



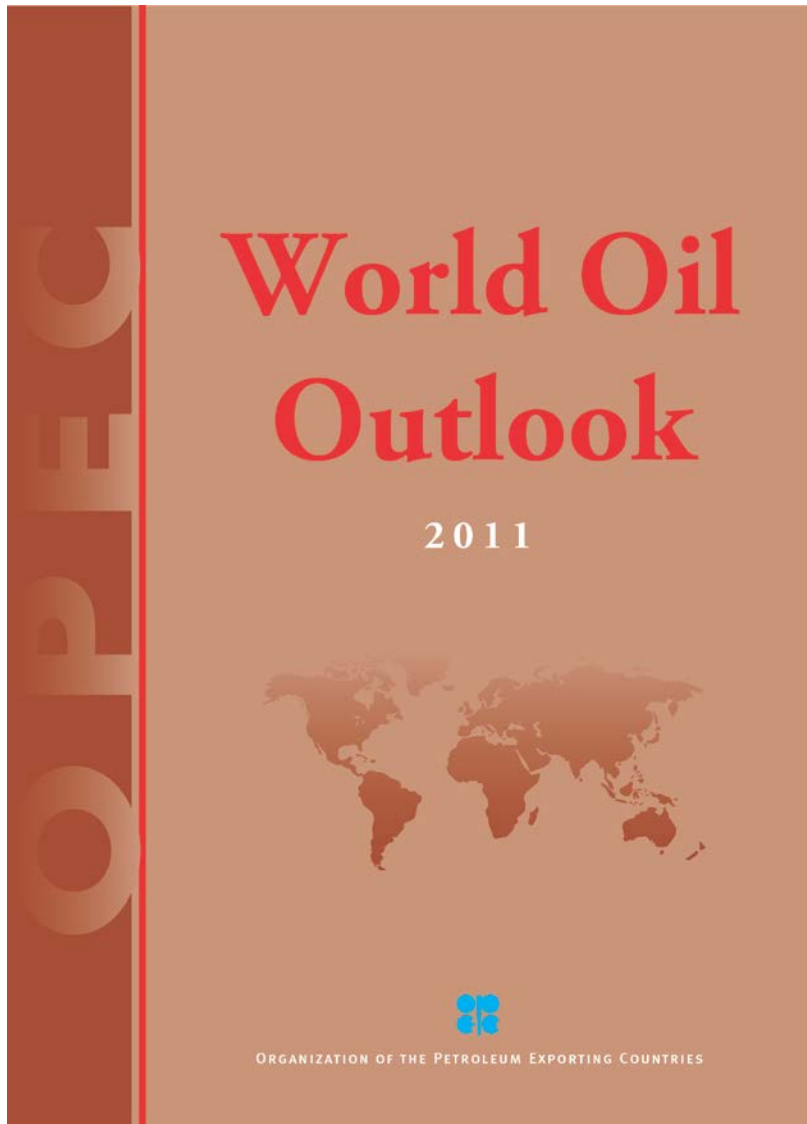
2nd IEA-IEF-OPEC Energy Outlooks Symposium

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Session II

OPEC's medium- and long-term oil outlook

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Material based upon
World Oil Outlook 2011

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Available for free download at:
www.opec.org



- Reference case: key assumptions
- Medium- and long-term oil supply and demand outlook
- Major uncertainties stemming from economy, policies, technology
- Downstream issues
- Ideas for focused themes in this Symposium

What is new in this year's World Oil Outlook?



- Higher costs, higher prices
- Excessive speculation still a major issue, but regulatory reform is underway
- More rapid recovery from recession...
- ...but persistent risks to global economy
- Major uncertainties for energy developments, through new policies, technology
- New downstream challenges emerging



