

JODI Data user Seminar
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JODI Data in OPEC Research

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Outline



- Increasing need for statistical data
- Advantages of JODI data
- The role of other commodities in the overall energy mix
- JODI data in OPEC data base and Research
 - Database: supply, demand, stock
 - Research and analysis: Oil and gas demand, refinery, trade and many more
- Conclusion

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Increasing need for more granular energy data



Energy markets/studies require more detailed energy data

- Recent developments in oil, gas and energy markets have placed energy on the top of the international agenda.
- More reliable and timely data on main petroleum flows would be needed, for example
 - Trade
 - Stocks

Advantages of JODI data



- Provide timely and reliable data on major oil and gas flows, which are relevant to the market
 - Production
 - Consumption
 - Trade
 - Storage
 - Refinery
- For more than 90 countries and with strong overall coverage
- JODI data – official and direct information with comprehensive metadata country notes
- Monthly data with just 2 months time lag
- Freely accessible
- JODI contains unique information that cannot be accessed elsewhere

Advantages of JODI oil data

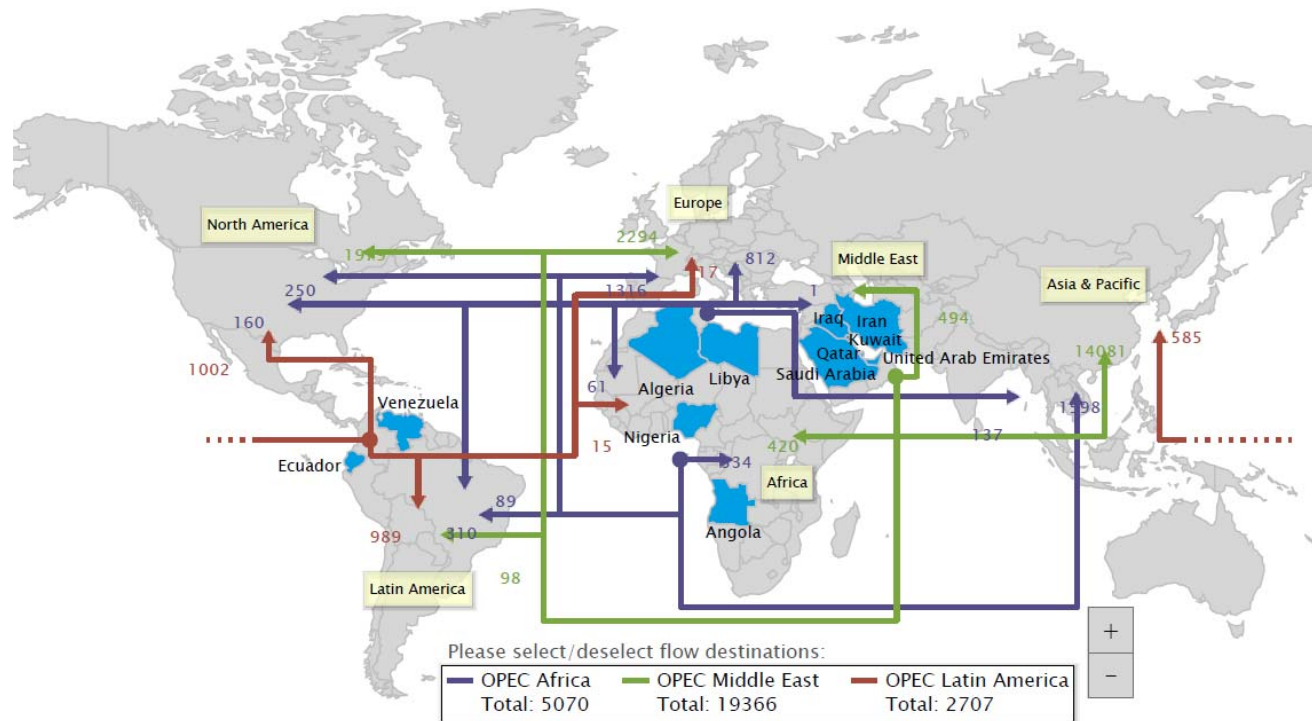


- **Crude oil production:** Large coverage, about 92% of total crude oil production is covered in JODI database
- **Demand:** Around 83% of total demand is covered in JODI database, including some of the new consuming countries
- **Inventories:** In addition to the OECD, a few non-OECD countries are also covered
- **Refinery:** Around 86% of total refinery intake and output are covered in JODI database
- **Trade:** Large coverage, about 88% of total oil exports and imports are covered in JODI database

