
Comparison of Recent Short-, Medium-, and Long-term Energy Outlooks

Fourth IEA-IEF-OPEC Symposium on Energy Outlooks

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Overview

- Highlights from comparison of recent IEA and OPEC outlooks
 - Recent progress on data harmonisation and comparability
 - Baseline 2012 liquids data
 - Global liquids supply outlook
 - Global liquids demand outlook
 - Oil price assumptions
- Comparison with energy outlooks from EIA and IOCs

IEA and OPEC outlooks evaluated for Fourth Symposium

	IEA	OPEC
Short-term	Oil Market Report (OMR), published November 2013	Monthly Oil Market Report (MOMR), published November 2013
Medium-term	Medium-Term Oil Market Report (MTOMR), published May 2013	World Oil Outlook (WOO 2013), published November 2013
Long-term	World Energy Outlook (WEO), published November 2013	World Oil Outlook (WOO), published November 2013

Recent progress on data harmonisation and comparability of outlooks

- Examples
 - IEA's new “apparent demand” estimation for China now includes stock changes
 - OPEC for the first time includes non-commercial biomass in global primary energy demand projections
 - IEA presents biofuels production by country/region for the first time in its December 2013 OMR
 - OPEC lengthened medium-term time horizon. Both IEA and OPEC now project five years into the future.
- Presentation focuses on differences, but there are many more similarities of approach and results

Baseline 2012 liquids data

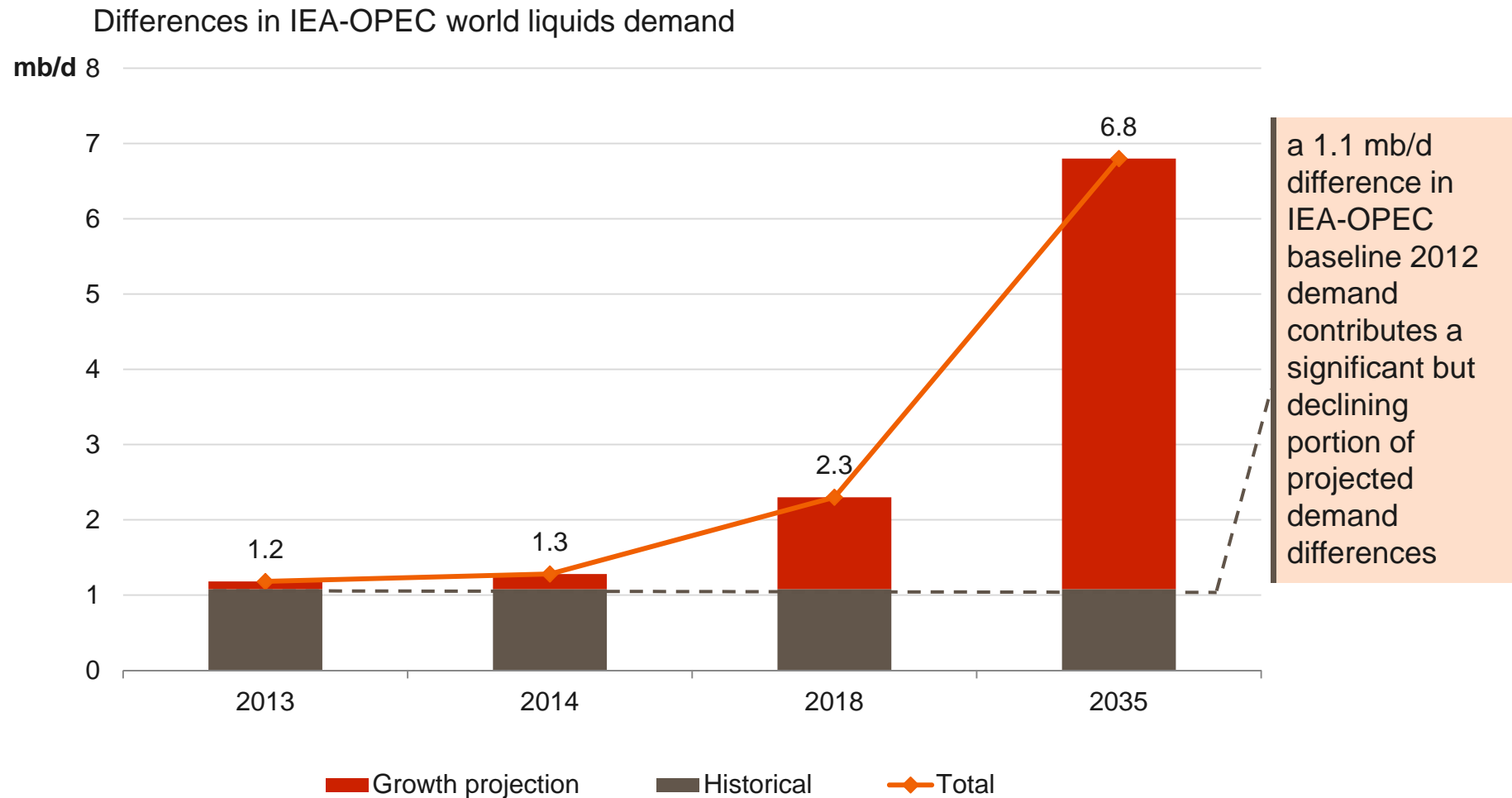
1.1 mb/d difference in 2012 IEA-OPEC liquids demand due to non-OECD countries

	IEA	OPEC	DIFFERENCE (IEA - OPEC)
Total OECD	45.9	46.0	-0.1
OECD Americas	23.6	23.6	0.0
OECD Europe	13.7	13.7	0.0
Asia Oceania	8.6	8.6	0.0
Total Non-OECD	44.1	43.0	1.2
<i>Asia</i>	<i>21.1</i>	<i>20.6</i>	<i>0.5</i>
<i>China</i>	<i>9.8</i>	<i>9.7</i>	<i>0.1</i>
Other non-OECD Asia	11.3	10.9	0.4
Middle East	7.7	7.6	0.1
Latin America	6.4	6.3	0.1
FSU	4.5	4.4	0.1
Europe	0.7	0.6	0.1
Africa	3.7	3.4	0.3
World	90.0	88.9	1.1

1.3 mb/d difference in 2012 IEA-OPEC liquids supply associated with FSU & OPEC supply

	IEA	OPEC	DIFFERENCE (IEA - OPEC)
Total OECD	21.1	21.1	0.0
OECD Americas	16.9	16.8	0.1
OECD Europe	3.7	3.8	0.0
Asia Oceania	0.6	0.6	0.1
Total Non-OECD	30.2	29.7	0.4
Asia	7.9	7.8	0.1
China	4.2	4.2	0.1
Other non-OECD Asia	3.7	3.6	0.0
Middle East	1.5	1.5	0.0
Latin America	4.7	4.7	0.0
FSU	13.6	13.3	0.3
Europe	0.1	0.1	0.0
Africa	2.3	2.3	0.0
Processing gains	2.1	2.1	0.0
Total Non-OPEC	53.4	52.9	0.4
Total OPEC	37.6	36.7	0.9
OPEC crude	31.3	31.1	0.2
OPEC NGLs + unconventional	6.3	5.6	0.7
World	90.9	89.6	1.3

