



# Market Transparency

## IEA-IEF-OPEC Survey and Market Impact Reports on IOSCO Oil Price Reporting Agencies Principles

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**[www.ief.org](http://www.ief.org)**

# Agenda

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- 1. Objective, mandate, and milestones**
- 2. The Joint IEA-IEF-OPEC Market Impact Report of the IOSCO Oil Price Reporting Agencies Principles**
- 3. Discussion Questions**

# Agenda

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## 1. Objective, mandate, and milestones

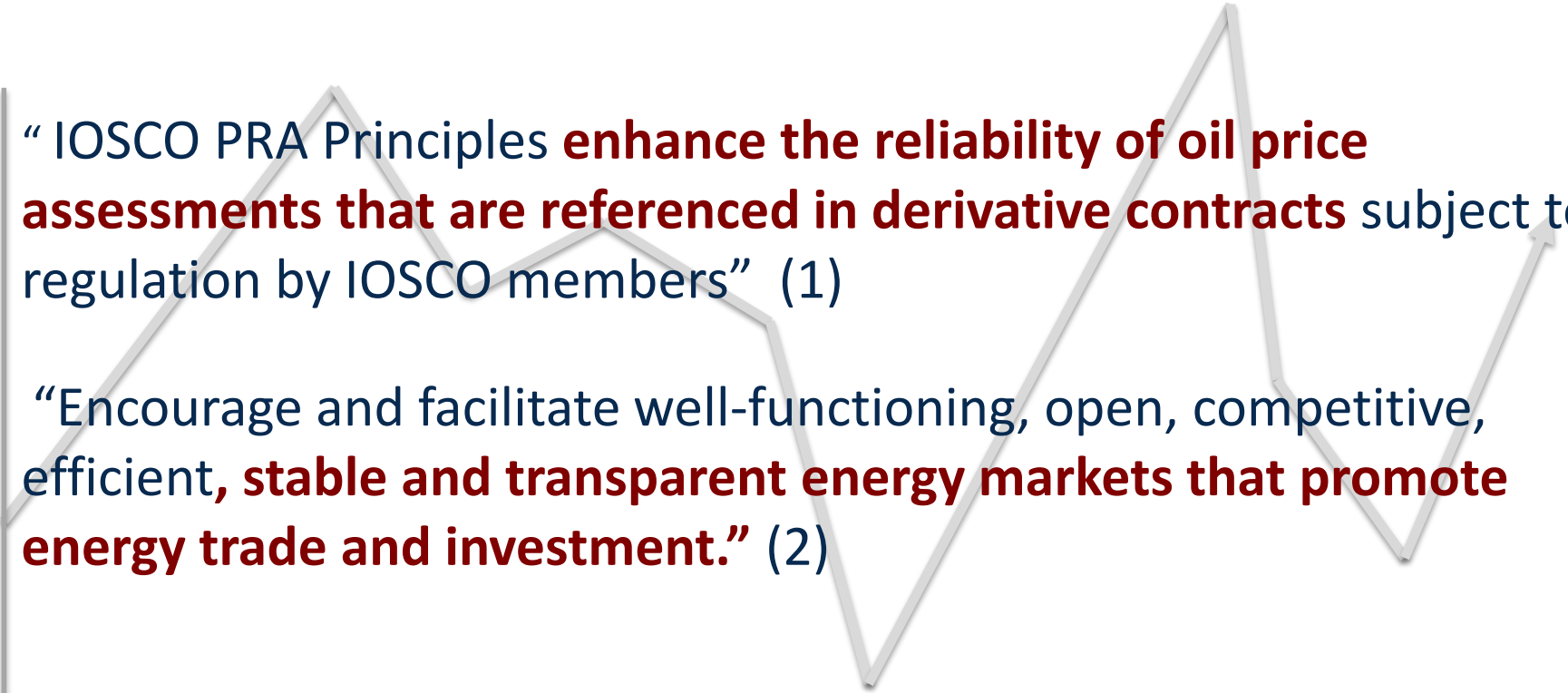
- IOSCO Principles for Oil Price Reporting Agencies 2012
- G20 request to assess their impact on physical markets

## 2. The Joint IEA-IEF-OPEC Market Impact Report of the IOSCO Oil Price Reporting Agencies Principles

## 3. Discussion Questions

# Objective: Oil market integrity

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“IOSCO PRA Principles **enhance the reliability of oil price assessments that are referenced in derivative contracts** subject to regulation by IOSCO members” (1)

“Encourage and facilitate well-functioning, open, competitive, efficient, **stable and transparent energy markets that promote energy trade and investment.**” (2)

# Mandate

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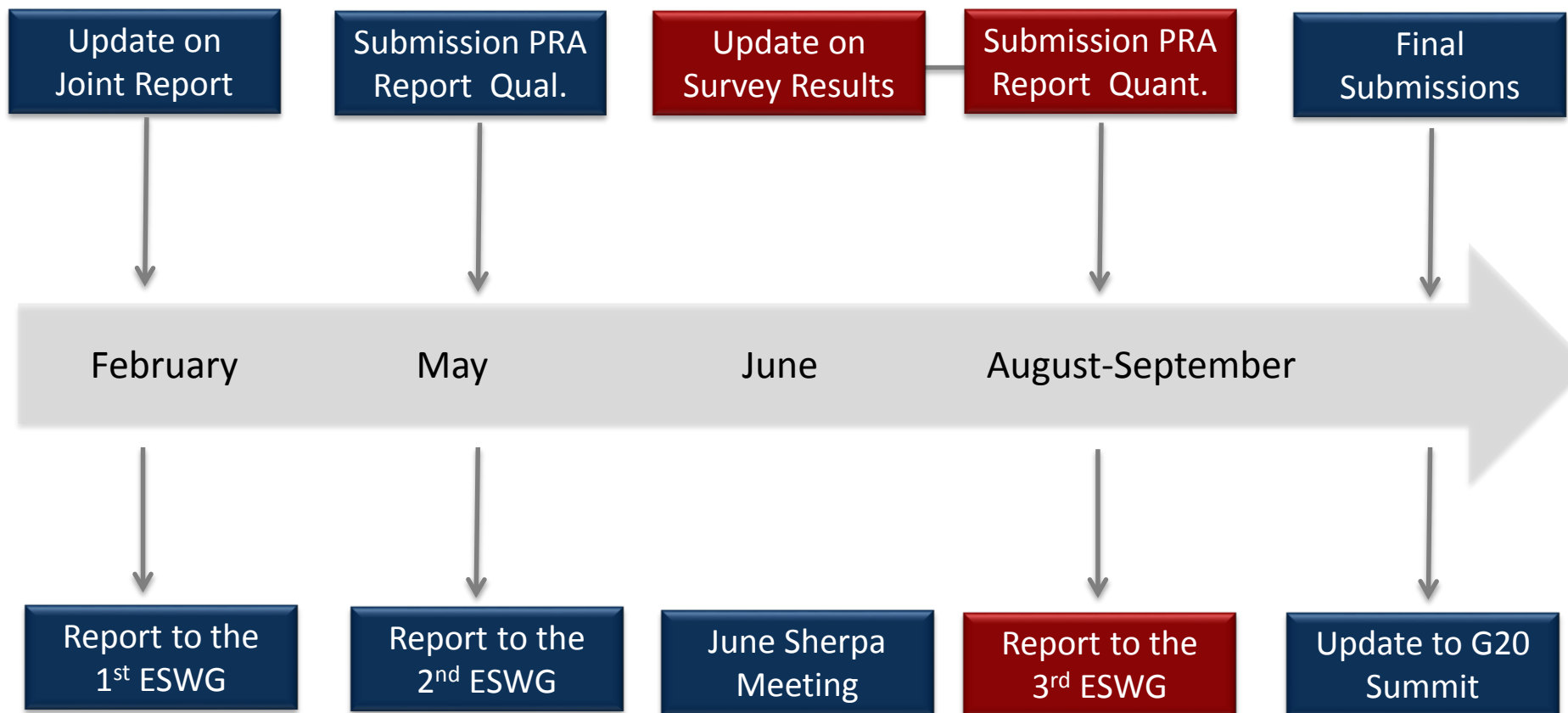
1. The Principles published in October 2012 in response to the G20 Leaders' request of November 2011 state that:

**“IOSCO, in collaboration with the IEF, the IEA and OPEC, prepare recommendations to improve their [PRAs] functioning and oversight.”(4)**

2. The G20 Finance Ministers' request of 5 November 2012:

**“ask (s) IOSCO to liaise with the IEA, IEF and OPEC to assess the impact of the principles on physical markets and report back.”(5)**

# Milestones



# Agenda

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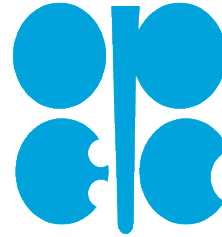
1. Objective, mandate, and milestones
- 2. The Joint IEA-IEF-OPEC Market Impact Report of the IOSCO Oil Price Reporting Agencies Principles**
  - Qualitative analysis: Overview of Survey Responses
  - Quantitative analysis: Scope, Method, Findings, Conclusions
3. Discussion Questions

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1. Objective, mandate, and milestones
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  - Qualitative analysis: Overview of Survey Responses
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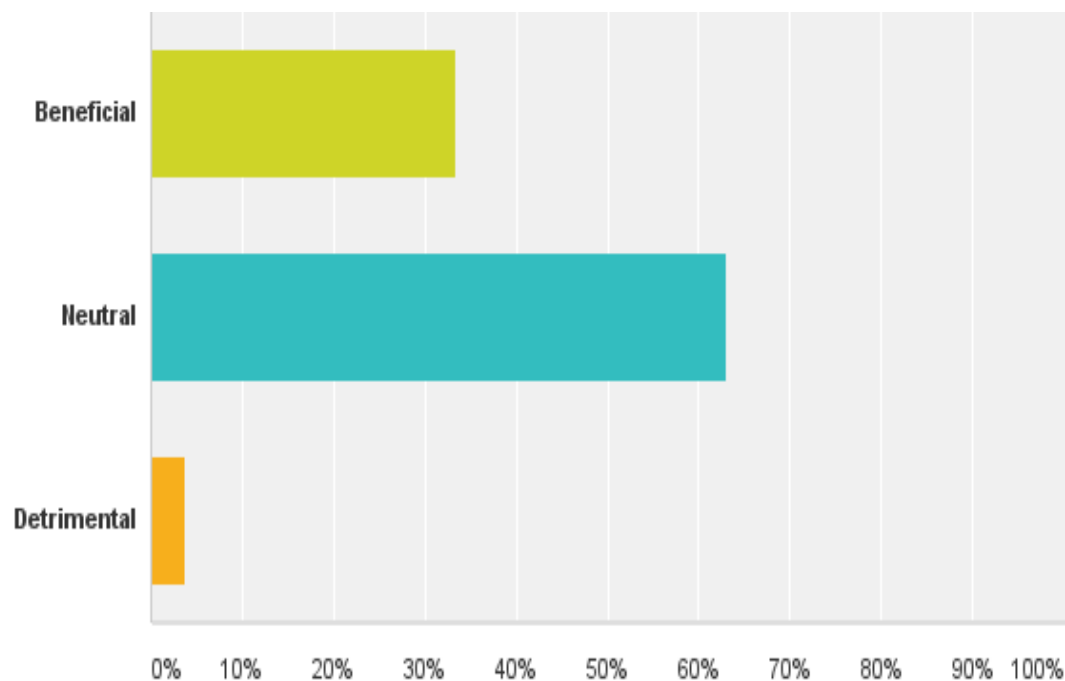
# **IEA-IEF-OPEC Survey of Physical Oil Market Participants on the Market Impact of IOSCO Oil Price Reporting Principles**

## **Overview of Responses to Survey Questions**

**55 Respondents**

# The Principles impact is neutral to beneficial

How would you assess the overall impact of the PRA Principles on physical oil market trade activities?



# Agenda

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1. Objective, mandate, and milestones

**2. The Joint IEA-IEF-OPEC Market Impact Report of the IOSCO Oil Price Reporting Agencies Principles**

- Qualitative analysis: Overview of Survey Responses
- Quantitative analysis: Scope, Method, Findings, Conclusions

3. Discussion Questions

# Scope Quantitative Analysis

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- Upon the request of the **G20 ESWG**, IOs conducted a **quantitative analysis of PRA price reporting to complement qualitative findings**.
- This involved a **Descriptive and Inferential Statistical Analysis of Platts, Argus and ICIS price assessments** of major marker crudes:
- **Dated Brent plus components Brent, Ninian Blend, Forties, Oseberg, Ekofisk; Dubai; and Oman, as well as Light Louisiana Sweet and Mars** to broaden the scope of findings.

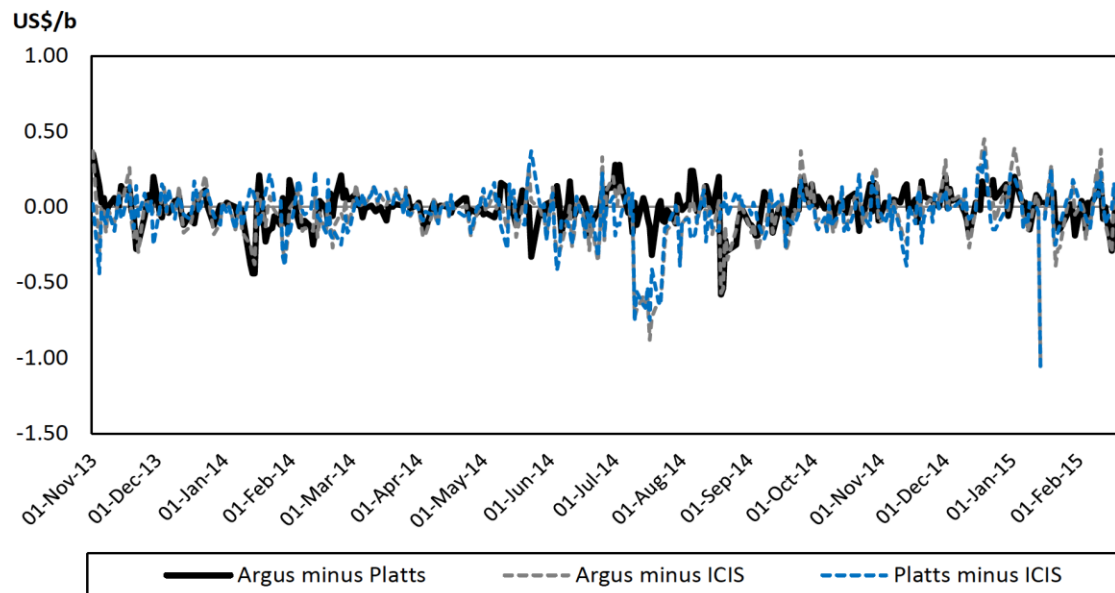
# Method Quantitative Analysis

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- The analysis **compares PRA price assessments** for major marker crudes **prior to, and after PRA Principles' implementation (1 November 2013)**.
- The analysis assumes that **greater convergence of PRA price assessments indicates a higher degree of confidence and comparability** in assessments and prices reported.
- This demonstrates the **positive contribution of PRA Principles to energy market transparency**.

