

# **Worldflow Monitoring Service**

**— Overview —**



**[www.worldflow.com](http://www.worldflow.com)**

**Since 2002**

**A world of knowledge at your fingertips**



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## Worldflow Monitoring Service

Flow Research has specifically designed our Worldflow Monitoring Service (Worldflow) as a package of resources to serve the information needs of flowmeter and instrumentation manufacturers, distributors, and end-users. Each component offers news and insightful research-based discussions of the markets it covers. These keep you informed of industry events and trends between the market research studies. This service includes the following components.

### **Market Barometer** (quarterly)

Covers all types of flowmeters along with pressure, temperature, level, and analytical instrumentation. Also includes flow calibration and oil & gas measurement.

### **Energy Monitor** (quarterly)

Covers Oil & Gas, LNG & Fracking, and Power & Renewables.

### **Flash Reports** (periodically)

Cover major news that breaks between issues.

### **Whitepapers** (periodically)

Provide an in-depth look at select topics.



*Dr. Yoder inside an 86 inch magmeter*

## Benefits of Worldflow Monitoring Service

### **Focused collection of news covering instruments and industries of interest to your business needs**

Your subscription brings you a world of specifically selected news and information.

Frequently a company or organization will announce a new product, project, approval, guideline, or other development with little fanfare. Such news could be significant to you, but if you can't spend your time looking for it, it could easily slip under your radar.

Our staff searches hundreds of sources, keeping a look-out for news of changes, trends, introductions, and advances happening all around the world related to flowmeters and several other types of instrumentation, plus several major markets for them. We collect and select for what could have an impact on or be of use to those in businesses related to the targeted technologies and their markets, and we bring it all together in one place for you.

## **Market analysis and research-based insights from Flow Research Information plus understanding help you make better strategic business decisions.**

Both *Market Barometer* and *Energy Monitor* feature segments researched and written by Flow Research. You will benefit from our decades of experience and on-going research following these technologies and their markets. We help you to not only know what's going on, but to have a better understanding of the news and issues, and put them into context and perspective.

**Flow Research** is the only market research company whose primary focus is flowmeters and other process control instrumentation. We interview suppliers, distributors, and end-users. Technology topics include all of the flow measurement technologies – both new and traditional – as well as pressure transmitters; temperature sensors and transmitters, infrared thermometers and thermal imagers; level devices; analytical instrumentation; and selected API-certified valves. We have also done studies focused on related topics such as the oil and gas markets, and flow calibration facilities.

**Dr. Jesse Yoder**, President of Flow Research, and lead analyst, has 30 years of experience analyzing and writing about process control and instrumentation markets. He has given presentations at conferences and seminars, and done webinars. He has written two books, over 260 market research studies, and nearly 300 articles on flow and instrumentation published in industry journals. His latest book, *The Tao of Measurement, A Philosophical View of Flow and Sensors*, with Richard E. Morley, as co-contributor, was published in 2015 by the International Society of Automation (ISA). Topics include temperature, pressure, flow, time, length, and area. Dr. Yoder has also received two patents for new flowmeter designs, for which several prototypes have been built and are currently being tested.

## **Worldflow Points to use toward research studies**

For each year of your subscription you receive 500 Worldflow Points that are good for \$500 off the purchase of standard Flow Research studies. Use them at any time as they do not expire.

### **Both PDF and hardcopy formats of each issue**

Your subscription includes a PDF file and two printed and bound hardcopies for each issue. This gives you the choice of either format to read and share as you prefer. You are welcome to share your issue with co-workers within your company (regionally).

