

UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549

FORM 10-Q

**QUARTERLY REPORT UNDER SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the quarterly period ended September 30, 2022

or

**TRANSITION REPORT UNDER SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from \_\_\_\_\_ to \_\_\_\_\_

Commission File Number 0-29185

**QS ENERGY, INC.**

(Exact name of registrant as specified in its charter)

**Nevada**  
(State or other jurisdiction of  
incorporation or organization)

**52-2088326**  
(I.R.S. Employer  
Identification No.)

**3606 Challenger Way, Unit#1**  
**Carson City, Nevada 89706**  
(Address, including zip code, of principal executive offices)

**(775) 300-7647**  
(Registrant's telephone number, including area code)

**Securities registered pursuant to Section 12(b) of the Act:**

Title of each class	Name of each exchange on which registered
None	N/A

Check whether the Registrant (1) filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes  No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes  No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer <input type="checkbox"/>	Accelerated filer <input type="checkbox"/>
Non-accelerated filer <input checked="" type="checkbox"/>	Smaller reporting company <input checked="" type="checkbox"/>
Emerging growth company <input type="checkbox"/>	

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes  No

The number of shares of the Registrant's Common Stock outstanding as of November 8, 2022 was 370,584,682.

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### Forward-Looking Statements

This Quarterly Report on Form 10-Q contains forward-looking statements. These forward-looking statements include predictions and statements regarding our future:

- revenues and profits;
- customers;
- research and development expenses and efforts;
- scientific and other third-party test results;
- sales and marketing expenses and efforts;
- liquidity and sufficiency of existing cash;
- technology and products; and
- the effect of recent accounting pronouncements on our financial condition and results of operations.

You can identify these and other forward-looking statements by the use of words such as “may,” “will,” “expects,” “anticipates,” “believes,” “estimates,” “intends,” “project,” “potential,” “forecast” “continues,” “strategies,” or the negative of such terms, or other comparable terminology, and also include statements concerning plans, objectives, goals, strategies and future events or performance.

Our actual results could differ materially from those anticipated in these forward-looking statements as a result of various factors, including those set forth below under the heading “Risk Factors.” We cannot assure you that we will achieve or accomplish our expectations, beliefs or projections. All forward-looking statements included in this document are based on information available to us on the date hereof. We assume no obligation to update any forward-looking statements.

QS ENERGY, INC.  
FORM 10-Q

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PART I – FINANCIAL INFORMATION

Item 1. Unaudited Condensed Consolidated Financial Statements

QS ENERGY, INC.  
CONDENSED CONSOLIDATED BALANCE SHEETS

	September 30, 2022 (unaudited)	December 31, 2021
<b>ASSETS</b>		
<b>Current assets:</b>		
Cash	\$ 252,000	\$ 114,000
Prepaid expenses	18,000	14,000
Total current assets	270,000	128,000
Property and equipment, net	7,000	9,000
Right of use, asset	116,000	143,000
<b>Total assets</b>	<b>\$ 393,000</b>	<b>\$ 280,000</b>
<b>LIABILITIES AND STOCKHOLDERS' DEFICIT</b>		
<b>Current liabilities:</b>		
Accounts payable-license agreements - past due	\$ 1,903,000	\$ 1,726,000
Accounts payable and accrued expenses	918,000	930,000
Convertible debentures, net of discounts of \$280,000 and \$86,000, respectively; includes \$1,590,000 and \$1,333,000, respectively, in default	1,798,000	1,503,000
PPP loan payable	78,000	150,000
Operating lease liabilities	41,000	38,000
Total current liabilities	4,738,000	4,347,000
Operating lease liabilities, net of current portion	77,000	106,000
Total liabilities	4,815,000	4,453,000
<b>Commitments and contingencies</b>		
<b>Stockholders' deficit</b>		
Common stock, \$0.001 par value: 500,000,000 shares authorized, 366,074,683 and 355,300,222 shares issued and outstanding at September 30, 2022 and December 31, 2021, respectively	366,076	355,301
Additional paid-in capital	118,714,924	118,065,699
Accumulated deficit	(123,503,000)	(122,594,000)
Total stockholders' deficit	(4,422,000)	(4,173,000)
<b>Total liabilities and stockholders' deficit</b>	<b>\$ 393,000</b>	<b>\$ 280,000</b>

See notes to condensed consolidated financial statements.

**QS ENERGY, INC.**  
**CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS, UNAUDITED**

	Three months ended September 30,		Nine months ended September 30,	
	2022	2021	2022	2021
Revenues	\$ —	\$ —	\$ —	\$ —
Costs and Expenses				
Operating expenses	214,000	230,000	504,000	586,000
Research and development expenses	130,000	152,000	227,000	259,000
Loss from operations	(344,000)	(382,000)	(731,000)	(845,000)
Other income (expense)				
Gain on partial forgiveness of PPP note payable	—	—	63,000	—
Interest and financing expense	(93,000)	(141,000)	(241,000)	(323,000)
Net Loss	\$ (437,000)	\$ (523,000)	\$ (909,000)	\$ (1,168,000)
Net loss per common share, basic and diluted	\$ (0.00)	\$ (0.00)	\$ (0.00)	\$ (0.00)
Weighted average common shares outstanding, basic and diluted	361,911,870	343,682,057	358,462,524	331,184,719

See notes to condensed consolidated financial statements.

**QS ENERGY, INC.**  
**CONDENSED CONSOLIDATED STATEMENT OF STOCKHOLDERS' DEFICIT, UNAUDITED**  
**FOR THE THREE AND NINE MONTHS ENDED SEPTEMBER 30, 2022**

	Common Stock		Additional Paid-in Capital	Accumulated Deficit	Total Stockholders' Deficit
	Shares	Amount			
<b>Balance, July 1, 2022</b>	358,926,888	\$ 358,928	\$ 118,193,072	\$ (123,066,000)	\$ (4,514,000)
Common stock issued on conversion of notes payable	1,563,967	1,564	12,436	-	14,000
Warrants issued with convertible notes	-	-	283,000	-	283,000
Common stock issued on exercise of warrants	5,333,828	5,334	202,666	-	208,000
Fair value of options and warrants issued as compensation	-	-	4,000	-	4,000
Common stock issued on exercise of options	250,000	250	19,750	-	20,000
Net loss	-	-	-	(437,000)	(437,000)
<b>Balance, September 30, 2022</b>	<u>366,074,683</u>	<u>\$ 366,076</u>	<u>\$ 118,714,924</u>	<u>\$ (123,503,000)</u>	<u>\$ (4,422,000)</u>

	Common Stock		Additional Paid-in Capital	Accumulated Deficit	Total Stockholders' Deficit
	Shares	Amount			
<b>Balance, January 1, 2022</b>	355,300,222	\$ 355,301	\$ 118,065,699	\$ (122,594,000)	\$ (4,173,000)
Common stock issued on conversion of notes payable	1,930,633	1,931	18,069	-	20,000
Warrants issued with convertible notes	-	-	283,000	-	283,000
Common stock issued on exercise of warrants	8,593,828	8,594	297,406	-	306,000
Fair value of options and warrants issued as compensation	-	-	31,000	-	31,000
Common stock issued on exercise of options	250,000	250	19,750	-	20,000
Net loss	-	-	-	(909,000)	(909,000)
<b>Balance, September 30, 2022</b>	<u>366,074,683</u>	<u>\$ 366,076</u>	<u>\$ 118,714,924</u>	<u>\$ (123,503,000)</u>	<u>\$ (4,422,000)</u>

See notes to condensed consolidated financial statements.

**QS ENERGY, INC.**  
**CONDENSED CONSOLIDATED STATEMENT OF STOCKHOLDERS' DEFICIT, UNAUDITED**  
**FOR THE THREE AND NINE MONTHS ENDED SEPTEMBER 30, 2021**

	Common Stock		Additional Paid-in Capital	Accumulated Deficit	Total Stockholders' Deficit
	Shares	Amount			
<b>Balance, July 1, 2021</b>	338,110,564	\$ 338,111	\$ 117,676,889	\$ (121,819,000)	\$ (3,804,000)
Common stock issued on conversion of notes payable	9,221,665	9,222	189,778	-	199,000
Warrants issued with convertible notes	-	-	57,000	-	57,000
Fair value of options and warrants issued as compensation	-	-	23,000	-	23,000
Issuance of common stock for cash	-	-	-	-	-
Net loss	-	-	-	(523,000)	(523,000)
<b>Balance, September 30, 2021</b>	<u>347,332,229</u>	<u>\$ 347,333</u>	<u>\$ 117,946,667</u>	<u>\$ (122,342,000)</u>	<u>\$ (4,048,000)</u>

	Common Stock		Additional Paid-in Capital	Accumulated Deficit	Total Stockholders' Deficit
	Shares	Amount			
<b>Balance, January 1, 2021</b>	323,181,243	\$ 323,182	\$ 117,373,818	\$ (121,204,000)	\$ (3,507,000)
Adjustment for adoption of ASU 2020-06	-	-	(60,000)	30,000	(30,000)
Common stock issued on conversion of notes payable	15,617,653	15,618	316,382	-	332,000
Warrants issued with convertible notes	-	-	156,000	-	156,000
Fair value of options and warrants issued as compensation	-	-	41,000	-	41,000
Issuance of common stock for cash	8,533,333	8,533	119,467	-	128,000
Net loss	-	-	-	(1,168,000)	(1,168,000)
<b>Balance, September 30, 2021</b>	<u>347,332,229</u>	<u>\$ 347,333</u>	<u>\$ 117,946,667</u>	<u>\$ (122,342,000)</u>	<u>\$ (4,048,000)</u>

See notes to condensed consolidated financial statements.

