

## An EnergyTech Investor Publication

Bringing relevant news and data on the Clean Transportation Market to the Investment Community

Volume 1 / Issue 1

### UQM OVERVIEW

UQM Technologies is a developer and manufacturer of power-dense, high-efficiency electric motors, generators, power electronic controllers and fuel cell compressors for the commercial truck, bus, automotive, marine, military and industrial markets.

A major emphasis for UQM is developing propulsion systems for electric, hybrid electric, plug-in hybrid electric and fuel cell electric vehicles. UQM is TS 16949 and ISO 14001 certified and located in Longmont, Colorado.



### UQM TECHNOLOGIES LATEST NEWS

- ❖ **November 10, 2015** – UQM Technologies Reports Second Quarter Fiscal Year 2016 Revenues Up 55% Over Last Year.
- ❖ **November 5, 2015**- UQM Technologies Receives New Orders for Proterra's Catalyst Bus Program for Calendar Year 2016 Delivery.
- ❖ **November 5, 2015**-UQM Technologies Announces Successful Close of Financing Offering for Net Proceeds of \$5,800,000.
- ❖ **October 26, 2015**- UQM Technologies Signs Ten Year Supply Agreement With Chinese Customer.

### UQM POWERPHASE SYSTEM- MOTOR TECHNOLOGY

UQM Technologies proprietary PowerPhase® motor technology has been specifically developed to deliver high levels of torque efficiently at variable rotational speeds, transitioning from high torque to a relatively constant power curve as the rotational speed increases. UQM PowerPhase® motors have high operating efficiencies and high power density, achieving smaller external dimensions and lower weight than competing products. The design features inherent to the electric machine contribute to lower usage of copper, iron and other materials, reducing manufacturing costs compared to other motors of similar power. These attributes have allowed UQM to price advanced motors and controls competitively while providing better performance than conventional motors and controllers, which UQM believes will accelerate the rate of commercialization of the technology. UQM's motor design can be operated in either a forward or reverse direction of rotation, and either in motor or generator mode, with the ability to dynamically change from one mode of operation to another in millisecond response time.

# UQM Technologies Inc

UNITED STATES / Industrials / Electronic & Electrical Equipment

Exchange: NYSE MKT LLC

Ticker: UQM



| General Info (Currency: USD) |        |                             |       |
|------------------------------|--------|-----------------------------|-------|
| Price (Previous Close):      | 0.58   | Beta (Rel to SP500):        | 0.74  |
| Price - 52 Week High:        | 1.65   | Dividend Yield (Indicated): | 0.0%  |
| Price - % Below High:        | -64.8% | Shares Outstanding (ML):    | 48    |
| Price - 52 Week Low:         | 0.47   | Float Shares (ML):          | 42    |
| Price - % Above Low:         | 23.4%  | Float % of O/S:             | 87.7% |
| Median Price Target:         | 1.50   | Market Cap (ML):            | 28    |
| Implied Profit:              | 158.6% | Enterprise Value (ML):      | 22    |

| Consensus Recommendation |   |
|--------------------------|---|
| <b>Buy</b>               |   |
|                          |   |
| # of Analysts:           | 1 |
| Upgrades Last 4 Weeks:   | 0 |
| Downgrades Last 4 Weeks: | 0 |

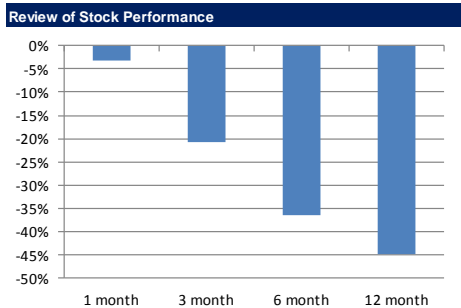
| Estimates (Currency: USD) |            |           |          |             |           |          |           |           |          |           |           |          |
|---------------------------|------------|-----------|----------|-------------|-----------|----------|-----------|-----------|----------|-----------|-----------|----------|
| Period                    | Sales (ML) |           |          | EBITDA (ML) |           |          | EPS       |           |          | Est. 30   |           |          |
|                           | Mean Est.  | High Est. | Low Est. | Mean Est.   | High Est. | Low Est. | Mean Est. | High Est. | Low Est. | Mean Est. | High Est. | Low Est. |
| FY0 (Actual)              | 4          |           |          | -6          |           |          | -0.15     |           |          |           |           |          |
| FY1 (Current Year)        | 5          | 5         | 5        | -5          | -5        | -5       | -0.11     | -0.11     | -0.11    | -0.11     | -0.11     | -0.11    |
| % above/below mean        |            | 0.0%      | 0.0%     | 0.0%        | 0.0%      | 0.0%     | 0.0%      | 0.0%      | 0.0%     | 0.0%      | 0.0%      | 0.0%     |
| FY2 (Next Year)           | 8          | 8         | 8        | -3          | -3        | -3       | -0.08     | -0.08     | -0.08    | -0.08     | -0.08     | -0.08    |
| % above/below mean        |            | 0.0%      | 0.0%     | 0.0%        | 0.0%      | 0.0%     | 0.0%      | 0.0%      | 0.0%     | 0.0%      | 0.0%      | 0.0%     |

