

### Making connections across energy markets

In RBN's highly respected blog, industry conference presentations and consulting practice, we explain the how and why of the most important developments in the markets for crude oil, natural gas and NGLs.

	379.482		ft3 gas/	Gallons per	Gross
	BTU/ Gal	gal/lb-mol	gal liquid	MCF (GPM)	BTU /ft^3
Methane		6.4170	59.14		1,010
Ethane	65,897	10.1230	37.49	26.68	1,758
Propane	90,875	10.4280	36.39	27.48	2,497
Normal Butane	102,950	11.9330	31.80	31.45	3,237
Isobutane	98,924	12.3860	30.64	32.64	3,229
Pentanes+	110,020	13.7210	27.66	36.16	3,978
		Avai	lable	estimated	Liquids
	Mol%	GPM	Gal/day	% recovery	Gal / Day
Methane	Mol% 85.26	GPM	Gal/day -	% recovery 0%	Gal / Day -
		<b>GPM</b> 1.66	Gal/day - 332,939		Gal / Day - 299,645
Ethane	85.26		-	0%	1/2
Methane Ethane Propane Normal Butane	85.26 6.24	1.66	332,939	0% 90%	299,645
Ethane Propane	85.26 6.24 3.67	1.66 1.01	332,939 201,781	0% 90% 99%	299,645 199,763
Ethane Propane Normal Butane	85.26 6.24 3.67 1.26	1.66 1.01 0.40	332,939 201,781 79,271	0% 90% 99% 99%	299,645 199,763 78,478
Ethane Propane Normal Butane Isobutane	85.26 6.24 3.67 1.26 0.66	1.66 1.01 0.40 0.22	332,939 201,781 79,271 43,239	0% 90% 99% 99%	299,645 199,763 78,478 42,806

At the School of Energy we will bring this perspective to an intense two-day curriculum of energy market fundamentals. Your instructors will apply down-to-earth, understandable concepts, real world examples and usable economic models toward the goal of understanding energy markets.

There will be no industry luminaries waxing eloquent about the hottest infrastructure project or game changing developments. Instead, RBN instructors will lead you through a tightly scheduled curriculum designed for maximum learning.

This is not a course for complete newbies. We assume you have some working knowledge of at least one of the three energy markets we are targeting: crude oil, natural gas or NGLs.

- You will need a laptop computer with internet access and Microsoft Office 2007 or higher. Yes that means you will be downloading several RBN energy economic models and working with them in class. That's what hands-on means.
- This is not about networking. The breaks are short, and the work is demanding. You can hang out at the water cooler on your own time.
- You will have access to both the Power Point slides and spreadsheet models used in the coursework in real-time. At the end of the course you will walk away with all of these materials annotated with your own notes taken during the course.
- There will be math. But nothing beyond your basic spreadsheet formulas and functions.

## Register Now!

### Same Great School of Energy:

#### 2 Sessions to Choose from

#### **Session A**

Monday & Tuesday – Five block School of Energy curriculum plus special Extracurricular Activities (ECA) day on Wednesday

(March 3, 4, 5); Session A also includes Houston Rodeo Concert on Tuesday

Details on the following page.

#### **Session B Thursday & Friday**

(March 6, 7) Five block School of Energy curriculum; Content identical to Monday and Tuesday of Session A

### **Discounted Lodging:**

RBN has reserved a limited number of rooms at the JW Marriott for a discounted rate of \$189 per night, not including taxes.

This rate will be honored through Friday, February 1st, depending on availability.

Hotel reservations must be made directly through the JW Marriott.

Hotel Phone 1-800-228-9290

Please make your reservations early. It will be Rodeo season and the rooms will sell out quickly.

### **Registration Fees:**

### School of Energy Session A

**Including Extracurricular Activities** Early Bird \$2,930 After January 15 \$3,380

#### School of Energy Session B

Early Bird \$2,185 After January 15 \$2,615

### **How to Register:**

rbnenergy.com/school-of-energy

### **Questions?**

Phone: 888-613-8874

Email: school@rbnenergy.com

### The Session A ECA Day Will Feature a Deep Dive Classroom Session into International LPGs And a Field Trip to Mont Belvieu, Texas.







On Tuesday night March 4th, everyone from School of Energy Session A is invited to join us on a trip to the kick-off concert at the Houston Rodeo. If you are not familiar with the Houston Rodeo, it includes a concert series of major acts from all sorts of musical genres, perhaps with a slight bias toward country music. Recently, the Houston Rodeo announced that the act for March 4th will be Brad Paisley, an American singer-songwriter and musician who's songs are frequently laced with humor and pop culture references. In 2010, Paisley won the Entertainer of the Year award at the 44th annual CMA Awards.

Early Tuesday evening (time not set yet) we will pile into busses and head down to the Rodeo. Of course, you can take your own car if you wish. We have reserved one of the largest of their entertainment suites, with good Texas food and beverages to get you in the mood for the rodeo and Brad

Paisley. It is going to be a great time. We hope you can join us.