# Dated Brent Price differences are negligible: Less than 1c/b over the review period.

Figure 1: Dated Brent: Argus, ICIS and Platts

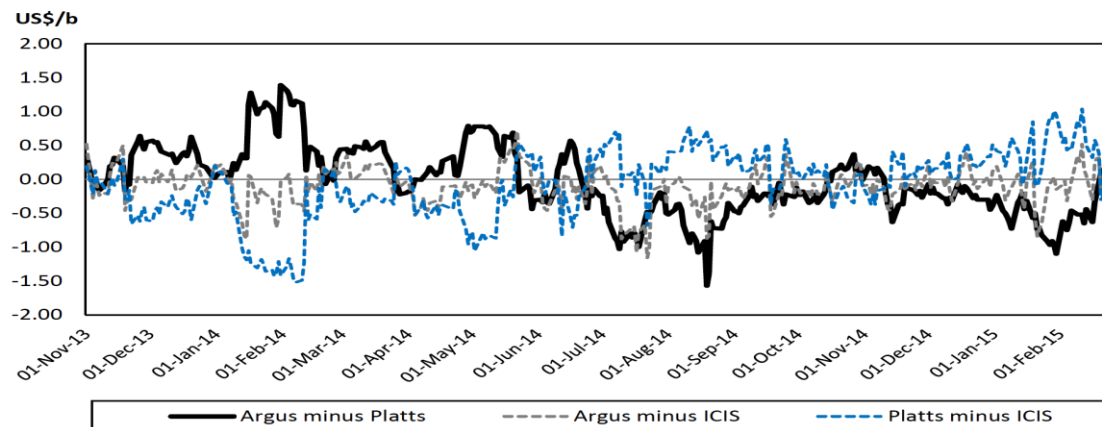


2015 report (after 1 November 2013)

US\$/b	Argus	ICIS	Platts
<b>Average</b>	94.57	94.77	94.58
<b>Min</b>	45.28	45.25	45.22
<b>Max</b>	115.14	115.43	115.32
	Argus - Platts	Argus - ICIS	Platts - ICIS
<b>Average</b>	-0.01	-0.05	-0.04
<b>Standard deviation</b>	0.12	0.19	0.17
<b>Min</b>	-0.58	-1.05	-1.08
<b>Max</b>	0.35	0.45	0.37
<b>No. of observation</b>	335	334	334
<b>Difference &gt; 0.49</b>	2	12	9
<b>%</b>	0.6%	3.6%	2.7%

# Brent Components' price differences converged.

Figure 2: Brent Ninian Blend: Argus, ICIS and Platts compared



## 2011 report

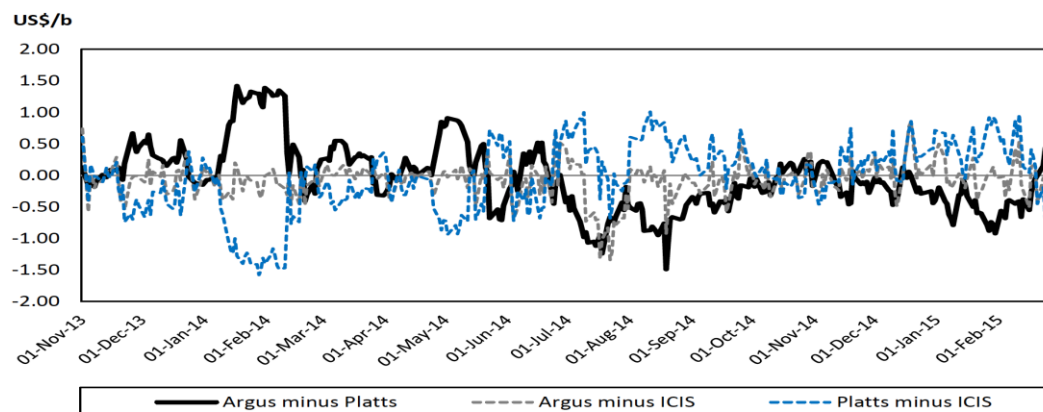
US\$/b	Argus	ICIS	Platts
<b>Average</b>	81.42	81.41	81.60
<b>Min</b>	33.56	33.18	34.96
<b>Max</b>	144.98	144.47	145.28
	<b>Argus - Platts</b>	<b>Argus - ICIS</b>	<b>Platts - ICIS</b>
<b>Average</b>	-0.18	0.01	0.19
<b>Standard deviation</b>	0.47	0.34	0.54

## 2015 report (after 1 November 2013)

US\$/b	Argus	ICIS	Platts
<b>Average</b>	94.57	94.65	94.58
<b>Min</b>	45.28	45.25	45.22
<b>Max</b>	115.14	115.43	115.32
	<b>Argus - Platts</b>	<b>Argus - ICIS</b>	<b>Platts - ICIS</b>
<b>Average</b>	-0.01	-0.08	-0.07
<b>Standard deviation</b>	0.12	0.58	0.57

# Brent Components' price differences converged.

Figure 3: Forties: Argus, ICIS and Platts compared



## 2011 report

US\$/b	Argus	ICIS	Platts
Average	78.89	78.88	79.02
Min	31.96	31.93	33.66
Max	143.43	143.47	144.22
	Argus - Platts	Argus - ICIS	Platts - ICIS
Average	-0.14	0.01	0.15
Standard deviation	0.50	0.21	0.49

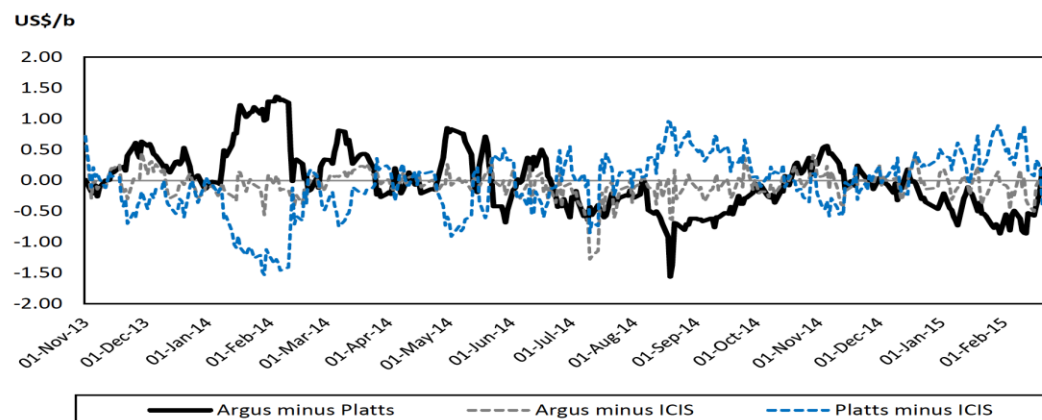
## 2015 report (after 1 November 2013)

US\$/b	Argus	ICIS	Platts
Average	94.60	94.67	94.64
Min	44.92	44.97	45.22
Max	115.64	115.93	115.42
	Argus - Platts	Argus - ICIS	Platts - ICIS
Average	-0.04	-0.07	-0.04
StdDev	0.53	0.29	0.54



# Brent Components' price differences converged.

Figure 4: Oseberg: Argus, ICIS and Platts compared



## 2011 report

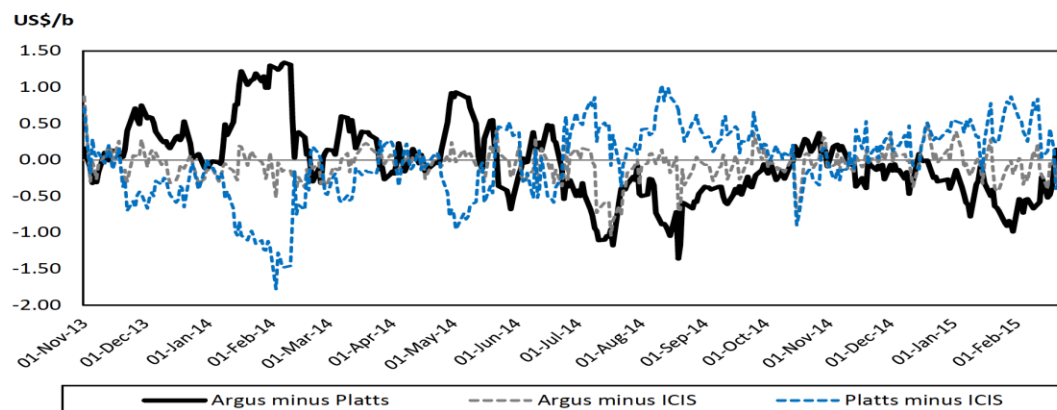
US\$/b	Argus	ICIS	Platts
Average	80.50	80.47	80.60
Min	34.11	34.18	35.76
Max	147.38	147.37	148.53
	Argus - Platts	Argus - ICIS	Platts - ICIS
Average	-0.10	0.03	0.13
Standard deviation	0.51	0.21	0.51

## 2015 report (after 1 November 2013)

US\$/b	Argus	ICIS	Platts
Average	95.75	95.82	95.76
Min	46.03	46.00	46.25
Max	116.29	116.58	116.22
	Argus - Platts	Argus - ICIS	Platts - ICIS
Average	0.00	-0.07	-0.07
Standard deviation	0.50	0.22	0.48

# Ekofisk has also seen greater convergence

Figure 5: Ekofisk: Argus, ICIS and Platts compared



## 2011 report

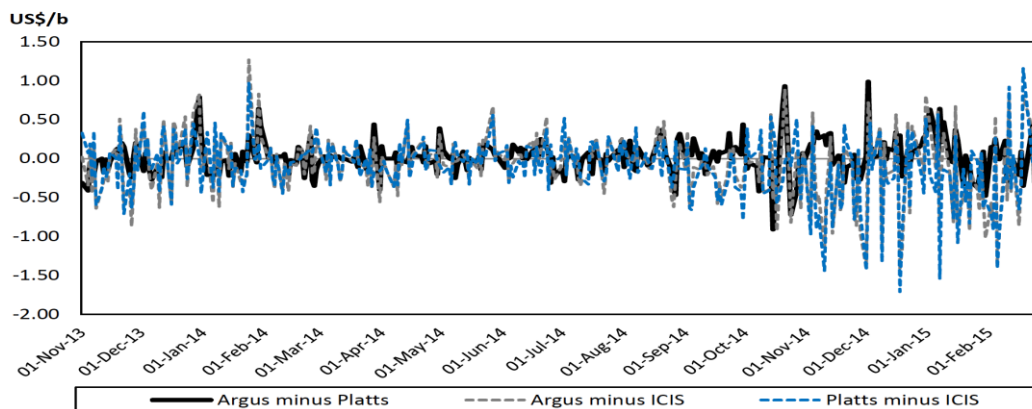
US\$/b	Argus	ICIS	Platts
Average	80.19	80.11	80.25
Min	33.86	33.88	35.56
Max	147.08	147.02	148.33
	Argus - Platts	Argus - ICIS	Platts - ICIS
Average	-0.06	0.08	0.14
Standard deviation	0.48	0.24	0.50

## 2015 report (after 1 November 2013)

US\$/b	Argus	ICIS	Platts
Average	95.35	95.42	95.39
Min	45.48	45.45	45.77
Max	116.43	116.75	116.16
	Argus - Platts	Argus - ICIS	Platts - ICIS
Average	-0.04	-0.07	-0.03
Standard deviation	0.51	0.22	0.50

# Dubai price differences also show greater convergence.

Figure 6: Dubai: Argus, ICIS and Platts compared



## 2011 report

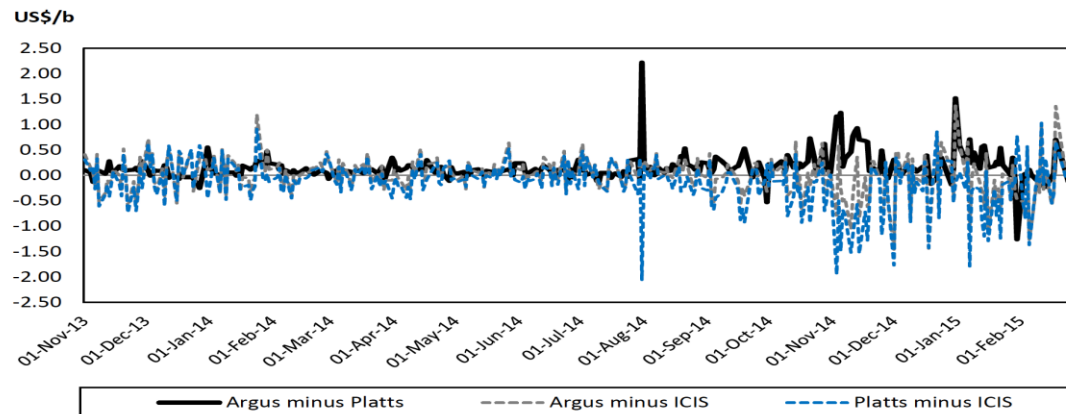
US\$/b	ARGUS	ICIS	PLATTS
Average	76.81	76.82	76.76
Min	36.77	36.20	36.65
Max	140.57	141.08	140.77
	Argus - Platts	Argus - ICIS	Platts - ICIS
Average	0.05	-0.01	-0.06
Standard deviation	0.37	0.48	0.45