**QS ENERGY, INC.**  
**CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS, UNAUDITED**

	Nine months ended September 30,	
	2022	2021
<b>Cash flows from Operating Activities</b>		
Net loss	\$ (909,000)	\$ (1,168,000)
Adjustments to reconcile net loss to net cash used in operating activities:		
Fair value of options and warrants issued as compensation	31,000	41,000
Amortization of debt discount	90,000	194,000
Accrued interest expense	115,000	92,000
Depreciation	3,000	5,000
Gain on partial forgiveness of PPP note payable	(63,000)	–
Changes in operating assets and liabilities:		
Prepaid expenses and other assets	(4,000)	36,000
Lease right of use asset	27,000	13,000
Accounts payable – license agreements	177,000	176,000
Accounts payable and accrued expenses	(12,000)	65,000
Accounts payable and accrued expenses – related parties	–	44,000
Lease liabilities	(26,000)	(12,000)
Net cash used in operating activities	<u>(571,000)</u>	<u>(514,000)</u>
<b>Cash flows from investing activities</b>		
Purchase of property and equipment	(1,000)	–
Net cash used in investing activities	<u>(1,000)</u>	<u>–</u>
<b>Cash flows from financing activities</b>		
Net proceeds from private sale of restricted common stock	–	128,000
Net proceeds from issuance of convertible notes and warrants	393,000	412,000
Net proceeds from issuance of warrants and options	326,000	–
Principal payment on PPP loan payable	(9,000)	–
Net cash provided by financing activities	<u>710,000</u>	<u>540,000</u>
<b>Net increase in cash</b>	138,000	26,000
<b>Cash, beginning of period</b>	114,000	52,000
<b>Cash, end of period</b>	<u>\$ 252,000</u>	<u>\$ 78,000</u>
<b>Supplemental disclosures of cash flow information</b>		
Cash paid during the year for:		
Interest	\$ –	\$ –
Income Taxes	\$ –	\$ –
<b>Non-cash investing and financing activities</b>		
Adjustment for adoption of ASU 2020-06	\$ –	\$ 30,000
Recording of right of use asset and lease liability	\$ –	\$ 165,000
Conversion of convertible debentures and accrued interest to common stock	\$ 20,000	\$ 332,000
Value of warrants issued with convertible notes	\$ 283,000	\$ 156,000

See notes to condensed consolidated financial statements.



**QS ENERGY, INC.**  
**NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS, UNAUDITED**  
**THREE AND NINE MONTHS ENDED SEPTEMBER 30, 2022 AND 2021**

**1. Description of Business**

QS Energy, Inc. (“QS Energy”, “Company”) was incorporated on February 18, 1998, as a Nevada Corporation under the name Mandalay Capital Corporation. The Company changed its name to Save the World Air, Inc. on February 11, 1999. Effective August 11, 2015, the Company changed its name to QS Energy, Inc. The Company’s common stock is quoted under the symbol “QSEP” on the Over-the-Counter Bulletin Board. More information including the Company’s fact sheet, logos, media articles, and update information are available at our corporate website, [www.qsenergy.com](http://www.qsenergy.com).

QS Energy develops and is seeking to commercialize energy efficiency technologies that assist in meeting increasing global energy demands, improving the economics of oil extraction and transport, and reducing greenhouse gas emissions. The Company's intellectual properties include a portfolio of domestic and international patents and patents pending, a substantial portion of which have been developed in conjunction with and exclusively licensed from Temple University of Philadelphia, PA (“Temple”). QS Energy's primary technology is called Applied Oil Technology (AOT), a commercial-grade crude oil pipeline transportation flow-assurance product. AOT is engineered specifically to reduce pipeline pressure loss, increase pipeline flow rate and capacity, and reduce shippers’ reliance on diluents and drag reducing agents to meet pipeline maximum viscosity requirements. AOT is a 100% solid-state system that has shown to reduce crude oil viscosity by applying a high intensity electrical field to crude oil feedstock while in transit. The AOT product is seeking to transition from the testing, research and development stage to initial production for continued testing in advance of our goal of seeking acceptance and adoption by the midstream pipeline marketplace.

**2. Summary of Significant Accounting Policies**

**Going Concern**

The accompanying consolidated financial statements have been prepared on a going concern basis, which contemplates the realization of assets and the settlement of liabilities and commitments in the normal course of business. As reflected in the accompanying consolidated financial statements, during the nine-months ended September 30, 2022, the Company incurred a net loss of \$909,000, used cash in operations of \$571,000 and had a stockholders’ deficit of \$4,422,000 as of that date. In addition, as of September 30, 2022, thirty-two notes payable with an aggregate balance of \$1,590,000 and certain obligations to a former officer are past due. These factors raise substantial doubt about the Company’s ability to continue as a going concern within a reasonable period of time, which is considered to be one year from the issuance date of these financial statements. In addition, the Company's independent registered public accounting firm, in its report on the Company's December 31, 2021 financial statements, has raised substantial doubt about the Company's ability to continue as a going concern. The ability of the Company to continue as a going concern is dependent upon the Company’s ability to raise additional funds and implement its business plan. The financial statements do not include any adjustments that might be necessary if the Company is unable to continue as a going concern.

At September 30, 2022, the Company had cash on hand in the amount of \$252,000. Management estimates that the current funds on hand will be sufficient to continue operations through December 2022. Management is currently seeking additional funds, primarily through the issuance of debt and equity securities for cash to operate our business, including without limitation the expenses it will incur in connection with the license agreements with Temple; costs associated with product development and commercialization of the AOT technologies; costs to manufacture and ship the products; costs to design and implement an effective system of internal controls and disclosure controls and procedures; costs of maintaining our status as a public company, including, without limitation, legal and accounting fees and costs associated therewith, by filing periodic reports with the SEC and fees and costs required to protect our intellectual property. In addition, as discussed below, the Company has substantial contractual commitments, including without limitation salaries to our executive officers pursuant to employment agreements, certain payments to a former officer and consulting fees, during the remainder of 2022 and beyond.

No assurance can be given that any future financing will be available or, if available, that it will be on terms that are satisfactory to the Company. Even if the Company is able to obtain additional financing, it may contain undue restrictions on our operations, in the case of debt financing or cause substantial dilution for our stockholders in case of equity financing.

### **Inflation**

Macroeconomic factors such as inflation, rising interest rates, governmental responses there to and possible recession caused thereby also add significant uncertainty to our operations and possible effects to the amount and type of financing available to the Company in the future.

### **Basis of Presentation**

The accompanying condensed consolidated financial statements are unaudited. These unaudited interim condensed consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America (“GAAP”) and applicable rules and regulations of the Securities and Exchange Commission (“SEC”) regarding interim financial reporting. Certain information and note disclosures normally included in the financial statements prepared in accordance with GAAP have been condensed or omitted pursuant to such rules and regulations. Accordingly, these interim condensed consolidated financial statements should be read in conjunction with the consolidated financial statements and notes thereto contained in the Company’s Annual Report on Form 10-K for the fiscal year ended December 31, 2021, filed with the SEC on March 31, 2022. The condensed consolidated balance sheet as of December 31, 2021, included herein was derived from the audited consolidated financial statements as of that date, but does not include all disclosures, including notes, required by GAAP.

In the opinion of management, the accompanying unaudited condensed consolidated financial statements contain all adjustments necessary to fairly present the Company’s financial position and results of operations for the interim periods reflected. Except as noted, all adjustments contained herein are of a normal recurring nature. Results of operations for the fiscal periods presented herein are not necessarily indicative of the full fiscal year-end results.

### **Estimates**

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Significant estimates include those related to accruals for potential liabilities, assumptions used in valuing equity instruments issued for financing and services and realization of deferred tax assets, among others. Actual results could differ from those estimates.

### **Consolidation Policy**

The accompanying consolidated financial statements of QS Energy Inc. include the accounts of QS Energy Inc. (the Parent) and its wholly owned subsidiaries, QS Energy Pool, Inc. and STWA Asia Pte. Limited. Intercompany transactions and balances have been eliminated in consolidation.

### **Basic and Diluted Income (Loss) Per Share**

Our computation of earnings per share (“EPS”) includes basic and diluted EPS. Basic EPS is measured as the income (loss) available to common stockholders divided by the weighted average common shares outstanding for the period. Diluted income (loss) per share reflects the potential dilution, using the treasury stock method, that could occur if securities or other contracts to issue common stock were exercised or converted into common stock or resulted in the issuance of common stock that then shared in the income (loss) of the Company as if they had been converted at the beginning of the periods presented, or issuance date, if later.

At September 30, 2022 and 2021, we excluded the following dilutive shares as their effect would have been anti-dilutive.

	<b>September 30, 2022</b>	<b>September 30, 2021</b>
Options	26,057,601	33,280,601
Warrants	26,200,816	14,549,655
Common stock issuable upon conversion of notes payable	38,371,627	21,143,316
Total	<u>90,630,044</u>	<u>68,973,572</u>

### **Stock-Based Compensation**

The Company periodically issues stock options and restricted stock awards to employees and non-employees in non-capital raising transactions for services and for financing costs. Stock option grants, which are generally time or performance vested, are measured at the grant date fair value and depending on the conditions associated with the vesting of the award, compensation cost is recognized on a straight-line or graded basis over the vesting period. Recognition of compensation expense for non-employees is in the same period and manner as if the Company had paid cash for the services. The fair value of stock options granted is estimated using the Black-Scholes option-pricing model, which uses certain assumptions related to risk-free interest rates, expected volatility, expected life, and future dividends. The assumptions used in the Black-Scholes option pricing model could materially affect compensation expense recorded in future periods.

### **Research and Development Costs**

Research and development costs are expensed as incurred and consist primarily of fees paid to consultants and outside service providers, and other expenses relating to the acquisition, design, development and testing of the Company's products. Certain research and development activities are incurred under contract. In those instances, research and development costs are charged to operations ratably over the life of the underlying contracts, unless the achievement of milestones, the completion of contracted work, or other information indicates that a different expensing schedule is more appropriate. Payments made pursuant to research and development contracts are initially recorded as advances on research and development contract services in the Company's consolidated balance sheet and then charged to research and development costs in the Company's consolidated statement of operations as those contract services are performed.

For the nine-month periods ended September 30, 2022 and 2021 research and development costs were \$227,000 and \$259,000, respectively. For the three-month periods ended September 30, 2022 and 2021 research and development costs were \$130,000 and \$152,000, respectively.

### **Patent Costs**

Patent costs consist of patent-related legal and filing fees. Due to the uncertainty associated with the successful development of our AOT and other products, all patent costs are expensed as incurred. During the nine-month periods ended September 30, 2022 and 2021, patent costs were \$13,000 and \$16,000, respectively, which is included as part of operating expenses in the accompanying consolidated statements of operations.