It is important to distinguish baseline vs. growth differences in IEA-OPEC demand over various horizons

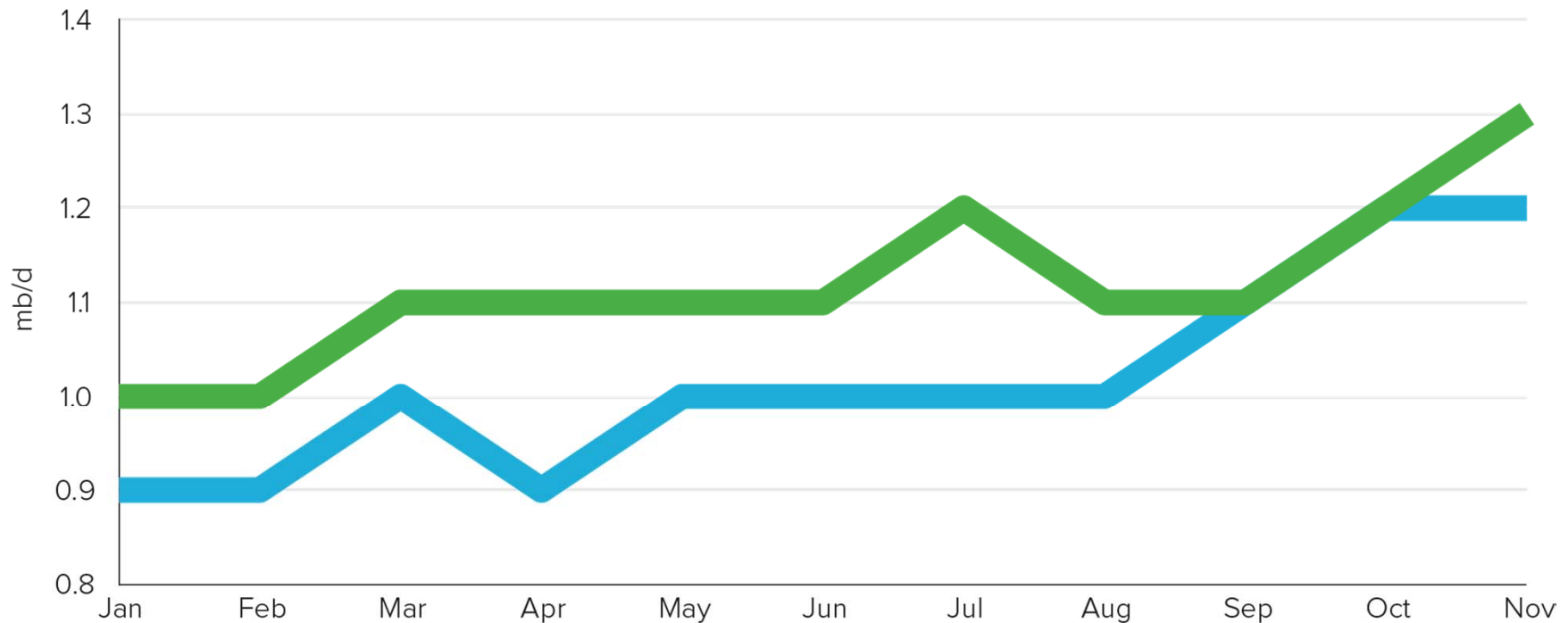


Note: 2035 comparison is IEA Current Policies minus OPEC Reference case.

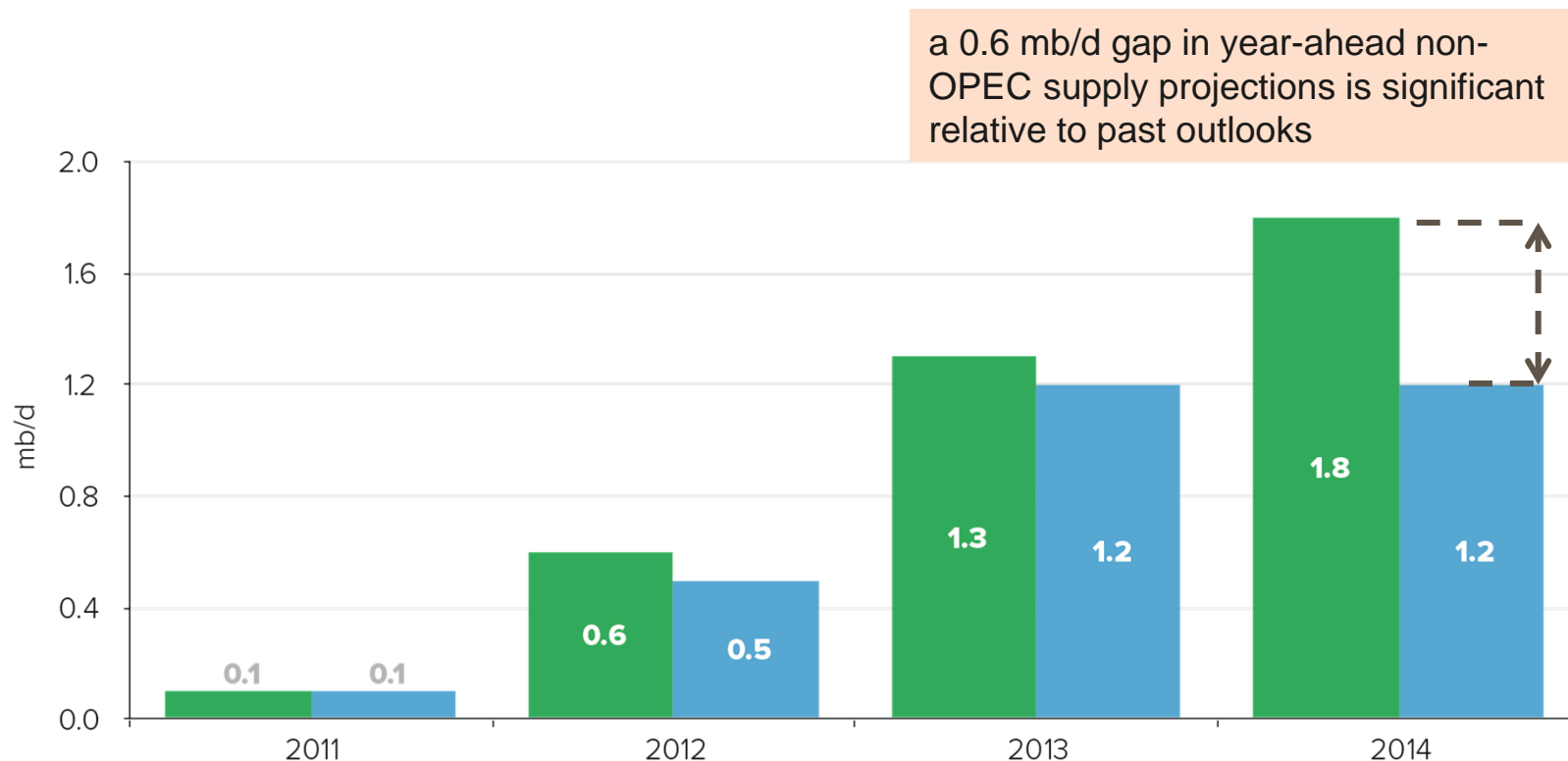
Global liquids supply outlook

Non-OPEC liquids supply adjusted upward 0.3 mb/d during 2013 as N. American LTO production exceeded expectations