| Valuation Ratios   |       |         |         |           |
|--------------------|-------|---------|---------|-----------|
| Period             | P/E   | P/SALES | EV/REVS | EV/EBITDA |
| FY0 (Actual)       | -3.9x | 7.0x    | 5.4x    | -3.7x     |
| FY1 (Current Year) | -5.3x | 5.1x    | 4.4x    | -5.2x     |
| FY2 (Next Year)    | -7.2x | 3.4x    | 2.9x    | -7.5x     |

| FY0 Per Share Metrics (Currency: USD) |      |            |       |
|---------------------------------------|------|------------|-------|
| Cash&STInv:                           | 0.16 | Sales:     | 0.10  |
| Total Debt:                           | 0.00 | Cash Flow: | -0.11 |
| WorkingCap:                           | 0.39 | Free CF:   | -0.12 |
| Book Value:                           | 0.56 | Dividends: | 0.00  |

| FY0 Employee Data |        |
|-------------------|--------|
| # of Emp:         | 56     |
| Emp Grth:         | N/A    |
| Rev/Emp:          | 71,710 |
| 5 yr Avg:         | N/A    |

| Abbreviated Financials (Currency: USD) |     |      |                           |     |           |                          |     |           |  |
|--|-----|------|---------------------------|-----|-----------|--------------------------|-----|-----------|--|
| Income Statement (ML)                  | FY0 | FY-1 | Balance Sheet (ML)        | FY0 | FY-1      | Cash Flow Statement (ML) | FY0 | FY-1      |  |
| Sales                                  | 4   | 7    | Cash & ST Investments     | 7   | 10.310141 | Net Income               | -6  | -2.773244 |  |
| Gross Income                           | 1   | 3    | Fixed Assets              | 7   | 7.567773  | Funds From Operations    | -4  | -1.748242 |  |
| EBITDA                                 | -5  | -2   | Total Assets              | 25  | 29.835133 | Cash From Operations     | -3  | -0.622732 |  |
| EBIT                                   | -6  | -3   | Current Liabilities       | 2   | 1.878038  | Capital Expenditures     | -1  | -0.377224 |  |
| Pretax Income                          | -6  | -3   | LT Debt                   | 0   | 0         | Cash From Investments    | 0   | 1.348248  |  |
| Net Income                             | -6  | -3   | Total Liabilities         | 2   | 2.060138  | Cash Dividends Paid      | 0   | -0        |  |
| Common Shares                          | 40  | 40   | Total Shareholders Equity | 22  | 27.774995 | Cash From Financing      | 0   | 4.993697  |  |



| Profitability    |       |            |
|------------------|-------|------------|
|                  | FY0   | 5 Year Avg |
| Gross Margin     | 28%   | -3%        |
| R/D % Sales      | 113%  | 37%        |
| SGA % Sales      | 246%  | 120%       |
| EBITDA Margin    | -123% | -65%       |
| Operating Margin | -218% | -123%      |
| Pretax Margin    | -149% | -82%       |
| Net Margin       | -149% | -82%       |
| CF/Sales         | -84%  | -66%       |
| Tax Rate         | N/A   | N/A        |
| ROA              | -24%  | -18%       |
| ROE              | -27%  | -20%       |

| FY0 Sales By Region     |       |
|-------------------------|-------|
| Region                  | Sales |
| United States (Country) | 3     |
| Foreign Countries       | 1     |