## 2015 report (after 1 November 2013)

US\$/b	Argus	ICIS	Platts
Average	92.41	92.50	92.40
Min	42.00	42.83	42.05
Max	111.31	110.89	111.16
	Argus - Platts	Argus - ICIS	Platts - ICIS
Average	0.01	-0.09	-0.11
Standard deviation	0.22	0.40	0.38

# Differences between price assessments for Oman narrowed but remain relatively high due to variations in methodology

**Figure 7: Oman: Argus, ICIS and Platts compared**



## 2011 report

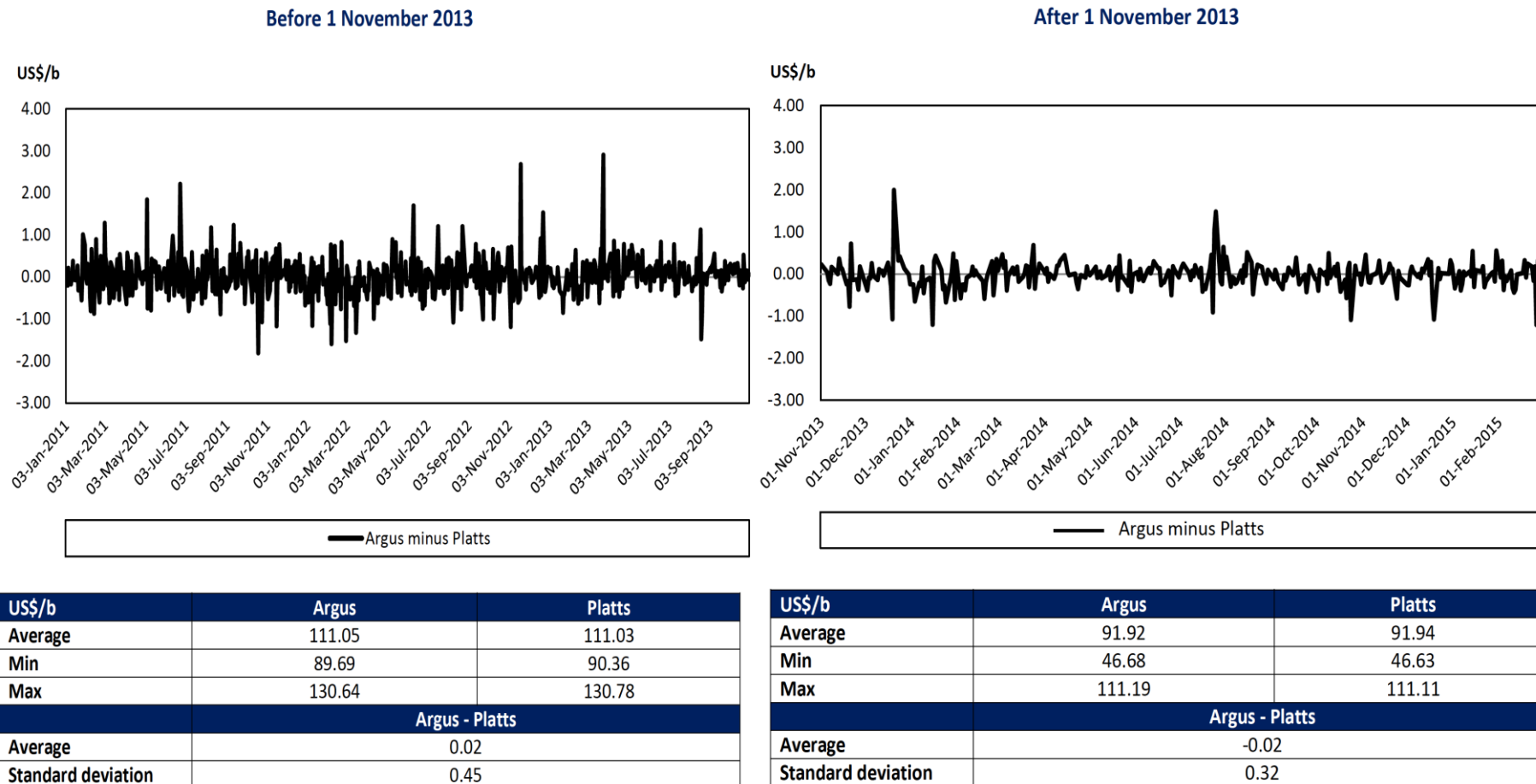
US\$/b	Argus	ICIS	Platts
Average	77.31	77.04	77.14
Min	37.22	36.64	37.10
Max	141.42	141.35	141.30
	Argus - Platts	Argus - ICIS	Platts - ICIS
Average	0.17	0.27	0.10
Standard deviation	0.44	0.68	0.64

## 2015 report (after 1 November 2013)

US\$/b	Argus	ICIS	Platts
Average	92.91	92.91	92.76
Min	43.41	43.92	42.82
Max	111.26	110.89	111.16
	Argus - Platts	Argus - ICIS	Platts - ICIS
Average	0.15	0.00	-0.15
Standard deviation	0.26	0.38	0.45

# Light Louisiana Sweet has remained unchanged still at low levels

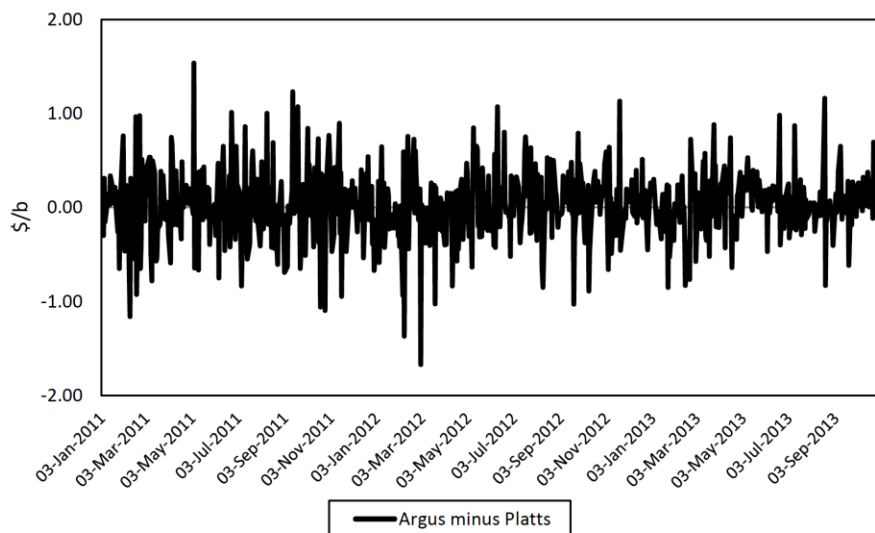
Figure 8: Light Louisiana Sweet (LLS): Argus and Platts compared



# Mars has narrowed further.

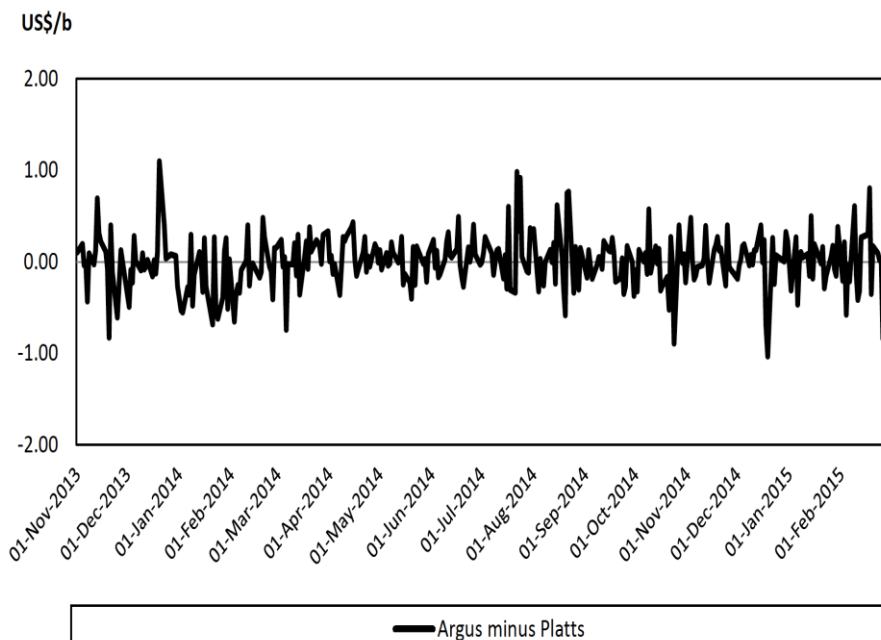
Figure 9: Mars: Argus and Platts compared

Before 1 November 2013



US\$/b	Argus	Platts
Average	106.14	106.11
Min	86.39	86.49
Max	123.02	123.91
Argus - Platts		
Average	0.02	
Standard deviation	0.37	

After 1 November 2013

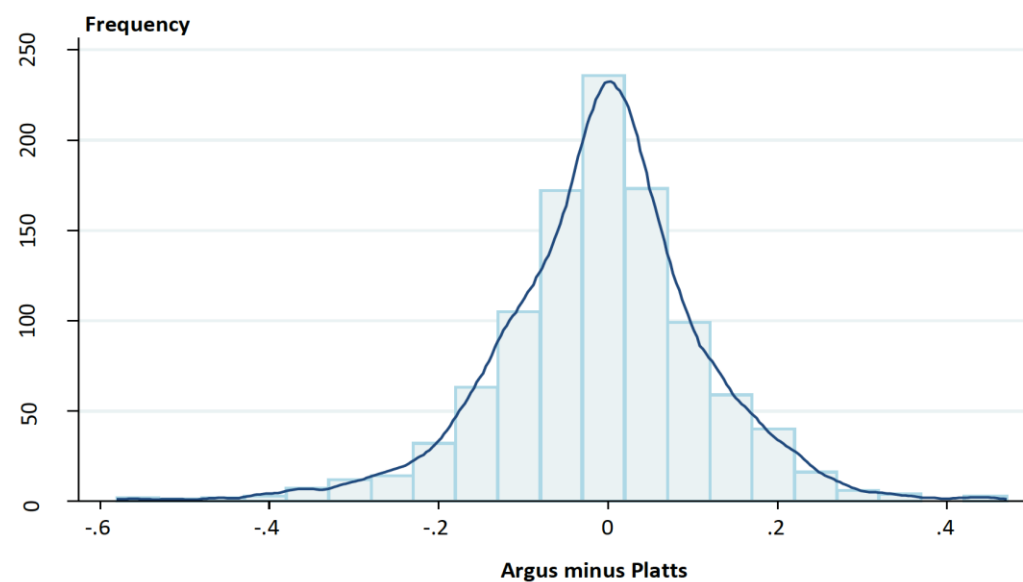


US\$/b	Argus	Platts
Average	87.81	87.80
Min	42.45	42.44
Max	107.67	107.43
Argus - Platts		
Average	0.01	
Standard deviation	0.29	

# Differences in price assessments are normally distributed.

## The probability of very large differentials is minimal.

**Figure 10: Dated Brent: Statistical distribution of daily differences**  
*Argus minus Platts (1 January 2011 – 27 February 2014)*



	Percentage
Probability: < -0.50	0.0045%
Probability: > 0.50	0.0025%

95% confidence	
Margin of error	0.01
Lower bound	-0.02
Upper bound	0.00

# The inferential statistical analysis shows that the means of marker price assessment differentials are not statistically significant

**Figure 11: Brent Dated: Argus vs. Platts**

## 1. Descriptive Statistics:

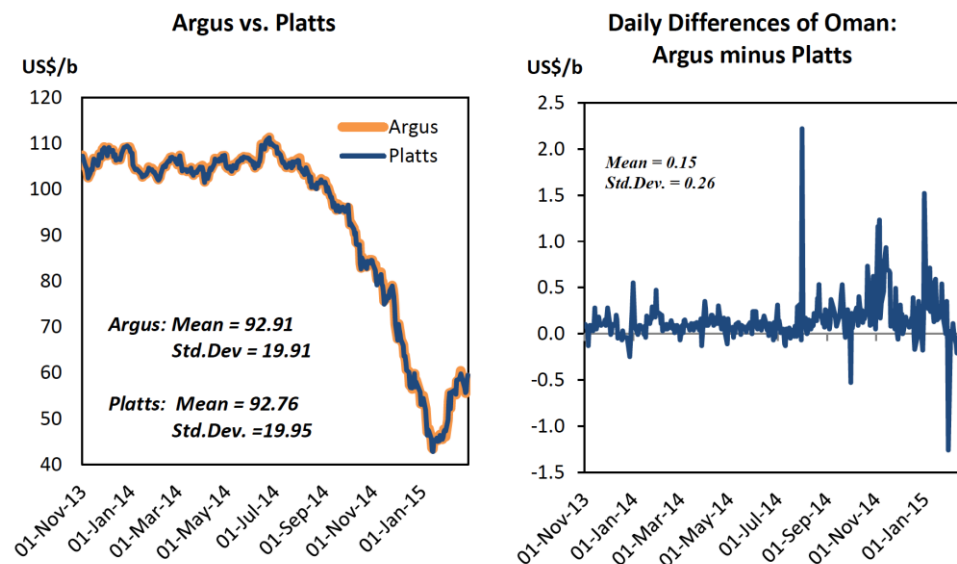
Variable	Obs	Mean	Std.Dev.	Min	Max
Argus	335	94.57	20.56	45.28	115.14
Platts	335	94.58	20.56	45.22	115.32
Argus Minus Platts	335	-0.01	0.12	-0.58	0.35

## 2. Inferential Statistics:

	One-way ANOVA Argus	One-way ANOVA Platts	Two-Sample t-test (equal variances)	One-Sample t-test of Differences
Test Results	$F(3, 1332) = 0.17$ $p = 0.92$	$F(3, 1332) = 0.17$ $p = 0.92$	$t(668) = -0.01$ , $p = 1.00$	$t(334) = -1.61$ , $p = 0.11$
Conclusion	Accept $H_0$	Accept $H_0$	Accept $H_0$	Accept $H_0$



# As could be anticipated from the descriptive statistics, price assessments differentials are statistically significant for Oman



**Figure 17: Oman: Argus vs. Platts**

## 1. Descriptive Statistics:

Variable	Obs	Mean	Std.Dev.	Min	Max
Argus	330	92.91	19.91	43.41	111.26
Platts	330	92.76	19.95	42.82	111.16
Argus Minus Platts	330	0.15	0.26	-1.26	2.22

## 2. Inferential Statistics:

	Two-Sample t-test (equal variances)	One-Sample t-test of Differences
Test Results	$t(658) = 0.10$ , $p = 0.92$	$t(329) = 10.38$ , $p = 0.00$
Conclusion	Accept $H_0$	Reject $H_0$

# Conclusions Quantitative Analysis

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- The descriptive statistical analysis points at greater convergence of PRA price assessments for crude markers, while the inferential statistical analysis finds that the remaining price differences are not statistically significant.
- The overall comparability of these independently-arrived assessments, and degree of convergence seen since the implementation of the PRA Principles, can be considered as a positive development for energy market transparency.