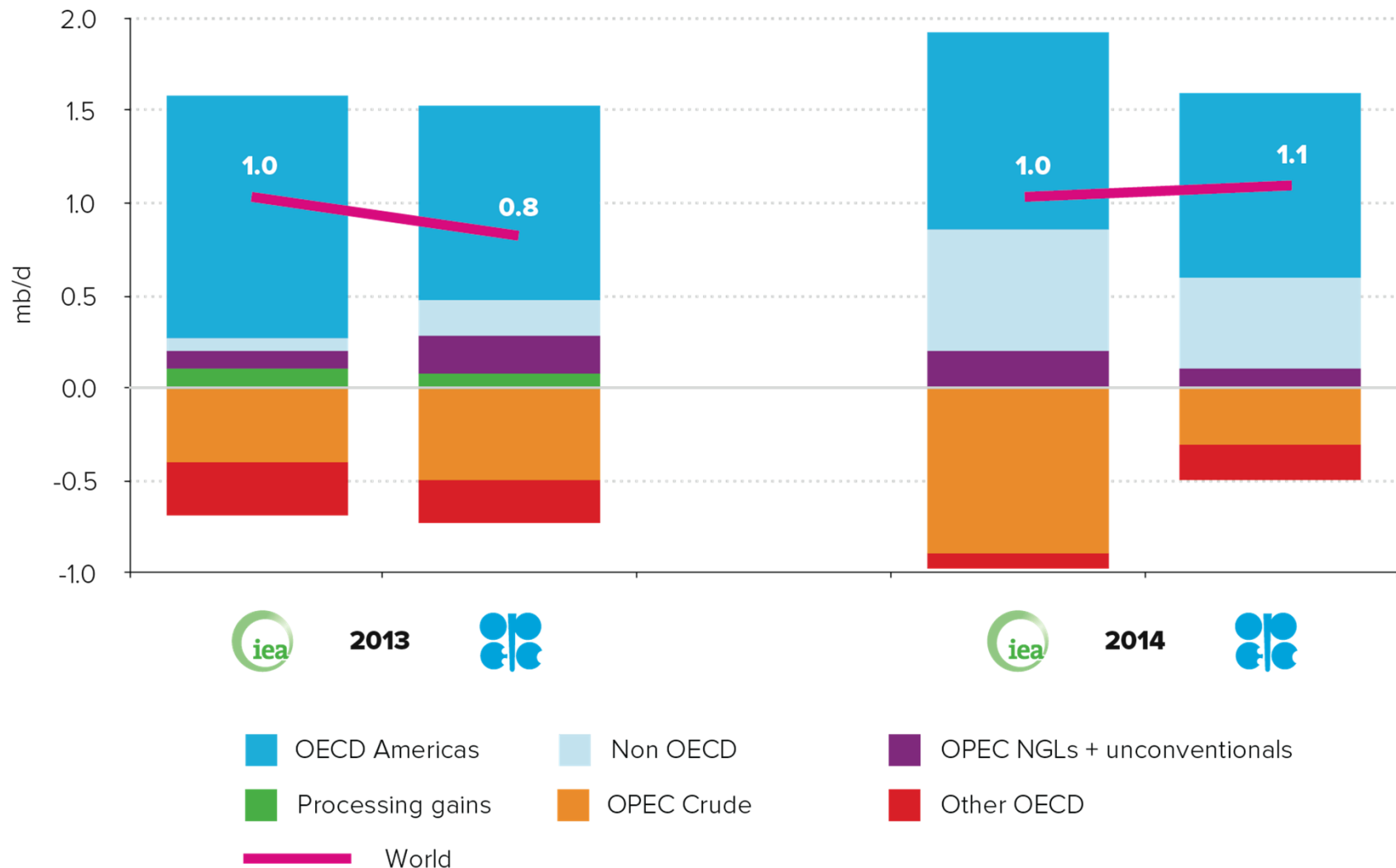
Non-OPEC liquids supply growth forecast revisions during 2013



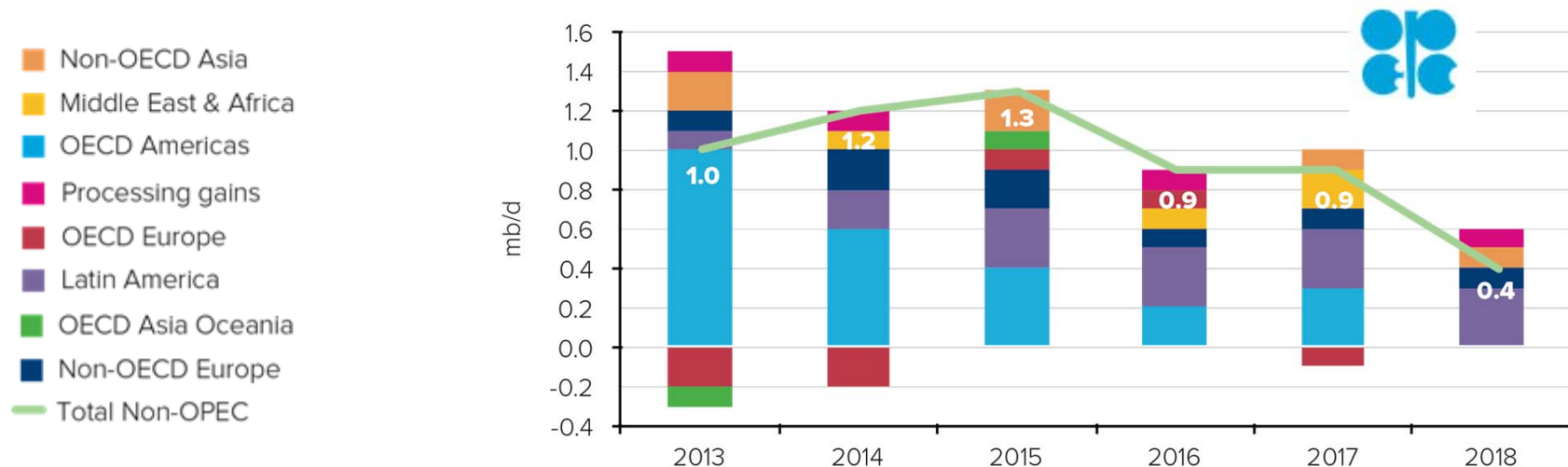
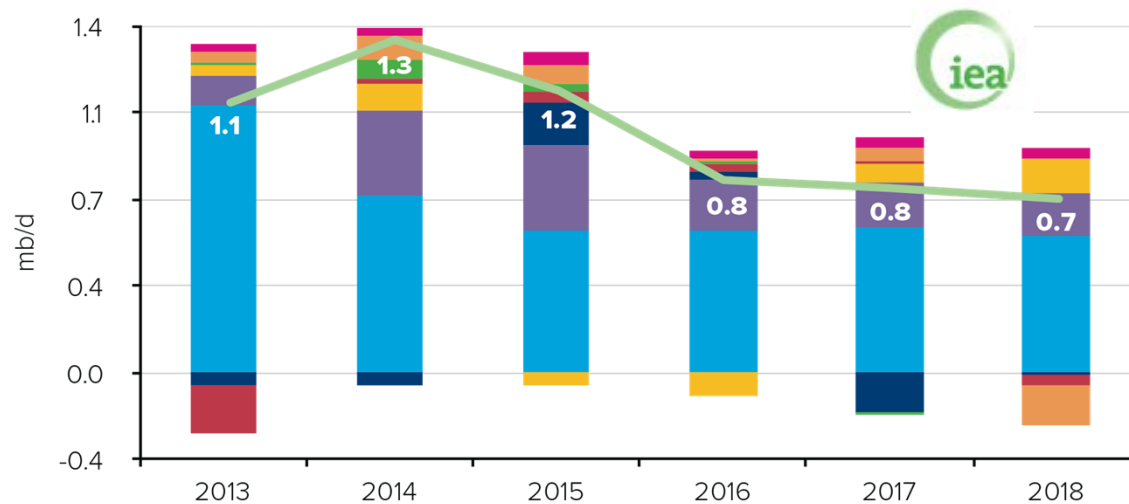
Non-OPEC supply growth: how strong will it be in 2014?