An example of granular oil data: OPEC Member Countries oil flows

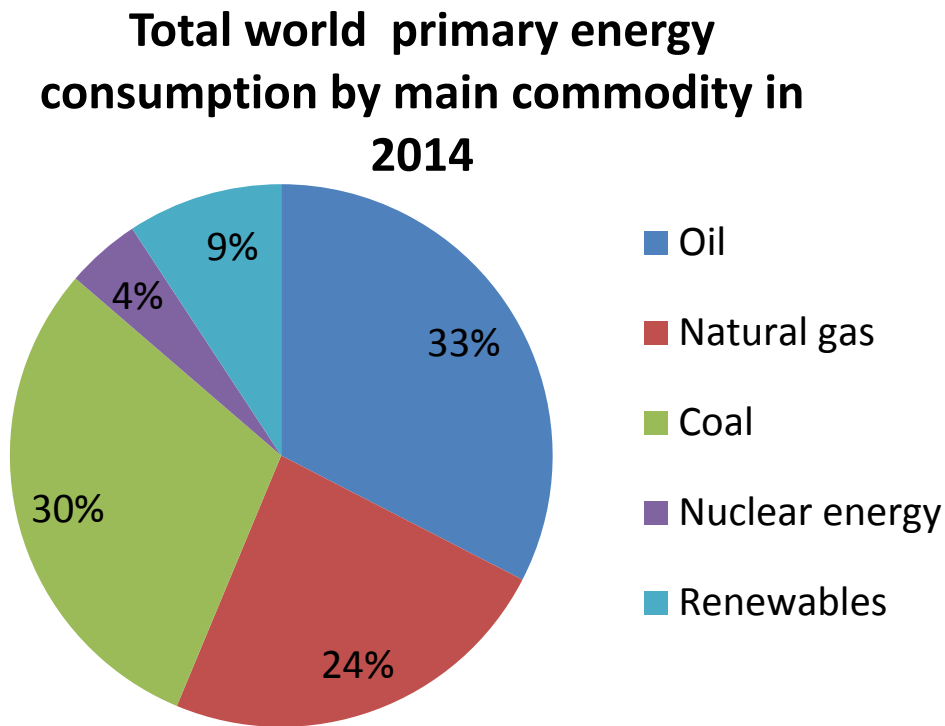


OPEC flows of crude and refined oil (1,000 b/d), 2014

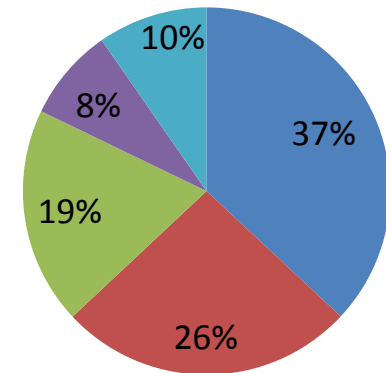


Source: OPEC ASB2015

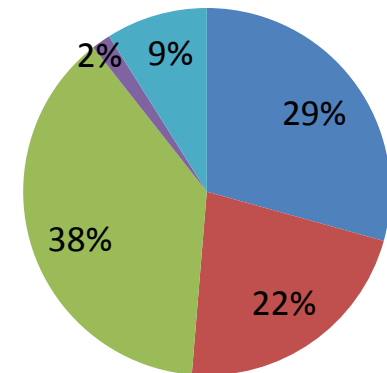
The role of other commodities in the overall energy mix