# Agenda

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1. Objective, mandate, and milestones
2. The Joint IEA-IEF-OPEC Market Impact Report of the IOSCO Oil Price Reporting Agencies Principles
- 3. Discussion Questions**

# Discussion Questions

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1. How do you evaluate the progress regarding JODI over the year?
2. How do you evaluate the findings of the “Quantitative PRA Market Impact Report”?
3. How do you evaluate the responses on the qualitative analysis?
4. How do you evaluate the Second Oil PRA Review Report?
5. What can be the high level messages on market transparency for the Ministers?
6. What should be reported to the Sherpas in their October meeting for the leaders’ consideration?

# References

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- [\(1\) IOSCO Publishes Principles for Oil Price Reporting Agencies IOSCO Media Release Madrid 2012](#)
- [\(2\) G20 Principles on Energy Collaboration Sydney 2014](#)
- [\(3\) G20 Leaders Statement Cannes 2011](#)
- [\(4\) G20 Finance Ministers and Central Bank Governors Communiqué Mexico City 2012](#)

# Back-up Slides

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## Qualitative Analysis: Final Shared Findings (1/3)

*“Based on the survey responses, physical oil market participants generally consider the Principles for Oil Price Reporting Agencies to have had **a positive impact on the activities of Price Reporting Agencies.**”*

Source: Conclusion: Joint Report on the IEA-IEF-OPEC Survey of Oil Market Participants regarding the Impact of the Principles for Oil Price Reporting Agencies on the Physical Oil Market



## Qualitative Analysis: Final Shared Findings (2/3)

*“Improvements have been seen in the following areas: **The functioning of PRAs; confidence in price assessments; transparency regarding changes to methodologies; and dialogue with PRAs surrounding methodological changes.***

Source: Conclusion: Joint Report on the IEA-IEF-OPEC Survey of Oil Market Participants regarding the Impact of the Principles for Oil Price Reporting Agencies on the Physical Oil Market

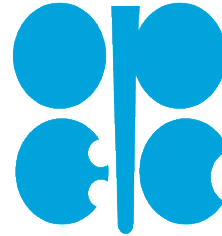




## Qualitative Analysis: Final Shared Findings (3/3)

*“The implementation of the Principles **was not seen to have given rise to any new concerns, or to have materially impacted the engagement of physical market participants in the price assessment process** so far in the period immediately following implementation. ”*

Source: Conclusion: Joint Report on the IEA-IEF-OPEC Survey of Oil Market Participants regarding the Impact of the Principles for Oil Price Reporting Agencies on the Physical Oil Market

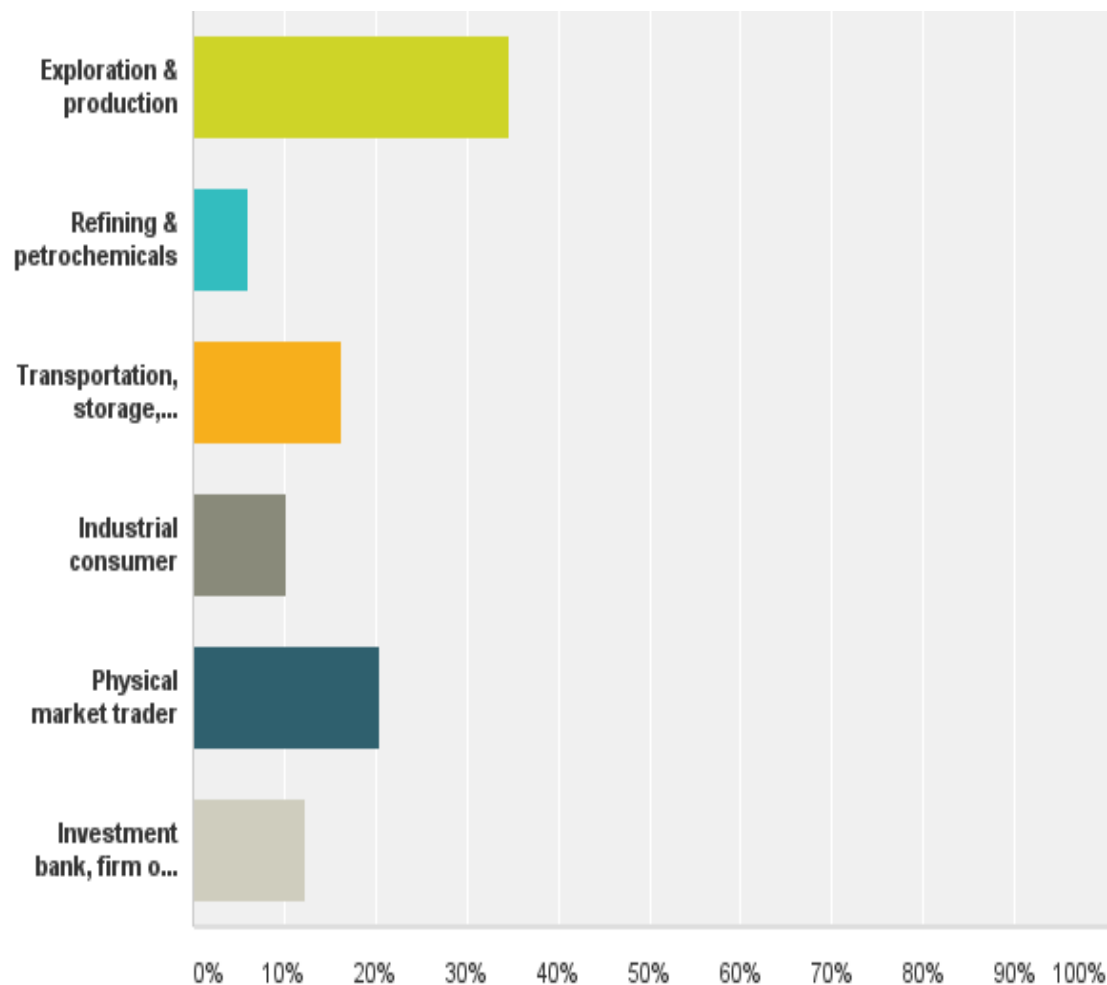


# **IEA-IEF-OPEC Survey of Physical Oil Market Participants on the Market Impact of IOSCO Oil Price Reporting Principles**

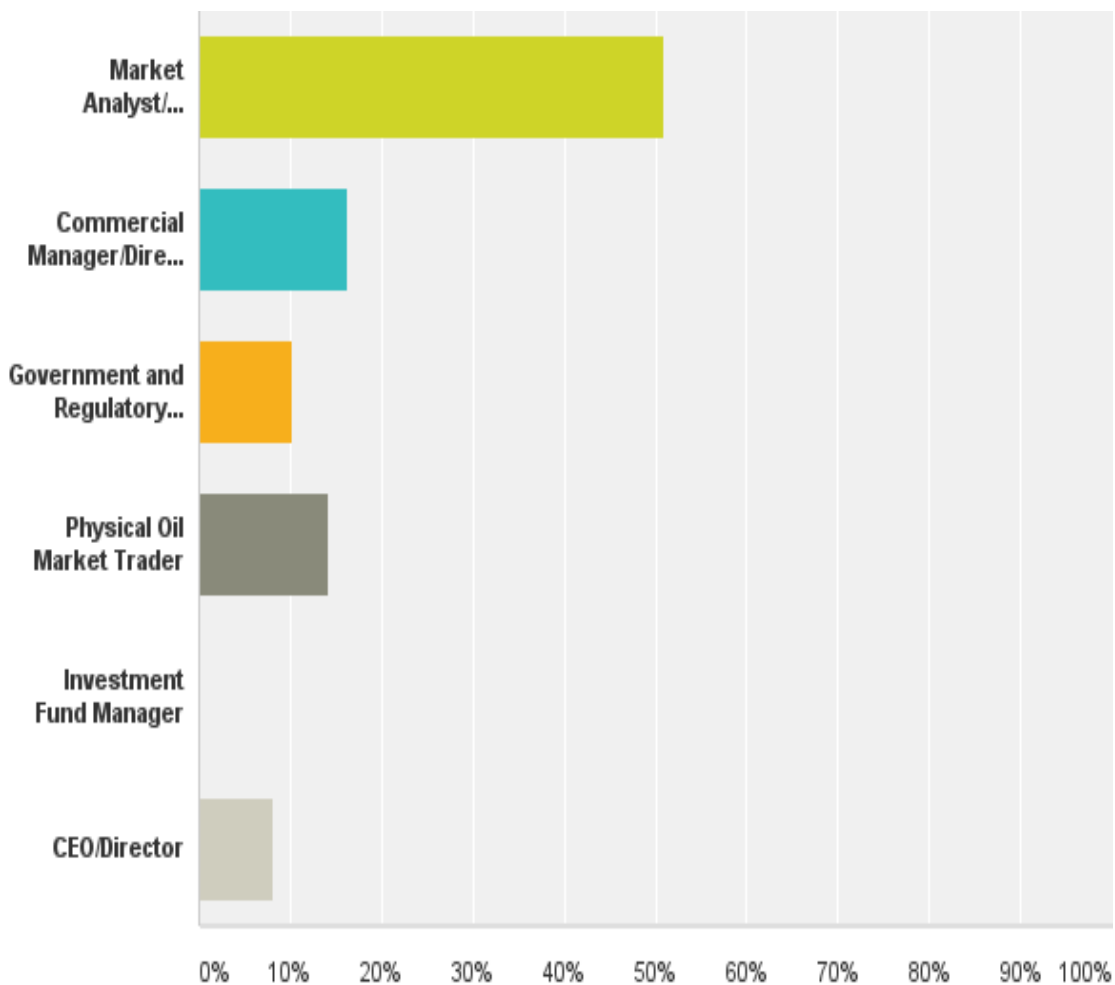
## **Overview of Responses to Survey Questions**

- **55 Responses**

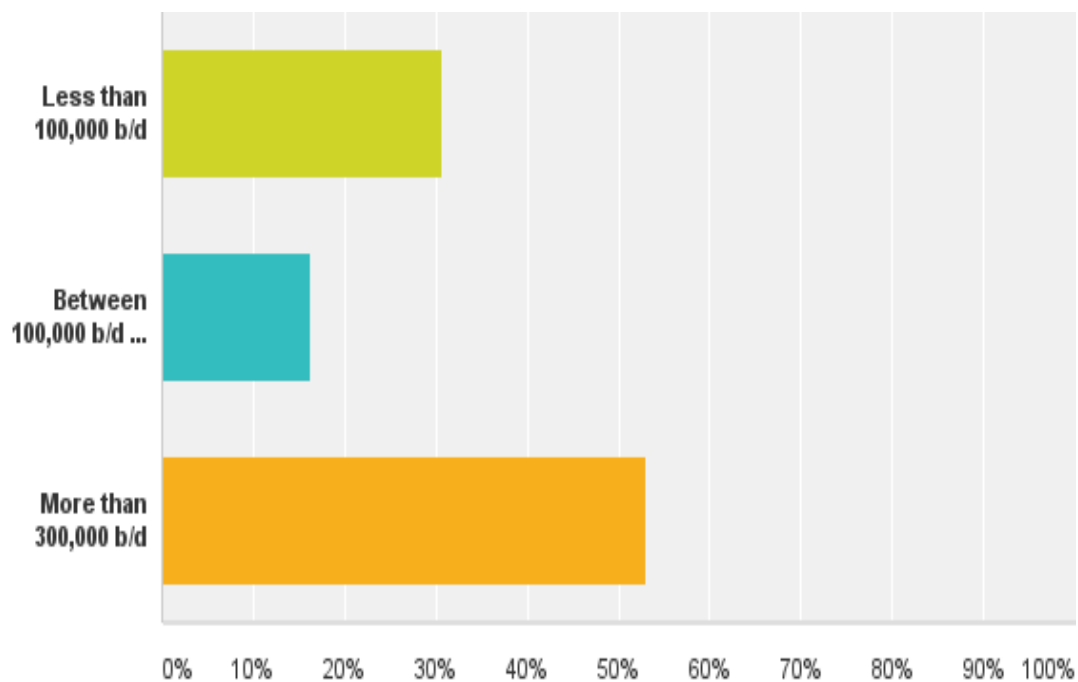
## Please describe your company's primary activities in the physical oil market.