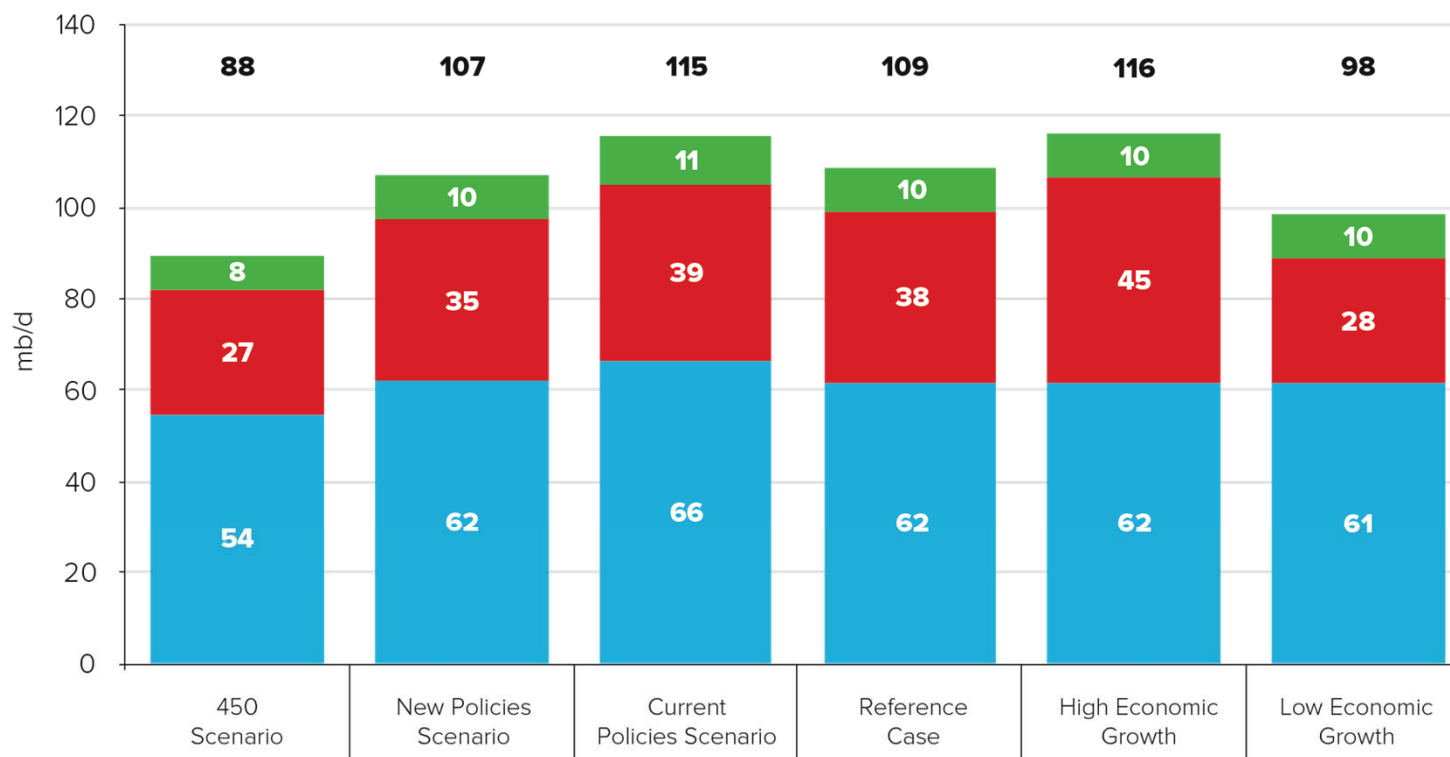
Short-term liquids supply growth: similar IEA-OPEC 2014 demand estimates and higher IEA non-OPEC supply yield a lower IEA call on OPEC crude



Similar overall medium-term non-OPEC supply growth forecasts, but contributions from each region differ



