Oil Market Futures

Brussels, April 26, 2016

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THE OIL MARKET FUTURES STUDY

Phil Summerton, director, Cambridge Econometrics

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Key findings of a model based analysis of lower demand for transport oil on oil prices and the European economy

Hector Pollitt, Philip Summerton and Sophie Billington, Cambridge Econometrics

Cristiano Façanha and Josh Miller, The International Council for Clean Transportation

Gareth Davies, Brendan Cronin and Benedikt Unger, Poyry Management Consulting

The European Climate Foundation commissioned a research team, led by Cambridge Econometrics (CE), to undertake a model based analysis of the impact of reducing the demand for oil from transport on the oil price and the subsequent impact on the European economy

The objective of the study was:

"to determine the extent to which long-term global oil demand reduction will impact on the oil price and to understand the wider impact of changes in the oil price on the European economy, by:

1. developing alternative but plausible scenarios for global oil demand
2. analysing oil supply and prices in response to changes in demand
3. modelling the wider economic impact of changes in crude oil prices"

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The ICCT developed two oil demand scenarios, which were tested in Poyry's oil market model. Demand and supply sensitivities were developed and tested to improve the robustness of the findings. Finally economic impact modelling was undertaken by Cambridge Econometrics

Oil market scenarios and sensitivities

Business as Usual Scenario (BAU)

- Limited efficiency improvements in shipping and aviation
- Slow progress in EV deployment
- Cars and vans more efficient to 2020 in line with current policies

Technology Potential Scenario (TECH)

- Increasingly efficient shipping and aviation
- EV penetration
- More efficient cars, vans and trucks

Demand Sensitivities

- Rebound effects (REBOUND)
- Biofuels (BIO)
- Stronger technology penetration (STRETCH)

Supply Sensitivities

- OPEC response
- Constrained resource availability

Approach

Transport technology demand modelling
ICCT

Oil price and supply modelling (CRONOS)
Poyry

Economic impact modelling (E3ME)
Cambridge Econometrics

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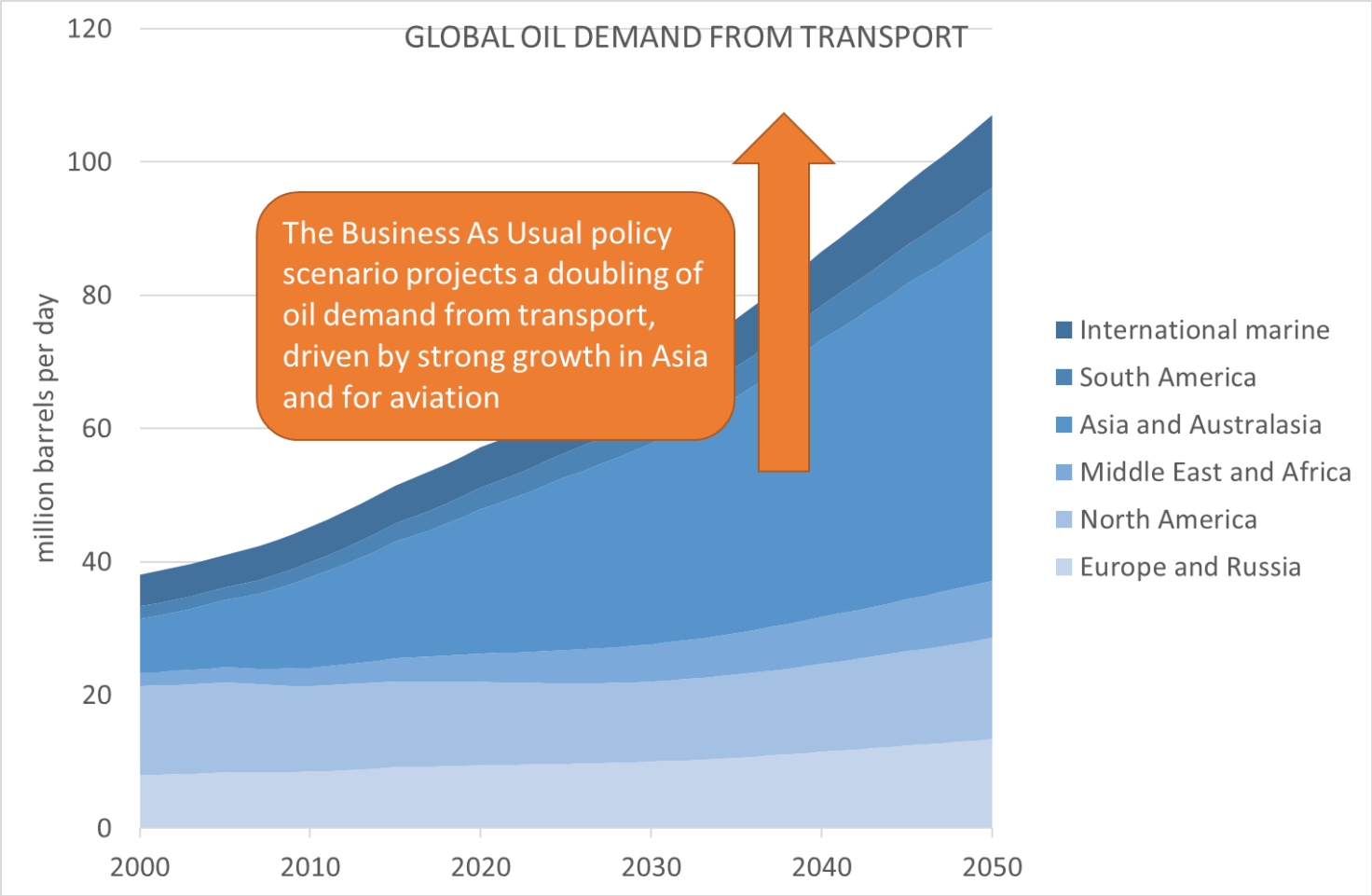
In a world without climate policies to drive investment in low-carbon technologies, global demand for oil would grow from 94 million barrels per day (mbpd) in 2015 to 112 mbpd in 2030, an increase of 19%. By 2050, demand would grow by a further 35% to 151 mbpd