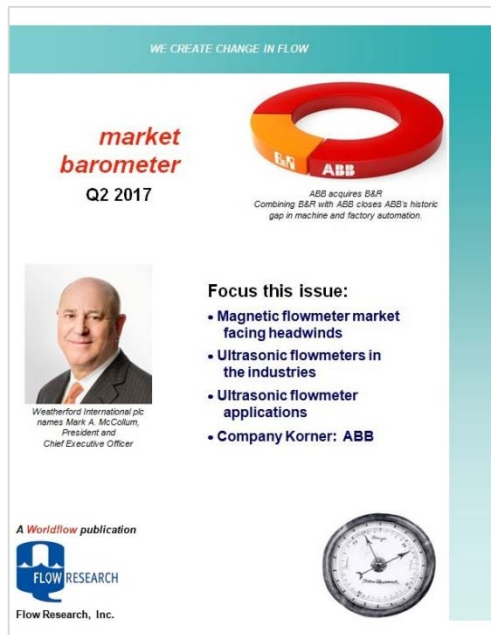
### **Access to past issues since 2002**

Worldflow Monitoring Service publications have been highlighting news, technology updates, and Flow Research's market research since 2002! This is especially useful for researching historical developments and investigating underlying trends.

### **Flash Reports and Whitepapers are included**

You will also receive any Flash Reports and Whitepapers that come out during your subscription, in both electronic and printed form. **Flash Reports** cover important developments between issues. **Whitepapers** cover selected topics in depth.

## Market Barometer (40 to 60 pages)



Market Barometer covers every type of flowmeter in each issue. It also covers, pressure, temperature, level, and analytical instrumentation, plus flow calibration and oil & gas measurement.

Each issue includes segments written by Dr. Jesse Yoder and our market research analysts about topics we are currently researching.

To bring you a pertinent selection of industry news, our researchers comb through the press releases and announcements from hundreds of companies and organizations.

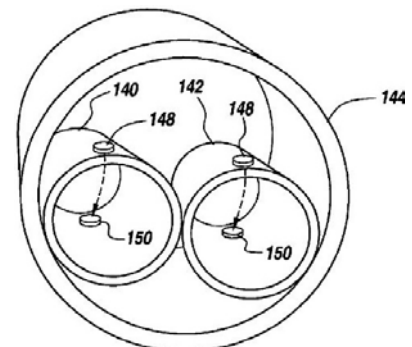
Your subscription includes both electronic versions and two printed and bound hardcopies.

Market Barometer is organized with the following segments:

**State of the Industry** and **Market Research** — Each issue starts off with segments written by Jesse Yoder, President of Flow Research, about topics that we are currently researching. Topics from some past issues include:

- The growing importance of redundancy in flow measurement: The rise of dual sensor technology; New patented research – dual-tube flowmeters
- The original development of thermal flowmeters
- The magnetic flowmeter ABB market is facing significant headwinds
- Ultrasonic flowmeters in the industries
- Dreaming big at the MCAA Industry Forum in Atlanta: Future trends and social media
- What's behind the oil price decline and the current uptick: The supply/demand story; The role of OPEC; A new initiative; Every form of energy has its own risks; and Why we need fossil fuels
- Dual transmitter flowmeters and calibration highlight 2016 CEESI custody transfer conference
- Flow Recalibration Working Group (FRWG) holds first meeting at CEESI's custody transfer conference
- The role of gas flow measurement in the world's search for energy

**In the News** — Covers news such as: mergers, acquisitions, joint ventures or other cooperative endeavors; changes in name, organization or top management, HQ and other major facility moves, expansions, openings or closings;



*Interior view of Dr. Yoder's patented dual-tube flowmeter design (from patent: Flowmeter Design for Large Diameter Pipes) Each tube contains a flowmeter sensor that outputs to a transmitter.*

approvals, certifications, guidelines or developments that involve multiple types of products and how they are used.

**Upcoming Trade Shows** — Information and links for upcoming conferences and exhibitions, and some other important types of events related to the instruments we cover and their markets.

**Company Korner** — In each issue, we highlight a particular company or organization. This can include major recent news, a brief profile with history and description, discussion of activities, and market place and impact. Some companies/organizations covered in the past:

- IDEX; Faure Herman news
- ABB
- MCAA Hall of Fame
- TASI Group, and KEM Küppers
- Great Plains Industries
- FMC Technologies
- OneSubsea
- Three major flow calibration labs
- McCrometer
- NMi Euroloop
- Tokyo Keiki

**Company Korner: Great Plains Industries**

**Great Plains Industries, Inc.**  
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 +1 311 486 7361 (fax)  
 gpi@plains.com

**Fast Facts About Great Plains Industries**  
 Headquarters: Tulsa, Kansas  
 Revenue: N/A  
 No. of employees: 200+  
 Year founded: 1972 (as GPI)  
 Ownership: Private

Great Plains Industries, Inc. (GPI) is a leading manufacturer of flow meters, pumps, fluid meters, industrial flowmeters, and industrial instrumentation for fluid flow piping and liquid flowmeters worldwide. The company manufactures positive displacement, turbine and ultrasonic flowmeters. GPI flowmeters are designed for a variety of applications including oil, gas, water, steam, manufacturing, automation, mining, oil and gas, and other applications.

