries.....	14	24	41	71	122	272
Uninterrupted Power Supplies (UPS).....	30	36	44	53	65	227
Power Tool Batteries.....	31	50	83	136	224	524
Mobile Phone Batteries.....	134	185	256	353	488	1,417
TOTAL ALL MARKETS.....	1,389	2,192	3,513	5,717	9,464	22,275

All-Electric Golf Carts

When we use the term “**golf cart**” this can mean all types of electric vehicles that are restricted to 25 mph (40 km/h) or less. The common name of this category is **Low Speed Vehicle (LSV)** and sometimes also referred to as **Neighborhood Electric Vehicle (NEV)**. Legally, *Golf Carts* are a specific subcategory of LSV's in that they are restricted to 20 mph (32km/h) or less.

There is an opportunity to build and market both the entire electric vehicle and to market just the batteries. This section addresses manufacturing and marketing the entire vehicle with our proprietary graphene battery technology. There is no need to invent any new design to accommodate this venture. It simply involves using a superior battery than any other LSV company has available to them, making us a real market contender very quickly.

We are beginning with the Golf Cart portion of the LSV market. Following are results from our market study in the LSV and Golf Cart markets respectively.

LSV Market

Worldwide market size for LSV in 2022 was \$9.74 Billion. It is forecasted to grow at 8.2% CAGR (compounded annual growth rate) through 2030. This means the next several years is expected as follows (**in Billions**):

2023	2024	2025	2026	2027	2028	2029	2030
10.54	11.40	12.34	13.35	14.44	15.63	16.91	18.29

Golf Cart Market

Within that LSV market is the specific lower speed Golf Cart category in which we are beginning our business. We may grow that specific business into the entire LSV market or create a separate electric vehicle business model to cover the larger LSV market, excluding Golf Carts. In 2022 the Golf Cart market was \$4.12 Billion. It is forecasted to grow at 6.3% CAGR through 2030. This means the next several years is expected as follows (**in Billions**):

<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>
4.34	4.66	4.95	5.23	5.59	5.94	6.32	6.72

LSV/Golf Cart Aftermarket Battery

(entire vehicle batteries, excluding starter batteries for gas engine powered vehicles)

Both the traditional lead-acid battery and lithium battery are currently used in the all-electric LSV market. We will make our battery available as an aftermarket replacement upgrade. In 2022 that market was estimated to be at least \$0.93 Billion. It is forecasted to grow at 8.2% CAGR through 2030. This means the next several years is expected as follows (**in Billions**):

<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>
1.01	1.09	1.18	1.28	1.39	1.50	1.62	1.76

LSV/Golf Cart OEM Market (this market will be considered at a future time)

First Market Penetration Revenue (Golf Carts and Aftermarket Batteries)

Our business plan's expectation is to begin with only a 1% market penetration in the first year and then increase that penetration at 25% CAGR. Based on this our Revenue is forecasted for the first 5 years as follows (**in Millions**):

<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>TOTAL</u>
45.6	60.6	80.5	107	142.2	\$436 M

Electric Vehicle (EV) Batteries

With the huge push towards all-electric vehicles, both auto and trucks, the EV battery market will have many years of continued growth. Not only for the new EV's being produced each year but eventually the battery replacement market too. Our graphene battery will certainly become a huge contender in this market. With a perfect safety record, environmentally safe, added mileage potential and incredible longevity, our battery can set a new standard for the EV market.

Worldwide market size for EV Batteries in 2022 was \$53.8 Billion. It is forecasted to grow at 22.7% CAGR through 2030. This means the next several years is expected as follows (**in Billions**):

<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>
66.01	81.00	99.38	121.94	149.63	183.59	225.27	276.40

Market penetration expectation is to begin at only $\frac{1}{4}$ of 1% (0.25%) but grow quickly at 60% CAGR due to the likely demand for our technology. Therefore, the 5-year Revenue forecast is as follows (in Millions):

<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>TOTAL</u>
202	398	780	1,532	3,008	\$5,921 M

Conventional Automotive Batteries

The majority of car and truck batteries are lead-acid. As new technologies are developing the lead-acid battery that has been around for over 160 years is being replaced. Our graphene battery will enjoy a certain demand, even if it doesn't take over that market. The price difference will prevent a fast market takeover until we can manufacture more competitively.

Worldwide market size for conventional automotive type batteries in 2022 was \$85.7 Billion. It is forecasted to grow at 3.1% CAGR through 2030. This means the next several years is expected as follows (in Billions):

<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>
88.3	91.1	93.9	96.8	99.8	102.9	106.1	109.4

Market penetration expectation is to begin at only $\frac{1}{4}$ of 1% (0.25%) but grow quickly at 60% CAGR due to the likely demand for our technology. Therefore, the 5-year Revenue forecast is as follows (in Millions):

<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>TOTAL</u>
228	376	620	1,022	1,686	\$3,931 M

Solar / Battery EV Charging Ports/Stations (U.S. Market Only)

There are three levels of EV charging points: Level 1, Level 2, and Level 3, from slowest charge to fastest charge capability. Some analysts forecast there will be 28.3 million EVs on US roads by 2030, others predict far more. There will be a need of at least 2.13 million Level 2 and 172,000 Level 3 public chargers by that time, in addition to home EV chargers. Currently, in 2023 there are only about 164,000 public Level 2 and 3 charging ports in the U.S. (Charging stations can have more than one port. Therefore, there are fewer stations.) U.S. and S. Korea are the two biggest markets after China.