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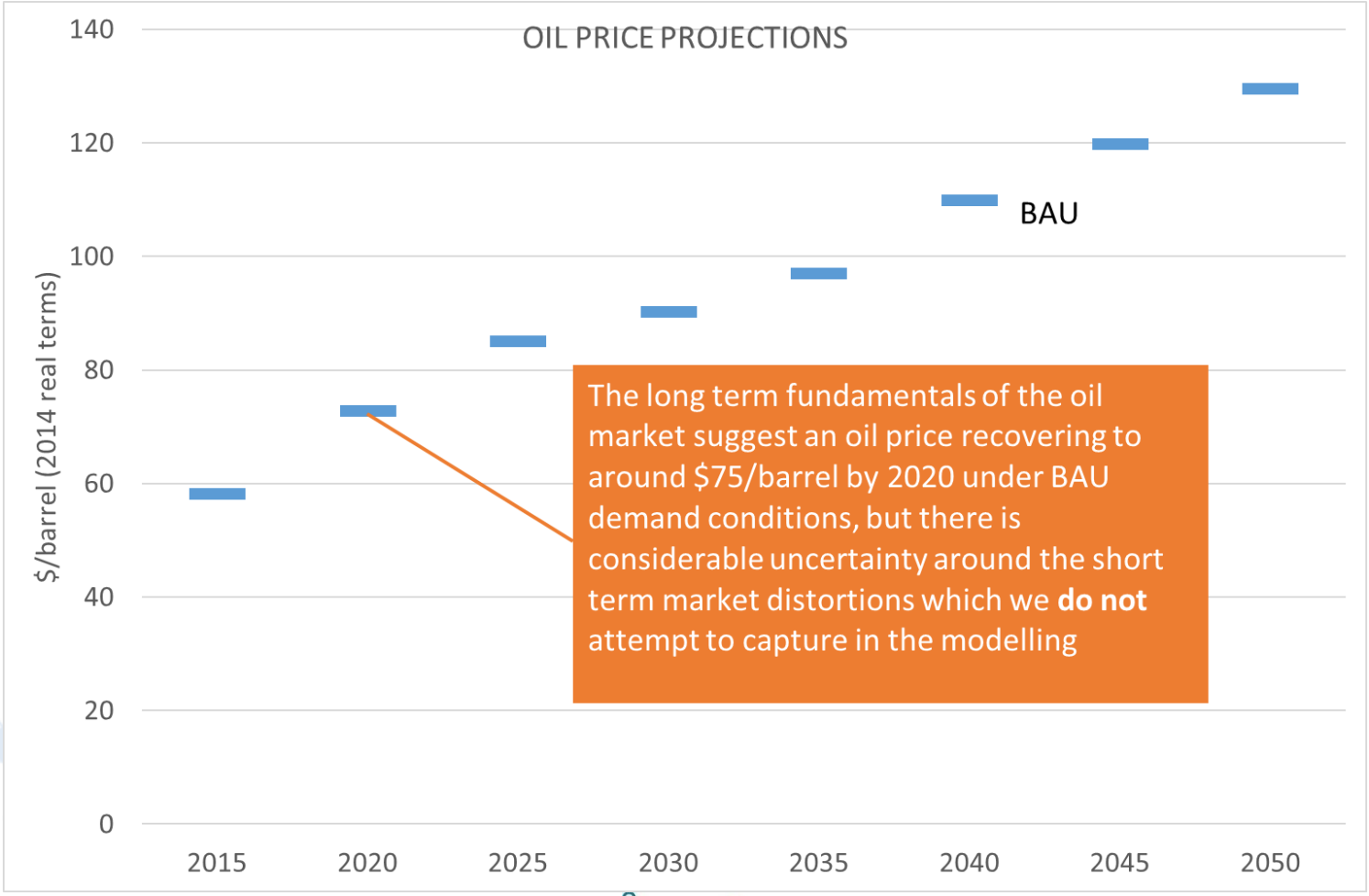
Increasing demand in the BAU would lead to a situation in the 2020s where significant investment in new non-OPEC production capacity is needed, and oil prices will need to rise to around $80 per barrel to stimulate that production. Ultimately, without major new finds or step changes in production techniques, increasing demand would push world prices above $90 per barrel by 2030 and over $130 per barrel by 2050