## Price Chart (Currency: USD)



Source: Thomson Reuters, EnergyTech Investor

*"These pledges represent a big step further from the world's second largest economy's previous emission control targets."*



*"Fuel cells may soon serve as a way for China to become more environmentally friendly, especially when it comes to transportation."*

## **FINALLY, CHINA CHARGES ITS EV DRIVE**

Since 2010, Beijing has wanted to transform China into the world's largest market for electrified vehicles. But beyond providing generous incentives for electric vehicles and plug-in hybrids, it was unclear how China's central planners expected to meet their ambitious goal ... until now. On Nov. 17, the National Development and Reform Commission released a five-year plan to expand the nation's battery-charging network. Because EV and plug-in hybrid sales depend on those charging stations, the document is a clear road map of how China's central economic planners will cultivate that market. At the end of 2014, China had 780 charging stations and 31,000 charging poles. By 2020, the government aims to add 12,100 charging stations and 4.8 million charging poles.

[PLEASE CLICK THE LINK ABOVE TO READ THE FULL ARTICLE](#)

## **CHINA ELECTRIC BUS INDUSTRY REPORT, 2015-2020**

Sales volume of electric bus reached 27,000 vehicles throughout the year 2014, soaring by 160.3% from the previous year, and kept growing rapidly in the first half of 2015, approaching 20,000 vehicles. It is expected that China will sell 154,000 electric buses in 2020, with a CAGR of 33.6% during this period. The variety that is vigorously promoted is electric public bus which accounts for 85% of total sales volume of electric bus. City bus ownership in China now has exceeded 500,000 vehicles, carrying 60% of city passenger transportation in urban public transport system. As of 2014, electric public bus ownership nationwide topped 80,000 vehicles.

[PLEASE CLICK THE LINK ABOVE TO READ THE FULL ARTICLE](#)

## **BALLARD FORMS DEAL WITH CHINESE COMPANY TO BRING HYDROGEN FUEL CELLS TO CHINA**

Canada recently launched a trade mission to China, sending several businesses from British Columbia to the country to establish new deals. One of these companies was Ballard Power Systems, a leading developer of hydrogen fuel cells. China has been growing more aggressive on the renewable energy front, looking to reduce harmful emissions that have led to a severe air pollution epidemic throughout the country.

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*"Electric cars have also developed fast in China. By October this year, 333,000 electric vehicles had already plying the roads of 39 cities across China."*



*"In summary, electric buses are taking off in China where the government-supported mass transit boom is fueling the growth of China's electric bus and LFP manufacturing industries."*

## **USING INNOVATION TO FIGHT CLIMATE CHANGE**

The international community is actively promoting a new governance system to cope with climate change - a challenge to humankind as a whole. China, as one of the most severely climate change-influenced countries, is using scientific and technological innovation as a tool to address the problem, which has given us precious experience to explore a climate-resilient and sustainable development path.

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## **ELECTRIC BUS MARKET 2015 INDUSTRY SIZE, TRENDS, GROWTH, RESEARCH AND ANALYSIS**

Industry Experts has published the industry's first and only report on Fans and Blowers used in Hybrid and Electric Vehicles. According to the new market research report titled 'Global Hybrid and Electric Vehicle Fans & Blowers Market – BEV, HEV and PHEV', Global volume consumption of electric fans in hybrid and electric vehicle engine/drive cooling, estimated at 4.5 million units in 2015, is projected to reach 11.7 million units by 2020.

[PLEASE CLICK THE LINK ABOVE TO READ THE FULL ARTICLE](#)