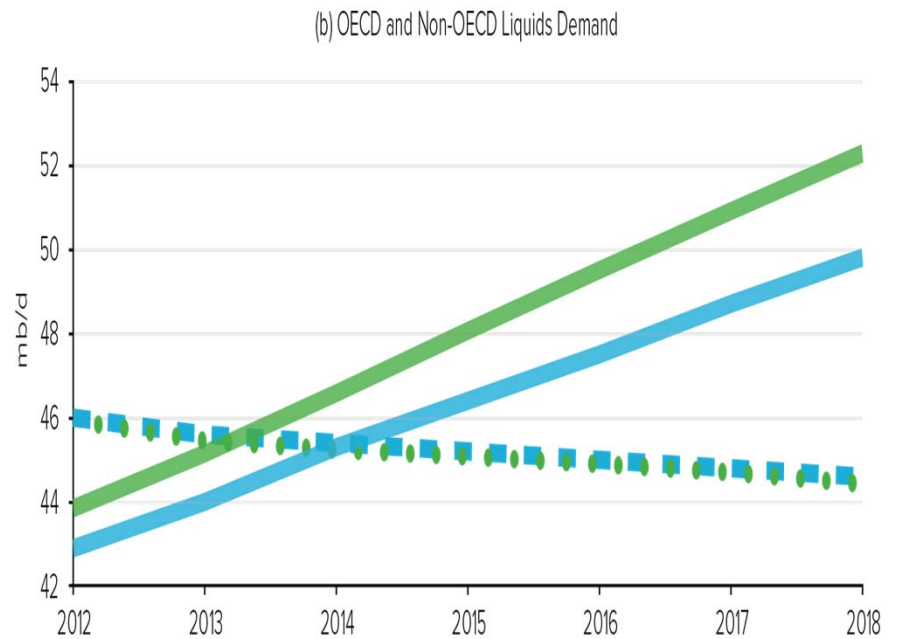
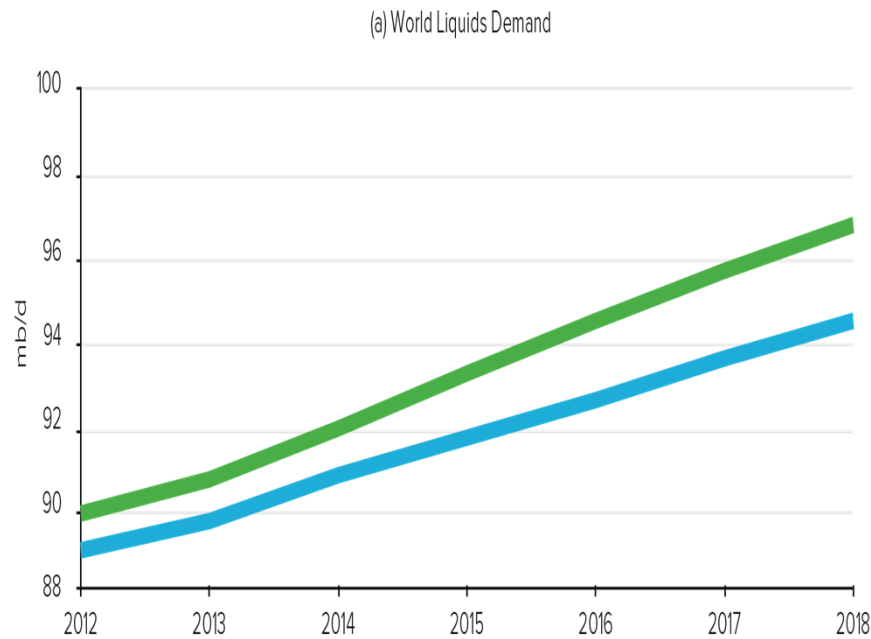
2035 outlook for world liquids supply by different supply sources



- Non-OPEC (incl. processing gains)
- OPEC crude (incl. Venezuela extra heavy)
- OPEC NGLs + unconventional

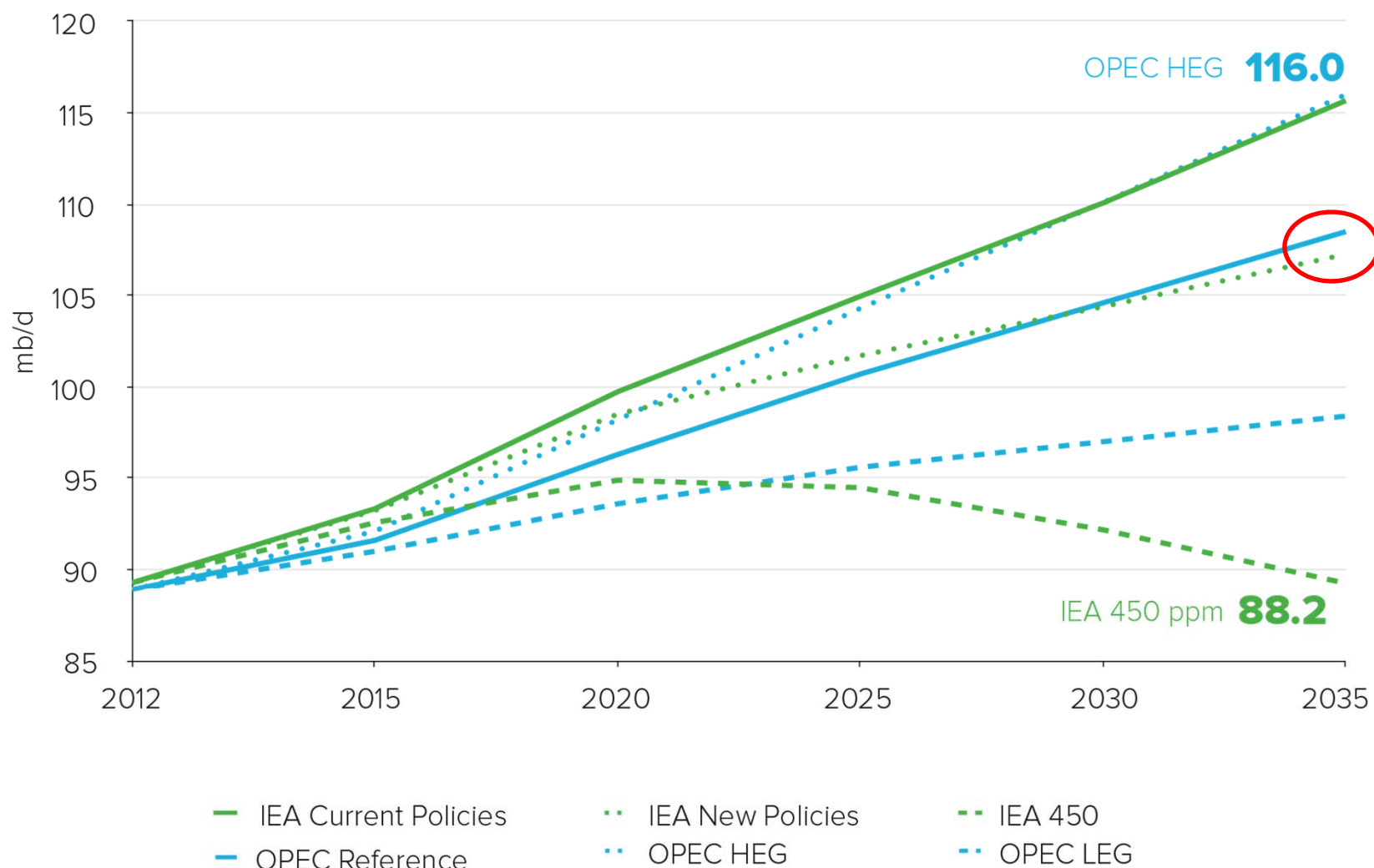
Global liquids demand outlook

Non-OECD baseline & growth comprise virtually all of IEA-OPEC medium-term liquids demand difference