**Industry and Organization**  
 GPI provides a full range of services under the name of "Flow". From an engineering and design firm to a full-service company, GPI provides a full range of services. With its engineering, it is a full-service company. In 1971, the company started to change its focus to developing products for the industrial

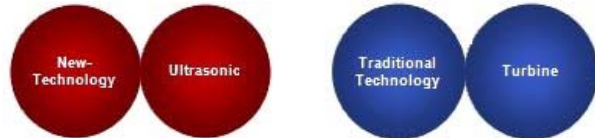
In July 2013, GPI acquired Topcon Industries of Tulsa, Oklahoma. Topcon is a manufacturer of flow meters, pumps, valves and industrial instrumentation. Since then, GPI has added to its product line a number of new products in Tulsa, Kansas, with 150,000 square feet of floor space, manufacturing and marketing.

**Products**  
 GPI has the distinction of being a leading manufacturer of flow meters, pumps, valves and industrial instrumentation. The Industrial Product Division offers positive displacement, turbine and ultrasonic flowmeters. A major focus of GPI's flowmeters is measuring flow, density, and other parameters. The company's products are also used in the domestic, fire and safety

www.gpi.com 21 Market Research Q3 2014

**Instrumentation Segments** — The latest products and innovations for each of the following types of flow and other measurement instrumentation technologies plus related topics:

- **New Technology Flowmeters**
- **Traditional Technology Flowmeters**
- **Emerging Technology Flowmeters** — includes Optical, Sonar, and any other especially new technology



**PLUS**

- **Pressure Sensors and Transmitters**
- **Temperature Sensors and Transmitters**
- **Level Devices**
- **Analytical Instrumentation**
- **Flow Calibration**
- **Oil & Gas Measurement**

New-Technology Flowmeters	Traditional Technology Flowmeters
Coriolis	Differential Pressure
Magnetic	Primary Elements
Ultrasonic	Positive Displacement
Vortex	Turbine
Thermal	Open Channel
Mass Flow Controllers	Variable Area
Multiphase	





## Energy Monitor (40 to 70 pages)

We create change in flow

**energy monitor**  
Q2 2017

Esso Shell BP Mobil  
Standard Oil of New Jersey (Exxon) Royal Dutch Shell (Anglo-Dutch) Anglo-Persian Company (APCO) Standard Oil Co. of New York (Exxon)

Chevron GULF TEXACO  
Standard Oil of California (Exxon) Gulf Oil Texaco

The Seven Sisters

**Oil & Gas and Refining  
Power & Renewables**

**Focus this issue**  
Issues and Perspectives:  
Oil Prices Top \$60 per Barrel  
Global Spotlight:  
OPEC's Major Oil-producing Countries  
Company Korner:  
OPEC and the "Seven Sisters"

Platform in BP Trinidad and Tobago's Juniper project

Flow Research, Inc.

Flowtime Wall Clock

Energy Monitor covers the energy scene in relation to flow and temperature measurement, and other instrumentation with segments for the Oil & Gas (including refining & petrochemical), LNG & Fracking, and Power & Renewables industries.

It includes current research-based segments written by Dr. Jesse Yoder and our market research analysts.

Our staff searches through hundreds of sources to pack every issue with a selection of significant news, events, trends, and projects of interest to or that have an impact on your business if it deals in these industries.