### **Recent Accounting Pronouncements**

In August 2020, the Financial Accounting Standards Board (“FASB”) issued Accounting Standards Update (“ASU”) No. 2020-06 (“ASU 2020-06”) *Debt—Debt with Conversion and Other Options (Subtopic 470-20) and Derivatives and Hedging—Contracts in Entity’s Own Equity (Subtopic 815-40)*. ASU 2020-06 reduces the number of accounting models for convertible debt instruments by eliminating the cash conversion and beneficial conversion accounting models. As a result, the Company’s convertible debt instruments will be accounted for as a single liability measured at its amortized cost as long as no other features require bifurcation and recognition as derivatives. For contracts in an entity’s own equity, the type of contracts primarily affected by this update are freestanding and embedded features that are accounted for as derivatives under the current guidance due to a failure to meet the settlement conditions of the derivative scope exception. The Company early adopted ASU No. 2020-06 effective January 1, 2021 using the modified retrospective approach. Upon adoption, the following changes resulted: (i) the intrinsic value of the beneficial conversion feature recorded in 2020 was reversed as of the effective date of adoption, thereby resulting in an increase in the convertible debentures with an offsetting adjustment to additional paid in capital and (ii) interest expense recorded in 2020 that was related to the amortization of the discount related to the beneficial conversion feature was reversed against opening accumulated deficit. Accordingly, the adoption of ASU 2020-06 resulted in a decrease to accumulated deficit of \$30,000, a decrease in addition paid in capital of \$60,000, and an increase in total stockholders’ deficit of \$30,000 on January 1, 2021.

In May 2021, the FASB issued ASU 2021-04, *Earnings Per Share (Topic 260), Debt — Modifications and Extinguishments (Subtopic 470-50), Compensation — Stock Compensation (Topic 718), and Derivatives and Hedging — Contracts in Entity’s Own Equity (Subtopic 815-40): Issuer’s Accounting for Certain Modifications or Exchanges of Freestanding Equity-Classified Written Call Options*. ASU 2021-04 provides guidance as to how an issuer should account for a modification of the terms or conditions or an exchange of a freestanding equity-classified written call option (i.e., a warrant) that remains classified after modification or exchange as an exchange of the original instrument for a new instrument. An issuer should measure the effect of a modification or exchange as the difference between the fair value of the modified or exchanged warrant and the fair value of that warrant immediately before modification or exchange and then apply a recognition model that comprises four categories of transactions and the corresponding accounting treatment for each category (equity issuance, debt origination, debt modification, and modifications unrelated to equity issuance and debt origination or modification). ASU 2021-04 is effective for all entities for fiscal years beginning after December 15, 2021, including interim periods within those fiscal years. An entity should apply the guidance provided in ASU 2021-04 prospectively to modifications or exchanges occurring on or after the effective date. The Company adopted ASU 2021-04 effective January 1, 2022. The adoption of ASU 2021-04 did not have any impact on the Company’s consolidated financial statement presentation or disclosures.

Recent accounting pronouncements issued by the FASB, including its Emerging Issues Task Force, the American Institute of Certified Public Accountants, and the Securities and Exchange Commission did not or are not believed by management to have a material impact on the Company’s present or future consolidated financial statement presentation or disclosures.

### **3. Accounts Payable and Accrued Expenses**

As of September 30, 2022 and December 31, 2021, the Company owed \$197,000 and \$197,000, respectively, pursuant to a separation agreement with a former executive officer effective April 1, 2017 as amended by letter agreements dated effective August 16, 2018 and March 31, 2019, (the “Letter Agreements”) which have been included as part of accounts payable and accrued expenses on the accompanying condensed consolidated balance sheet. The payments, pursuant to the Letter Agreements, are to be made at \$10,000 per month. During the nine months ended September 30, 2022 the Company made no payments.

### **4. Operating Lease**

The Company leases certain corporate office space under an operating lease agreement. We determine if an arrangement is a lease at inception. Operating lease right-of-use (“ROU”) assets and liabilities are recognized at commencement date based on the present value of lease payments over the lease term. ROU assets represent our right to use an underlying asset for the lease term and lease liabilities represent our obligation to make lease payments arising from the lease. Generally, the implicit rate of interest in lease arrangements is not readily determinable and the Company utilizes its incremental borrowing rate in determining the present value of lease payments. The lease expires May 31, 2025 and requires base rent ranging from \$3,563 to \$3,893 per month.

The components of lease expense and supplemental cash flow information related to leases are as follows:

	<u>September 30, 2022</u>
Lease costs:	
Operating lease (included in general and administrative in the Company's consolidated statement of operations)	\$ -
Other information:	
Cash paid for amounts included in the measurement of lease liabilities	\$ 26,000
Weighted average remaining lease term – operating leases (in years)	2.6
Average discount rate – operating leases	4%
<u>The supplemental balance sheet information related to leases for the period is as follows:</u>	
Long-term right-of-use assets	<u>\$ 116,000</u>
Short-term operating lease liabilities	41,000
Long-term operating lease liabilities	77,000
Total operating lease liabilities	<u>\$ 118,000</u>

Future minimum lease payments under operating leases as of September 30, 2022 are as follows:

Year ending December 31,	Amount
2022 (remainder of year)	\$ 11,000
2023	45,000
2024	46,000
2025	19,000
Total minimum lease payments	<u>121,000</u>
Less: interest	(3,000)
Present value of lease liabilities	<u>\$ 118,000</u>

#### 5. Convertible Notes Payable

	<u>September 30, 2022 (unaudited)</u>	<u>December 31, 2021</u>
Convertible notes	\$ 1,529,000	\$ 1,154,000
Accrued interest	549,000	435,000
Subtotal, including \$1,590,000 and \$1,333,000 in default at September 30, 2022 and December 31, 2021, respectively	<u>2,078,000</u>	<u>1,589,000</u>
Convertible note discount	(280,000)	(86,000)
Balance on convertible notes, net of note discounts	<u>\$ 1,798,000</u>	<u>\$ 1,503,000</u>

The Company issues convertible notes in exchange for cash. The notes typically do not bear any interest; however, there is an implied interest rate of 10% since the notes are typically issued at a 10% discount. The notes are unsecured, and usually mature twelve months from issuance. The notes are convertible at the option of the note holder into shares of the Company's common stock at a conversion price stipulated in the conversion agreement. In addition, the note holders receive warrants to purchase shares of common stock that are fully vested upon issuance and expire one year from the date of issuance. As a result, the Company records a note discount to account for the relative fair value of the warrants, and original issue discount of 10% (OID). The note discounts are amortized over the term of the notes.

As of December 31, 2021, total outstanding notes payable and accrued interest totaled \$1,589,000. During the nine-month period ended September 30, 2022, the Company issued convertible promissory notes in the aggregate of \$432,000 for cash proceeds of \$393,000, net of OID of \$39,000. Also during the nine-month period ended September 30, 2022, convertible notes and accrued interest of \$58,000 were converted into 1,930,633 shares of common stock, and accrued interest of \$115,000 was recorded. As of September 30, 2022, total outstanding convertible notes payable and accrued interest totaled \$2,078,000. As of September 30, 2022, a total of thirty-two convertible notes in the aggregate of \$1,590,000 including accrued interest have reached maturity and are past due.

The \$432,000 of convertible notes issued in 2022 have implied interest rate was 10%, mature in twelve months from issuance, and are convertible into 14,409,995 shares of the Company's common stock at \$0.03 per share. In addition, the Company also granted these note holders warrants to purchase 14,409,995 shares of the Company's common stock. The warrants are fully vested, exercisable at \$0.04 per share and expire one year from the date of issuance.

As of December 31, 2021, unamortized note discount totaled \$86,000. During the nine-month period ended September 30, 2022, the Company recorded \$283,000 of note discount for the relative fair value of warrants issued with convertible notes, and \$39,000 discount for OID. Also during the nine-month period ended September 30, 2022, the Company recorded amortization of note discount of \$90,000, and \$38,000 of note discount related to converted notes was removed and included in the carrying amount of the convertible notes upon conversion. As of September 30, 2022, unamortized discount totaled \$280,000.

As of September 30, 2022, the convertible notes payable and accrued interest are convertible into 38,371,627 shares of common stock at conversion rates ranging from \$0.02 to \$0.48 per share.

## **6. PPP loan payable**

In June 2020, the Company was granted a loan (the "PPP loan") from Cadence Bank in the aggregate amount of \$151,000, pursuant to the Paycheck Protection Program (the "PPP") under the CARES Act.

The PPP loan agreement is dated June 18, 2020, matures on June 18, 2025, bears interest at a rate of 1% per annum, with the first six months of interest deferred, and is unsecured and guaranteed by the U.S. Small Business Administration ("SBA"). The PPP loan may be prepaid at any time prior to maturity with no prepayment penalties. Funds from the PPP loan may only be used for qualifying expenses as described in the CARES Act, including qualifying payroll costs, qualifying group health care benefits, qualifying rent and debt obligations, and qualifying utilities.

Under the terms of the PPP, certain amounts of the loan may be forgiven if they are used for qualifying expenses. In January 2022, the Company received notice that \$24,000 of the PPP loan was forgiven, and a \$24,000 gain on forgiveness of PPP loan was recorded. In June 2022, the Company received notice that an additional \$39,000 of the PPP loan was forgiven, and a \$39,000 gain on forgiveness of PPP loan was recorded. The balance of the PPP loan after recording the aggregate forgiveness was \$87,000. The Company also paid \$9,000 of principal on the PPP loan. The terms of the PPP loan provide for customary events of default including, among other things, payment defaults, breach of representations and warranties, and insolvency events. The Company was in compliance with the terms of the PPP loan as of September 30, 2022.

## 7. Research and Development

The Company constructs, develops and tests the AOT technologies with internal resources and through the assistance of various third-party entities. Costs incurred and expensed include fees such as license fees, purchase of test equipment, pipeline pumping equipment, crude oil tank batteries, viscometers, SCADA systems, computer equipment, payroll and other related equipment and various logistical expenses for the purposes of evaluating and testing the Company's AOT prototypes.

Costs incurred for research and development are expensed as incurred. Purchased materials that do not have an alternative future use are also expensed. Furthermore, costs incurred in the construction of prototypes with no certainty of any alternative future use and established commercial uses are also expensed.

For the nine-month periods ended September 30, 2022 and 2021 research and development costs were \$227,000 and \$259,000, respectively. For the three-month periods ended September 30, 2022 and 2021 research and development costs were \$130,000 and \$152,000, respectively.