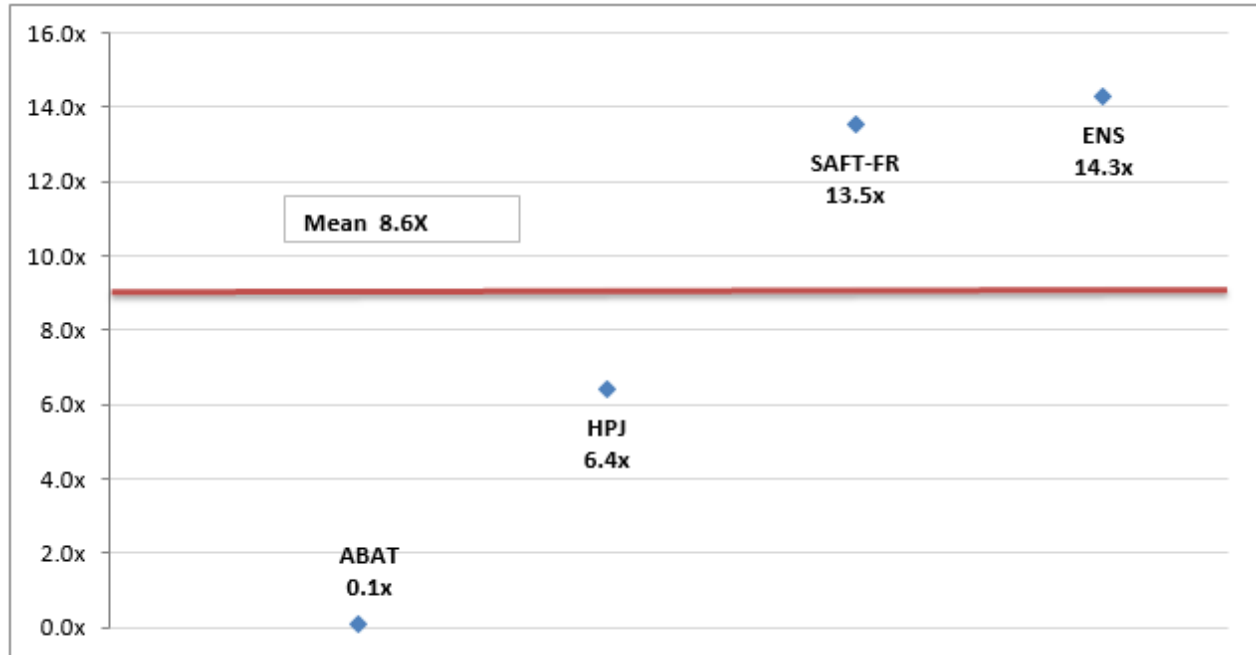
## **ELECTRIC BUS ADOPTION IS TAKING OFF IN CHINA**

A recent report on the Chinese Electric Bus Industry had some great insights into China, its mass transit system, and electric bus adoption. Given the explosive population growth in China, it has rapidly adopted mass transit and now has more than 500,000 city buses in use with an impressive 80,000 of these being electric as of 2014. On a sales per year basis, 2014 saw 27,000 electric buses sold in China, with the first half of 2015 almost matching that at ~20,000 being sold. Petrol-powered city buses are currently subsidized by the government as a means of encouraging mass transit. However, this is gradually being reduced as a means of encouraging local governments to go electric.

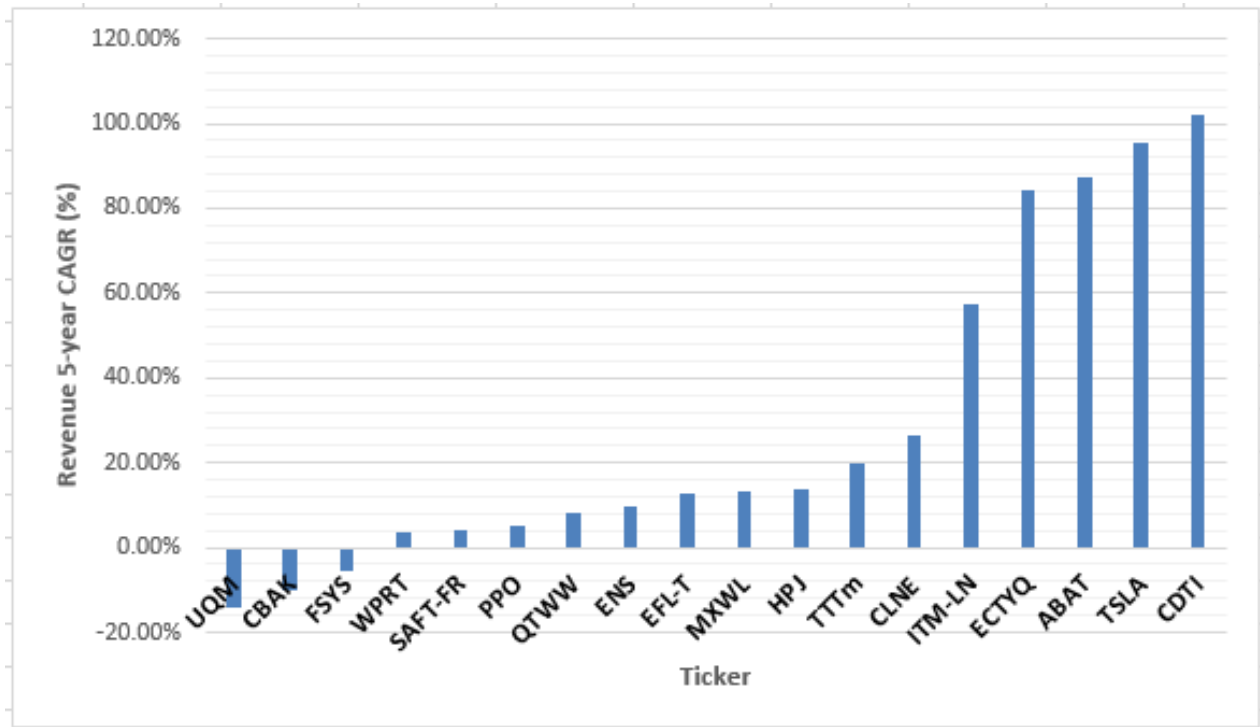
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## CLEAN TRANSPORTATION INDEX- P/E BASED ON NTM CONSENSUS ESTIMATES