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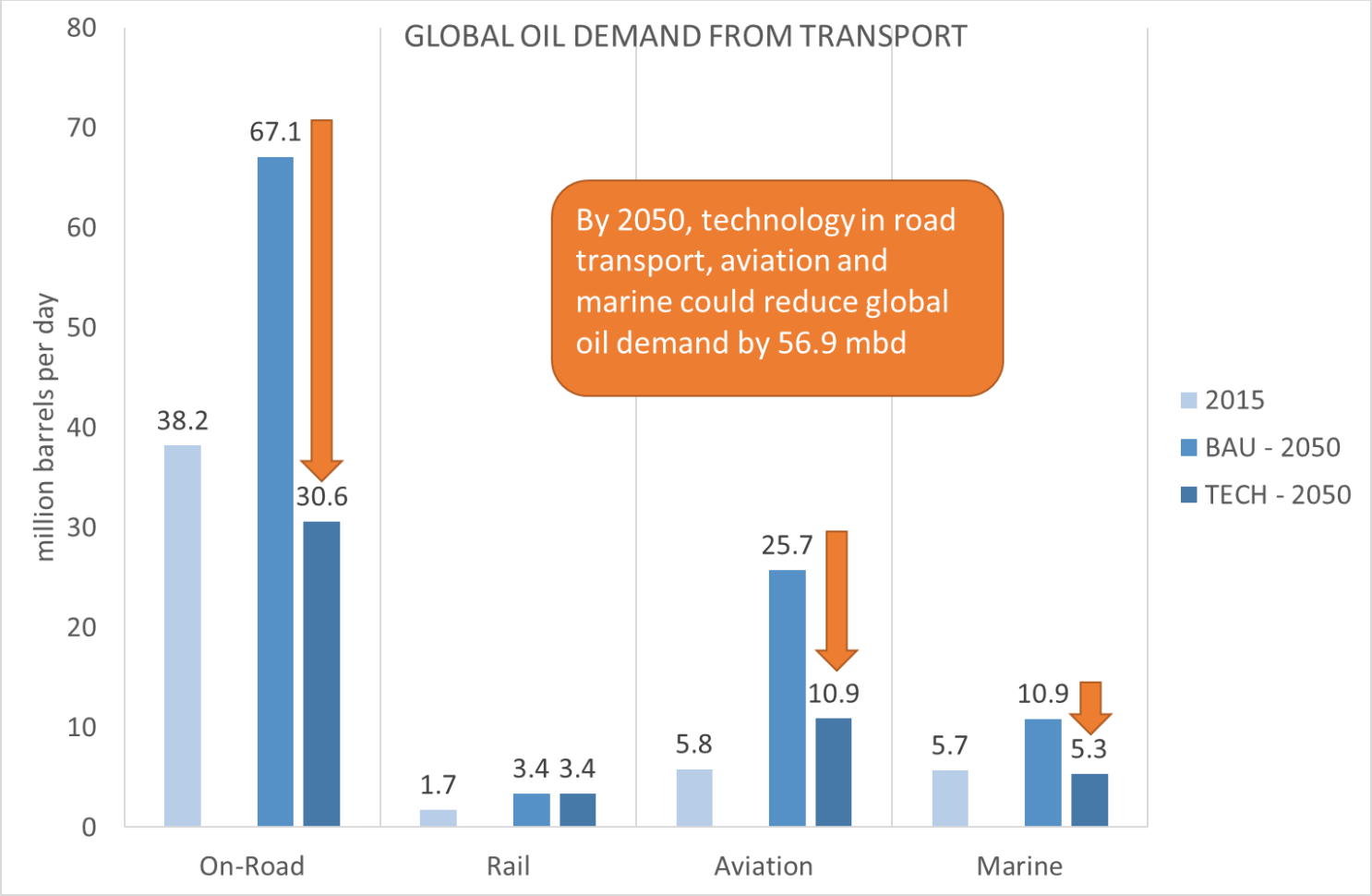
By contrast, in a world where climate policies are being implemented to drive investment in low-carbon technologies, demand for oil will be significantly lower than in a business-as-usual case: by around 11 mbpd in 2030 and by 60 mbpd in 2050.