### AOT Prototypes

During the periods ended September 30, 2022 and 2021, the Company incurred total expenses of \$86,000 and \$110,000, respectively, in the manufacture and testing of the AOT prototype equipment. These expenses have been reflected as part of Research and Development expenses on the accompanying condensed consolidated statements of operations.

### Temple University Licensing Agreements

On August 1, 2011, the Company and Temple University ("Temple") entered into two (2) Exclusive License Agreements (collectively, the "License Agreements") relating to Temple's patent applications, patents and technical information pertaining to technology associated with an electric and/or magnetic field assisted fuel injector system (the "First Temple License"), and to technology to reduce crude oil viscosity (the "Second Temple License"). The License Agreements are exclusive, and the territory licensed to the Company is worldwide and replace previously issued License Agreements.

Pursuant to the two licensing agreements, the Company paid Temple a non-refundable license maintenance fee of \$300,000 and agreed to pay (i) annual maintenance fees of \$187,500; (ii) royalty fee ranging from 4% up to 7% from revenues generated from the licensing agreements; and (iii) 25% of all revenues generated from sub-licensees to secure or maintain the sub-license or option thereon. The term of the licenses commenced in August 2011 and will expire upon expiration of the patents. The agreements can also be terminated by either party upon notification under terms of the licensing agreements or if the Company ceases the development of the patent or fails to commercialize the patent rights.

Total expenses recognized during each nine-month period ended September 30, 2022 and 2021 pursuant to these two License Agreements amounted to \$141,000 and has been reflected in Research and Development expenses on the accompanying condensed consolidated statements of operations. In the nine-month periods ended September 30, 2022 and 2021, the Company also recognized penalty interest on past-due balances of \$36,000 and \$36,000, respectively, which is included as part of interest and financing expense in the accompanying condensed consolidated statements of operations.

As of September 30, 2022 and December 31, 2021, total unpaid fees due to Temple pursuant to these agreements are \$1,903,000 and \$1,726,000, respectively, which are included as part of Accounts Payable – license agreements in the accompanying condensed consolidated balance sheets. With regards to the unpaid fees to Temple, a total of \$135,000 are deferred until such time the Company achieves a revenue milestone of \$835,000 or upon termination of the licensing agreements and the remaining \$1,768,000 are deemed past due. The Company is currently in discussions with Temple to settle or cure the past due balance.

No revenues were earned from the two License Agreements during the nine-month periods ended September 30, 2022 and 2021.

## 8. Common Stock

During the nine months ended September 30, 2022, the Company issued 10,774,461 shares of its common stock as follows:

- The Company issued 1,930,633 shares of its common stock upon the conversion of \$58,000 in convertible notes, net of unamortized discount of \$38,000, pursuant to the convertible notes conversion price of \$0.03 per share.
- The Company issued 8,593,828 shares of its common stock upon the exercise of warrants of \$306,000, at \$0.03 to \$0.04 per share.
- The Company issued 250,000 shares of its common stock upon the exercise of options of \$20,000, at \$0.08 per share.

## 9. Stock Options and Warrants

The Company periodically issues stock options and warrants to employees and non-employees in capital raising transactions, for services, and for financing costs.

### Options

Options vest according to the terms of the specific grant and expire from 2 to 10 years from date of grant. The weighted-average, remaining contractual life of employee and non-employee options outstanding at September 30, 2022 was 5 years. Stock option activity for the period January 1, 2022 up to September 30, 2022, was as follows:

	Options	Weighted Avg. Exercise Price
January 1, 2022	31,080,601	\$ 0.17
Granted	—	—
Exercised	(250,000)	0.08
Expired	(4,773,000)	0.26
September 30, 2022	<u>26,057,601</u>	<u>\$ 0.15</u>

The weighted average exercise prices, remaining contractual lives for options granted, exercisable, and expected to vest as of September 30, 2022 were as follows:

Option Exercise Price Per Share	Outstanding Options			Exercisable Options	
	Shares	Life (Years)	Weighted Average Exercise Price	Shares	Weighted Average Exercise Price
\$0.02 - \$0.24	22,055,551	5.3	\$ 0.10	22,055,551	\$ 0.10
\$0.25 - \$0.49	3,388,552	3.9	\$ 0.36	3,388,552	\$ 0.36
\$0.50 - \$0.99	463,052	1.6	\$ 0.85	463,052	\$ 0.85
\$1.00 - \$2.00	150,446	0.8	\$ 1.18	150,446	\$ 1.18
	<u>26,057,601</u>	5.1	\$ 0.15	<u>26,057,601</u>	\$ 0.15

At September 30, 2022, the aggregate intrinsic value of the options outstanding was \$429,000.



During the nine-month period ending September 30, 2021, the Company granted options to purchase 300,000 shares of common stock to a former executive officer under terms of an employment agreement. The options are exercisable at \$0.02 to \$0.05 per share, vest monthly over a one-month period, and expire ten years from the date granted. Total fair value of these options at grant date was \$11,000 using the Black-Scholes Option Pricing model with the following assumptions: life of 10 years; risk free interest rate of 1.11%; volatility of 141% to 147% and dividend yield of 0%.

During the three and nine month periods ended September 30, 2022, the Company did not record any compensation costs related to the fair value of vested options. During the nine-month period ended September 30, 2021, the Company recognized compensation costs based on the fair value of options that vested of \$32,000. During the three-month periods ended September 30, 2021, the Company recognized compensation costs based on the fair value of options that vested of \$20,000.

### Warrants

The following table summarizes certain information about the Company's stock purchase warrants activity for the period starting January 1, 2022 up to September 30, 2022.

	<b>Warrants</b>	<b>Weighted Avg. Exercise Price</b>
January 1, 2022	19,977,149	\$ 0.04
Granted	15,209,992	0.03
Exercised	(8,593,828)	0.04
Expired	(392,497)	0.05
September 30, 2022	<u>26,200,816</u>	<u>\$ 0.04</u>

The weighted average exercise prices, remaining contractual lives for warrants granted, exercisable, and expected to vest as of September 30, 2022 were as follows:

<b>Warrant Exercise Price Per Share</b>	<b>Outstanding Warrants</b>			<b>Exercisable Warrants</b>	
	<b>Shares</b>	<b>Life (Years)</b>	<b>Weighted Average Exercise Price</b>	<b>Shares</b>	<b>Weighted Average Exercise Price</b>
\$0.02 - \$0.24	26,130,816	0.9	\$ 0.03	26,097,483	\$ 0.03
\$0.50 - \$1.00	70,000	1.6	\$ 0.80	70,000	\$ 0.80
	<u>26,200,816</u>	0.9	\$ 0.04	<u>26,167,483</u>	\$ 0.04

At September 30, 2022, the aggregate intrinsic value of warrants outstanding was \$1,332,000.

During the nine-month period ending September 30, 2022, the Company issued warrants to purchase 799,997 shares of common stock in exchange for services. The warrants are exercisable at a price range of \$0.02 to \$0.09, vesting up to one month from the date of grant, and expiring two to five years from the date of grant. Total fair value of these warrants at grant date was \$31,000 using the Black-Scholes Option Pricing model with the following assumptions: life of 2 to 5 years; risk free interest rate of 0.73% to 3.25%; volatility of 193% to 245% and dividend yield of 0%.

During the nine-month period ending September 30, 2021, the Company issued warrants to purchase 299,997 shares of common stock in exchange for services. The warrants are exercisable at a price of \$0.02 to \$0.05, vesting one month from the date of grant and expiring two years from the date of grant. Total fair value of these options at grant date was \$9,000 using the Black-Scholes Option Pricing model with the following assumptions: life of 2 years; risk free interest rate of 0.13% to 0.27%; volatility of 204% to 240% and dividend yield of 0%.

During the nine-month period ended September 30, 2022, the Company recognized compensation costs based on the fair value of warrants that vested of \$31,000. During the nine-month period ended September 30, 2021, the Company recognized compensation costs based on the fair value of warrants that vested of \$9,000.

#### **10. Commitments and Contingencies**

There is no current or pending litigation of any significance with the exception of the matters that have arisen under, and are being handled in, the normal course of business.

QS Energy is working to maintain normal operations during the current COVID-19 pandemic under social distancing and shelter-in-place guidelines as recommended or required by the CDC, federal, state and county government agencies. The Company has moved many operational functions to the cloud. Our employees can perform most vital functions remotely. Most day-to-day operations have been minimally impacted by COVID-19. It is unclear what impact COVID-19 may have on our supply chain, or on our ability to operate on-site at the demonstration project. The Company has experienced delays and cost overruns due to COVID-19 impacts on our supply chain. We have not been made aware of any COVID-19 restrictions at the demonstration site that would impact our ability to restart our demonstration testing. No assurances can be made that COVID-19 will not materially affect our supply chain, will not negatively affect access to the demonstration site, restrict operations at the demonstration site, or negatively impact our ability to fund continued operations.

#### **11. Subsequent Events**

In October 2022, the Company issued 3,776,666 shares of common stock upon the conversion of \$113,000 in convertible notes payable at \$0.03 per share. Also during October 2022, pursuant to terms of a consulting agreement, the Company granted a warrant to purchase 750,000 shares of common stock with an exercise price of \$0.04 per share, vesting immediately, and expiring two years from the date granted.

## Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with the Consolidated Financial Statements and supplementary data referred to in this Form 10-Q.

This discussion contains forward-looking statements that involve risks and uncertainties. Such statements, which include statements concerning future revenue sources and concentration, selling, general and administrative expenses, research and development expenses, capital resources, additional financings and additional losses, are subject to risks and uncertainties, including, but not limited to, those discussed elsewhere in this Form 10-Q, and in the "Risk Factors" that could cause actual results to differ materially from those projected. Unless otherwise expressly indicated, the information set forth in this Form 10-Q is as of September 30, 2022, and we undertake no duty to update this information.