OECD



Non-OECD



Source: BP Statistical Review of World Energy 2015

JODI data in OPEC energy database and research



Examples in OPEC energy database

- Supply
- Demand
- Stock

Examples in research and analysis

- Oil demand
- Refinery
- Trade

JODI data in OPEC's oil supply database

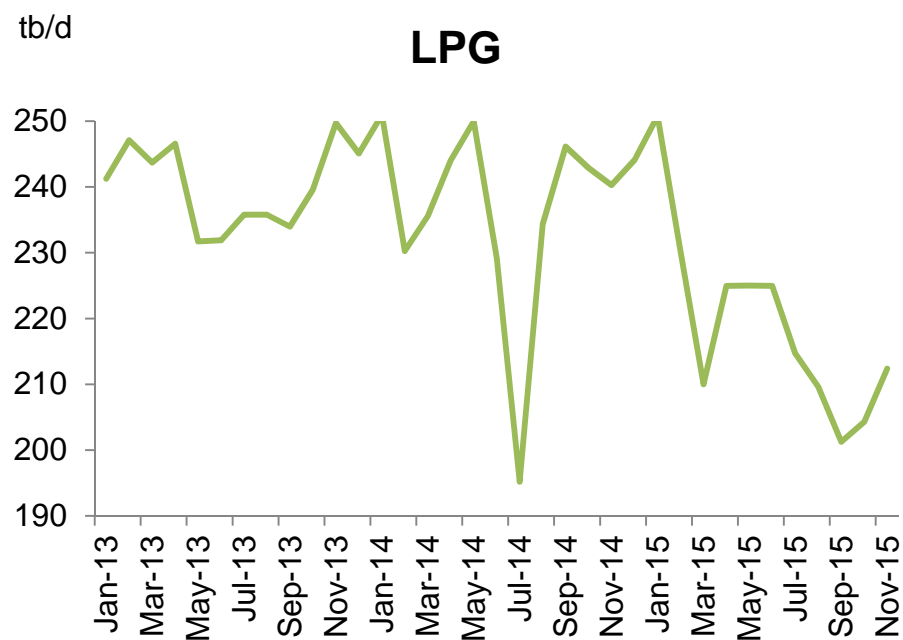
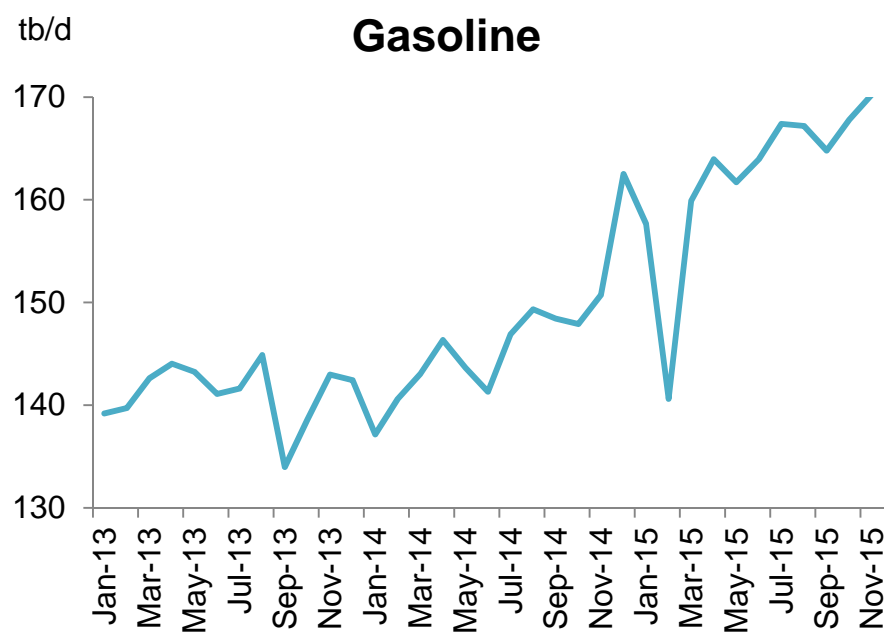


- JODI database is an important source and utilized for updating oil supply information for a number of producing countries
- JODI data are widely used for the following reasons:
 - For some countries, JODI data are more timely than national information, and are hence used as the first estimate.
 - Data for smaller producing countries are taken from JODI, after having been reviewed and compared with national information, to ease and speed up the update.
 - For some producing countries no other genuine information than JODI is available at reasonable costs.