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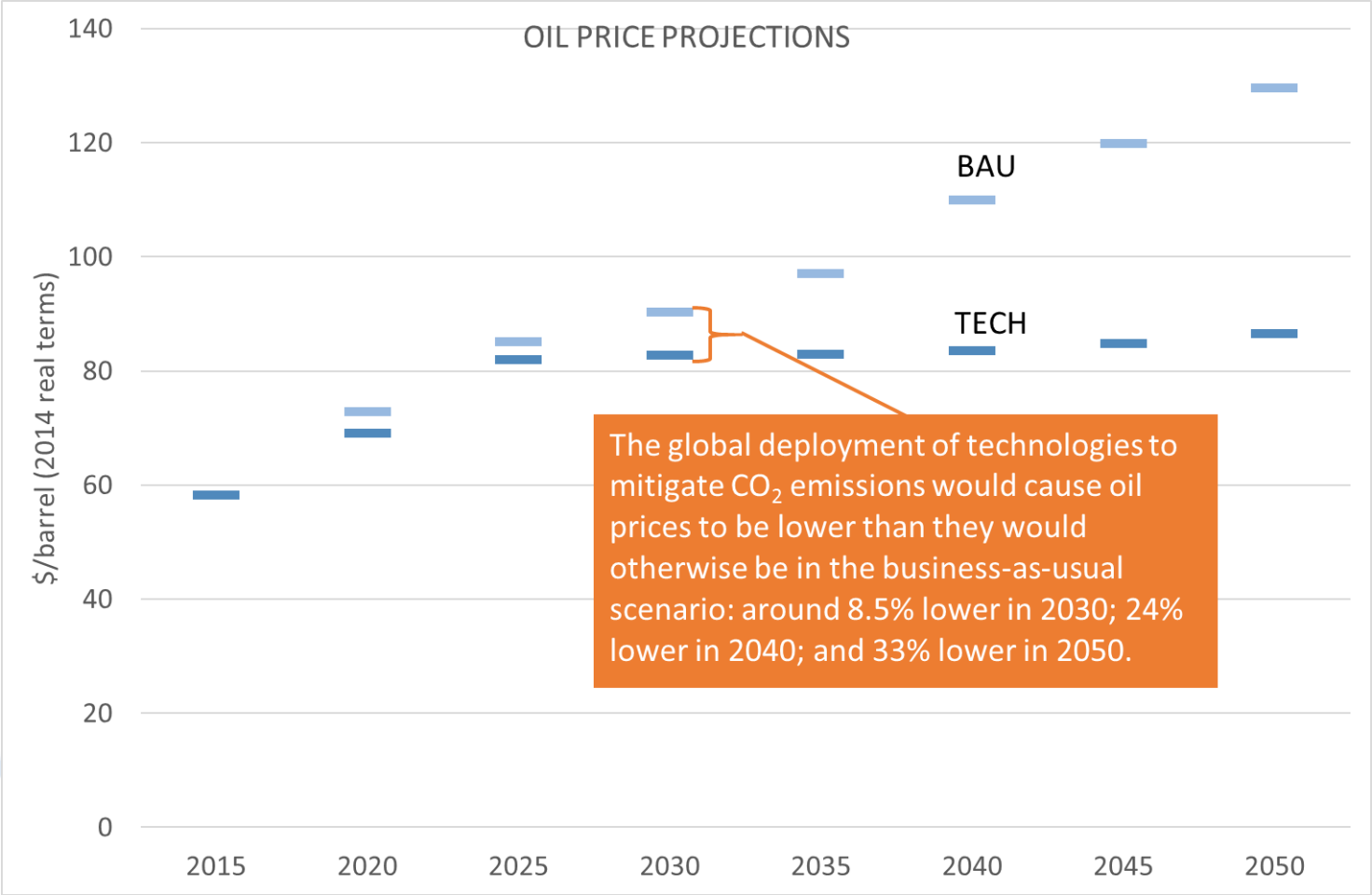
The reduction in demand delays the need to invest in extracting increasingly expensive oil from non-conventional sources, and the long-term market price of oil would settle around a stable band between $83 and $87 per barrel from 2030 to 2050



