



ABOUT QS ENERGY, INC

QS ENERGY HEADQUARTERS

23902 FM 2978
Tomball, TX 77375
Phone: (281)738-1893
www.qsenergy.com
investor@qsenergy.com

INDUSTRY CLASS SECTOR: Industrial Goods

INDUSTRY:
Industrial Equipment &
Components

OTCQB: QSEP

DISCLAIMER: Information contained herein contains "forward looking statements" within the meaning of Section 27A of the Securities Act of 1933, as amended and Section 21E of the Securities and Exchange Act of 1934, as amended. Any statements that express or involve discussions with respect to predictions, expectations, beliefs, plans, projections, objectives, goals, assumptions or future events or performance are not statements of historical facts and may be "forward looking statements". Forward looking statements are based on expectations, estimates and projections at the time the statements are made that involve a number of risks and uncertainties which could cause actual results or events to differ materially from those presently anticipated. This information must be reviewed in the context of the cautionary language and Risk Factors set forth in Item 1A of the Company's Form 10-K, filed with the SEC on March 3, 2016

Improving Economics and Efficiency of Global Oil Pipeline Infrastructure

QS Energy, Inc. (OTCQB: QSEP) provides the global energy industry with industrial equipment designed to deliver measurable performance improvements to crude oil pipeline operations. Developed in conjunction with Temple University under a world-wide exclusive license agreement, our patent-protected AOT (Applied Oil Technology) addresses the capacity constraints seen around the globe.

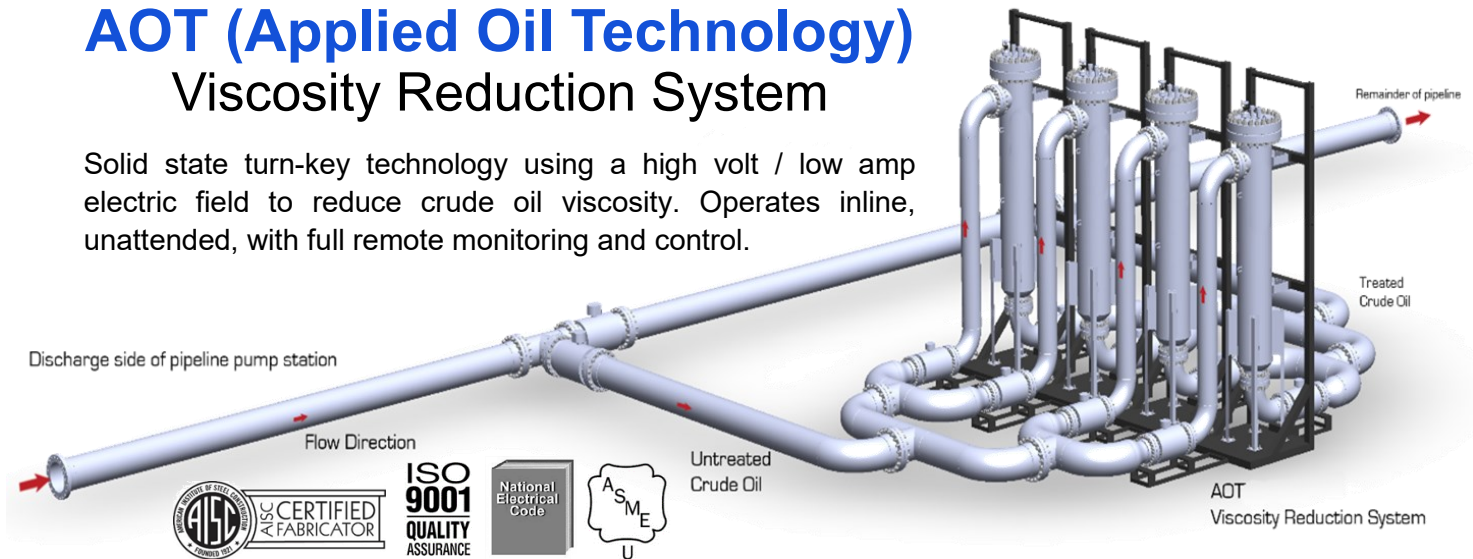
The AOT is an industrial-grade viscosity reduction system for petroleum transporters. Engineered specifically to address crude oil pipeline capacity, operating and environmental challenges, our AOT technology delivers performance gains for crude oil producers by increasing operating capacity and providing midstream operators with potential for a new source of income.

AOT is a solid-state system that reduces viscosity of petroleum products through the process of dielectrophoresis, by applying a high intensity electrical field to crude oil while in transit, without interrupting the flow of oil. By reducing viscosity, AOT mitigates dependence on diluent and other methods of reducing crude oil viscosity, and allows pipelines to operate at a lower pressure, improving both pipeline efficiency and safety.