JODI data in OPEC's oil demand database



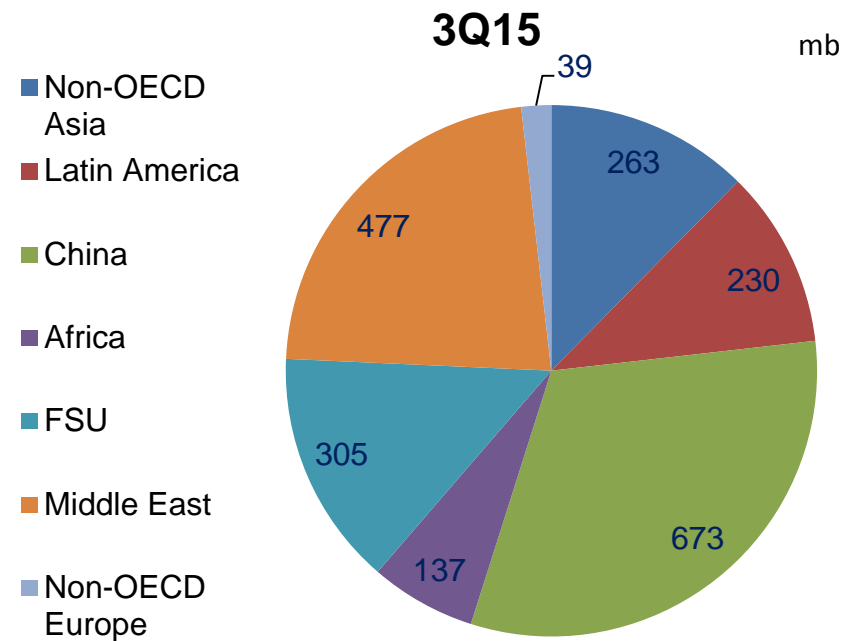
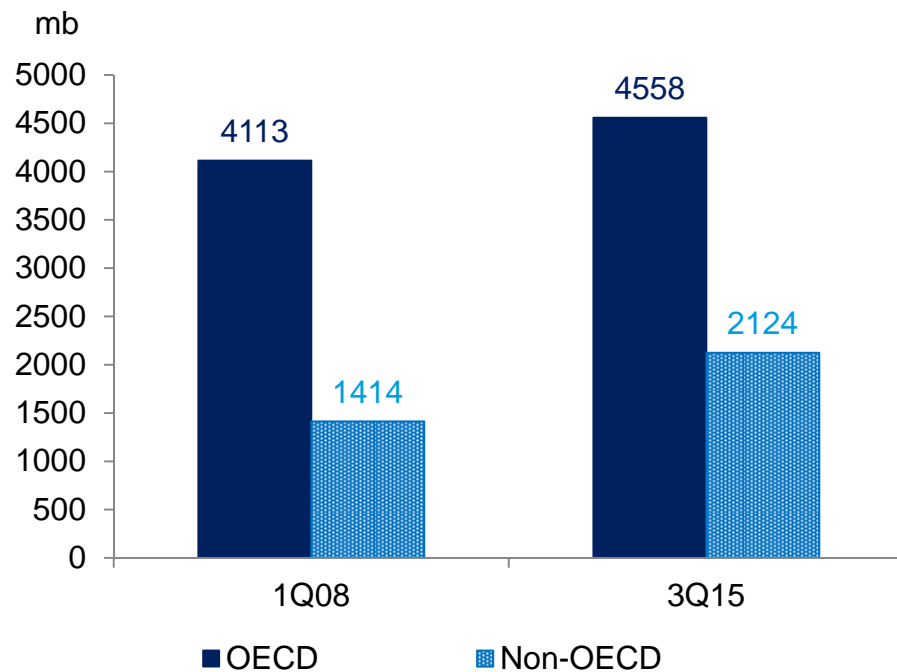
Data for main petroleum categories in JODI essential in understanding oil market, e.g. Thailand