# How would you best describe your job function?

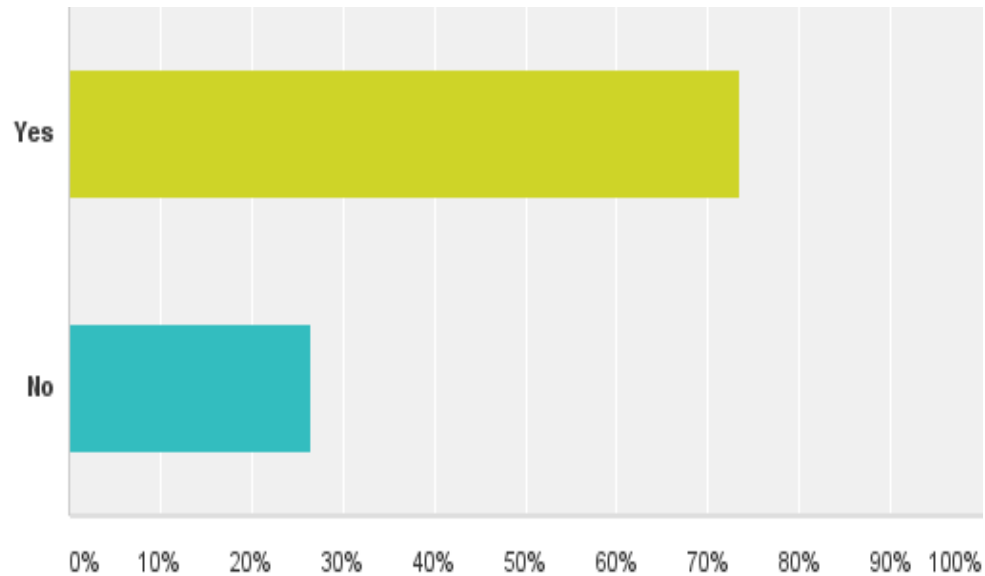


Please quantify your company's activities in the physical oil market.

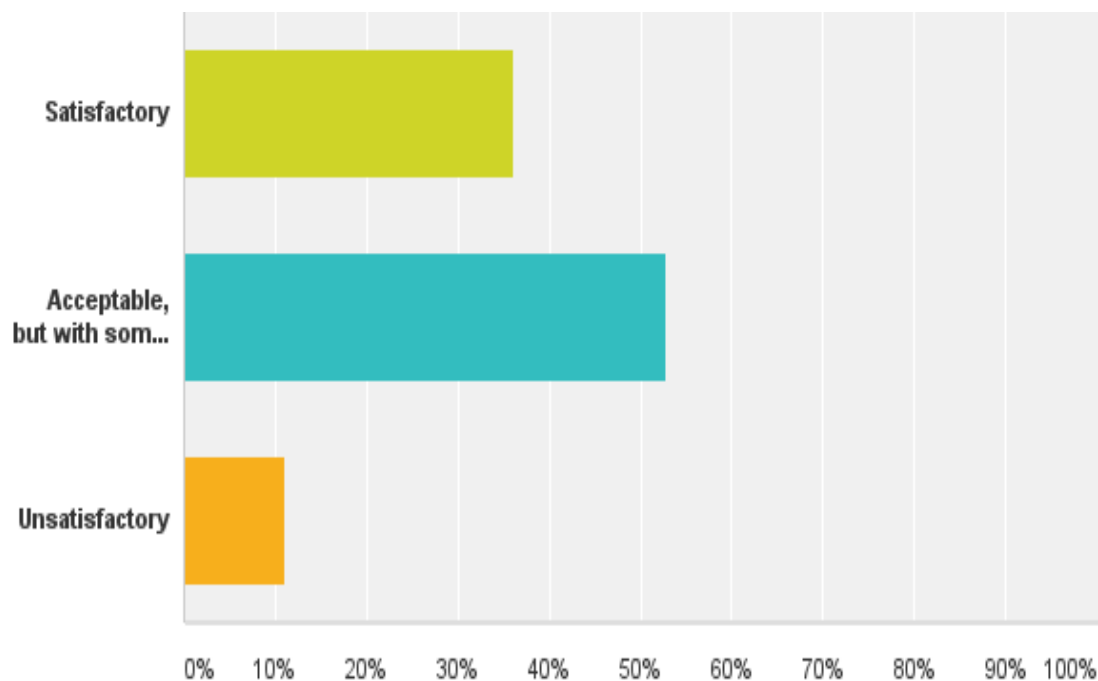


## Are you or your company currently subscribers to the services of one or more Price Reporting Agencies (PRAs)?

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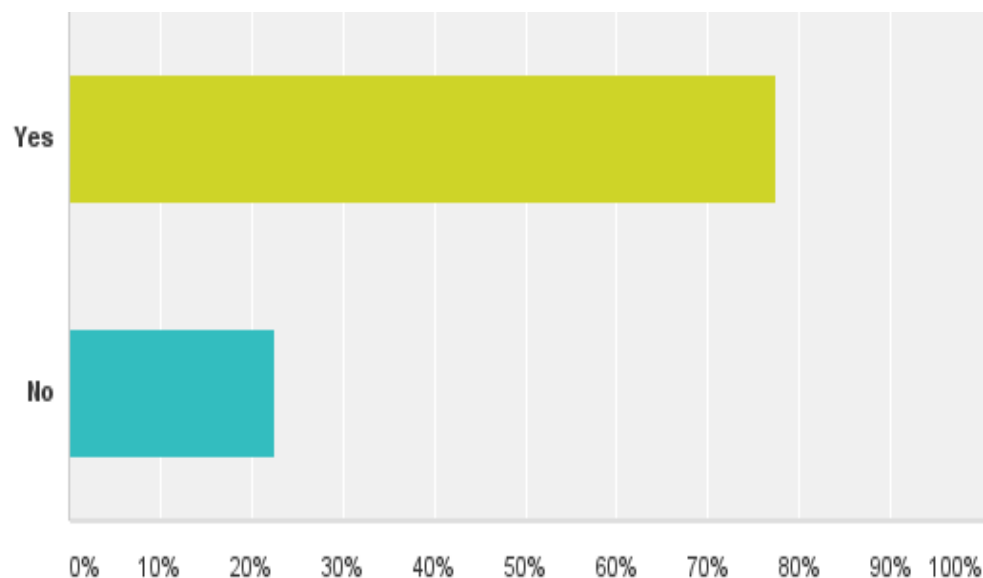


## How would you rate overall the services performed by the PRAs?



## Have the PRAs provided sufficient transparency regarding the changes they have made in implementing the PRA Principles?

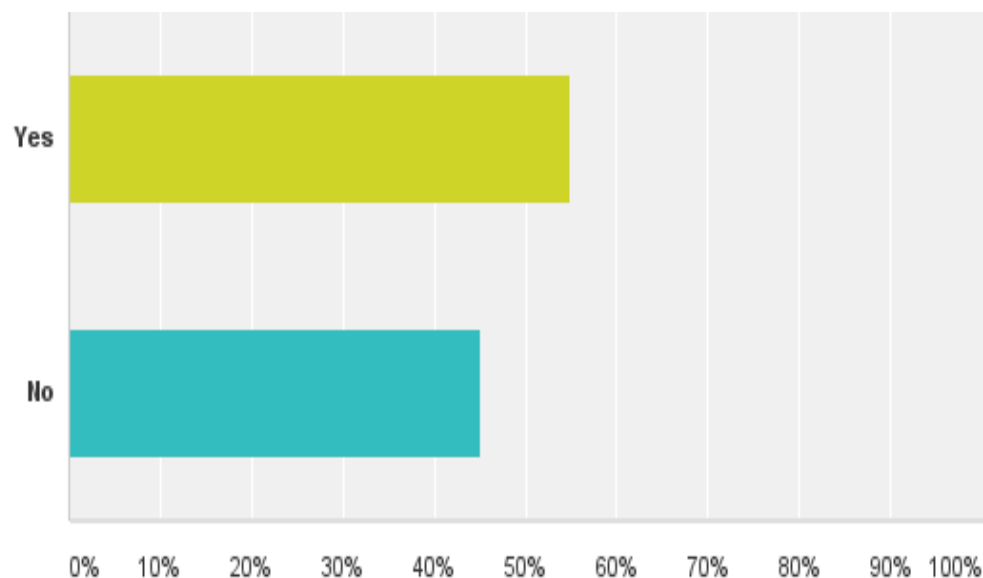
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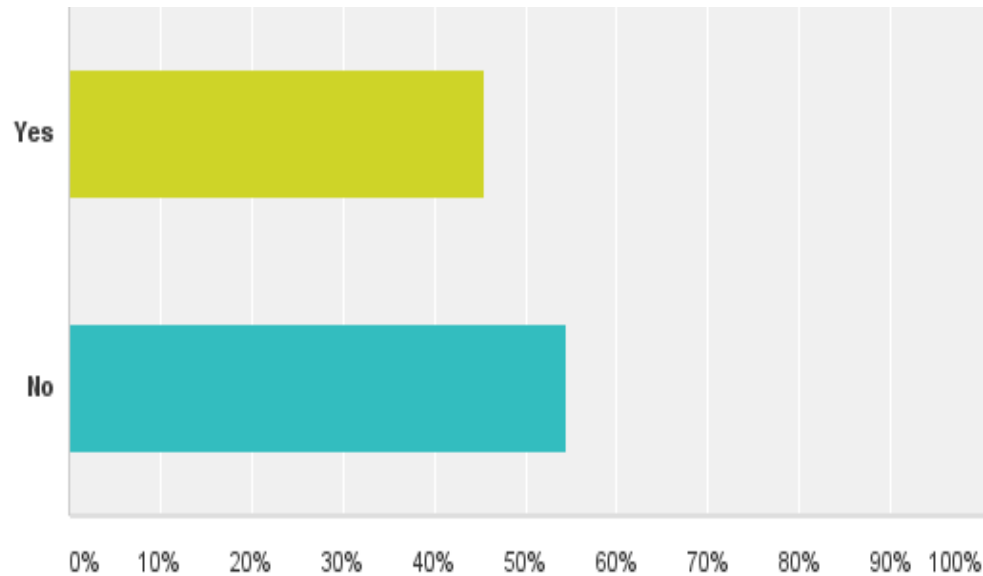
## Prior to the publication of the PRA Principles, did your company have any concerns regarding oil price assessments by PRAs?

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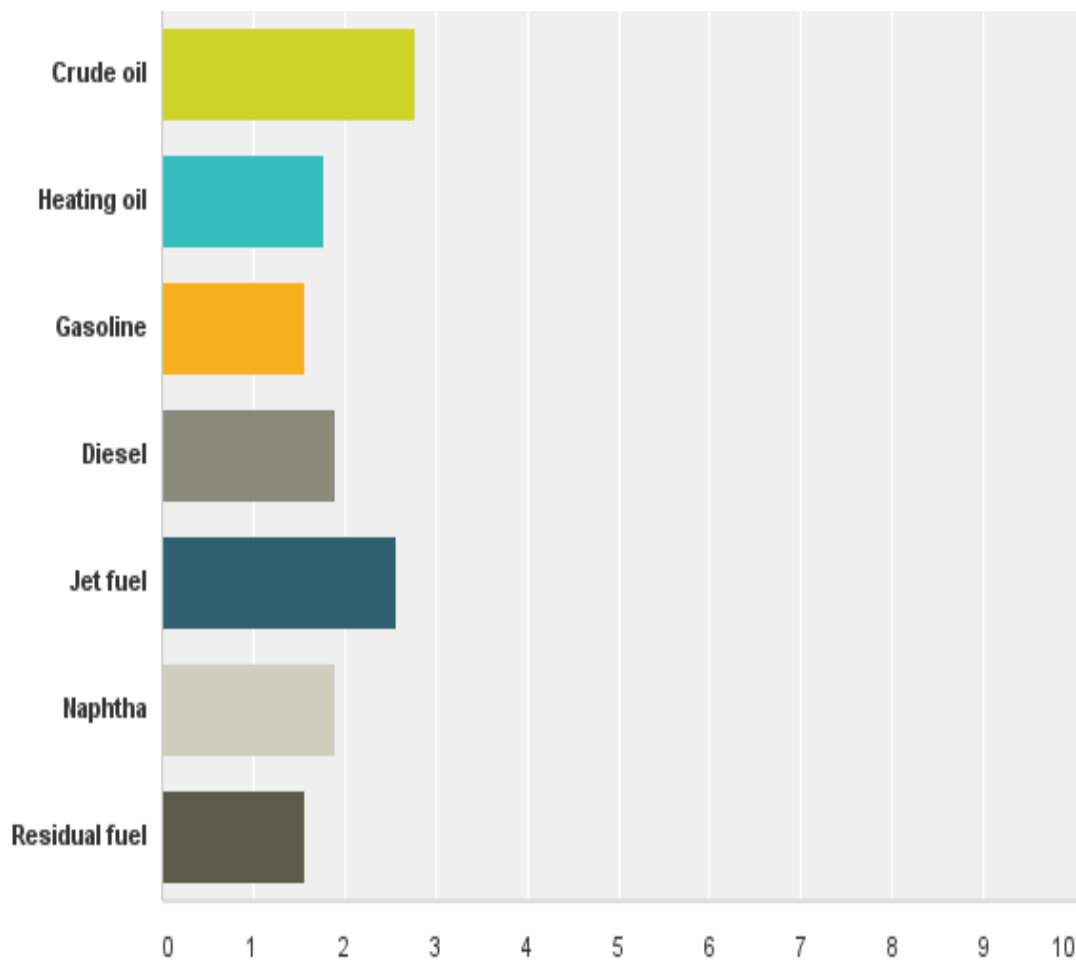