■ IEA Non-OECD ■ OPEC Non-OECD ● IEA OECD ■ OPEC OECD

IEA-OPEC world liquids demand projections differ by as much as 28 mb/d by 2035, although their central scenarios are within 2 mb/d

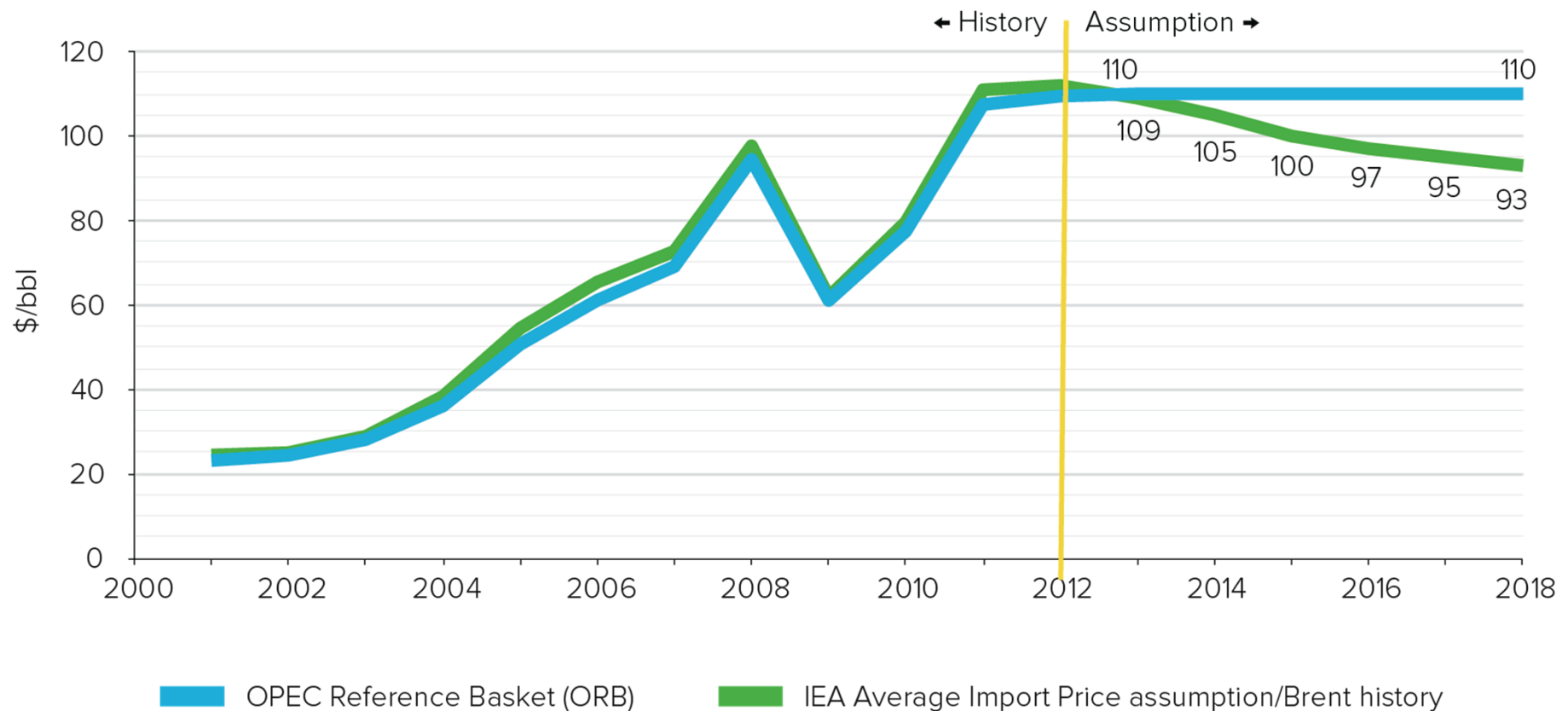


IEA and OPEC 2035 world liquids demand differ by as much as 28 mb/d, although their central scenarios are within 2 mb/d