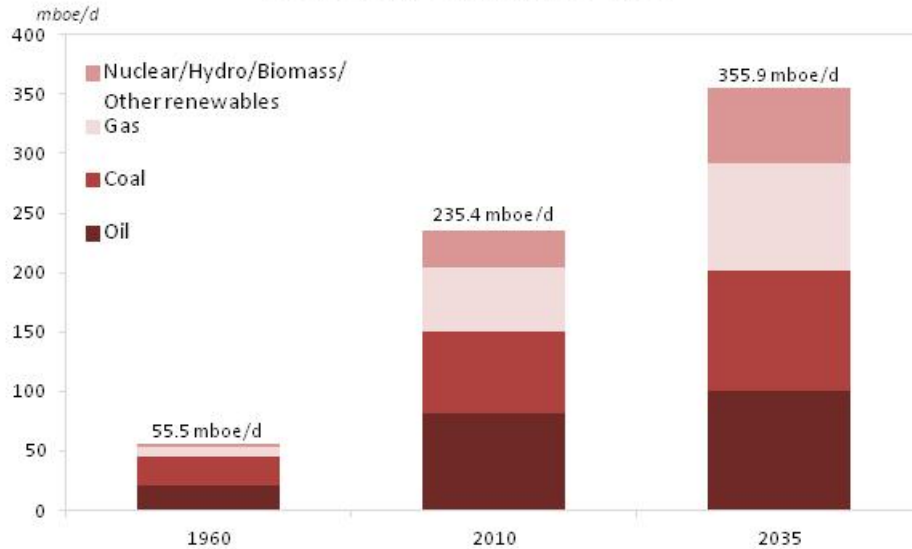
Reference Case: key assumptions

- Oil price behaviour since WOO 2010 and cost developments affect assumptions
- Price assumed to reach \$133/b by 2035
- Only an assumption – not a projection
- Medium-term global economic growth of 3.9% p.a
- Long-term growth affected by demographic trends
- Major energy policies that have been passed into law are incorporated

World energy supply by fuel type in the Reference Case

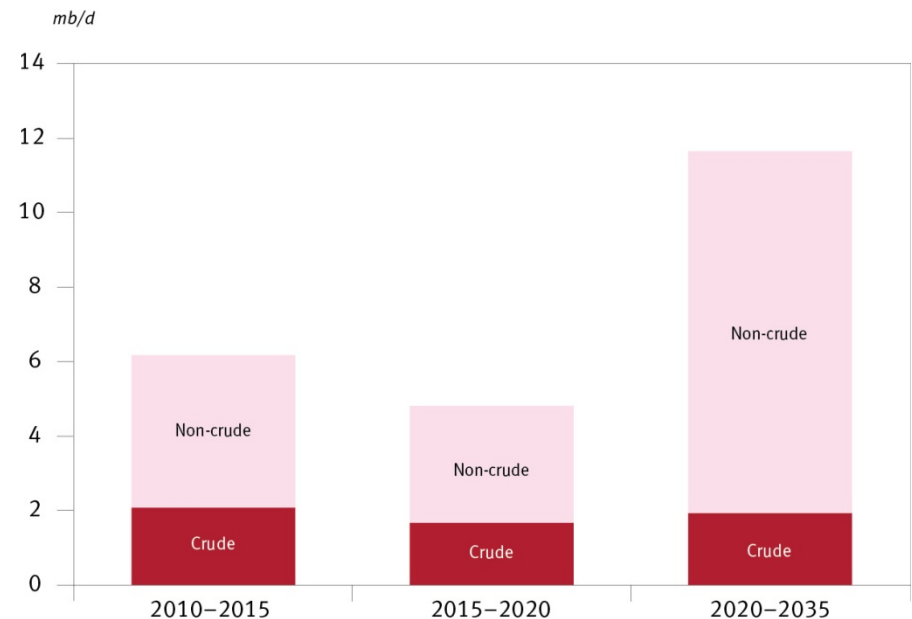


Total energy supply, 1960-2035



- Oil remains key
- And there will be a diversity of oil supply

- Energy demand to increase by over 50% by 2035
- Fossil fuels will continue to be the major source of energy supply
- Renewables will increase, but from a low base
- There are plenty of resources to meet these growth patterns



World oil demand outlook in the Reference Case (mb/d)



	2010	2015	2020	2035
OECD	46.1	46.0	45.2	41.9
Developing countries	35.9	41.8	47.2	61.9
Transition economies	4.8	5.1	5.3	5.9
World	86.8	92.9	97.8	109.7

- Medium-term oil demand reaches 93 mb/d by 2015
- By 2035, oil demand is 110 mb/d, 23 mb/d higher than today
- OECD oil demand peaked in 2005
- 80% of increase in demand is in developing Asia
- Transportation sector is key to demand growth

World oil supply outlook in the Reference Case (mb/d)