## Have the PRA Principles resulted in changes by PRAs that addressed your specific concerns?

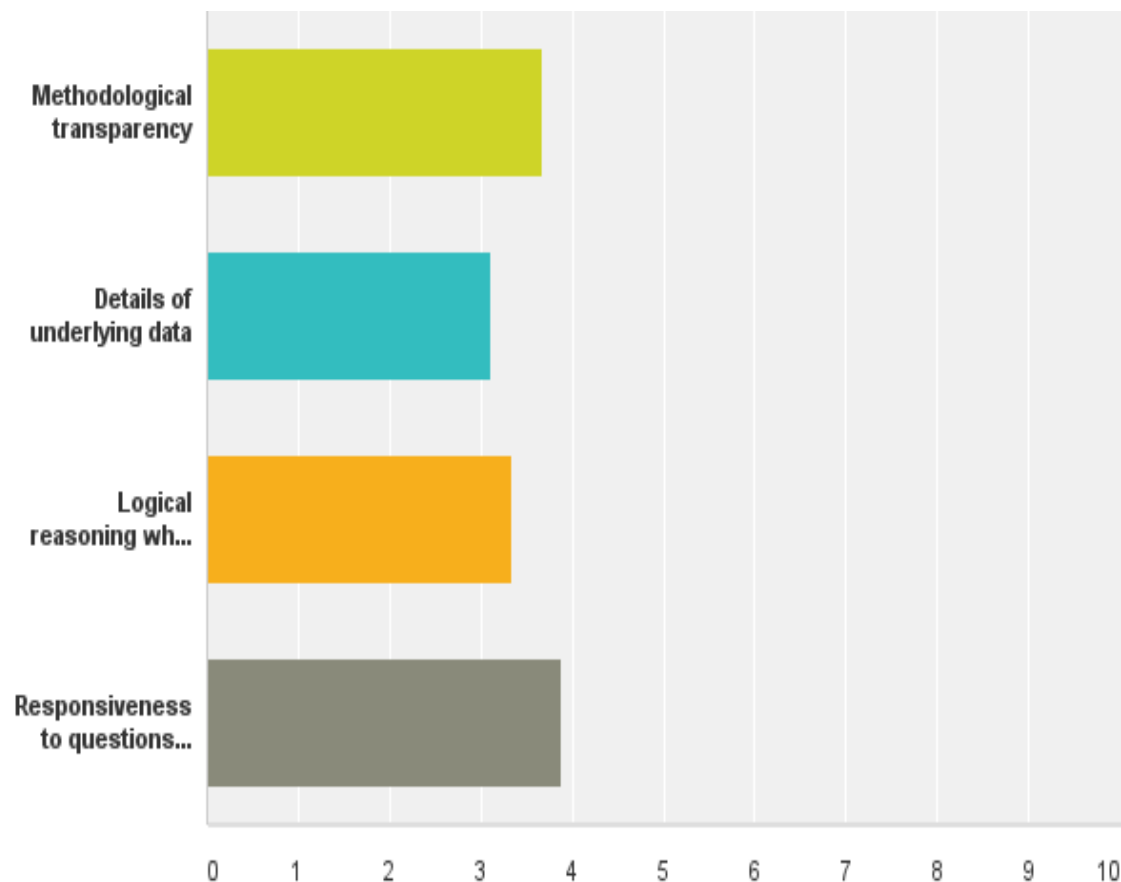
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To which physical market assessments were these concerns related, and how would you rate your level of concern on a scale ascending from 0 to 5 (with 0 representing no concern)?

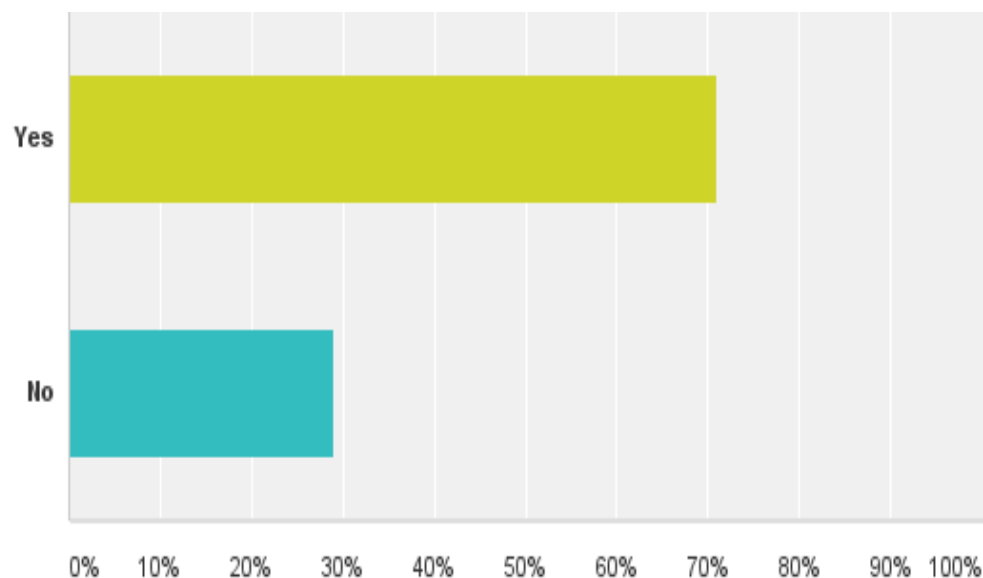


Please indicate on an ascending scale from 0-5 the extent to which PRA Principles have addressed your concerns on specific issues (with 5 representing that your concerns were completely addressed)



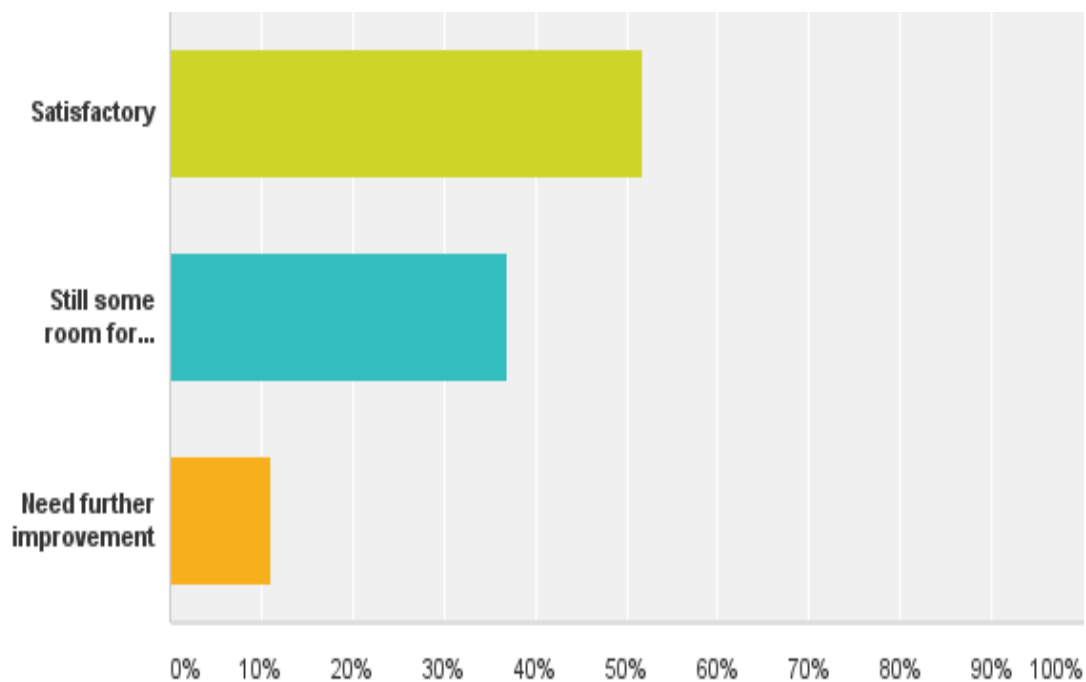
## Have the PRA Principles led to an improvement in activities of the PRAs, in terms of engagement with the subscribers, submitters and other market participants?

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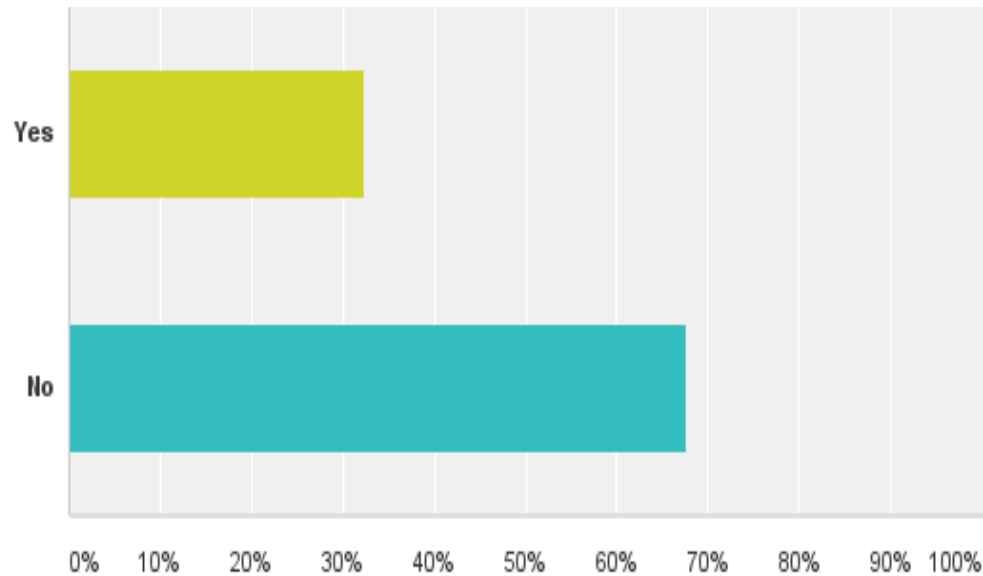
# How would you rate this improvement?

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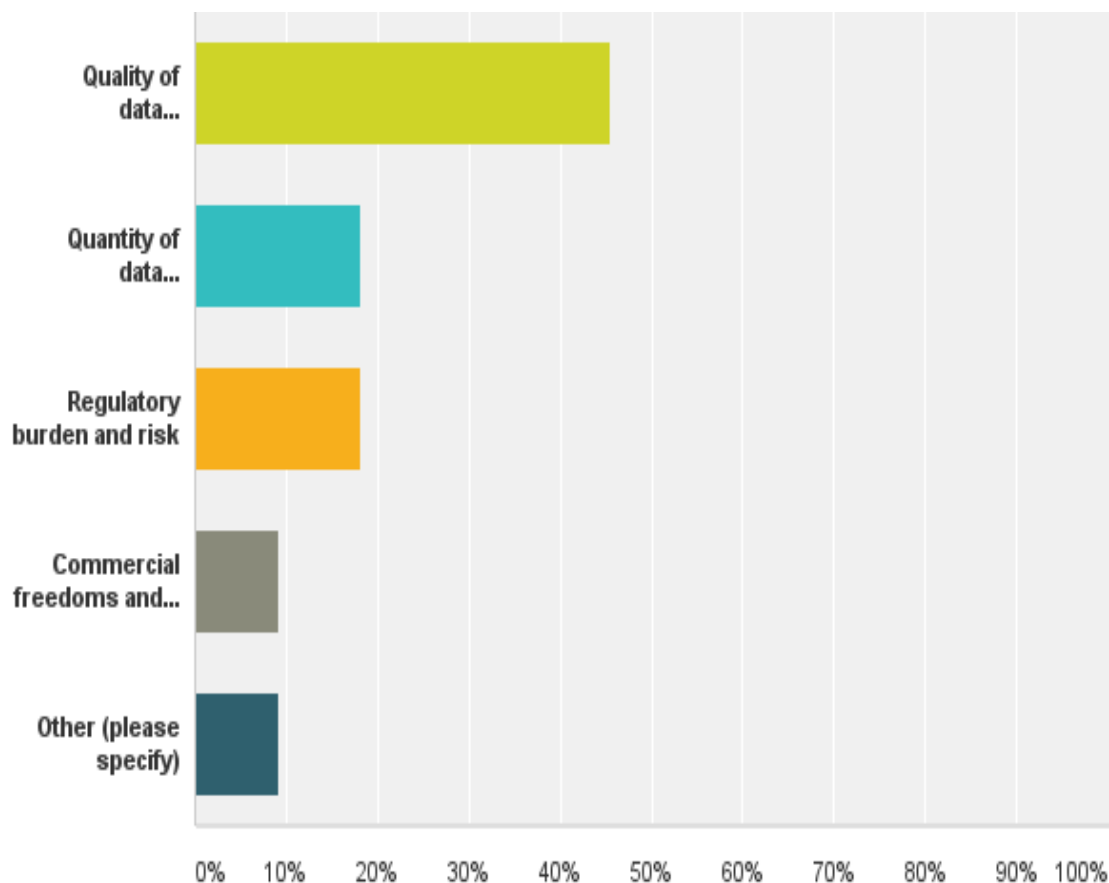


## Has the implementation of the PRA Principles given rise to any new concerns in the physical market?

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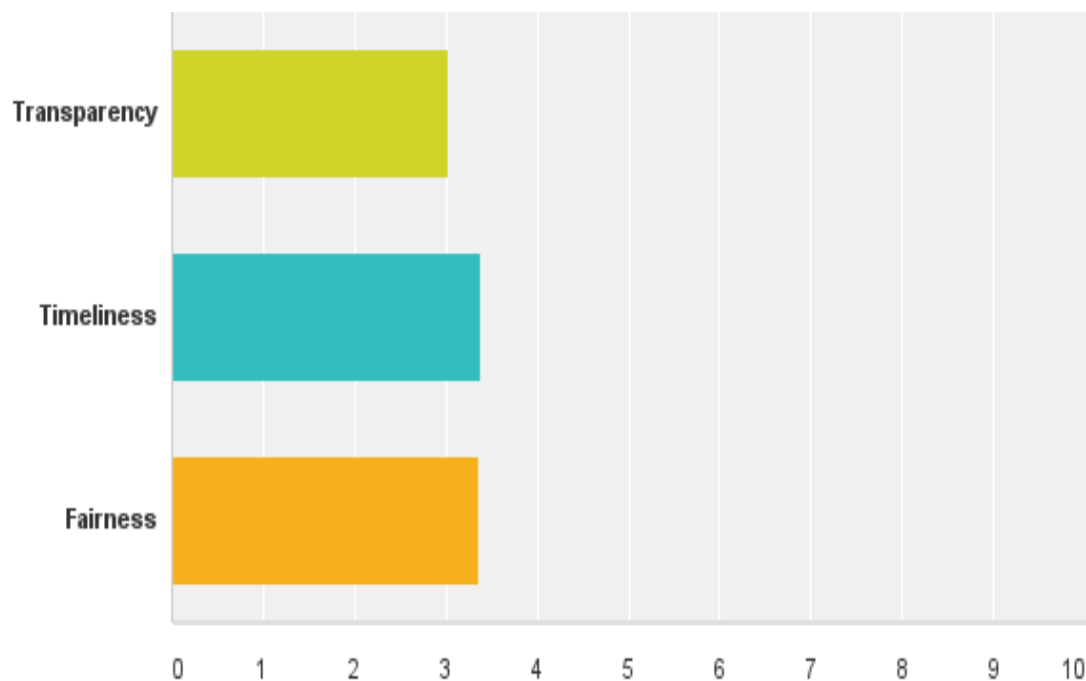
## Under which of the categories listed below would you place these new concerns?