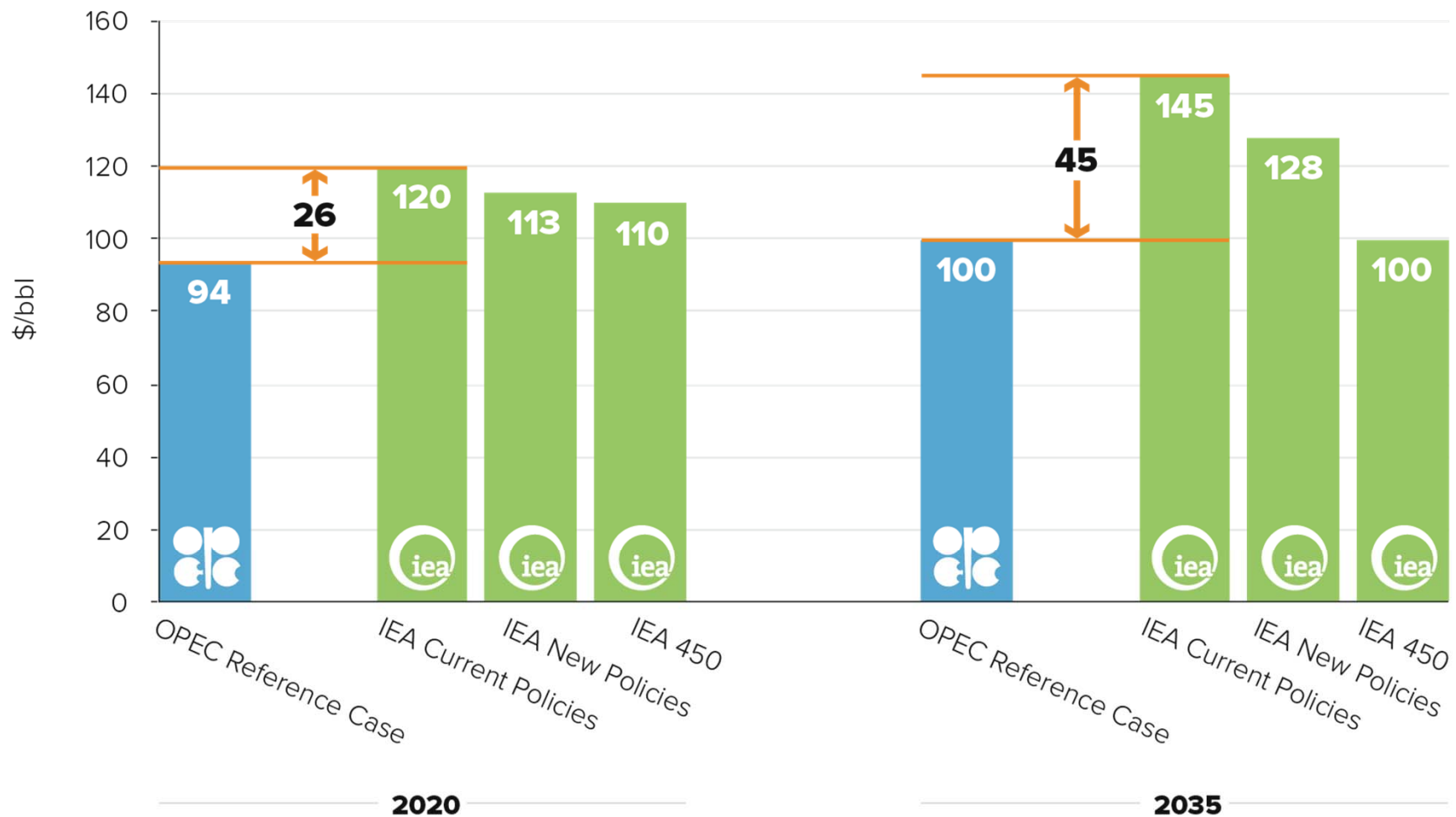


Oil price assumptions

Medium-term price assumptions differ, with OPEC's assumed price exceeding IEA's by US\$17/bbl by 2018



Long-term oil price assumptions are significantly higher for IEA than OPEC (real 2012 US dollars)



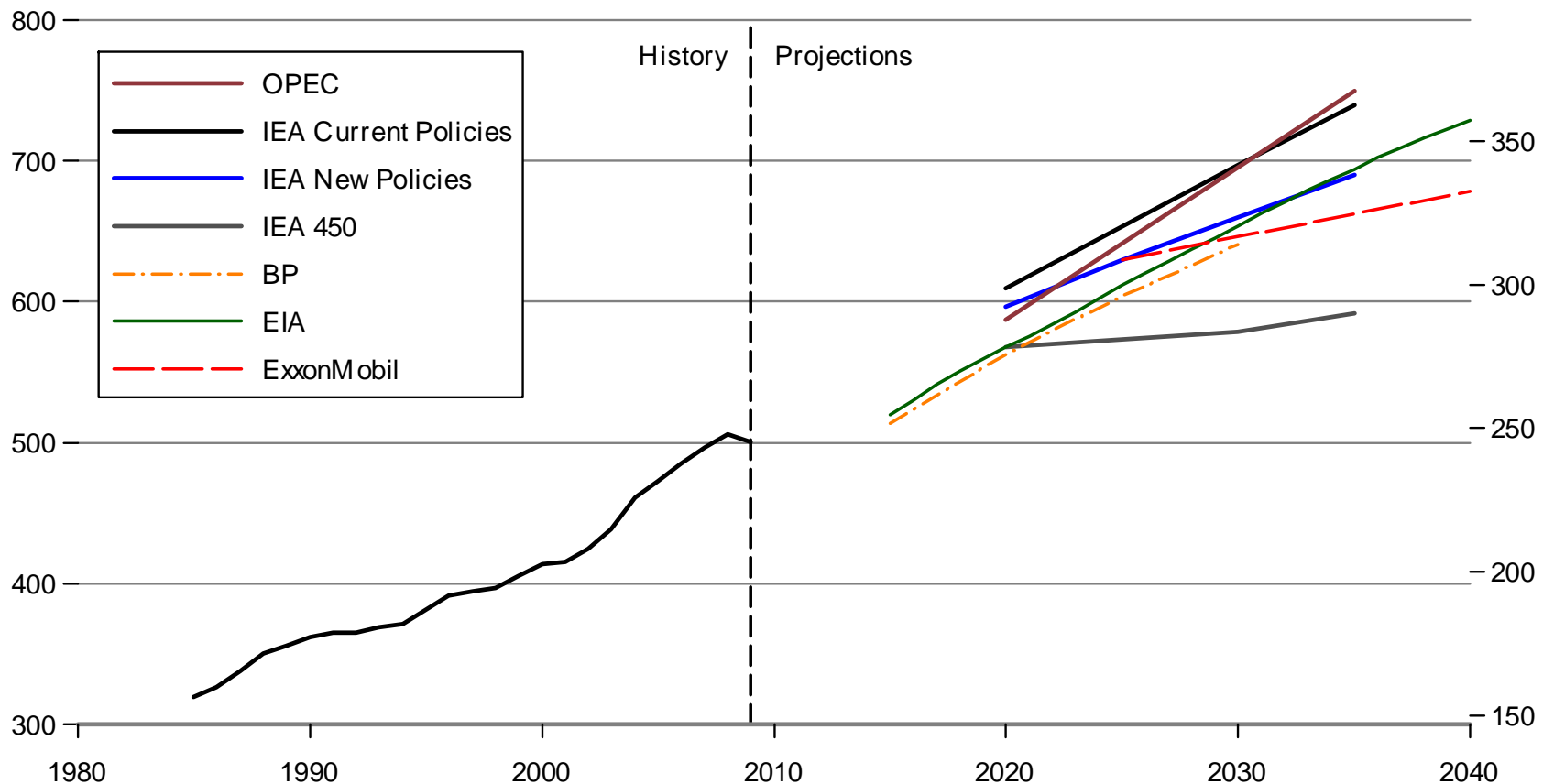
IEA and OPEC in the context of other long-term energy outlooks