### Overview

QS Energy, Inc. ("QS Energy" or "Company" or "we" or "us" or "our") develops and seeks to commercialize energy efficiency technologies that assist in meeting increasing global energy demands, improving the economics of oil transport, and reducing greenhouse gas emissions. The Company's intellectual properties include a portfolio of domestic and international patents and patents pending, a substantial portion of which have been developed in conjunction with and exclusively licensed from Temple University of Philadelphia, PA ("Temple"). QS Energy's primary technology is called Applied Oil Technology (AOT), a commercial-grade crude oil pipeline transportation flow-assurance product. Engineered specifically to reduce pipeline pressure loss, increase pipeline flow rate and capacity, and reduce shippers' reliance on diluents and drag reducing agents to meet pipeline maximum viscosity requirements, AOT is a 100% solid-state system that is designed to reduce crude oil viscosity by applying a high intensity electrical field to crude oil while in transit.

Our Company was incorporated on February 18, 1998, as a Nevada Corporation under the name Mandalay Capital Corporation. The Company changed its name to Save the World Air, Inc. on February 11, 1999. Effective August 11, 2015, the Company changed its name to QS Energy, Inc. The name change was affected through a short-form merger pursuant to Section 92A.180 of the Nevada Revised Statutes. Additionally, QS Energy Pool, Inc., a California corporation, was formed as a wholly owned subsidiary of the Company on July 6, 2015 to serve as a vehicle for the Company to explore, review and consider acquisition opportunities. To date, QS Energy Pool has not entered into any acquisition transaction. However, the Company may still consider entering into potential beneficial acquisitions. The Company is considering dissolving QS Energy Pool to reduce costs associated with operating this subsidiary. The Company's common stock is quoted under the symbol "QSEP" on the Over-the-Counter Bulletin Board. More information including the Company's updates, fact sheet, logos and media articles are available at our corporate website, [www.qsenergy.com](http://www.qsenergy.com).

As previously reported in our Form 10-K filed with the SEC on July 22, 2021, QS Energy's AOT technology has been tested in a variety of configurations at small-scale in the laboratory and at full-scale in the field under commercial operating conditions, including tests performed U.S. Department of Energy, the PetroChina Pipeline R&D Center, and ATS RheoSystems, a division of CANNON™. The Company's first two full-scale midstream pipeline installations were on TransCanada's Keystone pipeline in 2014 and a pipeline operated by Kinder Morgan Crude & Condensate, LLC in 2015. Tests performed at these two facilities were limited due primarily to technical issues with the AOT equipment. Although tests at these facilities provided limited sets of data, the equipment did not operate properly, and no conclusions could be reached regarding the efficacy or commercial viability of the AOT technology. Also, in 2014, the Company began development of a product based on an electrical heat system which reduces oil viscosity through a process known as joule heat ("Joule Heat"). In December 2015, we suspended Joule Heat development activities to focus Company resources on finalizing commercial development of the AOT. For more information regarding prior history, development and testing of the AOT technology, and specifics regarding these earlier tests and technical issues experience, please refer to our Form 10-K filed with the SEC on July 22, 2021.

In July 2017, the Company filed for trademark protection for the word "eDiluent" in advance of rolling out a marketing and revenue strategy based on the concept of using AOT to reduce pipeline dependence upon diluent to reduce viscosity of crude oils. A primary function of AOT is to reduce viscosity by means of its solid-state electronics technology, in essence providing an electronic form of diluent, or "eDiluent". Subject to successful testing of our AOT technology and the availability of sufficient operating capital, the Company plans to market and sell a value-added service under the name eDiluent, designed to be upsold by the Company's midstream pipeline customers in an effort to provide the Company with long-term recurring revenues.

Throughout 2018 our primary strategic goal was focused on installing and operating a demonstration AOT project on a commercial crude oil pipeline. Much of our time was spent meeting with industry executives and engineers in North and South America and working with local representatives in the Asian and the Middle Eastern markets. In December 2018, we reached mutual agreement with a major U.S.-based pipeline operator on a demonstration project under which we would install and operate our AOT equipment on a crude oil pipeline located in the Southern United States. We believed at the time that the selected project site could be ideal for demonstration purposes, delivering heavy crudes which, based on samples tested at Temple University, and, subject to the discussion below, could experience significant viscosity reduction when treated with our AOT technology.

While management focused on finding a partner and finalizing terms of the demonstration project, and in our continuing efforts to commercialize our AOT technology, our engineering team worked throughout 2018 to prepare one of our inventoried AOT units for deployment. All system upgrades, inspections and testing protocols were completed in December 2018. The pipeline operator finalized site selection and began site design and engineering in January 2019, completing site preparation and equipment installation in June 2019. The project was installed within budget, quality compliant, and without safety incidents. The system passed the pre-start safety review, data acquisition signal verifications, and mechanical inspections. Under full crude oil flow, the system was confirmed to have no leaks and no environmental issues were noted. Data collected during the full-flow startup phase confirmed internal differential pressures to be negligible and consistent with design specifications. However, when the system was energized, and the unit was run-up to high-voltage operations, the primary power supply began to operate erratically and had to be taken offline. Subsequent inspection determined the primary power supply had failed.

After removing the primary power supply, our engineers reconfigured the system to run off a smaller secondary power supply. Although this unit was not capable of achieving target treatment voltage, we performed limited testing and troubleshooting measures, after which the damaged power supply was shipped to the manufacturer for expedited repair and reconditioning. Inspections performed during the repair process indicated internal power supply components had been physically damaged. Though not definitive, it appears that damage may have occurred during transit prior to initial installation at the demonstration site. While the demonstration project was offline for power supply repairs, our engineering team worked with oil samples pulled from the operating pipeline for testing at our then Tomball laboratory facility. These tests were designed to confirm our target power requirements as accurately as possible and help us fine-tune enhancements planned for a new optimized AOT internal grid pack design we had planned to test at the demonstration site as part of our continuing reliability engineering effort.

During initial testing with the small power supply, current draw was greater than prior field deployments. While it was expected that the small power supply would not achieve treatment voltage, as voltage was increased, actual current draw experienced under test conditions exceeded the operating limit of the power supply. Subsequent laboratory and in-field testing performed at our then Tomball facility showed the electrical conductivity of the oil to be quite high and in line with field observations. Although these tests indicated the unit was generally functioning properly, results further indicated the damaged power supply, once repaired, would not be capable of providing sufficient power to fully treat the crude oil due to the oil's high electrical conductivity. In anticipation of this result, the Company had initiated parallel tasks in advance of testing of: i) installation of the repaired power supply and performance of limited testing to confirm laboratory and in-field test results; and ii) procurement of a new power supply capable of providing significantly more power and a modified AOT grid pack assembly reconfigured and generally optimized based on the latest laboratory and in-field test results.

When the repaired power supply was installed in August 2019, the system operated as expected, and limited testing was performed. Results of this limited testing were consistent with laboratory tests performed to date. As expected, however, the repaired power supply was not capable of providing sufficient power to fully treat the crude oil under commercial operating conditions. Based on results of this limited testing, Company engineers completed designs and began implementation of modifications to the AOT internal grid pack assembly.

The new high capacity power supply and modified grid pack were installed in December 2019. However, prior to flooding the system with crude oil, early-phase startup testing indicated an electrical short circuit. Subsequent inspection revealed damage to the internal grid pack which likely occurred during installation or during the startup testing cycle. The grid pack was shipped offsite for repairs with reinstallation scheduled for January 2020.

The AOT demonstration project continued to experience setbacks during the first quarter of 2020. After repairing and re-installing the modified grid pack, the system shut down again during commissioning presenting with error conditions similar to the December 2019 failure. At that time, based on external inspections and on-site testing, our engineers suspected the grid pack had again been damaged during re-installation and that such suspected damage was the most likely cause of the electrical short circuit. It was determined at that time the best course of action would be to remove the modified grid pack and re-install the original grid pack which had previously been installed multiple times without sustaining damage, and perform a detailed inspection of the modified grid pack in an effort to determine the cause of the electrical short circuit.

Executing this plan, our team removed the modified grid pack and re-installed the original grid pack assembly in January 2020. After removal, our engineers performed a detailed inspection of the modified grid pack. Inconsistent with expectations, no damage to the modified grid pack was found during this inspection, leaving the cause of the electrical short circuit undiagnosed.

In January and February 2020, our engineers tested and attempted to operate the AOT under a variety of conditions. In these tests, the system could be run at high voltage under static “shut-in” conditions; however, the system continued to shut down due to an electrical short circuit when operated under pressure. In simple terms, this means the system could be flooded with crude oil and powered up in excess of 10,000 volts when the system was shut-in by closing the intake and outtake valves which isolates the system from the pipeline’s operating pressure. However, once the valves were opened and the system was subjected to the pipeline’s operating pressure, the system developed an electrical short circuit and shut down.

As the presence of high pressure appeared to trigger the short circuit, our engineers believed it is unlikely the fault was in the grid pack assembly as this component was fully submerged in crude oil and would generally be subjected to equal pressure on all components. The electrical short was more likely developing in the electrical connection assembly built into the blind flange at the top of the pressure vessel, which would be subjected to high pressure under normal operating conditions. Unfortunately, this electrical connection assembly could not be inspected without destroying the assembly itself. Instead, our engineers developed a plan to replace the installed the blind flange and electrical connection assembly with components from inventory which would be rebuilt prior to installation.

As part of an ongoing reliability-engineering effort, our engineers at that time worked on incremental modifications to improve electrical isolation within the blind flange and electrical connection assembly. These previously developed plans allowed us to move quickly with vendors and present an expedited plan to the pipeline operator. In March 2020, our engineers designed modifications to the blind flange, electrical connections and related housing intended to minimize the effects of high pressure and likelihood of internal electrical short circuits. Concurrently, a blind flange with high voltage assembly was shipped from inventory to a shop with specialized equipment used to strip the flange of all electrical insulation materials. Once the stripping process was complete, castings were made to complete the internal assembly. Our engineers believed at the time that this modification could solve the electrical short issue we have experienced in prior tests.

While the blind flange assembly was being remanufactured, we took the opportunity to implement a number of relatively minor modifications to other system configurations which had been planned for future units based on results of our engineering team’s reliability engineering work over the past two years. These modifications were designed to improve the reliability of internal electrical connections, increase the structural support of the internal grid pack, and maintain higher quality control over internal component positioning and alignment during vertical installation.