Once AOT is deployed at pipeline pump stations, oil production and transportation companies benefit from the safer, more cost-effective delivery of greater volumes of oil while reducing energy consumption and lowering CO₂ emissions. In line with our commitment to the responsible environmental stewardship, QS Energy combines scientific research with inventive design to provide energy efficient "clean tech" solutions to bring new efficiencies and lower operational costs to the upstream, midstream and gathering sectors.

AOT (Applied Oil Technology) Viscosity Reduction System

Solid state turn-key technology using a high volt / low amp electric field to reduce crude oil viscosity. Operates inline, unattended, with full remote monitoring and control.



AOT: OPTIMIZES CRUDE OIL PIPELINE PERFORMANCE FOR GREATER OPERATIONAL EFFICIENCIES

How AOT Works

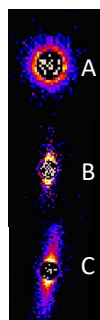
The AOT is the result of a multi-year research and development program conducted at Temple University with extensive design, fabrication and testing protocols involving over a dozen leading companies from all sectors of the energy industry. Harnessing the principles of electrorheology, the application of a high strength electrical field to change the mechanical behavior of fluids, the AOT system decreases the viscosity of petroleum by causing particulate matter such as paraffin, asphaltene and other impurities to agglomerate together into nanoscale clusters thus reducing their surface volume. By reducing the surface volume the friction/drag of the bulk fluid is reduced. Dr. Rongjia Tao, of Temple University's Physics Department and a leading expert in the study of electrorheological fluids and magnetorheological suspension, is co-developer of the proprietary AOT viscosity reduction technology and has supervised laboratory testing of hundreds of petroleum samples, ranging from heavy bitumen to superlight condensates, in order to prove its efficacy.

The Science Behind AOT

- AOT technology is based on the process of dielectrophoresis
- Crude oil is exposed to high intensity electric field
- Change occurs in the structure of paraffin and asphaltene particles
- Paraffin and asphaltene aggregate into tight packets aligned in short chains
- Suspended aggregated particles traveling in the direction of flow is the mechanism that decreases viscosity
- The aggregation is temporary and decays with time (beyond 24 hours)



Computer generated representation of electric charge causing aggregation of particulate matter



NIST Center for Neutron Research neutron scatter study verified short-chain aggregation at a microscopic level:

- (A) No electric field, scattering is isotropic and sparse
- (B) Particles begin to align under electric field
- (C) Prolated spheroid shape indicates linear aggregation under strong electric field

AOT Benefits

By significantly reducing viscosity on a wide spectrum of petroleum products, AOT delivers a variety of measurable operational efficiencies:

- Increases maximum flow rates
- Reduces operating pressure
- Eliminate or minimize bottlenecks
- Reduces pump station power consumption and CO2 emissions
- 100% solid-state construction for maximum uptime with minimal maintenance
- Provides opportunity for carbon credit and carbon tax benefits through decreased emissions and improved energy efficiencies
- Turbulence suppression
- Reduces pipe cleaning / pigging frequency
- Increases safety margin
- Reduce tanker truck unloading durations
- Reduce railcar unloading durations

AOT has been inspected, certified, and approved to meet or exceed the specifications and quality control requirements of all applicable industrial testing and certification laboratories, leading midstream producers, and transportation entities, and has been deployed on multiple, high-volume pipelines.

Modular Design, Configurable to Customer Specifications

Comprised of an ASME-rated pressure vessel, AOT treats petroleum with an array of proprietary components that apply a precisely controlled electrical field to the flow.

AOT can be scaled to suit many different types of installation requirements, including upstream production facilities, large-scale midstream pipelines, and mobile transportation and gathering systems. Additionally, QS Energy predicts that AOT can be utilized for offshore production facilities in the future.



AOT at a Glance

- QS Energy's AOT technology significantly decreases viscosity.
- AOT seamlessly integrates with pipelines at existing pump stations.
- Each standard AOT vessel is 33 ft x 8 ft x 8 ft, and weighs approximately 20 tons, excluding headers.
- Each standard AOT unit is designed to process up to 7,500 bbl/hr.
- AOTs can be installed in parallel to meet the demands of high-capacity pipeline operations.
- Additional sizes available, up to 25,000 bbl/hr.