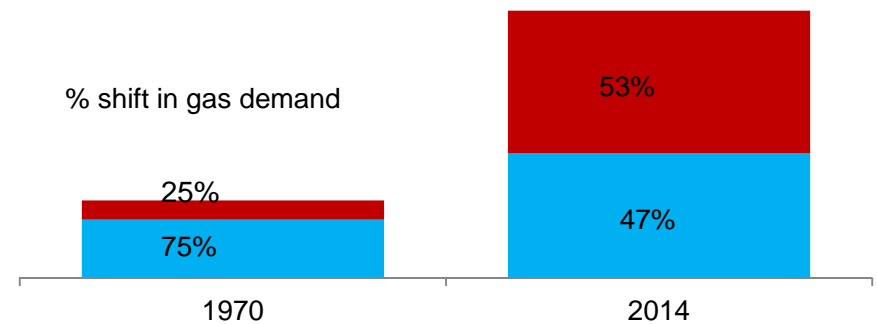
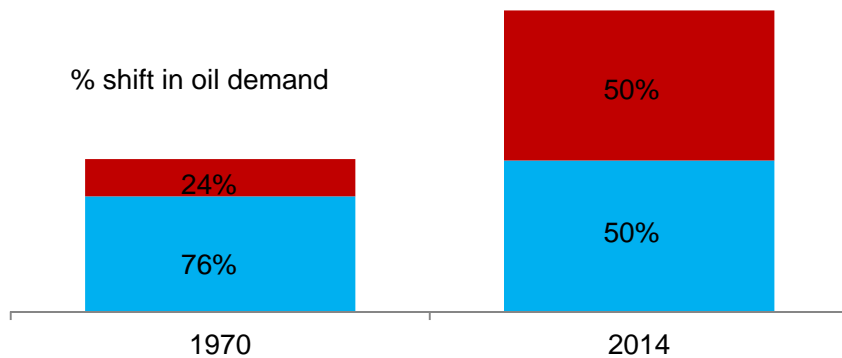
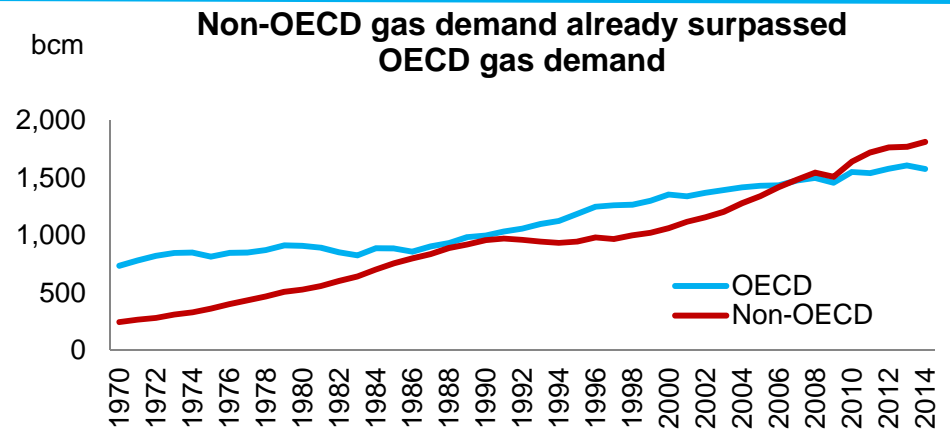
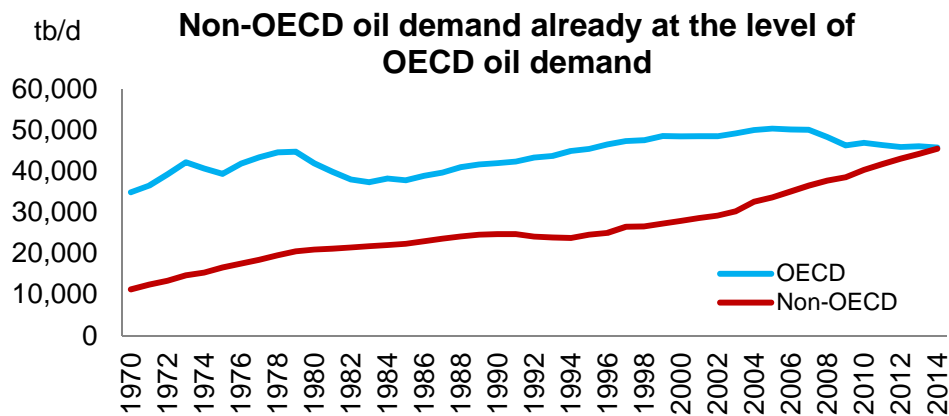
JODI data in OPEC's oil stocks database