Notwithstanding our efforts, the AOT system continues to be non-operational under normal operating conditions. As reported in previous updates on our website at <https://qsenergy.com/updates> and in our Form 8-K filed with the SEC on March 4, 2020, the AOT system experienced shutdowns during the commissioning process. In December 2019, after installing a modified grid pack and new high-capacity power supply, the system shut down presenting with an electrical short which was determined to be due to damage to the system’s internal grid pack likely incurred during installation. After repairing and re-installing the modified grid pack in January 2020, the system shut down again during commissioning presenting with error conditions similar to the December 2019 failure. At that time, based on external inspections and on-site testing, our engineers suspected the grid pack had again been damaged during re-installation and that such suspected damage was the most likely cause of the electrical short circuit. As reported in our January 24, 2020 website update page, it was determined at that time the best course of action would be to remove the modified grid pack and re-install the original grid pack which had previously been installed multiple times without sustaining damage, and perform a detailed inspection of the modified grid pack in an effort to determine the cause of the electrical short circuit.

We have tested and attempted to operate the AOT under a variety of conditions. As noted above, we have been able to bring the system up to high voltage under static “shut-in” conditions; however, the system continued to shut down due to an electrical short circuit when operated under pressure. Because of our inability to fully diagnose the cause of our current electrical problems, we can provide no assurances that we will not face other operational issues after completing a full diagnosis and evaluation of our technology.

As previously reported, in December 2018, we entered into an agreement with a major U.S.-based pipeline operator under which the Company installed its AOT equipment on a crude oil pipeline located in the Southern United States for testing and demonstration purposes. Based on laboratory tests and operations of prototype equipment at other locations, we had a reasonable expectation that the equipment would operate successfully and that test results would demonstrate quantifiable benefits to pipeline operators. This has not occurred.

As reported in the Company's Form 10-K and Form 10-Q filed with the SEC on March 31, 2020 and June 29, 2020, respectively, and in website updates published on the Company's website at <https://qsenergy.com/updates>, the Company has experienced a number of difficulties and delays at the demonstration site. Despite identifying and implementing numerous design modifications over the past several months, the Company has been unable to successfully operate its AOT equipment.

In late June 2020, equipment modifications intended to mitigate electrical short circuit issues identified in earlier tests were completed. During startup testing, the system experienced a new failure mode in which the system could be operated at a baseline high voltage (well below operational voltage required to treat heavy crude), but after a period of time, the system would drop to very low voltage indicating a reduction in electrical resistance in the AOT. This voltage drop was both dynamic, developing over time as electrical current was applied; and transient, in that the power supply could be shut-down and re-started with this voltage drop characteristic repeating. After reviewing these results and running subsequent in-field tests at the direction of the power supply manufacturer, they recommended a configuration modification to the control module of the system's high-voltage power supply which, in their experience, could resolve the system's ability to maintain constant voltage under our unique operating conditions in which the AOT essentially acts as a very large capacitor. During the first week of July 2020, we modified the power supply control module at the direction of the power supply manufacturer. Though this modification did appear to solve the voltage drop issue, the AOT could not achieve operational voltage as the system control module indicated arc-faults when high voltage was applied above the baseline voltage levels. After many attempts to bring the system up to operating voltage, arc-faults continued until the AOT demonstrated symptoms of what appeared to be a dead short (electrical short-to-ground; voltage dropped to zero) and the system could no longer be re-started.

Our engineers have working concepts as to what may be causing this most recent failure but will not be able to fully diagnose these issues at the demonstration site. After discussions with our demonstration pipeline partner, it was mutually agreed that the best course of action would be to move the equipment from the demonstration site to another location where our engineers could disassemble and inspect the equipment. Our AOT equipment has been moved to storage, inspection, and testing sites in the state of Mississippi and in Tomball, Texas. Our former demonstration partner has indicated their continued interest in our AOT technology and may consider installation and operation of a new AOT demonstration project if our operational issues can be resolved.

Though our engineers have working concepts as to what may be causing the most recent voltage drop and arc-fault issues, it is unknown whether these issues can be solved with minor modifications to the current design. To fully diagnose and resolve these issues, new testing would likely need to be performed in a laboratory setting. The time and cost of implementing such a plan would likely be significant. The Company did not have sufficient capital to take on this endeavor. We shut down all testing of our AOT product in July 2020, due to a lack of operating capital. See, however, note 11 (Subsequent Events) of our Consolidated Financial Statements, attached to our Form 10-K filed with the SEC on July 22, 2021, for an update of limited capital we received in the first two quarters of 2021, allowing us to commence some additional testing of our AOT product.

Following our receipt of the limited capital identified in the paragraph above, and under new management, our engineer went to the new site of our AOT equipment to inspect the condition of the equipment and develop logistics of testing going forward. Our engineer commenced re-testing operations in June 2021. Our engineer has reported that the AOT has been unloaded and the electrical connection has been ordered. The unit will undergo testing to try and duplicate the electrical short condition experienced at the test site. After initial testing, a troubleshooting sequence will be performed to attempt to identify the location of the short. If an electrical short can be found based on our hypothesis, we intend to resolve it. If the electrical short cannot be found the AOT will be disassembled and tested in pieces, assuming we are able to raise sufficient capital to do so. Additionally, laboratory materials testing of the electrical insulation will be initiated. Measurement of the electrical properties of both newly cast and material both exposed and submerged in fluid will be done to determine if the resin remains our material of choice. Our engineer reports that he is expecting to visit the AOT in July 2021 to inspect all the connections and conduct initial testing while the AOT is empty. He further reports that lab test fixtures are being designed and initial designs could be available for review in August 2021. Because of our inability fully to diagnose the cause of our current electrical problems, we can provide no assurances that we will not face other operational issues after completing a full diagnosis and evaluation of our technology, requiring additional capital, which, as stated above, may not be available to us.

During the visit in July 2021 a plan was developed to prepare the location for the inspection and testing of the AOT and AOT components. A transformer was needed to provide power to the power supply. Due to supply chain issues the transformer delivery was delayed until July 2021.

Re-testing of the AOT began in July 2021 and the dead short condition that had developed during the demonstration was not present. Various tests were conducted to control variables and identify possible reasons for the arcs and short circuits. We ran tests to isolate debris, plate spacing, alignment of grid pack, presence of oil and presence of the pressure vessel. The best results obtained with the new stack were when the stack had been cleaned, assembled in a hanging position and was outside of the vessel.

For comparison the old stack was tested in a similar manner, and, by chance, arcs were observed near insulated parts. The stack was inspected where the arcs were witnessed, and damaged insulation was found. It seems likely these locations failed during the demonstration and led to the short circuits.

Testing of grid screens in isolation showed the ability to achieve much higher voltages. More testing needs to be done to find methods to control the variables in a full stack to achieve similar voltages. So far it seems plate alignment and flatness must be improved. Secondly, constraining the stack alignment during installation should also be improved. As we isolate additional variables, we hope to be able to see if there are additional constraints that will need to be incorporated into the design of a new stack.

The results of the electrical testing of the insulating material showed that the material is functioning as designed. However, during the testing it was discovered that the material swells when exposed to crude oil. The current design does not accommodate a change in size of the parts. New materials were sourced and tested as potential replacements. A couple of new materials have been found that offer improved stability when submerged in crude oil for extended periods of time. To expedite the search several materials tested were purchased of the shelf while working with our vendors to source new commercial materials. The data has been shared with our vendors and they are working on providing us with samples of commercial versions of the promising materials.

We have also validated that a new design concept for the grid pack will reduce arcing and allowed us to apply full voltage during a recent test. A 3<sup>rd</sup> party engineering firm with proper experience and three-dimensional modeling software was engaged. A design review has been completed and final drawings have been received. Drawings were sent to our vendors for review and any changes for manufacturability raised have been addressed and changes incorporated into the final design.

The design criteria mentioned above were shared in our investor update, dated April 15, 2022 and are reproduced here for ease of reference:

1. Round the edges of all metal surfaces.
2. Eliminate perpendicular surface of insulators.
3. Ensure the gaps between adjacent grid plates are uniform.
4. Ensure there can be no interference from mating parts when making any connections but most especially electrical connections.
5. Change grid plate's shape eliminating all corners and fully insulate the perimeter of the grid plate.
6. Find new insulating material for supports and spacers.
7. Change blind mechanical and electrical designs to be less sensitive to physical changes in insulation.

The work through May 2022 has mainly focused on selecting a new material of construction for the insulating parts to reduce possible absorption of oil by the insulators. Adsorbing components from crude oil could lead to a change in size and possibly to unanticipated mechanical and electrical properties. The new material shows minimal change and is over 90% improved than the previous insulating material in accelerated aging tests.

Due to slow response times from our initial design contractor, we selected a new contractor to complete the design work. We continue to seek an immersion test to finalize the new insulator design despite the change. We are hopeful the results will confirm our new design will be fit for purpose and will be able to greenlight the construction and testing of the full sized AOT.

In August 2022 we completed the testing of the stack assembly. The stack assembly did not suffer the arcing problems we saw when testing a stack assembly made from parts of the full size AOT. It appears that we have accomplished the goal of eliminating the sources of arcing that prevented us from achieving treatment voltages with this new design.

The power supply did not shut down due to arcing nor any other issues and we were able to test the stack assembly up to 40 kV in oil; the maximum output of the power supply. While we do not expect to see free water in pipeline quality crude oil, we wanted to see the effect of free water on the stack assembly. We added sufficient water to disrupt normal operation, but we were able to slowly increase voltage to treatment voltage over a time. This gives us confidence that if water were to enter the system, we would be able to return a full size AOT to normal operating conditions.

Part of the component testing we completed was to determine if the parts were fit for purpose for constructing a complete stack. While we had no major issues, we did identify a few modifications that will make complete stack assembly easier, and we solidified our choice of manufacturing methods for the spacer rings. We will be cleaning and inspecting all parts of the stack assembly to see if there are any other changes that might need to be made before ordering the parts for the hydrostatic test. All parts have been ordered for the upcoming hydrostatic test.

The lessons learned during the stack assembly test have been applied and the results incorporated into the designs for the spacer rings and the screens. This change to the isolator ring design resulted in some iterative designs to optimize the casting tooling or molds. The time spent on this redesign created a delay in our goal for testing in September. Our vendors backlogs significantly increased during this time, also creating delay in our September goal for testing.

While we have missed our projected testing timeline, we are able to report that the manufacturing process is underway. The first step in the process was to have tooling made to cast the resin parts. Tooling has been received and we have inspected the first articles from the casting process. If no further delays occur, we expect the rings to be completed shortly. The screens are also being produced and are expected to be complete shortly.