## CLEAN TRANSPORTATION- TOTAL REVENUE 5-YEAR CAGR %







## UQM TECHNOLOGIES RECEIVES NEW ORDERS FOR PROTERRA'S CATALYST BUS PROGRAM FOR CALENDAR YEAR 2016 DELIVERY

UQM Technologies, Inc. announced the receipt of a new purchase order from Proterra for the UQM PowerPhase® 220 HD(+) motor and controller systems with deliveries starting in early January 2016. These units will be used in the Proterra Catalyst Bus program for fulfillment of current orders for this new state-of-the-art UQM powered bus. The Proterra Catalyst conquered a 15.5% grade, unprecedented in this test by an electric bus, making it an ideal zero emission option to serve metropolitan areas with challenging topography in West Coast cities including San Francisco and Seattle. In addition to new records, Proterra recently announced the completion of over 1,000,000 customer driven miles for the exclusively UQM powered bus fleet.

Ryan Popple, CEO of Proterra said, "We are pleased with the new HD(+) systems for our Catalyst buses. The improved performance is essential, as we aim to deliver state-of-the-art electric buses and continuously improve the Catalyst platform to break new records in efficiency and performance."

Proterra recently won a \$3 million California Energy Commission Grant to expand advanced manufacturing of zero-emissions transit buses on the West Coast. "We look forward to our continued partnership with UQM, as we both strive to push the limits of electric propulsion in the coming years," said Chief Executive Ryan Popple.

"UQM has again raised the bar for the electric propulsion industry by producing the most technologically advanced and innovative electric drive motors and controllers in the industry. Our HD(+) series products are expected to set new performance records throughout the transportation industry, exceeding the benchmarks already set by UQM," said UQM COO and Interim CEO Joseph Mitchell.



## SHAWN SEVERSON CEO AND EDITOR-IN-CHIEF

Mr. Severson founded EnergyTech Investor in 2015 after seeing a significant communication and information gap developing between small and micro-cap companies and the financial community. Mr. Severson has over 20 years of experience as a senior research analyst covering the technology and cleantech industries and is currently a Managing Director at the Blueshirt Group where he is the head of the Energy, Environmental and Industrial Technologies practice. The Blueshirt Group is a leading Investor Relations consulting firm focused on growth companies. Previously, Mr. Severson was at JMP Securities where he was a Senior Equity Research Analyst and Managing Director of the firm's Energy, Environmental & Industrial Technologies research team. Prior to JMP, he held senior positions at ThinkEquity, Robert W. Baird (London) and Raymond James. He began his career as an Equity Research Associate at Kemper Securities. He was frequently ranked as a top research analyst including one of the Wall Street Journal's "Best on the Street" stock pickers and multiple awards as Starmine's top three stock pickers.



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