AOT Hypothetical 100,000 bbl/day Heavy Crude Oil Pipeline

Producer's reliance on Diluent reduced by 15% using AOT

Pipeline Operator collects AOT Tariff Premium of \$1.50/bbl from Producer

QS Energy collects Service Fees of \$0.50/bbl from Operator

The following analysis is based on a hypothetical pipeline with an operating capacity of 100,000 bbl/day running heavy crude oil. Assumptions are detailed below, including:

- i) The crude oil producer (Producer) is currently running a feedstock that is 70% source crude, 30% diluent to meet pipeline viscosity requirements;
- ii) AOT reduces crude oil viscosity by 45%, allowing the Producer to reduce its reliance on diluent by 15%;
- iii) The pipeline operator (Operator) charges a \$1.50/bbl Premium Tariff Fee for AOT utilization;
- iv) QS Energy charges the Operator a \$0.50/bbl Service Fee

In this example, the Producer would benefit from reduced operating costs of \$41MM/yr and increased source crude delivery of 1.6MM bbl/yr, reducing their cost of delivering source crude by 11%. The Pipeline Operator would earn an additional \$35MM in tariff revenue; an increase of 20%. QS Energy would earn \$17MM in service fees.

Pipeline Operating Assumptions

Nominal Pipeline Capacity	100,000 bbl/day
Pipeline Up-time	95% down 18 days per year
Pipeline Operating Capacity	34,675,000 bbl/year
Pipeline Tariff Rate	\$5.00 /bbl
Diluent purchase price	\$60.00 /bbl, delivered to pipeline head

AOT Operating Assumptions

Viscosity Reduction	45%
Reduction in Required Diluent	15%
QSE Service Fee	\$0.50 /bbl
Operator Premium Tariff Fee	\$1.50 /bbl

Producer (Shipper) Analysis

	Baseline Operations		
	Crude	Diluent	Total
Crude Blend	70%	30%	100%
Crude Blend Delivered	24,272,500	10,402,500	34,675,000
Pipeline Tariff Fees	\$ 121,362,500	\$ 52,012,500	\$ 173,375,000
AOT Tariff Premium Fees	-	-	-
Diluent Cost	-	\$ 624,150,000	\$ 624,150,000
Total Cost	\$ 121,362,500	\$ 676,162,500	\$ 797,525,000
Total Cost per Barrel of Blend Delivered			\$23.00
Total Cost per Barrel of Source Crude			\$32.86

	Results of AOT Operations		
	Crude	Diluent	Total
Crude Blend	74.5%	25.5%	100%
Crude Blend Delivered	25,832,875	8,842,125	34,675,000
Pipeline Tariff Fees	\$ 129,164,375	\$ 44,210,625	\$ 173,375,000
AOT Tariff Premium Fees	\$ 38,749,313	\$ 13,263,188	\$ 52,012,500
Diluent Cost	-	\$ 530,527,500	\$ 530,527,500
Total Cost	\$ 167,913,688	\$ 588,001,313	\$ 755,915,000
Total Cost per Barrel of Blend Delivered			\$21.80
Total Cost per Barrel of Source Crude			\$29.26