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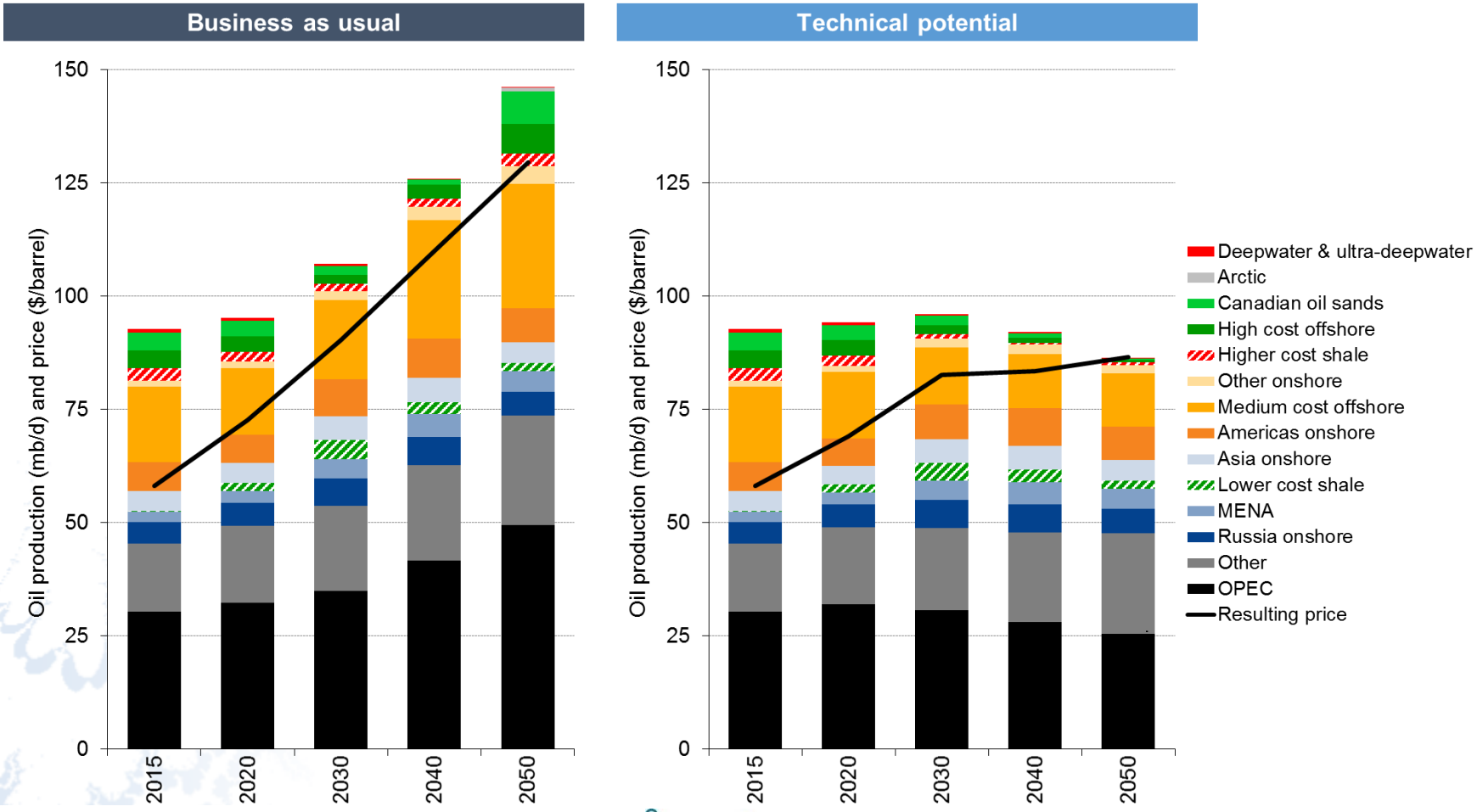
At the level of demand projected in the Technology Potential scenario, it would not be profitable to extract oil from the Artic; from many deep-water oil reserves; as well as from in-situ tar sands and higher cost offshore and shale.