The U.S. EV charging infrastructure market size was valued at \$3.15 Billion in 2022. It is forecasted to grow at 29.1% CAGR through 2030. This means the next several years is expected as follows (in Billions):

<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>
4.1	5.3	6.8	8.8	11.3	14.6	18.8	24.3

Market penetration expectation is to begin at only 2% and grow at 30% CAGR due to the demand for both networks of EV charging stations/ports and our technology. Therefore, the 5-year Revenue forecast is as follows (in Millions):

<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>TOTAL</u>
105	176	296	496	833	\$1,906 M

e-Motorcycles (North America)

China and other Asian countries predominate the electric scooter and motorcycle markets. The popularity is expected to grow exponentially in the U.S. and Canada.

There is an opportunity to build and market both the entire electric cycle and to market just the batteries. This section addresses manufacturing and marketing the entire 2-wheel vehicle with our proprietary graphene battery technology. There is no need to invent any new design to accommodate this venture. It simply involves using a superior battery than any other scooter or motorcycle company has available to them, making us a real market contender very quickly.

North America market size of all-electric scooters and motorcycles in 2022 was \$620 Million. It is forecasted to grow at 18.1% CAGR through 2030. This means the next several years is expected as follows (**in Millions**):

<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>
732	865	1,021	1,206	1,424	1,682	1,987	2,346

e-Motorcycle Aftermarket Battery

We will make our battery available as an aftermarket replacement upgrade. At 1/3 the cost of the entire vehicle we estimate the North America market size to be about \$204.6 Million in 2022. We expect the cost of producing the battery to decrease dramatically, and thus the percentage compared to the motorcycle cost will decrease. Our forecast for the next several years (**in Millions**):

<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>
216.9	229.9	243.7	258.3	273.8	290.2	307.6	326.1

e-Motorcycle Battery OEM Market (this market will be considered at a future time)

First Market Penetration Revenue (e-Motorcycles and Aftermarket Batteries)

North America market penetration expectation for both the cycles and aftermarket batteries begin at 3% and grow at 15% CAGR. Therefore, the 5-year Revenue forecast is as follows (**in Millions**):

<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>TOTAL</u>
24.2	31.9	42.2	55.8	74.1	\$228.1 M

Utility Scale Backup Batteries (ESS)

Due to breakdown of national electrical grids throughout the world, demand overburdens, and the expected growth for even more demand due to the “green revolution,” utility companies are installing large batteries to backup their power grids. They cannot buy and install fast enough. Tesla’s Megapack backorders are nearly two years out. The current lithium and flow technologies used for ESS batteries comes with risk and/or inefficiencies, which has not curbed the demand. We believe the demand for our technology will grow exponentially. Our revenue potential for this market will only be controlled by our production capacity. Like Tesla, we likely will have difficulty keeping up with demand.

The utility size ESS market was valued at \$20.7 Billion in 2022. It is forecasted to grow at 9% CAGR through 2030. This means the next several years is expected as follows (**in Billions**):

2023	2024	2025	2026	2027	2028	2029	2030
22.6	24.6	26.8	29.2	31.9	34.7	37.9	41.3

Market penetration expectation is to begin at only 1% and grow at 30% CAGR due to the demand for our technology. Therefore, the 5-year Revenue forecast is as follows (**in Millions**):

Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
246	349	494	700	992	\$2,781 M

Micro-Grid Systems

Micro-Grids are small utility power production plants. Typically, powered by non-petroleum means. The power source in which we will concentrate is solar. The need and demand for Micro-Grids to both power small communities and provide power to the existing national size grids is growing exponentially due to the lack of enough power production throughout each country. A micro-grid uses the same ESS battery system as used for utility power backup coupled with solar panel arrays and power delivery system.

The Micro-Grid market size was valued at \$26.9 Billion in 2022. It is forecasted to grow at 18.6% CAGR through 2030. This means the next several years is expected as follows (**in Billions**):

2023	2024	2025	2026	2027	2028	2029	2030
31.9	37.8	44.9	53.2	63.1	74.9	88.8	105.3

Market penetration expectation is to begin at only ½ of 1% (0.5%) and grow at 30% CAGR due to the high demand that will continue for Micro-Grids, especially with our unique ESS technology. Therefore, the 5-year Revenue forecast is as follows (**in Millions**):

Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
189	292	450	693	1,069	\$2,693 M

Virtual Power Plants (VPP)

VPP's are similar in concept to Micro-Grids, but only much smaller. VPP refers to individual homes and business that produce more than enough electricity for their own use and thus feed excess power to both large utility grids and Micro-Grids. The most common power source is solar. The excess energy each VPP provides is sold at an agreed price that is based on similar criteria as utility companies, such as time or day and demand. AI and Blockchain technologies are used to allocate energy, track usage and transfers, and financial transactions that go with it. Each VPP typically consists of solar panel arrays, storage batteries and electronic smart controller. Research indicates VPP's couple with Micro-Grids are the future. It's part of decentralization of energy, which is already beginning.

