IEA-IEF-OPEC Outlook Comparison

Richard Newell, Director, Duke University Energy Initiative Gendell Professor of Energy and Environmental Economics, Nicholas School of the Environment

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Overview

- Highlights from comparison of recent IEA and OPEC outlooks
 - Recent progress on data quality and comparability
 - Baseline 2014 liquids data
 - Global liquids demand outlook
 - Global liquids supply outlook
 - Oil price assumptions
- IEA and OPEC in the context of other long-term outlooks
- This presentation focuses on differences, but similarities of approach and results are far more common
- IEA-IEF-OPEC Technical Meeting tomorrow to discuss opportunities for improved comparability



IEA and OPEC outlooks covered in the report

	IEA		OPEC		
Report type	Report name	Publication date	Report name	Publication date	
Short-term	Oil Market Report (OMR)	Dec. 2015	Monthly Oil Market Report (MOMR)	Dec. 2015	
Medium-term	Medium-Term Oil Market Report (MTOMR)	Feb. 2015	World Oil Outlook (WOO2014)	Dec. 2015	
Long-term	World Energy Outlook (WEO)	Nov. 2015	World Oil Outlook (WOO)	Dec. 2015	

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Examples of recent progress on data quality and comparability of outlooks

Both IEA and OPEC used same baseline years for long-term projections in the outlook, enabling better comparisons.

Both IEA and OPEC agreed to share and review more historical baseline data for the years 2008 to 2013 for the regions where apparent differences are the largest: Non-OECD Asia (outside of China) and the Former Soviet Union (FSU).

OPEC disaggregated OPEC Member Countries into geographical regions in OPEC long-term liquids demand projections, allowing a more direct comparison with IEA.



Baseline 2014 liquids data



1.5 mb/d difference between IEA and OPEC in 2014 baseline data is due to differences in non-OECD nations, particularly Asia outside of China

2014 liquids demand (mb/d)	IEA	OPEC	Difference (IEA-OPEC)
Total OECD	45.7	45.7	0.0
OECD Americas	24.1	24.2	-0.1
OECD Europe	13.4	13.4	0.0
Asia Oceania	8.2	8.2	0.0
Total Non-OECD	47.1	45.6	1.5
Asia	22.6	21.9	0.7
China	10.6	10.5	0.1
Other non-OECD Asia	12	11.4	0.6
Middle East	8	8.1	-0.1
Latin America	6.8	6.6	0.2
FSU	4.9	4.5	0.4
Non-OECD Europe	0.7	0.7	0.0
Africa	4	3.8	0.2
World	92.8	91.4	1.5



1.3 mb/d difference in 2014 IEA-OPEC liquids supply associated with FSU & OPEC supply

2014 liquids supply (mb/d)	IEA	OPEC	Difference (IEA-OPEC)
Total OECD	24.2	24.2	0.0
OECD Americas	20.0	20.1	0.0
OECD Europe	3.6	3.6	0.0
Asia Oceania	0.5	0.5	0.0
Total Non-OECD	30.5	30.2	0.4
Non-OECD Asia	7.9	7.8	0.1
China	4.2	4.3	0.0
Other non-OECD Asia	3.6	3.5	0.2
Middle East	1.3	1.3	0.0
Latin America	5.0	5.0	0.0
FSU	13.9	13.6	0.4
Non-OECD Europe	0.1	0.1	0.0
Africa	2.3	2.4	-0.1
Processing gains	2.2	2.2	0.0
Total Non-OPEC	57.0	56.5	0.5
Total OPEC	36.6	35.9	0.8
OPEC crude	30.3	30.1	0.2
OPEC NGLs + unconventionals	6.4	5.8	0.6
World	93.7	92.4	1.3

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A 1.5 mb/d difference in base year 2014 liquids demand contributes a significant portion of demand forecast differences for IEA-OPEC

Short-term world liquids demand



Global liquids demand outlook



IEA and OPEC adjusted liquids demand growth upward during 2015 from 0.9-1.0 mb/d to 1.6-1.8 mb/d, mostly in OECD countries



mb/d



Medium-term demand projection difference mainly comes from Non-OECD regions





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Long-term liquids demand projections vary widely, yet OPEC Reference and IEA New Policy scenarios are within 1 mb/d in 2040

World liquids demand projections in various scenarios





Global liquids supply outlook



Non-OPEC liquids supply growth forecast for 2015 initially dipped, then recovered

Revisions of liquids supply forecasts for 2015



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Short-term IEA and OPEC forecasts for 2016 show slowing non-OPEC liquids supply growth turning negative





Short-term liquids supply growth is led by OPEC crude, while OECD Americas supply declines in 2016

Short-term liquids supply net annual growth forecasts



Medium term Non-OPEC liquids supply growth forecasts still show continued growth



mb/d

(b) OPEC Outlook



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Long-term oil supply scenarios vary widely, yet similar projections for OPEC Reference and IEA New Policies scenarios

2040 liquids supply outlooks in different scenarios



OPEC NGLs + unconventionals
OPEC crude (incl. Venezuela extra heavy)
Non-OPEC

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Oil price assumptions



Medium-term price assumptions are similar until they begin to diverge somewhat in 2019



Medium-term oil price assumptions (nominal US\$)

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IEA's long-term oil price assumptions are substantially higher than OPEC's





Key remaining challenges in comparing IEA and OPEC energy outlooks

- Different units (mb/d, mboe/d, mtoe), and sometimes unclear conversion factors between units
- Different treatment of biofuels/bunkers within global versus regional liquids supply
- Different liquids categorization: e.g., definition of "crude oil"
- Different regional groupings, in particular separate OPEC treatment of member country demand in medium-term projections
- Different conception of "central" policy scenarios
- Oil price assumptions



IEA and OPEC in the context of other long-term energy outlooks



Challenges in comparing IEA and OPEC projections to other energy outlooks

- Some challenges similar to comparison of IEA and OPEC
 - Different primary energy units and fuel-specific physical units
 - Different categorization of biofuels and renewable power
 - Different regional groupings
 - Different assumptions for policy and about economic growth
- Plus, several additional challenges
 - Assumptions about energy content of fossil fuels can vary by 2-12%
 - Different conversion factors for renewables and nuclear can alter primary energy estimates for these sources by -65% to +153%
 - Omission of traditional non-marketed biomass by U.S. EIA and BP leads to primary energy consumption estimates that are 10-14% lower than other outlooks

Differences in primary energy consumption data exist among various long-term outlooks (2010 shown here)



* BP and U.S. EIA do not include non-marketed energy

Future energy consumption growth varies widely across energy outlook scenarios, depending largely on policy assumptions

primary energy consumption



Outlook sources: IEA 2015, OPEC 2015, USEIA 2013, BP 2015, ExxonMobil 2015, Shell 2013. Note that U.S. EIA and BP estimates omit non-marketed biomass.



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Liquids consumption growth shifts decisively to the East



Outlook sources: IEA 2015, OPEC 2015, USEIA 2013, BP 2015, ExxonMobil 2015, Shell 2013.

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Richard Newell

richard.newell@duke.edu