### **School of Energy Schedule**

JW Marriott Houston 5150 Westheimer Road · Houston, Texas 77056

	rriott Houston 5150 Westheimer Road		
	ons A and B (Day 1) ay March 3 and Thursday March 6 Registration and Continental Breakfast		
	1: Introduction & Production		
	The Fundamentals of Fundamentals		
	Getting Up to Speed		
9:00	<ul><li>Production</li><li>Rig Count, Well Count, Type Curves</li><li>Production costs, revenues, cash flow</li></ul>		
9:45	Model #1: Production Economics		
10:15	Break		
10:30	Markets and Value: How Energy Prices Work		
11:00	Crude Oil, Natural Gas, NGL Interdependencies		
11:30	Model #2: The Great Ratio and Cross-Commodity Relationships		
12:00	Lunch		
BLOCK #2: Crude Oil			
1.00			
1.00	Current Market Developments		
1:15			
	Key Developments • Quality: Heavy, Light, Condensates • Transportation Network & Trading Hubs		
1:15	Key Developments • Quality: Heavy, Light, Condensates • Transportation Network & Trading Hubs		
1:15 2:15	Key Developments  • Quality: Heavy, Light, Condensates  • Transportation Network & Trading Hubs  Model #3 –Netback Analysis		
1:15 2:15 2:30	Key Developments  • Quality: Heavy, Light, Condensates  • Transportation Network & Trading Hubs  Model #3 –Netback Analysis  Refining Process and Analytics  Model #4 –Crack Spread		
1:15 2:15 2:30 3:00 3:15 BLOCK #	Key Developments  • Quality: Heavy, Light, Condensates  • Transportation Network & Trading Hubs  Model #3 –Netback Analysis  Refining Process and Analytics  Model #4 –Crack Spread  Break  3: Natural Gas (1st half)		
2:15 2:30 3:00 3:15  BLOCK # 3:30	Key Developments  • Quality: Heavy, Light, Condensates  • Transportation Network & Trading Hubs  Model #3 –Netback Analysis  Refining Process and Analytics  Model #4 –Crack Spread  Break  Break  B: Natural Gas (1st half)  Current Market Developments		
1:15 2:15 2:30 3:00 3:15 BLOCK #	Key Developments  • Quality: Heavy, Light, Condensates  • Transportation Network & Trading Hubs  Model #3 –Netback Analysis  Refining Process and Analytics  Model #4 –Crack Spread  Break  3: Natural Gas (1st half)		
2:15 2:30 3:00 3:15  BLOCK # 3:30	Key Developments  • Quality: Heavy, Light, Condensates  • Transportation Network & Trading Hubs  Model #3 –Netback Analysis  Refining Process and Analytics  Model #4 –Crack Spread  Break  #3: Natural Gas (1st half)  Current Market Developments  Transportation Network, Trading Hubs, Tariffs		
1:15 2:15 2:30 3:00 3:15  BLOCK # 3:30 4:00	Key Developments  • Quality: Heavy, Light, Condensates  • Transportation Network & Trading Hubs  Model #3 –Netback Analysis  Refining Process and Analytics  Model #4 –Crack Spread  Break  Break  Break  Break  Transportation Network, Trading Hubs, Tariffs and Basis		

6:00 Cocktail Reception

### Sessions A and B (Day 2) Tuesday March 4 and Friday March 7

7:15 Continental Breakfast

#### **BLOCK #3: Natural Gas (2nd half)**

8:00 Model #6 – Heat Rates & Spark Spread

8:30 Model #7 – Degree Days and Res/Comm

#### **BLOCK #4: Natural Gas Liquids**

9:00 Current Market Developments

9:15 NGL Markets and Gas Processing Analytics

10:00 Model #9 – Processing Economics

10:15 Break

10:30 Demand – Petrochemicals, Heating/Fuel,Motor Gasoline Pool

11:00 Model #10 – Petrochemical Feedstock Economics

### **BLOCK #5: Finals**

11:30 Physicals versus Financials

12:00 Putting it All Together

#### **MODEL LAB (Optional)**

1:00 Energy Model Exercises

3:00 Close of Conference

## Tuesday March 4 Session A – Rodeo Concert

# Wednesday, March 5 – Session A Extracurricular Activities (ECA) day

7:15 Registration and Continental Breakfast

8:00 Deep Dive - International LPGs

11:30 Depart for Mont Belvieu Tour (bus trip) (lunch provided)

4:30 Return to Marriott



## Some of the comments from our previous School of Energy events:

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"Excellent course! Content for individual commodities was concise but practical. More importantly the course took an integrated approach showing inter-relationships, key fundamental drivers, and likely direction for the energy market moving forward."











"Not only are the instructors top notch, so are the course materials, the food, the participants, you name it! By far, the best and most hands-on and applied energy course out there. I highly recommend it!"

**Carlos Murillo**, Canadian Energy Research Institute

"I just attended the RBN School of Energy in Houston, TX and it was by far the most comprehensive, educational, and timely conferences that I have ever attended. The speakers were extremely knowledgeable on the subjects and interacted with the participants throughout the conference."

Warren Redd, SM Energy









E. Russell ("Rusty") Braziel –
President, RBN Energy
Previously with Bentek, Texaco
(Chevron), Williams, Altra



Callie Mitchell – RBN Manager, Energy Research. Previously with Mapco, Texaco, Williams



Sandy Fielden – RBN Managing Director, Energy Analytics. Previously with Morningstar/ LIM, Fina (TotalFinaElf), and Allegro



Scott Potter –

RBN Director, Business Development
Former energy trading manager
Previously with Aquila, Texaco, Altra



Kelly Van Hull – RBN Manager, Energy Analytics. Most recently with Bentek Energy Previously with a midstream company developing greenfield projects in the Williston Basin



Rick Smead– RBN Managing Director, Advisory Services. Previously with Navigant, El Paso Pipeline Group, Colorado Interstate Gas Company