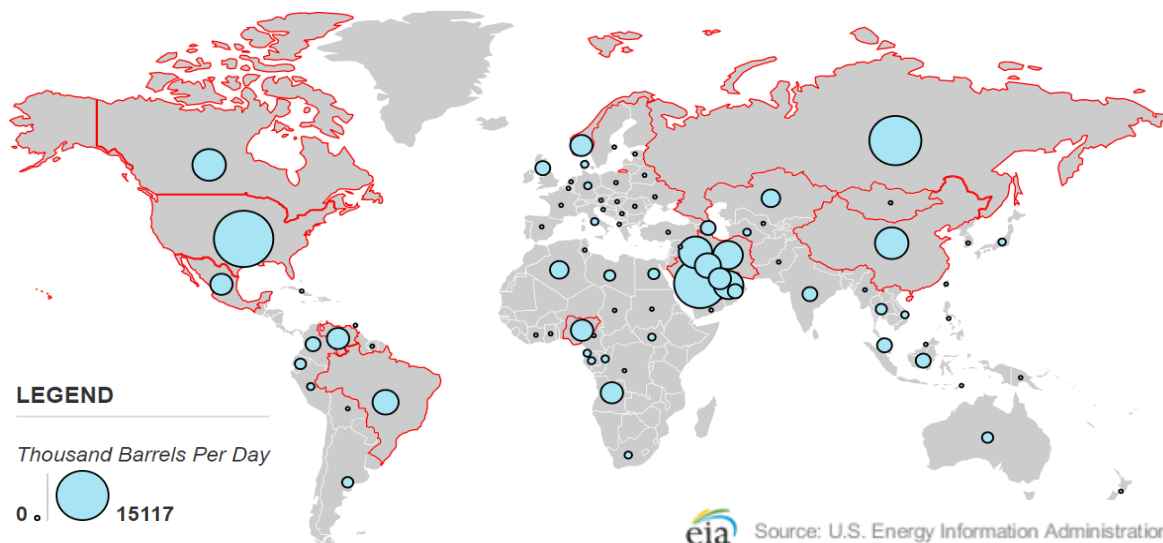
Pipeline Operator Analysis

	Baseline	With AOT
Pipeline Tariff Fees	\$ 173,375,000	\$ 173,375,000
AOT Tariff Premium Fees	-	\$ 52,012,500
less QSE Service Fees Paid	-	\$ (17,337,500)
Annual Tariff Fees, Net	\$ 173,375,000	\$ 208,050,000
Net Increase in Tariff Revenue		\$ 34,675,000 = 20.0%

QS Energy Revenue

	With AOT
QSE Service Fees	\$ 17,337,500

Summary Results	
PRODUCER: Annual Cost Savings	\$ 41,610,000 /yr = 5.2%
Increased Source Crude Delivery	1,560,375 bbl/yr = 6.4%
Cost Saved per Barrel of Blend	\$1.20 /bbl = 5.2%
Cost Saved per Barrel of Source Crude	\$3.60 /bbl = 10.9%
OPERATOR: Net Increase in Tariff Revenue	\$ 34,675,000 /yr = 20.0%
QS ENERGY: Service Fee Revenue	\$ 17,337,500 /yr



Pilot Project Strategy and Status

Our short-term market strategy is tightly focused on securing one or more pilot projects operating on heavy crude oil pipelines. These pilot projects are designed to accelerate wide-spread market adoption of AOT technology by providing data transparency and site access to prospective customers.

We are currently working with 3 primary target customers.

- **South American Operator** weighing AOT against current high dependence on diluent. Preliminary analysis indicates AOT could decrease viscosity by more than 50%, reducing reliance on diluent, with the potential to increase pipeline capacity by 20%. We are now in negotiations on terms of a Letter of Intent (LOI). Oil samples are in transit, scheduled for delivery at Temple University for testing in late February 2018.
- **U.S. Midstream Operator** with an expressed interest in using AOT to alleviate pipeline bottlenecks in the Southern United States. Two crude oil samples from the prospective site were recently tested at Temple University, demonstrating viscosity reductions of 40%-50% at a variety of operating temperatures. Subject to additional laboratory testing and analysis, we intend to move forward with an AOT pilot project with potential for system-wide deployment.
- **Asian Crude Oil Company** with prior experience testing AOT equipment in the field has expressed interest in a pilot project and future system-wide deployment. Although these discussions are early stage, we have provided a draft LOI and hope to move quickly based on their experience and familiarity with QS Energy and our technology.

Path Forward

2018 Timeline and Goals

Our key focus is on the installation and completion of one or more pilot projects. We are now in pilot project discussions with three companies and expect to have our first letter of intent signed shortly. Upon completion and analysis of laboratory testing of sample crude oil, we will meet to discuss analytics, select a pilot project site, define the scope of a post-pilot rollout and execute definitive pilot project contracts. Pilot installation and operation would begin upon contract execution. Based on current timelines and discussions, we are working towards the following short-term timeline and goals.

- Signed LOI, Q1-Q2 2018
- Installation of our first pilot project, Q2-Q3 2018
- Followed by 30 to 60 days of pilot operations and analysis to be completed by Q3-Q4 2018.

Subject to performance evaluation and analysis of pilot operations, we would negotiate definitive agreements in Q4 2018 to sell or lease equipment for the expanded rollout in 2019.

2019 and Beyond

Based on current discussions with prospective pilot customers, we believe our 2018 pilot project timeline and goals are achievable, putting us on target to begin commercial deployment by year-end. Armed with pilot project data, we should be positioned for accelerated sales in 2019 and beyond.

Standard AOT Specifications

- Single AOT; multiple units may be installed in parallel
- Three-valve bypass pipeline interconnect
- ASME VIII 1440 psi rating (100°F or less)
- 30' height
- 7' x 7.5' footprint
- 33,000 lbs. (skid design may increase weight)
- 20" flange size, Class 600
- 5,000 gpm maximum flow rate per standard AOT
- Skid mount for vertical installation
- Requires engineered concrete pad
- Technology is isolated from vessel; cathodic protection of pipeline is not compromised
- Header supplied by customer