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The European economy will be better off in the long run as a result of lower oil prices, despite the lost revenue for European oil producers

- The EU, which is 88% dependent on imports to meet its oil needs, would benefit overall from lower oil prices:
  - Reduction in the volume of EU oil imports would lower the EU's oil bill by €29 bln in 2030 in our Technology Potential scenario, and the consequent reduction in oil prices would shave a further €12 bln from the bill
  - Lower oil prices reduce inflationary pressure on consumers, increasing real incomes and allowing for more expenditure on other goods and services that provide larger domestic value-added for the European economy
  - As a result EU GDP would be 0.2% higher by 2030 and 0.5% higher by 2050. This would drive a 0.2% increase in employment by 2050, equivalent to more than 400,000 extra jobs

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SESSION ONE | GEOPOLITICS OF OIL SECURITY

Henrik Bliddal, director, Science and Technology Committee, NATO Parliamentary Assembly
Maciej Kolaczkowski, community lead, Oil and Gas Industry, Energy Industries, World Economic Forum
Rem Korteweg, senior research fellow, Centre for European Reform
Pawel Olejarnik, energy analyst, World Energy Outlook, International Energy Agency

David Livingston, associate, Energy and Climate Program, Carnegie Endowment for International Peace

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International Energy Agency
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Sustainable
Together