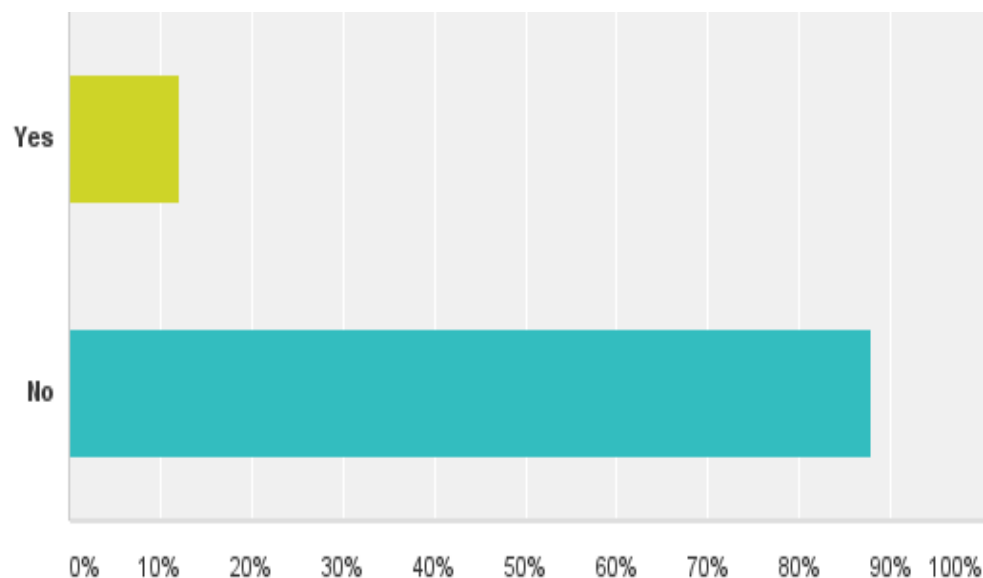
**Do you find PRA policies for handling complaints by physical market participants is adequate?**  
**Please rate your assessment on an ascending scale from 0 to 5 under the below listed categories (with 5 representing completely adequate).**

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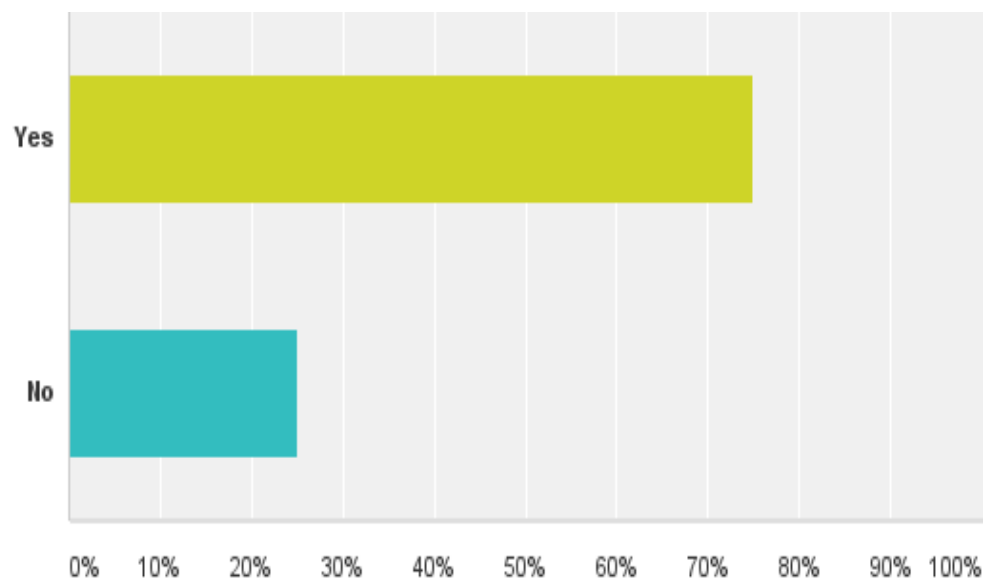
## Have you filed any complaints with any PRA since the Principles were implemented?

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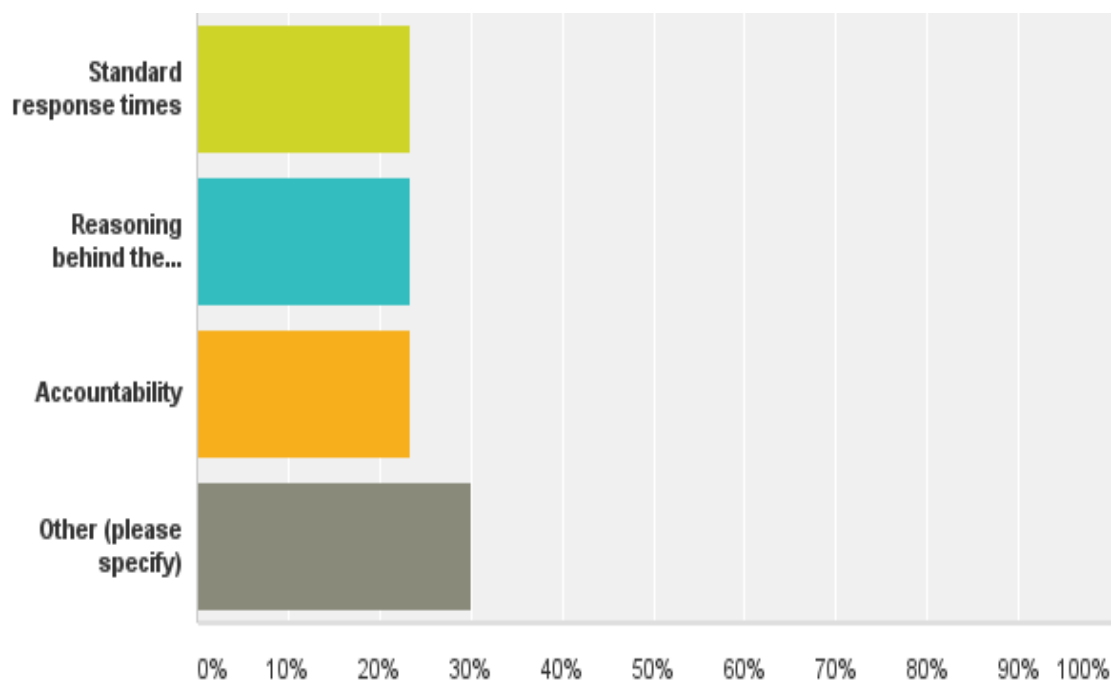
## Were you satisfied with the procedure(s)?

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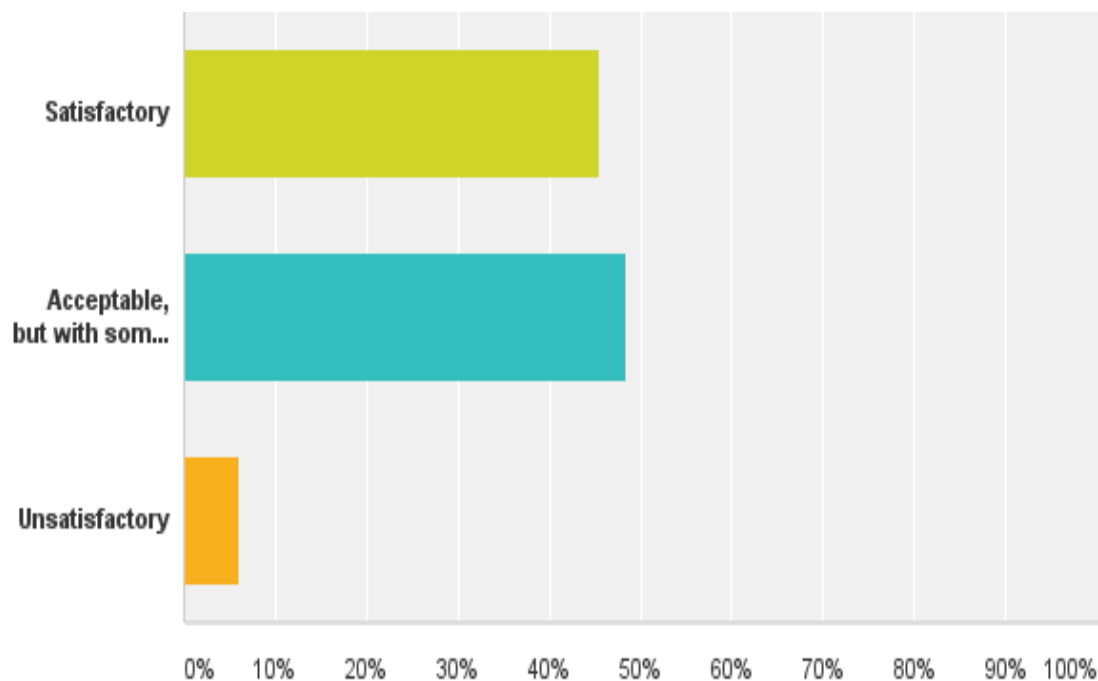


## If not satisfied, in which of the areas listed below would you like to see improvements implemented?

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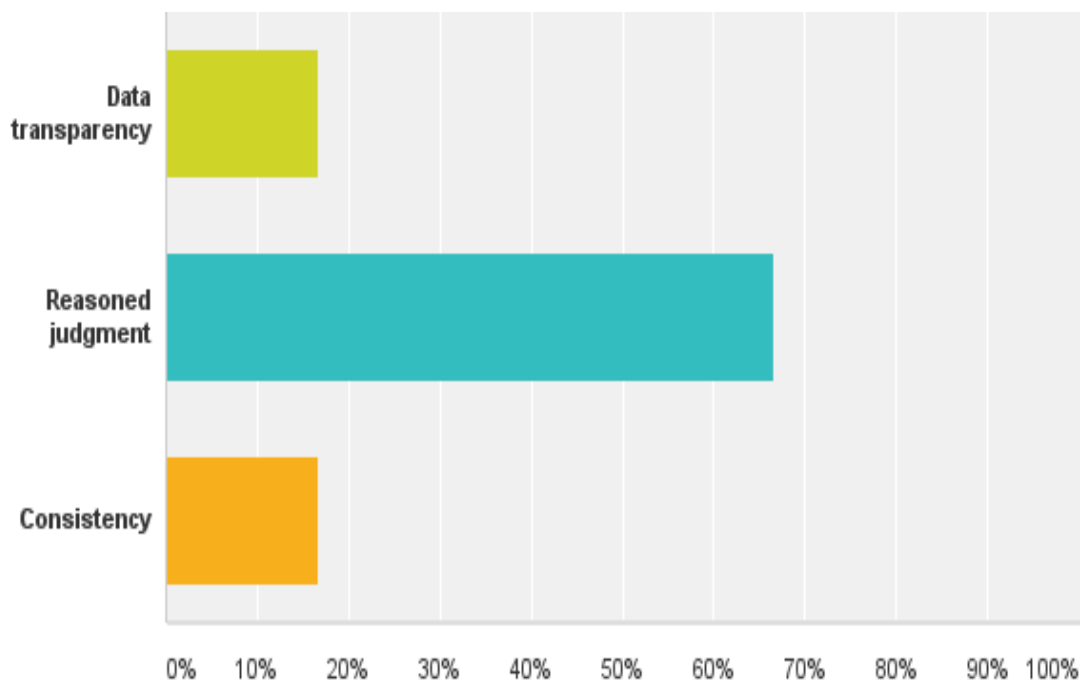


## What is your opinion of the level of transparency provided by PRAs regarding the basis upon which a published price assessment is developed?



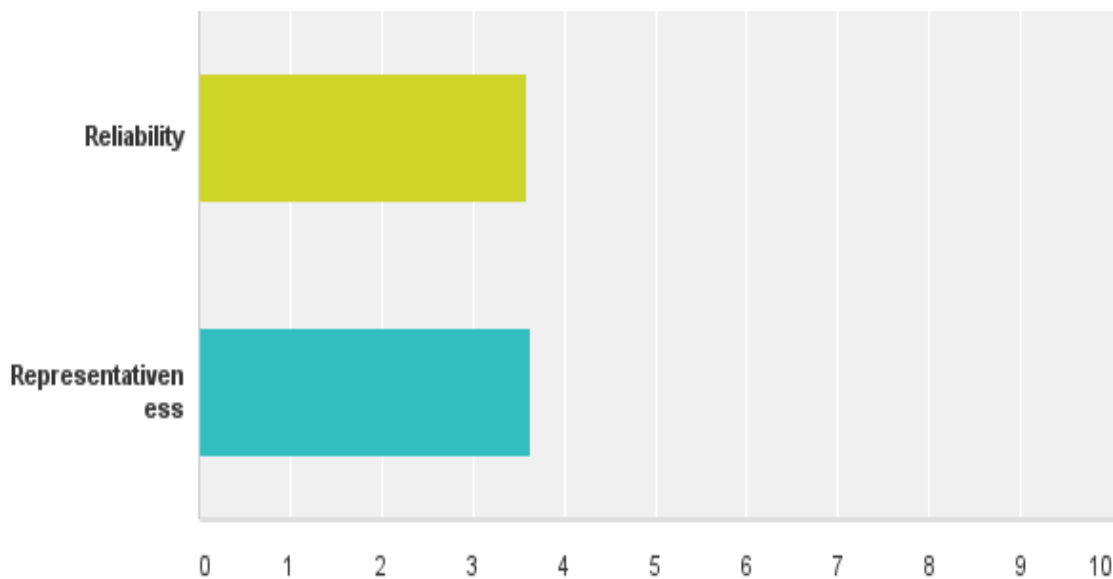
## With regards to the level of transparency provided by PRAs, in which categories do you see room for improvement?