If we are able to raise sufficient capital to continue our ongoing research, development, and testing efforts for a full scale AOT, we would also consider designing, testing and commercializing a smaller scale AOT unit targeting upstream, trucking and rail applications. This strategy could reduce development time and costs, with the intention of moving back into the midstream crude oil pipeline market subsequent to successful commercial operations at a smaller scale.

The Company currently has limited capital resources and will need to raise substantial capital to continue operations. We are considering all options but can provide no assurances that additional capital will be available to us, or if it is, that such additional capital will be offered at acceptable terms, nor can we provide any assurances that if capital would be available to us on acceptable terms, any redesign and testing of our AOT equipment would prove successful.

Assuming the corrective actions discussed above are achieved, our plans moving forward are centered on achieving commercial adoption of our AOT device. Assuming successful testing and operations, we believe the AOT project should provide data requested by prospective customers such as real-time changes in viscosity, pipeline pressure drop reduction and increases in pipeline operating flowrates. All collected data at the AOT demonstration site will be normalized such that it can be used to evaluate the financial and operational benefits across a wide range of commercial operating scenarios without disclosing confidential details of any demonstration partner's operations. We believe that real-world data from our AOT project may be used to accelerate our desire to achieve commercial adoption of our AOT technology, positioning us to re-engage with industry executives.

Providing sufficient working capital can be obtained, QS Energy intends to continue to work to maintain normal operations during the current COVID-19 pandemic under social distancing and shelter-in-place guidelines as recommended or required by the CDC, federal, state and county government agencies. Over the past few years, the Company moved much of its operations to the cloud. Our employees can perform most vital functions remotely. Currently, most day-to-day operations have been minimally impacted by COVID-19.

It is unclear, however, what impact COVID-19 may have on our supply chain, or on our ability to operate and test our AOT technology. As of the date of this report, few suppliers related to our testing efforts have announced reduced operating capacity or advised us of delays related to COVID-19 restrictions; furthermore, we have not been made aware of any COVID-19 restrictions at that would impact our ability to restart our onsite testing activities.



COVID-19 has had a significant negative financial impact across a wide spectrum of industries, both in terms of operations and access to operating capital. The Company's ability to continue operations is, in part, dependent on our access to funding. A published by the National Association of Manufacturers in March 2020 reports that due to COVID-19, 35% of manufacturers surveyed anticipate supply chain disruptions, 53% anticipate changes to operations, and 78% anticipate a negative financial impact. With these facts in mind, no assurances can be made that COVID-19 will not affect our supply chain, will not negatively affect access or operating restrictions on our AOT technology, or negatively impact our ability to fund continued operations.

Our expenses to date have been funded through the sale of shares of common stock and convertible debt, as well as proceeds from the exercise of stock purchase warrants and options. We will need to raise substantial additional capital through 2022, and beyond, to fund work on our AOT, our sales and marketing efforts, continuing research and development, and certain other expenses, including without limitation, legal and accounting expenses, until we are able to achieve a revenue base. We can provide no assurances that additional capital will be available to us, or if it is, that such additional capital will be offered at acceptable terms.

There are significant risks associated with our business, our Company and our stock. See "Risk Factors," below.

We are dedicated to the crude oil production and transportation marketplace, with a specifically targeted product offering for enhancing the flow-assurance parameters of new and existing pipeline gathering and transmission systems.

Our primary goal is to provide the oil industry with a cost-effective method by which to increase the number of barrels of oil able to be transported per day through the industry's existing and newly built pipelines. The greatest impact on oil transport volume may be realized through reductions in pipeline operator reliance on diluent for viscosity reduction utilizing AOT technology; a process the Company refers to as electronic diluent, or "eDiluent". The Company filed for trademark protection of the term eDiluent in 2017. We also seek to provide the oil industry with a way to reduce emissions from operating equipment. We believe our goals may be realizable via viscosity reduction using our AOT product line.

We believe QS Energy's technologies will enable the petroleum industry to gain key value advantages boosting profit, while satisfying the needs of regulatory bodies at the same time. Key players in the pipeline industry continue to demonstrate interest in our technologies.

Our manufacturing strategy is to contract with third-party vendors and suppliers, each with a strong reputation and proven track record in the pipeline industry. These vendors are broken up by product component subcategory, enabling multiple manufacturing capacity redundancies and safeguards to be utilized. In addition, this strategy allows the Company to eliminate the prohibitively high capital expenditures such as costs of building, operating and maintaining its own manufacturing facilities, ratings, personnel and licenses, thereby eliminating unnecessary capital intensity and risk.

Three months ended September 30, 2022 and 2021

	<b>2022</b>	<b>Three months ended September 30, 2021</b>	<b>Change</b>
<b>Revenues</b>	\$ -	\$ -	\$ -
<b>Costs and expenses</b>			
Operating expenses	214,000	230,000	(16,000)
Research and development expenses	130,000	152,000	(22,000)
Loss from operations	344,000	382,000	(38,000)
<b>Other income (expense)</b>			
Interest and financing expense	(93,000)	(141,000)	(48,000)
Net Loss	<u>\$ (437,000)</u>	<u>\$ (523,000)</u>	<u>\$ (86,000)</u>

The Company had no revenues in the three month-periods ended September 30, 2022 and 2021.

Operating expenses were \$214,000 for the three-month period ended September 30, 2022, compared to \$230,000 for the three-month period ended September 30, 2021, a decrease of \$16,000. This is due to a decrease in non-cash expenses of \$20,000 offset by an increase in cash expenses of \$4,000. Specifically, the decrease in non-cash expenses is attributable to decreases in stock compensation expenses attributable to the fair value of options granted to directors and employees of \$20,000. The increase in cash expense is attributable to increases in consulting fees of \$27,000, insurance of \$6,000, computer expenses of \$6,000, banking expenses of \$3,000, travel expenses of \$2,000, salaries and benefits of \$2,000, and other expenses of \$2,000, offset by decreases in legal and accounting of \$30,000, patent expenses of \$7,000, office expenses of \$5,000, and corporate expenses of \$2,000.

Research and development expenses were \$130,000 for the three-month period ended September 30, 2022, compared to \$152,000 for the three-month period ended September 30, 2021, a decrease of \$22,000. This decrease is attributable to decreases in prototype product development costs of \$22,000.

Other expenses were \$93,000 expense for the three-month period ended September 30, 2022, compared to \$141,000 expense for the three-month period ended September 30, 2021, a net decrease in other expenses of \$48,000. This decrease is attributable to a decrease in non-cash other expenses of \$48,000. The decrease in non-cash other expense is due to a decrease in expense attributable to interest, beneficial conversion factors and warrants associated with convertible notes issued in the amount of \$48,000.

The Company had a net loss of \$437,000, or \$0 per share, for the three-month period ended September 30, 2022, compared to a net loss of \$523,000, or \$0.00 per share, for the three-month period ended September 30, 2021.

Nine months ended September 30, 2022 and 2021

**Results of Operations for nine months ended September 30, 2022 and 2021**

	2022	Nine months ended September 30, 2021	Change
<b>Revenues</b>	\$ —	\$ —	\$ —
<b>Costs and Expenses</b>			
Operating expenses	504,000	586,000	(82,000)
Research and development expenses	227,000	259,000	(32,000)
Loss from operations	731,000	845,000	(114,000)
<b>Other income (expense)</b>			
Forgiveness of PPP loan payable	63,000	—	63,000
Interest and financing expense	(241,000)	(323,000)	(82,000)
Net Loss	\$ (909,000)	\$ (1,168,000)	\$ (259,000)

Operating expenses were \$504,000 for the nine-month period ended September 30, 2022, compared to \$586,000 for the nine-month period ended September 30, 2021, a decrease of \$82,000. This is due to decreases in non-cash expenses of \$10,000 and in cash expenses of \$72,000. Specifically, the decrease in non-cash expenses is attributable to a decrease in stock compensation expenses attributable to the fair value of options granted to directors and employees of \$32,000 offset by an increase in stock compensation expense attributable to common stock and warrants issued as compensation for services of \$22,000. The decrease in cash expense is attributable decreases in insurance of \$51,000, salaries and benefits of \$44,000, office expenses of \$40,000, rent and utilities of \$26,000, legal and accounting of \$26,000, computer expenses of \$10,000, patent expenses of \$4,000, corporate expenses of \$4,000, offset by increases in consulting fees of \$122,000, travel expenses of \$4,000, banking expenses of \$4,000, and other expenses of \$3,000.

Research and development expenses were \$227,000 for the nine-month period ended September 30, 2022, compared to \$259,000 for the nine-month period ended September 30, 2021, a decrease of \$32,000. This decrease is attributable to a decrease in prototype product development costs of \$32,000.

Other expenses were \$241,000 expense for the nine-month period ended September 30, 2022, compared to \$323,000 expense for the nine-month period ended September 30, 2021, a net decrease in other expenses of \$82,000. This decrease is attributable to a decrease in non-cash other expenses of \$82,000. The decrease in non-cash other expense is due to decreases in expense attributable to interest, beneficial conversion factors and warrants associated with convertible notes issued in the amount of \$82,000.

The Company had a net loss of \$909,000 or \$0 per share, for the nine-month period ended September 30, 2022, compared to a net loss of \$1,168,000, or \$0.00 per share, for the nine-month period ended September 30, 2021.

## **Liquidity and Capital Resources**

### **Going Concern**

The accompanying consolidated financial statements have been prepared on a going concern basis, which contemplates the realization of assets and the settlement of liabilities and commitments in the normal course of business. As reflected in the accompanying consolidated financial statements, during the nine-months ended September 30, 2022, the Company incurred a net loss of \$909,000, used cash in operations of \$571,000 and had a stockholders' deficit of \$4,422,000 as of that date. In addition, as of September 30, 2022, thirty-two notes payable with an aggregate balance of \$1,590,000 and certain obligations to a former officer are past due. These factors raise substantial doubt about the Company's ability to continue as a going concern within a reasonable period of time, which is considered to be one year from the issuance date of these financial statements. In addition, the Company's independent registered public accounting firm, in its ability of the Company to continue as a going concern is dependent upon the Company's ability to raise additional funds and implement its business plan. The financial statements do not include any adjustments that might be necessary if the Company is unable to continue as a going concern.