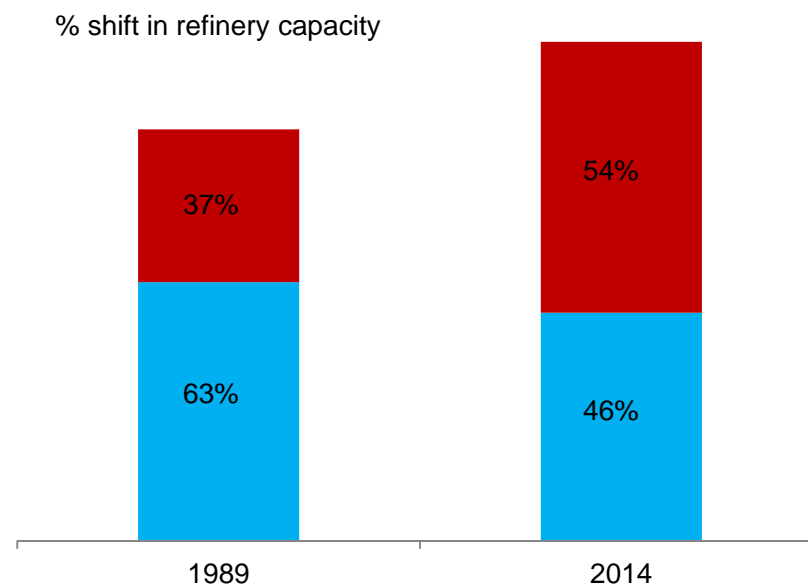
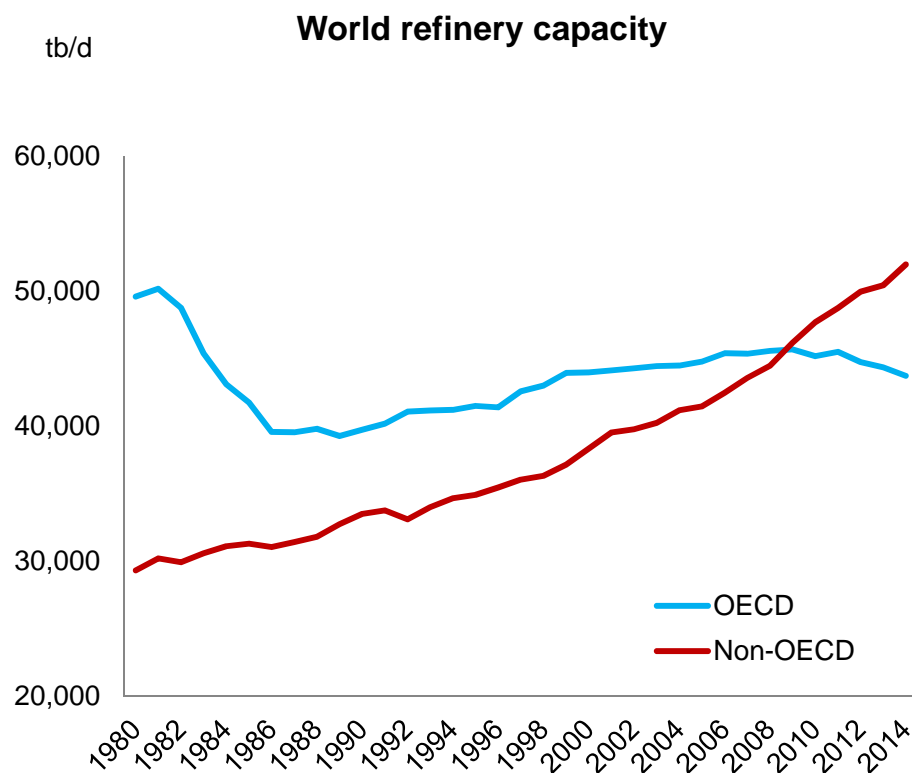
- Availability of key Non-OECD data in JODI directly relevant to oil market developments