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Energy Monitor is organized with the following segments:

**Issues and Perspectives** — Each issue starts off with an Issues & Perspectives segment written by Jesse Yoder, President of Flow Research, on topics of current research in the energy industries. Topics from some past issues include:

- How Oil Prices Recovered from Below \$30 per Barrel to Above \$60 per Barrel
- Ultrasonic Flow Measurement in the Oil and Gas Industry
- The Oil & Gas Process Stream and the 2015 Downturn
- Flow Calibration



**Global Spotlight** —Flow Research writes this segment on a region or regional organization important to industry markets. Topics from some past issues include:

- OPEC's Major Oil-producing Countries
- International Energy Agency (IEA)
- OPEC 171<sup>st</sup> Meeting
- Norway
- Saudi Arabia and Iran
- Malaysia

**Oil & Gas** — This segment covers important events in the oil, gas and refining industries which include companies extracting oil and gas, and producing petroleum, hydrocarbon liquids, natural gas, and petrochemicals. It includes sections for **In the News**, **Upcoming Trade Shows**, **Industry Pulse**, and **New Projects**.

**In the News** includes reports such as business deals, ventures, agreements, or changes; major tests or milestones; advances in various processes, technologies, products or services; and other news of significance to the industry.

**Upcoming Trade Shows** lists information for events related to oil & gas and LNG industries.

**New Projects** are organized by geographic regions:

- **North America**  
(USA and Canada)
- **Western Europe**
- **Eastern Europe/FSU**  
(Central and Eastern Europe, Russia, and countries of the Former Soviet Union)
- **Mideast/Africa**
- **Japan**
- **China** (includes Hong Kong and Taiwan)
- **Asia/Pacific** (the rest of Asia and Pacific countries, e.g., India, Indonesia, Malaysia, Vietnam, Thailand, Australia, New Zealand...)
- **Latin America** (Mexico, countries of the Caribbean, Central America, and South America)



**Industry Pulse** includes periodic statistical tracking (such as from EIA, IEA); business trends; research and technology developments; and trade, regulations, approvals, guidelines or other changes affecting the Oil & Gas industry.

**LNG & Fracking** — This segment includes business news, projects, developments, technologies, and industry trends related more specifically to Liquefied Natural Gas and ‘unconventional’ oil extraction, especially by hydraulic fracturing. (Trade shows are included together with the Oil & Gas trade shows listing.)

**Company Korner** — In each issue we highlight a company or organization related to one of our industry segments. Some previous Company Korners include:

- The new Qatargas
- OPEC and the “Seven Sisters”
- Weatherford
- ExxonMobil
- Power Service, Inc. joins DistributionNOW
- OPEC
- OECD
- Canadian Solar
- Schlumberger acquiring Cameron
- QatarGas
- Cameron
- Toshiba
- Total: active in O&G and Renewables



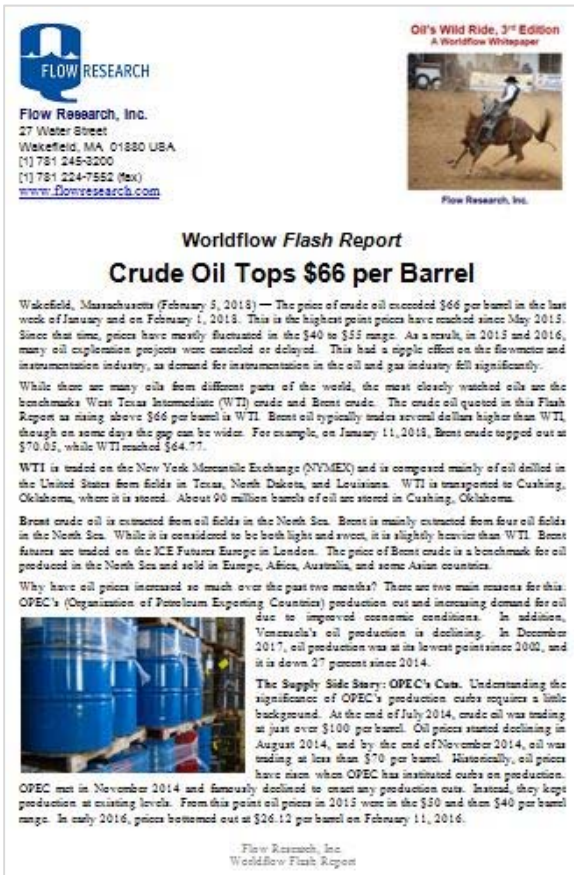
**Power and Renewables** — Power and Renewables is another segment of the flow industry we carefully watch as it affects the shift in the world’s energy markets and presents new opportunities. As with our other segments, we include business news, projects, developments, technologies, and industry trends related to topics such as:

- Hydroelectric
- Geothermal
- Fuel cells
- Solar
- Wind



- Nuclear
- Coal
- Hydrogen
- Bio-fuels, bio-mass
- And other ‘alternative’ energy

## Flash Reports (2 to 6 pages)



Just as the Worldflow Monitoring Service informs on the markets during the intervals between studies, Flash Reports inform on major breaking news during the intervals between issues of Market Barometer and Energy Monitor.

Flash Reports include both the news and a **“What it Means”** section. Flow Research analysts discuss the news, with any necessary additional facts, background, context, and explanation of the significance.

### A small selection of Flash Reports over the years includes:

- Crude oil tops \$66 per barrel – February 2016
- Schlumberger to acquire Cameron – September 2015
- Honeywell to acquire Elster, a leading flowmeter supplier – September 2015
- Spirax-Sarco ceases flowmeter production at Longmont, CO facility – June 2015
- New management at Coriolis supplier Rheonik – April 2015
- Two major acquisitions announced: **1.** Badger Meter to buy Racine Federated; **2.** American Industrial Partners announces sale of Brooks Instrument – January 2012
- North Sea Flow Workshop focuses on multiphase and ultrasonic flowmeters – Dec. 2011
- Significant new flow products abound for gas and oil measurement – June 2011
- Emerson opens new flow calibration facility in Abu Dhabi – the first of its kind in the Middle East – March 2011
- Crude oil spikes to exceed \$100 per barrel on Mideast unrest – February 2011
- A New Year's Triple Play: GE Sensing acquires Rheonik; Emerson Process sells Brooks Instrument; and IDEX acquires ADS – January 2008
- NuFlo Measurement Systems acquires ultrasonic meter manufacturer Caldon Inc. – Jan. 2006
- Siemens acquires Controlotron – April 2006
- API sends vortex flowmeter standard to ballot – March 2006
- GE Power Systems acquires Panametrics – July 2002



## Whitepapers (20 to 60 pages)

Worldflow Whitepapers are designed to provide an in-depth look at important topics in the oil, gas, refining, power, and renewables industries, as well as flow, pressure, and temperature industry technology issues and trends. They are issued periodically.

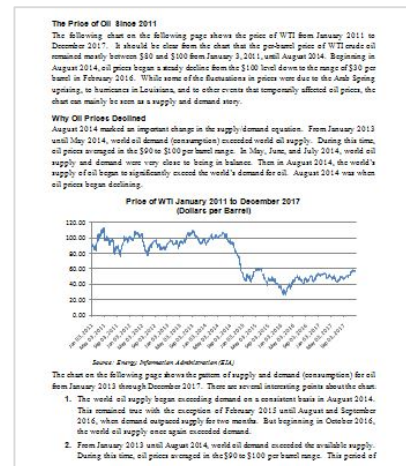
### Oil's Wild Ride, 3<sup>rd</sup> Edition (32 pages) – January 2018

A recent Whitepaper by Flow Research that was sent out to subscribers was the third in our series *Oil's Wild Ride* that has been covering the ups and downs of oil prices over the past few years. The specifics of the significant and ever-developing condition of the world oil market were laid out in detail including the following:

factors that influence oil prices, oil prices since 2011, why oil prices declined, maneuvers to support oil prices, meetings and agreements, the \$60.00 oil price benchmark, and the effect on the flowmeter markets.

### Other Whitepaper topics include:

- Oil's Wild Ride, 2nd Edition (24 pages) – May 2016
- Oil's Wild Ride (20 pages) – March 2016
- Oil, Natural Gas, and LNG Production and Flow in Asia-Pacific (54 pages) – May 2013
- Walking the Tightrope of Oil Supply and Demand, 2nd Edition (50 pages) – March 2011
- Walking the Tightrope of Oil Supply and Demand (50 pages) – January 2008



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***market  
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