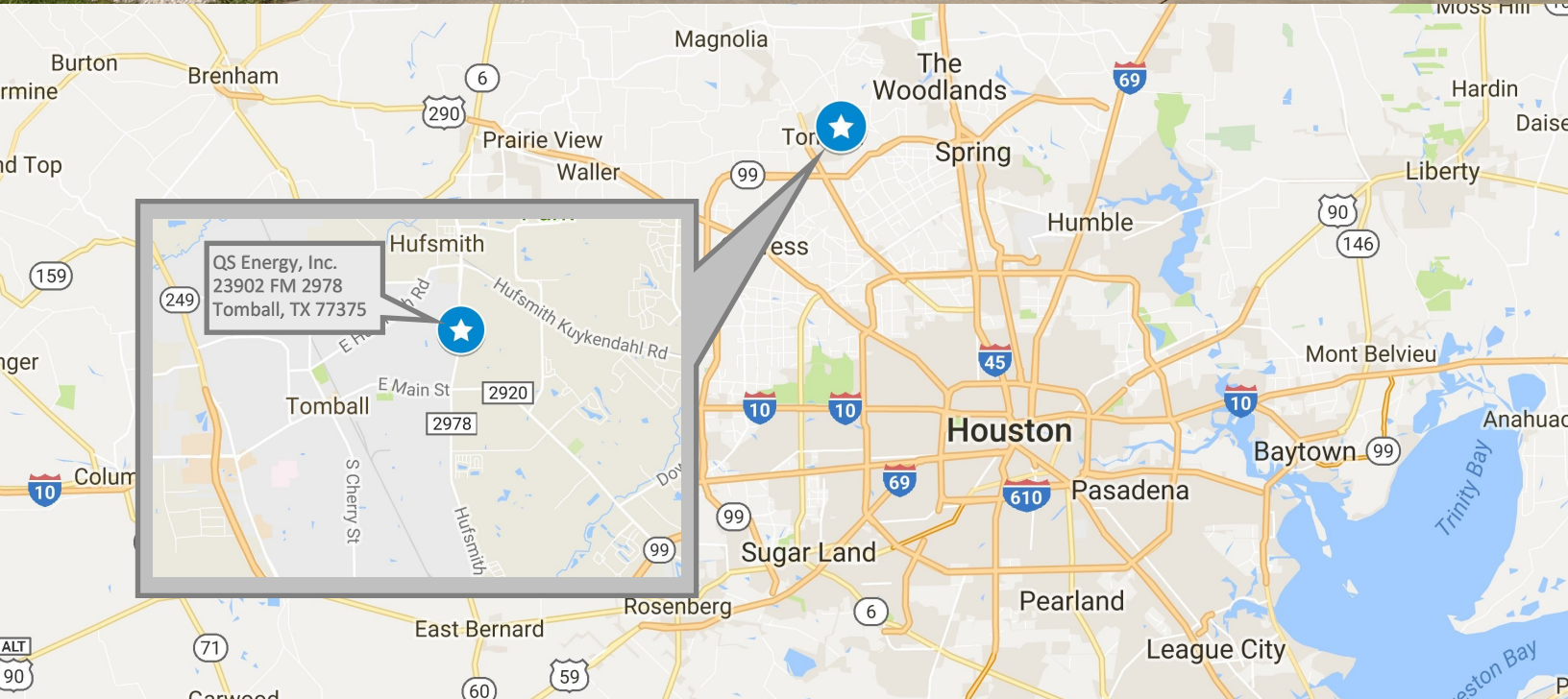


AOT Controller and Power Supply NEMA Box

- May require 480VAC or 208VAC 3p
- Air conditioned for equipment protection
- Concrete pad preferred but not required
- Can be equipped with mini-SCADA
- High volt and ground electrode cabling and conduit installed by customer (cables supplied by QS Energy)

BENEFITS OF AOT IN MIDSTREAM PIPELINE OPERATIONS

- | | | |
|---|--|--|
| <ul style="list-style-type: none"> • Installs in-line and operates without interrupting pipeline flow • Relax pipeline viscosity requirements • Decrease dependence on diluents • Increase maximum flow rates | <ul style="list-style-type: none"> • Reduce operating pressure and pipeline pressure drop • Eliminate or minimize bottlenecks • Reduce pump station power consumption and CO2 emissions • Turbulence suppression | <ul style="list-style-type: none"> • 100% solid-state construction for maximum uptime with minimal maintenance • Reduce pipe cleaning / pigging frequency • Increases safety margin |
|---|--|--|



CONTACT INFORMATION

Please contact QS Energy for further information. AOT Design Control Drawings, Certifications, Specifications, Protocols and Procedures are available upon request by qualified customers.

Main: +1-281-738-1893

Fax: +1-281-738-5366

info@QSEnergy.com | www.QSEnergy.com

23902 FM 2978

Tomball, TX 77375