JODI data in OPEC research: Emergence of Non-OECD countries



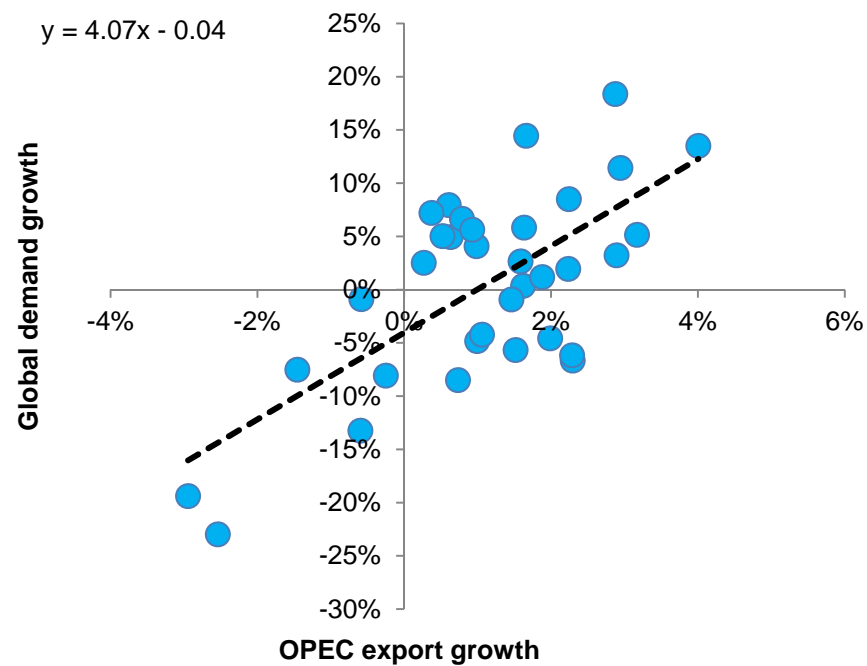
Increase in Non-OECD refinery capacity



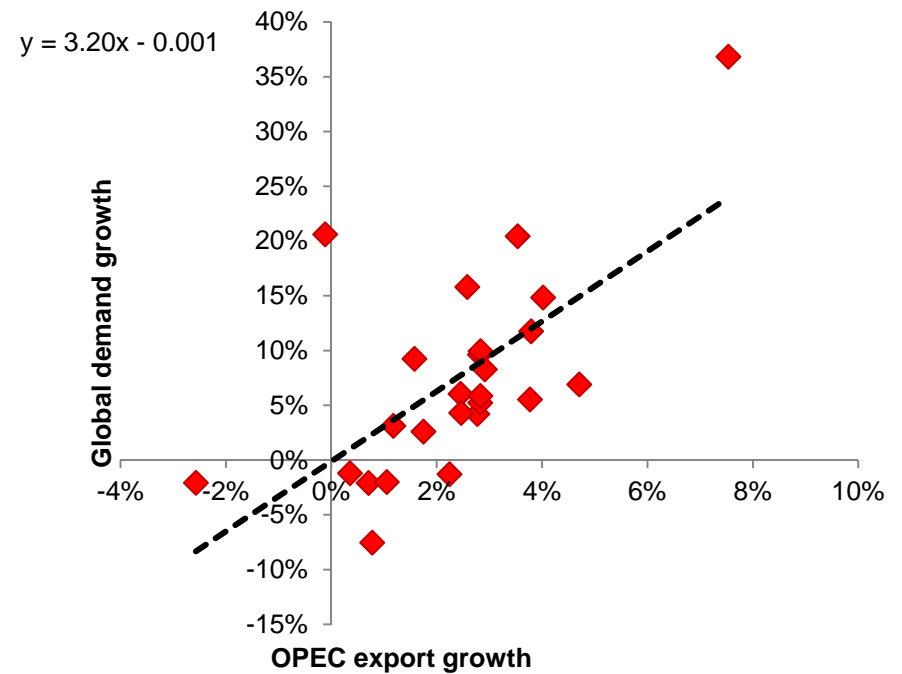
Global oil trade



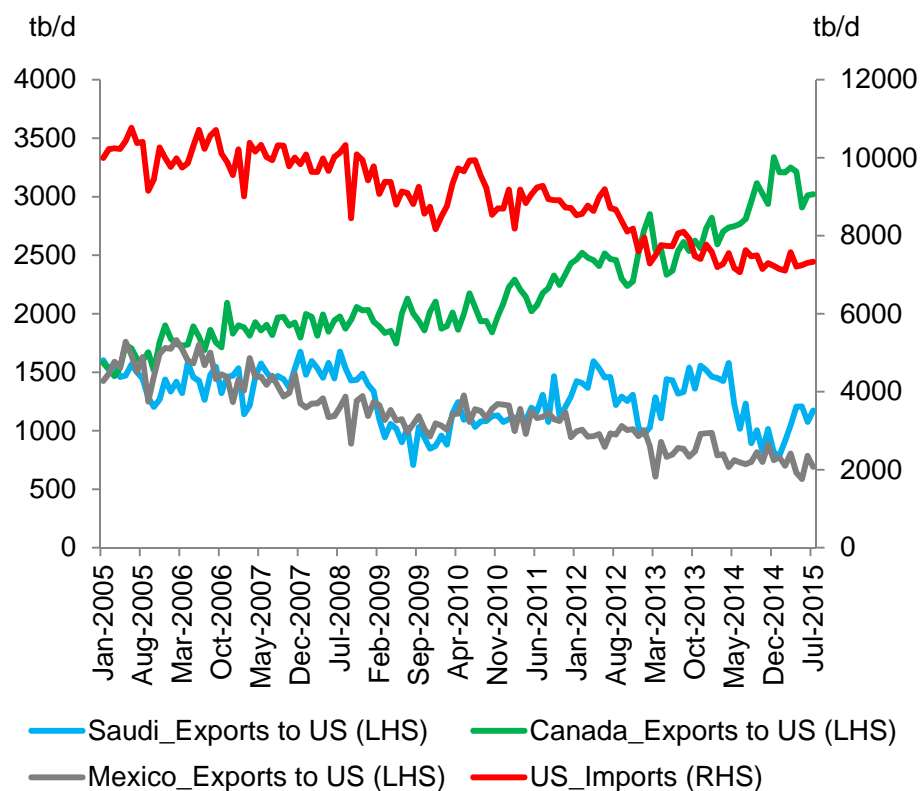
OPEC's importance meeting global oil demand, 1980-2014