At September 30, 2022, the Company had cash on hand in the amount of \$252,000. Management estimates that the current funds on hand will be sufficient to continue operations through December 2022. Management is currently seeking additional funds, primarily through the issuance of debt and equity securities for cash to operate our business, including without limitation the expenses it will incur in connection with the license agreements with Temple; costs associated with product development and commercialization of the AOT technologies; costs to manufacture and ship the products; costs to design and implement an effective system of internal controls and disclosure controls and procedures; costs of maintaining our status as a public company by filing periodic reports with the SEC and costs required to protect our intellectual property. In addition, the Company has substantial contractual commitments, including without limitation salaries to our executive officers pursuant to employment agreements, certain payments to a former officer and consulting fees, during the remainder of 2022 and beyond.

No assurance can be given that any future financing will be available or, if available, that it will be on terms that are satisfactory to the Company. Even if the Company is able to obtain additional financing, it may contain undue restrictions on our operations, in the case of debt financing or cause substantial dilution for our stockholders in case of equity financing.

At September 30, 2022, we had cash on hand in the amount of \$252,000. We will need additional funds to operate our business, including without limitation the expenses we will incur in connection with the license agreements with Temple University; costs associated with product development and commercialization of the AOT and related technologies; costs to manufacture and ship our products; costs to design and implement an effective system of internal controls and disclosure controls and procedures; costs of maintaining our status as a public company by filing periodic reports with the SEC and costs required to protect our intellectual property. In addition, as discussed above, we have substantial contractual commitments, including without limitation salaries to our executive officers pursuant to employment agreements, certain severance payments to a former officer and consulting fees, during the remainder of 2022 and beyond.

### **Licensing Fees to Temple University**

For details of the licensing agreements with Temple University, see Financial Statements attached hereto, Note 7 (Research and Development).

### **Critical Accounting Policies and Estimates**

Our discussion and analysis of financial condition and results of operations is based upon our consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States of America. The preparation of these consolidated financial statements and related disclosures requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, expenses, and related disclosure of contingent assets and liabilities. We evaluate, on an on-going basis, our estimates and judgments, including those related to the useful life of the assets. We base our estimates on historical experience and assumptions that we believe to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates.

The methods, estimates and judgments we use in applying our most critical accounting policies have a significant impact on the results that we report in our consolidated financial statements. The SEC considers an entity's most critical accounting policies to be those policies that are both most important to the portrayal of a company's financial condition and results of operations and those that require management's most difficult, subjective or complex judgments, often as a result of the need to make estimates about matters that are inherently uncertain at the time of estimation. For a more detailed discussion of the accounting policies of the Company, see Note 2 of the Notes to the Consolidated Financial Statements, "Summary of Significant Accounting Policies".

We believe the following critical accounting policies, among others, require significant judgments and estimates used in the preparation of our consolidated financial statements.

#### **Estimates**

The preparation of consolidated financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenues and expenses during the reporting period. Certain significant estimates were made in connection with preparing our consolidated financial statements as described in Note 2 to Notes to the Condensed Consolidated Financial Statements. Actual results could differ from those estimates.

#### **Stock-Based Compensation**

The Company periodically issues stock options and warrants to employees and non-employees in non-capital raising transactions for services and for financing costs. The Company accounts for stock option and warrant grants issued and vesting to employees based on the authoritative guidance provided by the Financial Accounting Standards Board whereas the value of the award is measured on the date of grant and recognized over the vesting period. The Company accounts for stock option and warrant grants issued and vesting to non-employees in accordance with the authoritative guidance of the Financial Accounting Standards Board whereas the value of the stock compensation is based upon the measurement date as determined at either a) the date at which a performance commitment is reached, or b) at the date at which the necessary performance to earn the equity instruments is complete. Non-employee stock-based compensation charges generally are amortized over the vesting period on a straight-line basis. In certain circumstances where there are no future performance requirements by the non-employee, option grants are immediately vested and the total stock-based compensation charge is recorded in the period of the measurement date.

The fair value of the Company's common stock option grants is estimated using the Black-Scholes Option Pricing model, which uses certain assumptions related to risk-free interest rates, expected volatility, expected life of the common stock options, and future dividends. Compensation expense is recorded based upon the value derived from the Black-Scholes Option Pricing model, and based on actual experience. The assumptions used in the Black-Scholes Option Pricing model could materially affect compensation expense recorded in future periods.

### **Recent Accounting Policies**

See Footnote 2 in the accompanying financial statements for a discussion of recent accounting policies.

### **Item 3. Quantitative and Qualitative Disclosure about Market Risk**

We issue from time-to-time fixed rate discounted convertible notes. Our convertible notes and our equity securities are exposed to risk as set forth below, in Part II Item 1A, "Risk Factors." Please also see Item 2, above, "Management's Discussion and Analysis of Financial Condition and Results of Operations."

### **Item 4. Controls and Procedures**

#### **1. Disclosure Controls and Procedures**

The Company's management, with the participation of the Company's chief executive officer and chief financial officer, evaluated, as of September 30, 2022, the effectiveness of the Company's disclosure controls and procedures, which were designed to be effective at the reasonable assurance level. The term "disclosure controls and procedures," as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act, means controls and other procedures of a company that are designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the SEC's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is accumulated and communicated to the company's management, including its principal executive and principal financial officers, as appropriate to allow timely decisions regarding required disclosure. Management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Based on the evaluation of the Company's disclosure controls and procedures as of September 30, 2022, the chief executive officer and the chief financial officer concluded that the Company's disclosure controls and procedures were not effective at the reasonable assurance level at that date.

#### **(a) Changes in Internal Control over Financial Reporting**

No change in the Company's internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) occurred during the nine-month period ended September 30, 2022 that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting.

## PART II – OTHER INFORMATION

### Item 1. Legal Proceedings

There is no litigation of any significance with the exception of the matters that have arisen under, and are being handled in, the normal course of business.

### Item 1A. Risk Factors

There have been no material changes in the risk factors previously disclosed in Form 10-K for the period ended December 31, 2021, which we filed with the SEC on March 31, 2022, except risks associated with the COVID-19 pandemic. See Item 2, Overview section above, for a discussion related to COVID-19 risk factors.

### Item 2. Unregistered Sales of Equity Securities and Use of Proceeds

#### Issuances

In private offerings exempt from registration, during the nine-months ended September 30, 2022, the Company issued 1,930,633 shares of its common stock upon the conversion of \$58,000 in convertible notes at \$0.03 per share. In connection with the issuances of the foregoing securities, the Company relied on the exemption, among other exemptions, from registration provided by Section 4(a)(2) of the Securities Act of 1933, as amended, for transactions not involving a public offering.

The proceeds received by the Company in connection with the above issuances of shares were used and continue to be used for general corporate purposes.

### Item 3. Defaults Upon Senior Securities

None

### Item 4. Mine Safety Disclosures

None

### Item 5. Other Information

The Company provides regular updates on its website in a section thereunder labeled “Recent Updates” at <https://qsenergy.com/updates>.

**Item 6. Exhibits**

<b>Exhibit No.</b>	<b>Description</b>
31.1	<a href="#">Certification of Chief Executive Officer of Quarterly Report Pursuant to Rule 13(a)-15(e) or Rule 15(d)-15(e)</a>
31.2	<a href="#">Certification of Chief Financial Officer of Quarterly Report pursuant to Rule 13(a)-15(e) or Rule 15(d)-15(e)</a>
32	<a href="#">Certification of Chief Executive Officer and Chief Financial Officer of Quarterly Report Pursuant to 18 U.S.C. Section 1350</a>
101.INS	Inline XBRL Instance Document (the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document)
101.SCH	Inline XBRL Taxonomy Extension Schema Document
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase Document
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document
104	Cover Page Interactive Data File (formatted in iXBRL, and included in exhibit 101).

**SIGNATURES**

Pursuant to the requirements of the Securities Exchange Act of 1934, the Registrant has caused this Report to be signed on its behalf by the undersigned, hereunto duly authorized.

QS ENERGY, INC.

Date: November 10, 2022

By: /s/ Cecil Bond Kyte  
Cecil Bond Kyte  
Chief Executive Officer, Chief Financial Officer, and  
Chairman of the Board of Directors



**EXHIBIT 31.1**

CERTIFICATION OF CHIEF EXECUTIVE OFFICER  
PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002  
AND RULES 13A-14 AND 15D-14 UNDER THE SECURITIES EXCHANGE ACT OF 1934

I, Cecil Bond Kyte, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of QS Energy, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) or 15d-15(e) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(d)-15(f) for the registrant and have:
  - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its condensed consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
  - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
  - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
  - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
  - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
  - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: November 10, 2022

/s/ CECIL BOND KYTE  
Cecil Bond Kyte  
Chief Executive Officer

**EXHIBIT 31.2**

CERTIFICATION OF CHIEF FINANCIAL OFFICER  
PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002  
AND RULES 13A-14 AND 15D-14 UNDER THE SECURITIES EXCHANGE ACT OF 1934

I, Cecil Bond Kyte, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of QS Energy, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) or 15d-15(e) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(d)-15(f) for the registrant and have:
  - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its condensed consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
  - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
  - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
  - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
  - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
  - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: November 10, 2022

/s/ CECIL BOND KYTE

Cecil Bond Kyte  
Chief Financial Officer

**EXHIBIT 32**

CERTIFICATION OF PERIODIC FINANCIAL REPORT BY THE  
CHIEF EXECUTIVE OFFICER AND CHIEF FINANCIAL OFFICER  
PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

Solely for the purposes of complying with 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, we, the undersigned Chief Executive Officer and the Chief Financial Officer of QS Energy, Inc. (the "Company"), hereby certify, based on our knowledge, that the Quarterly Report on Form 10-Q of the Company for the quarter ended September 30, 2022 (the "Report") fully complies with the requirements of Section 13(a) of the Securities Exchange Act of 1934 and that the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: November 10, 2022

/s/ Cecil Bond Kyte  
\_\_\_\_\_  
Cecil Bond Kyte  
Interim Chief Executive Officer

Date: November 10, 2022

/s/ Cecil Bond Kyte  
\_\_\_\_\_  
Cecil Bond Kyte  
Chief Financial Officer