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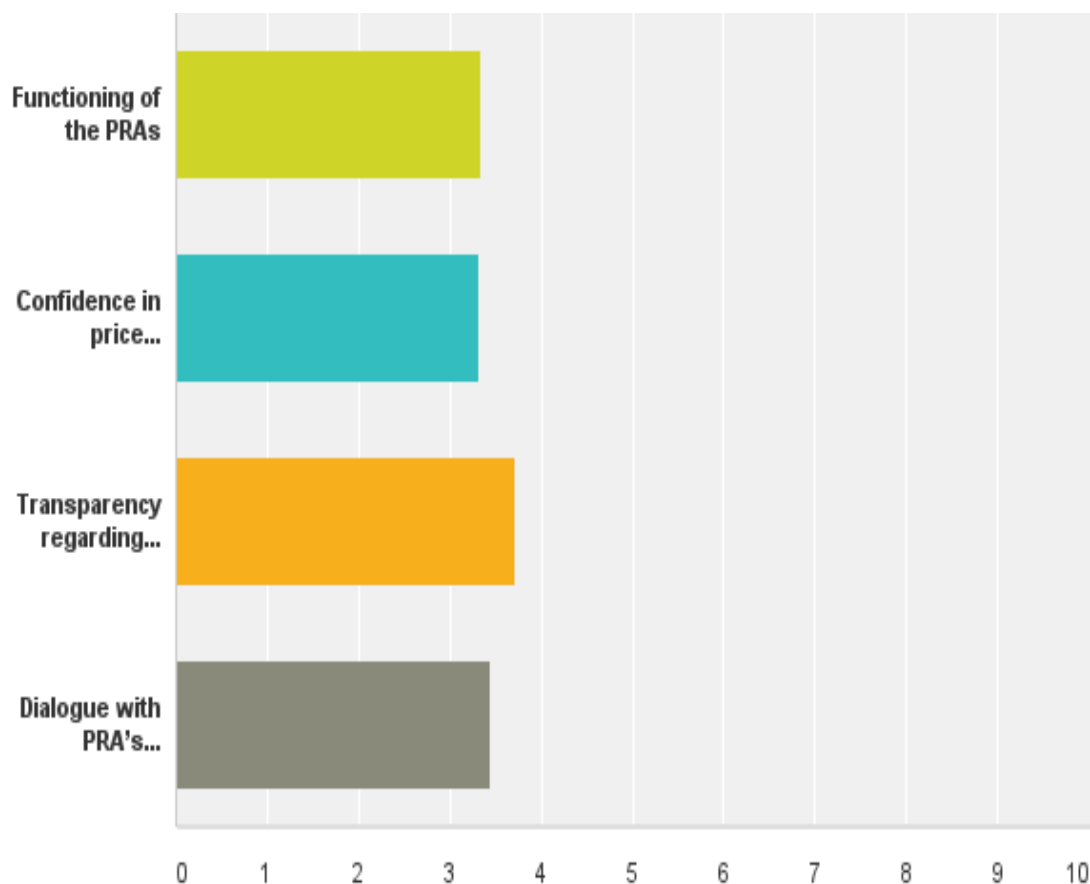


On an ascending scale from 0 to 5, with 5 representing most reliable, to what extent do you consider the principle price assessments provided by PRAs to be reliable indicators and representative of the physical market so your company can use them?

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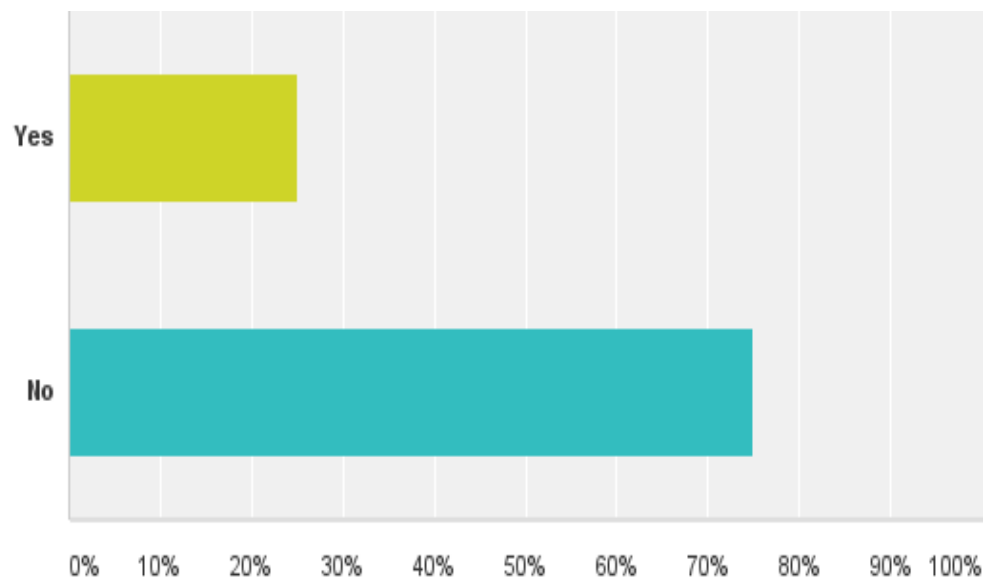
On an ascending scale from 0 to 5, to what extent do you perceive that the implementation of the PRA Principles has positively impacted the following?





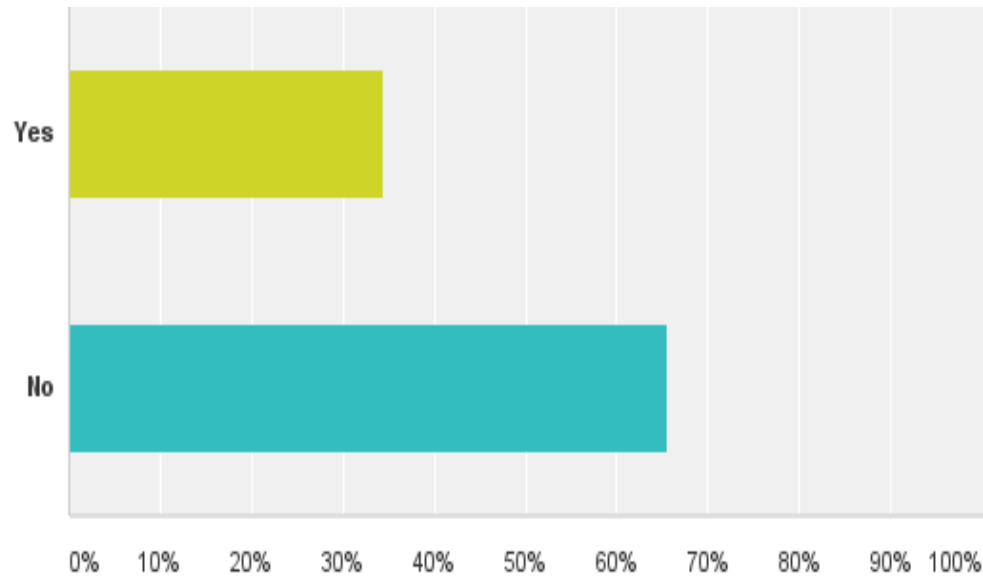
**Has the implementation of the PRA Principles resulted in any substantial changes in the choice of PRA price references used by your company in physical market transactions?**

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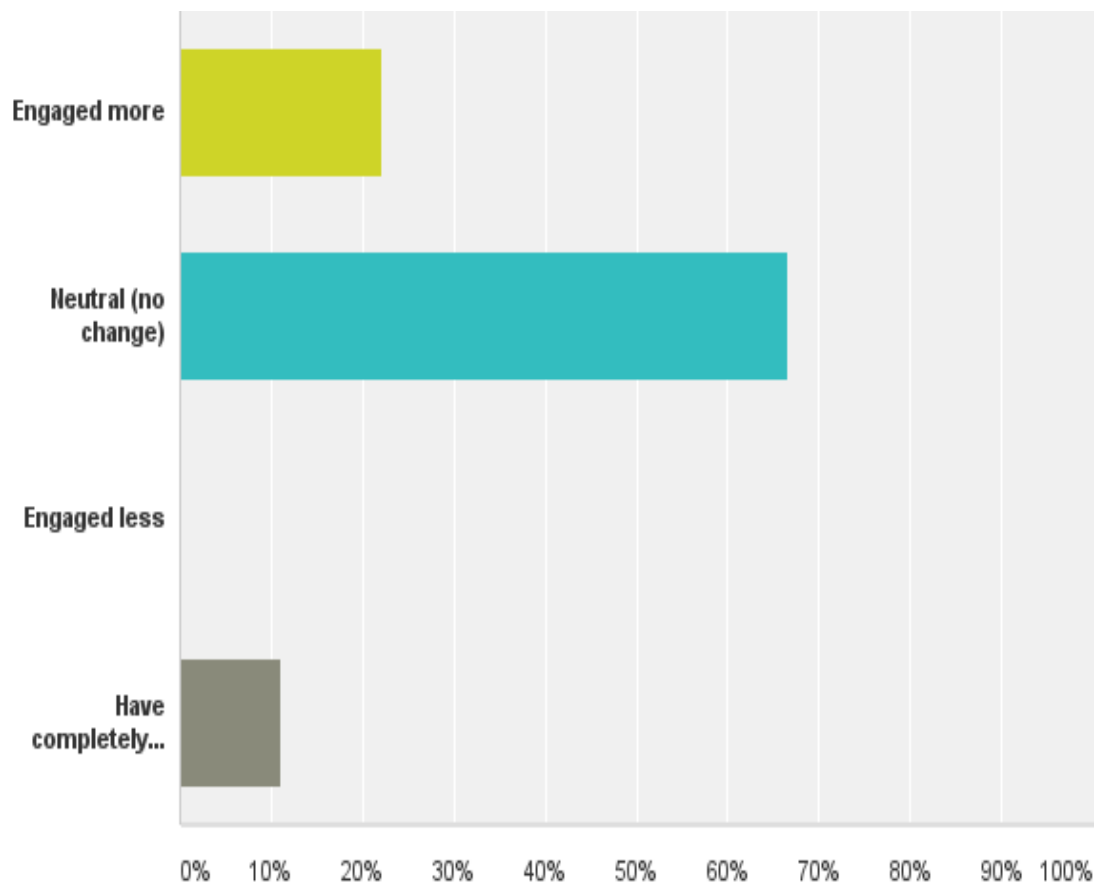


## In the past, has your company provided information to PRAs regarding physical trading activities?

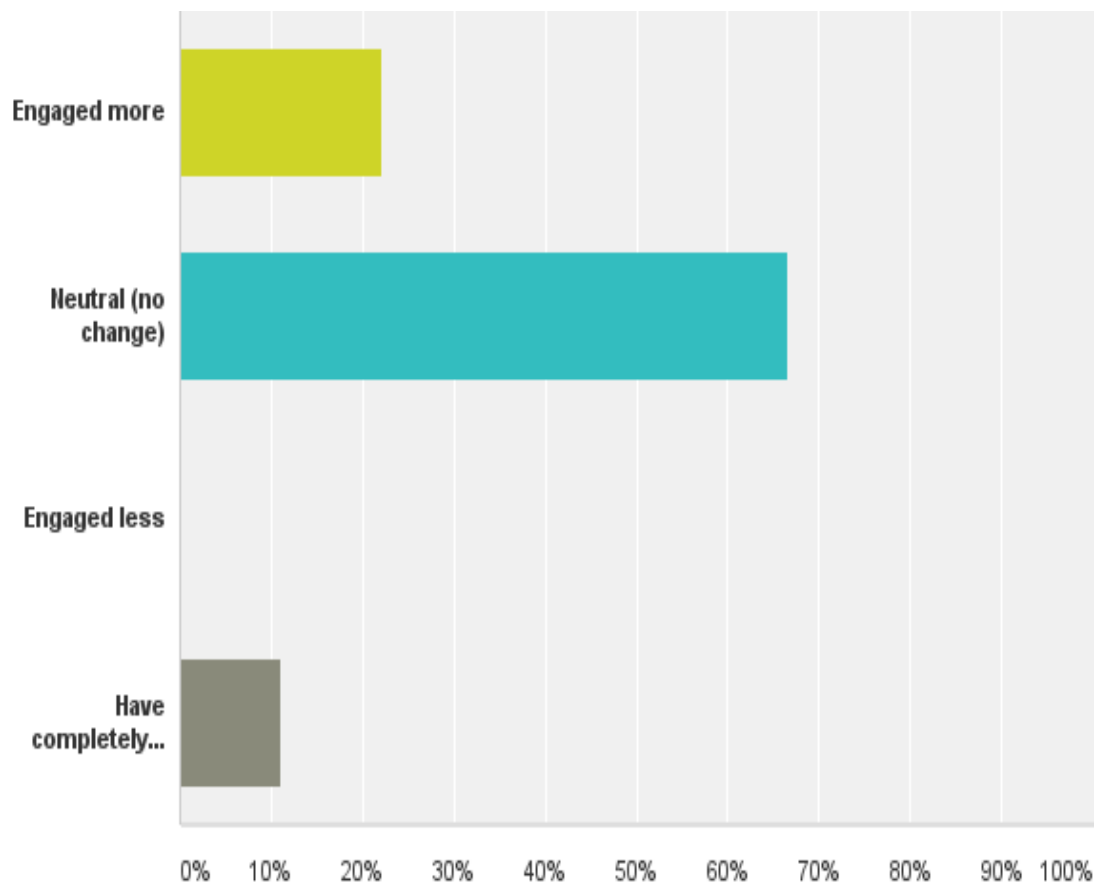
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## How has the implementation of the PRA Principles impacted your company's participation in the price assessment process?



**Has the recent attention given to PRA assessments specifically, and other benchmarks more broadly, had any impact on your company's willingness to provide trade data and/or market commentary to PRAs' price assessment process?**



**Has the recent attention given to PRA assessments specifically and financial benchmarks more broadly resulted in any substantial change in the volume of your company's physical activities?**

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