OPEC's importance meeting global gas demand, 1990-2014



Major US crude oil importers according to DOE

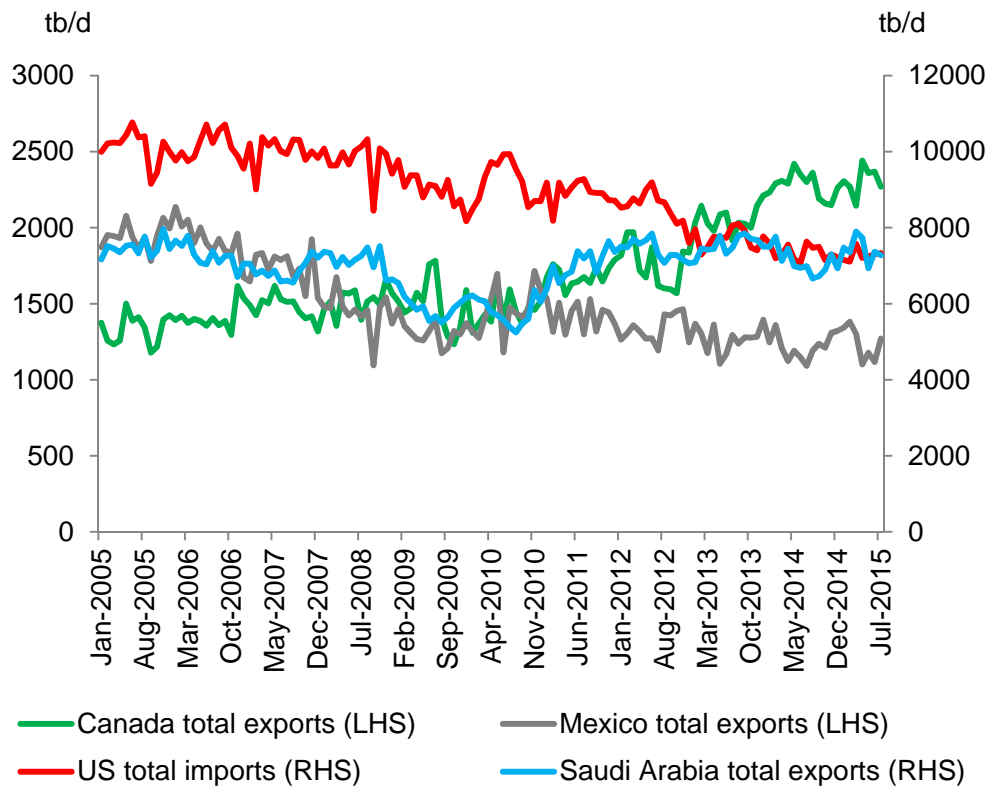


Multiple regression

Source	SS	df	MS			
Model	123067549	3	41022516.4	Number of obs =	127	
Residual	21205038.3	123	172398.685	F(3, 123) =	237.95	
Total	144272587	126	1145020.53	Prob > F =	0.0000	
				R-squared =	0.8530	
				Adj R-squared =	0.8494	
				Root MSE =	415.21	

US_Imports	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
Canada_Exports	-1.002582	.1475106	-6.80	0.000	-1.29457	-.7105934
Mexico_Exports	1.822575	.2291383	7.95	0.000	1.369009	2.27614
Saudi_Exports	.572875	.1776168	3.23	0.002	.2212934	.9244567
_cons	8356.087	579.6617	14.42	0.000	7208.683	9503.492

Crude oil trade according to JODI



Multiple regression

Source	SS	df	MS			
Model	113989816	3	37996605.2	Number of obs = 127		
Residual	30282771.8	123	246201.396	F(3, 123) = 154.33		
Total	144272587	126	1145020.53	Prob > F = 0.0000		
				R-squared = 0.7901		
				Adj R-squared = 0.7850		
				Root MSE = 496.19		

USImports	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
CanadaExports	-1.949506	.199812	-9.76	0.000	-2.345022	-1.553991
MexicoExports	1.414089	.2372712	5.96	0.000	.9444253	1.883753
SaudiArabiaExports	-.0041264	.0812134	-0.05	0.960	-.1648834	.1566305
_cons	10179.09	588.4237	17.30	0.000	9014.338	11343.84

Conclusion



- JODI Oil & gas databases contain official country data and valuable information, which cannot be found easily elsewhere
- Extensive usage of JODI data in OPEC Secretariat's research
 - Update of databases
 - As input for studies
- Granularity of data can always be improved
 - Existing databases (time lag, coverage, reliability,...)
 - Coverage of other energy commodities a necessity as result of increasing interaction

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Thank You.



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