Primary energy demand projections in various global energy outlooks

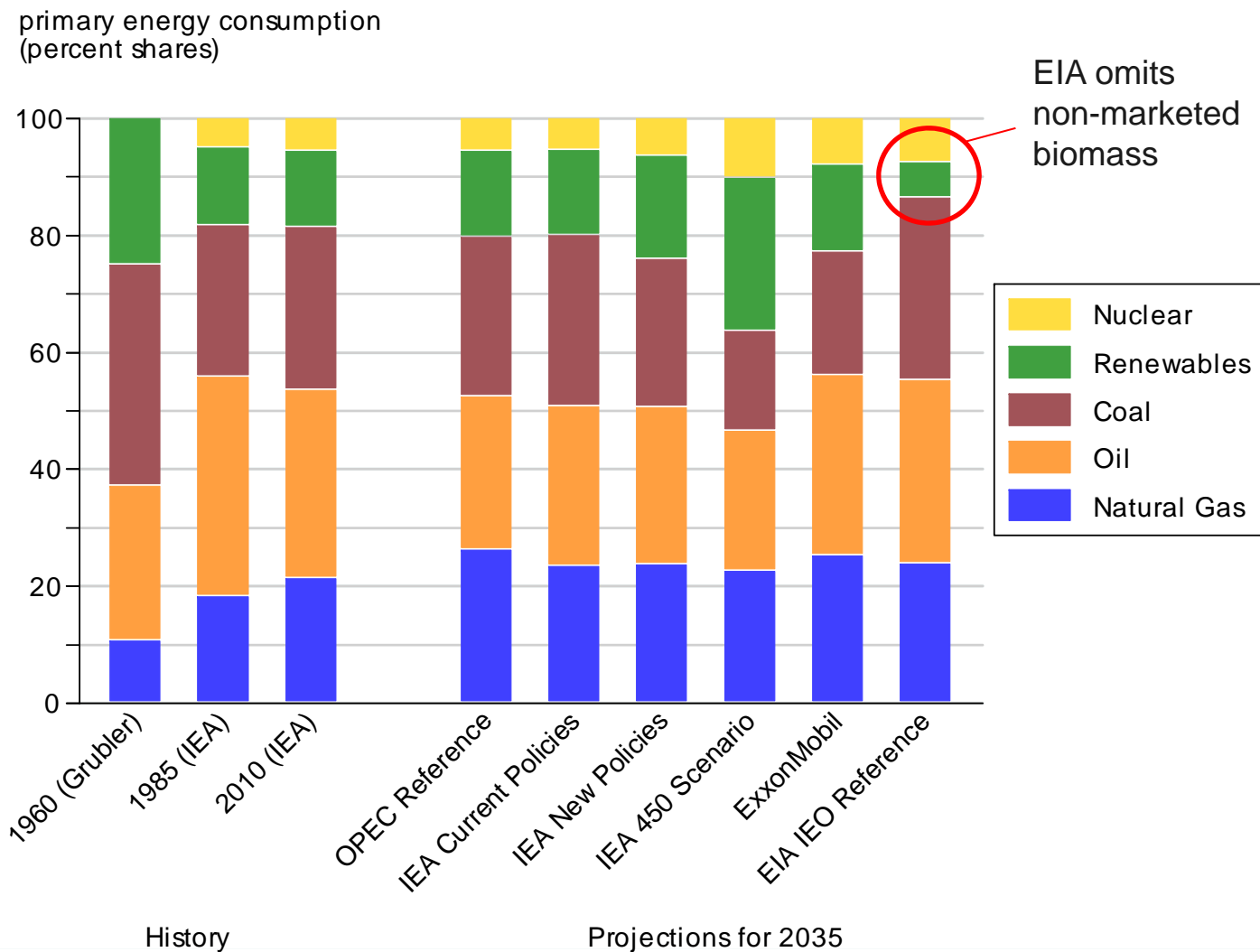
primary energy consumption

(quadrillion Btu per year, left axis)

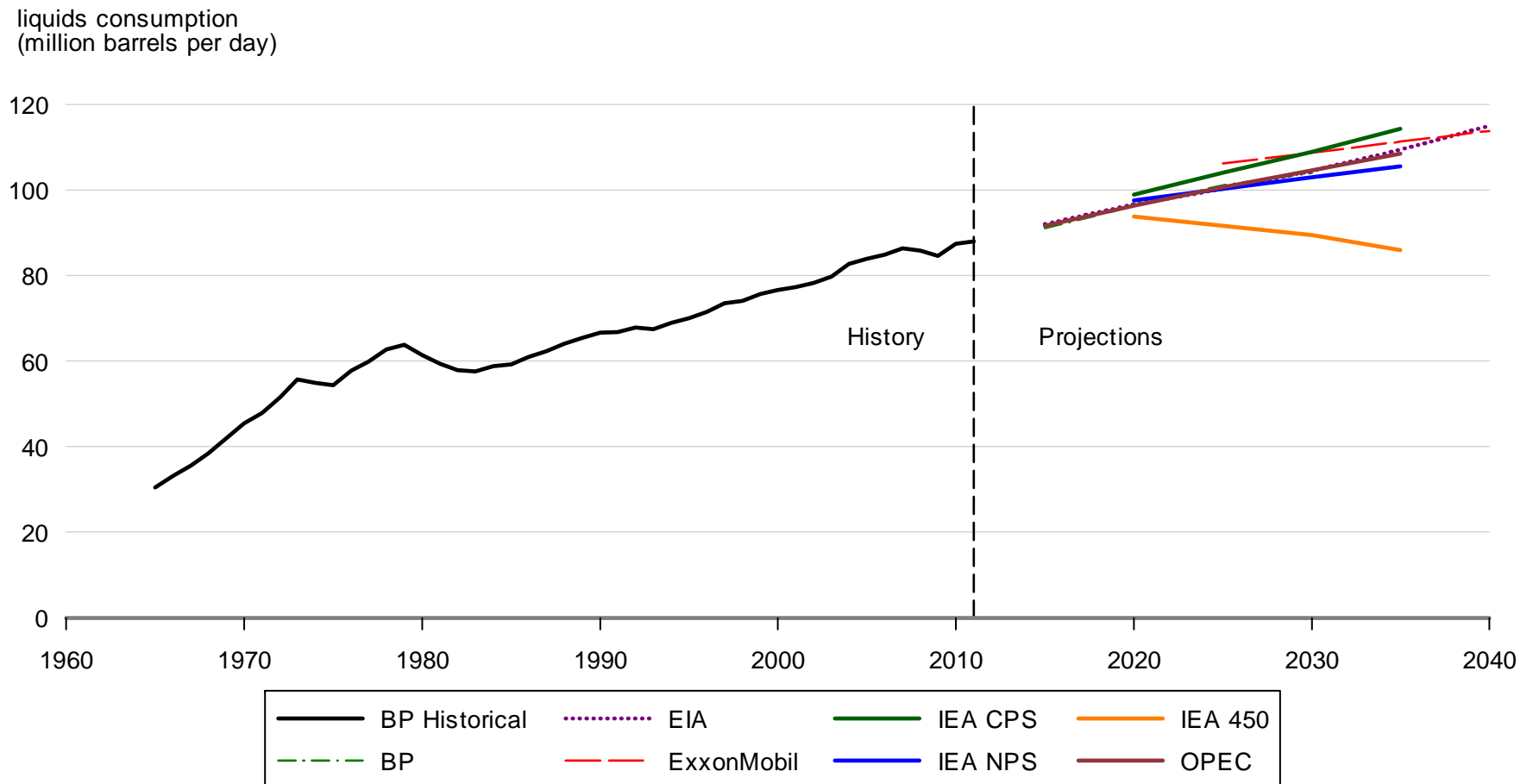
(million barrels per day of oil equivalent, right axis)



Outlook for global fuel shares



Liquids demand projections in various global energy outlooks



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 baseline data
- Different treatment of biofuels within regional liquids supply
- Different liquids categorization: e.g., tight NGLs
- Different regional groupings, in particular separate OPEC treatment of member country demand in WOO
- Different baseline data for IEA short- and long-term outlooks
- Different conception of “central” policy scenarios

Additional challenges in comparing to other energy outlooks

- Issues in comparing energy data and projections is not particular to IEA and OPEC
- Broadening the comparison to EIA, BP, ExxonMobil, Shell, and other outlooks raises additional issues
- Many of the same challenges as between IEA and OPEC
- Additional units (qBtu) and conversion factors
- Different primary energy conversion factors for energy sources
- Omission of traditional non-marketed biomass by EIA and BP

For more information

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