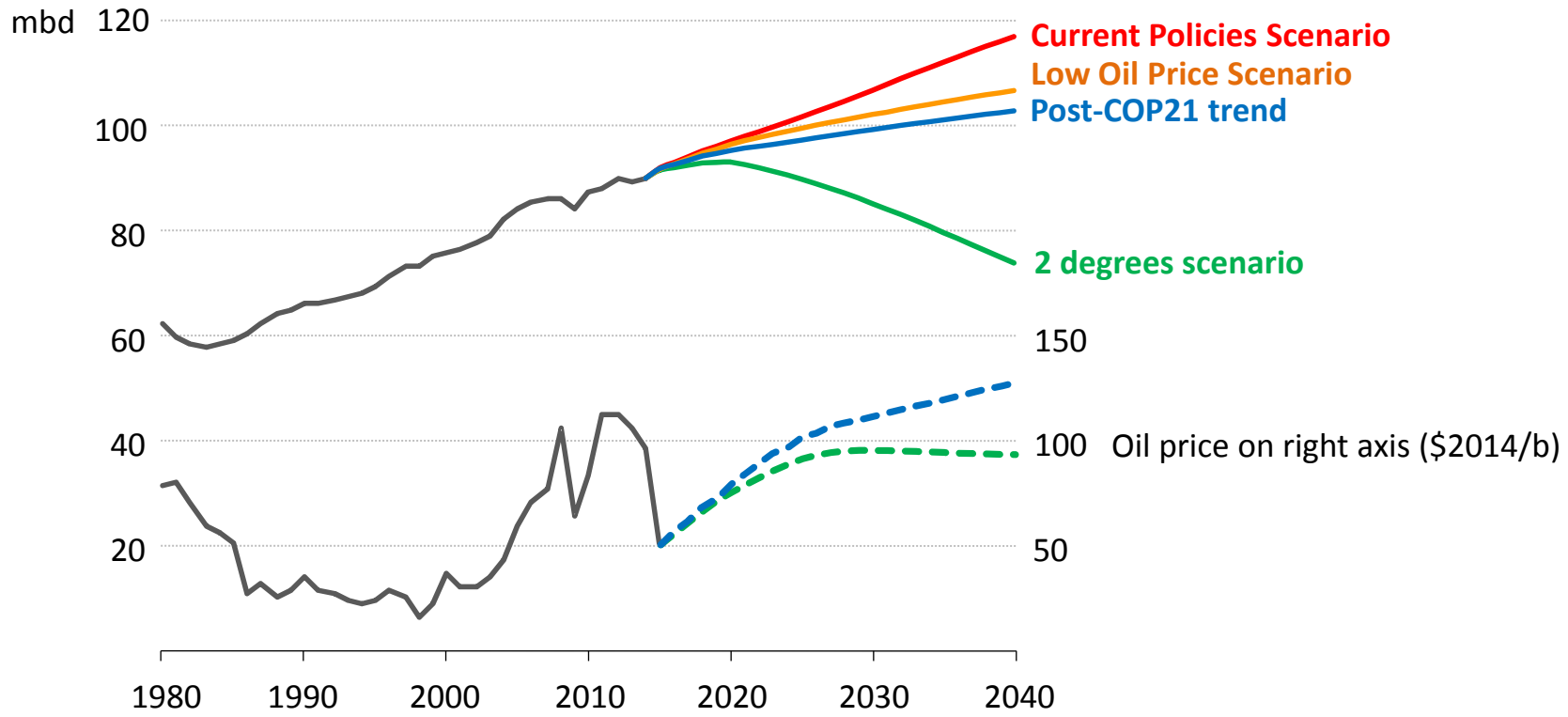
World Energy Outlook 2015

Paweł OLEJARNIK
Energy Analyst
International Energy Agency
Brussels, 26 April 2016

Different paths for oil demand

World Energy Outlook 2015

Global oil demand & price by scenario

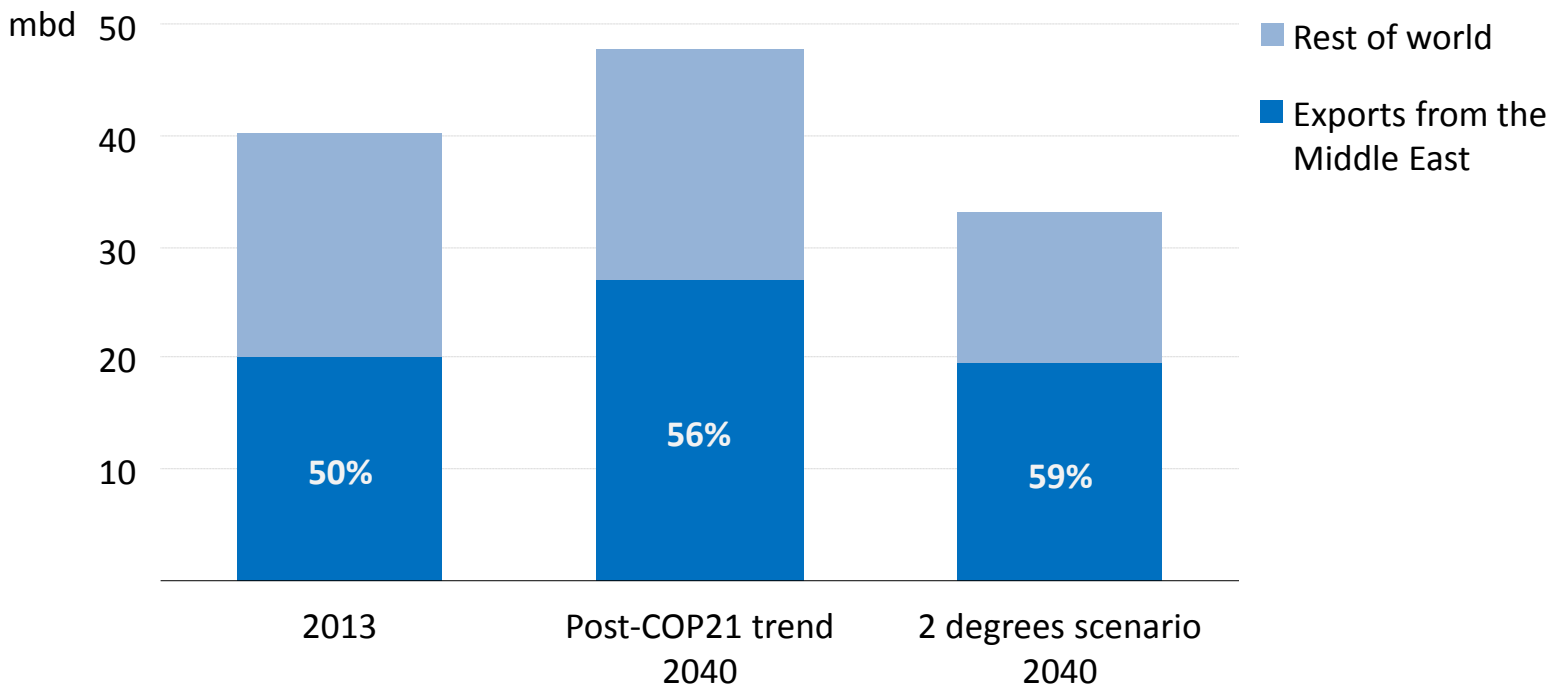


Global oil demand grows by 13 mb/d to 103.5 mb/d in 2040 in our central scenario, while in a 2 degrees scenario, it reaches a peak in 2020 & falls significantly