The VPP market size was valued at \$3.37 Billion in 2022. It is forecasted to grow at 17.55% CAGR through 2030. This means the next several years is expected as follows (**in Billions**):

2023	2024	2025	2026	2027	2028	2029	2030
4.0	4.7	5.5	6.4	7.6	8.9	10.4	12.3

Market penetration expectation is to begin at 3% and grow at 15% CAGR due to the high demand that will continue for VPP's, especially with our unique battery technology. Therefore, the 5-year Revenue forecast is as follows (in Millions):

<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>TOTAL</u>
140	213	326	498	761	\$1,938 M

Aircraft Batteries

Batteries used in aircraft range in types based on airplanes and usage. In general aviation, the reciprocating engine driven planes still use lead-acid starting batteries just like autos. However, there is a current trend of going to alternatives. In larger aircraft, especially turbine and jet powered planes, whether business jets or commercial airliners, there are an assortment of batteries installed for multiple uses, such as avionics and power backup to control devices. However, due to fire risks lithium batteries are not allowed. Thus, archaic battery technologies are still used, such as nickel-cadmium batteries. The governmental approval process takes time and adds expense to all aircraft battery development. However, the market prices more than make up for that time and expense. We will begin getting certification for the aircraft batteries in most demand first. (In the U.S. certification is "STC" through the federal Aviation Administration. Once the FAA certifies, it becomes the standard around the world.) We will then be able to offer a battery that the industry has been waiting for—one that is 100% safe, lighter weight and more available power. (The new electric airplane development is in addition to our projections here.)

The Aircraft battery market size was valued at \$602 Million in 2022. That does not count the millions of dollars in existing batteries poised for replacement. It is forecasted to grow at 7.53% CAGR through 2030. This means the next several years is expected as follows (in Billions):

<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>
0.65	0.70	0.75	0.81	0.87	0.93	1.00	1.08

Market penetration expectation is to begin at 2% but grow at 60% CAGR due to high demand for our unique technology. Therefore, the 5-year Revenue forecast is as follows (in Millions):

<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>TOTAL</u>
14	24	41	71	122	\$272 M

Uninterrupted Power Supplies (UPS)

UPS batteries come in all size and for many, many applications. Everything from small desktop units to provide uninterrupted, surge-free, and smoothed out power for computers to large units backing up hospital operating rooms and equipment and everything in between. Our graphene technology is perfect for developing into UPS units of any size and application.

The UPS battery market size was valued at \$806 Million in 2022. It is forecasted to grow at 10.6% CAGR through 2030. This means the next several years is expected as follows (in Billions):

<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>
0.90	0.99	1.09	1.21	1.33	1.48	1.63	1.81

Market penetration expectation is to begin at 3% and grow at 10% CAGR. Therefore, the 5-year Revenue forecast is as follows (**in Millions**):

<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>TOTAL</u>
30	36	44	53	65	\$227 M

Power Tool Batteries

The biggest driving force for any battery in the tool industry is maximum available power for a given size and weight plus storage amount for longevity. Our graphene technology surpasses any other battery technology currently available in the tool market. This market will be approached both as developing new tools with our battery and building batteries for other tool manufacturers.

The tool battery market size was valued at \$2.6 Billion in 2022. It is forecasted to grow at 9.6% CAGR through 2030. This means the next several years is expected as follows (**in Billions**):

<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>
2.8	3.1	3.4	3.7	4.0	4.4	4.9	5.3

Market penetration expectation is to begin at only 1% but grow rapidly at 50% CAGR. Therefore, the 5-year Revenue forecast is as follows (**in Millions**):

<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>TOTAL</u>
31	50	83	136	224	\$524 M

Mobile Phone Batteries

One of the most exciting possibilities for our graphene technology is developing batteries for the mobile phone market. The first opportunity is aftermarket. As the battery's success becomes widely known and in demand, we expect phone manufacturers to request OEM batteries. The longevity of our battery and the ability of super-fast charging will make our mobile phone battery the talk of international media.

The mobile phone battery market size was valued at \$23.7 Billion in 2022. It is forecasted to grow at 6.3% CAGR through 2030. This means the next several years is expected as follows (**in Billions**):

<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>
25.2	26.8	28.5	30.3	32.2	34.2	36.4	38.7

Market penetration expectation is to begin at only ½ of 1% (0.5%) due to needed R&D in the early phase but grow rapidly at 30% CAGR. Therefore, the 5-year Revenue forecast is as follows (**in Millions**):

<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>TOTAL</u>
134	185	256	353	488	\$1,417 M