Evolution of global oil trade

World Energy Outlook 2015

Global oil trade by scenario

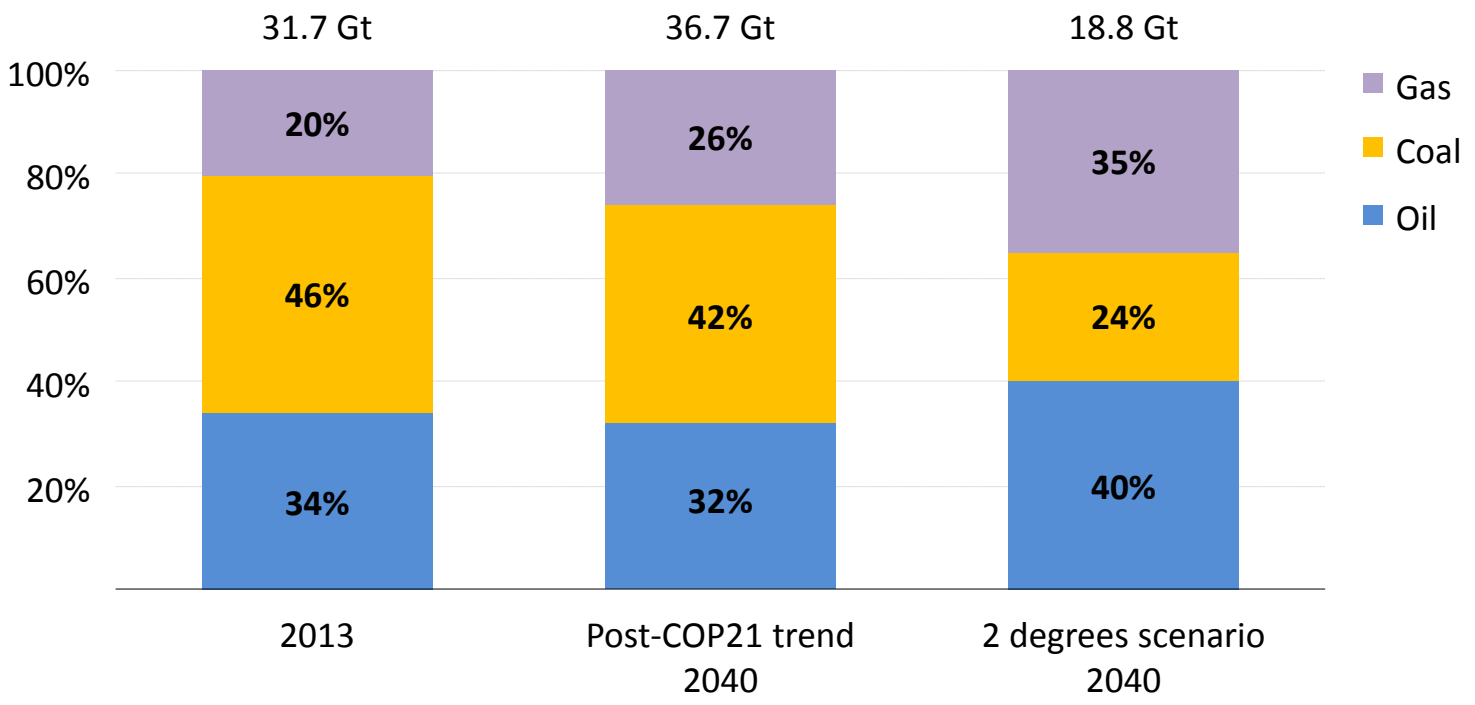


Mirroring global oil demand, global oil trade peaks & declines in a 2 degrees scenario

Role of oil in CO_2 emissions

World Energy Outlook 2015

Global energy-related CO_2 by scenario



In a 2 degrees scenario, oil becomes the leading source of CO_2 emissions

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SESSION TWO | POLICY CHOICES FOR THE ENERGY UNION

Jos Dings, executive director, Policy Team, Transport and Environment
Severin Fisher, senior researcher, Center for Strategic Studies, ETH Zurich
Mechthild Wörsdörfer, director, Energy Policy, Directorate General for Energy, European Commission
Georg Zachmann, senior fellow, Bruegel

Sara Stefanini, climate and energy reporter, POLITICO Europe

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