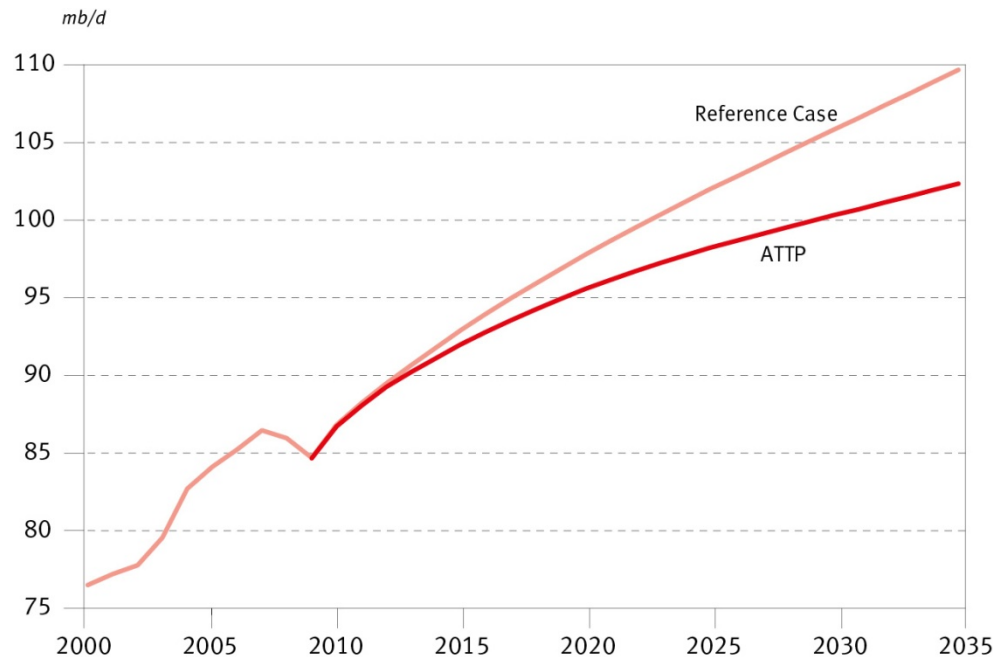
	2010	2015	2020	2035
OECD	19.9	20.3	20.4	22.2
Developing countries, excl. OPEC	16.9	18.4	19.4	19.3
Transition economies	13.4	14.3	14.9	16.1
Total non-OPEC	52.3	55.3	57.3	60.5
OPEC NGLs	4.8	6.2	7.2	9.4
OPEC GTLs	0.1	0.3	0.4	0.6
OPEC crude	29.3	31.3	33.2	39.3

- **Increases in non-OPEC supply come from non-conventional and conventional oil, the latter mainly from Caspian and Brazil**
- **OPEC increases crude supply by 10 mb/d by 2035, while OPEC NGLs also rise strongly**
- **OPEC has a broad portfolio of investment projects**
- **But security of demand remains a genuine concern**

Scenarios underscore feasible alternatives to Reference Case: 1. *Transportation technologies*



World oil demand in the ATTP scenario



- Oil demand subject to many uncertainties: the economy, policies, technology
- Alternative Transportation Technologies and Policies scenario (ATTP) reduces demand for OPEC crude by 10 mb/d in long-term
- Future need for OPEC crude would be less than today

Scenarios underscore feasible alternatives to Reference Case: *2. uncertain economic growth*

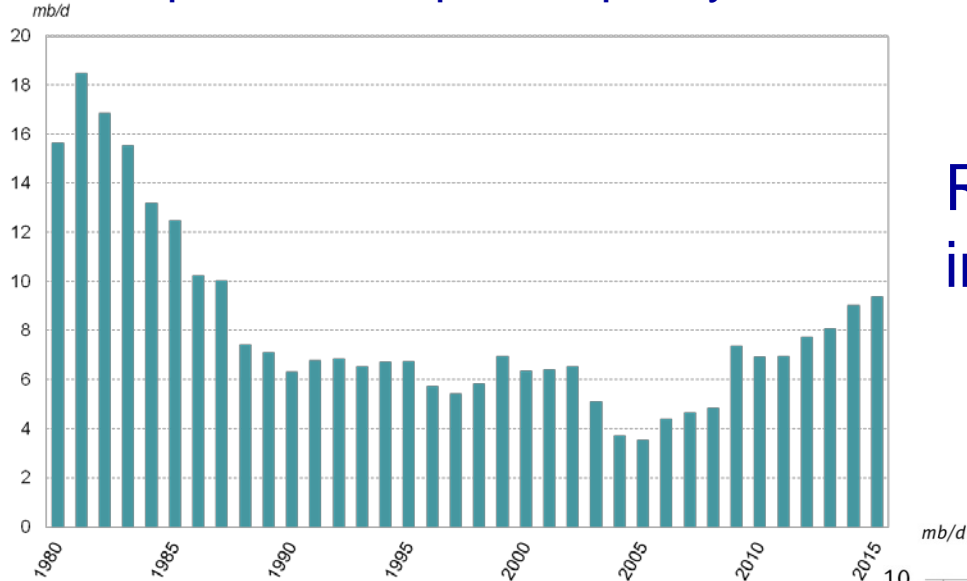


- Economic growth uncertainties also translate into large possible ranges for future oil demand
- Further complicates investment decisions
- Especially brought to the fore by the Great Recession
- Scenarios suggest a range of 100-119 mb/d by 2035
 - i.e. downside *and* upside potential
- Further demonstration of the genuine concern over security of demand

There are also many key downstream issues

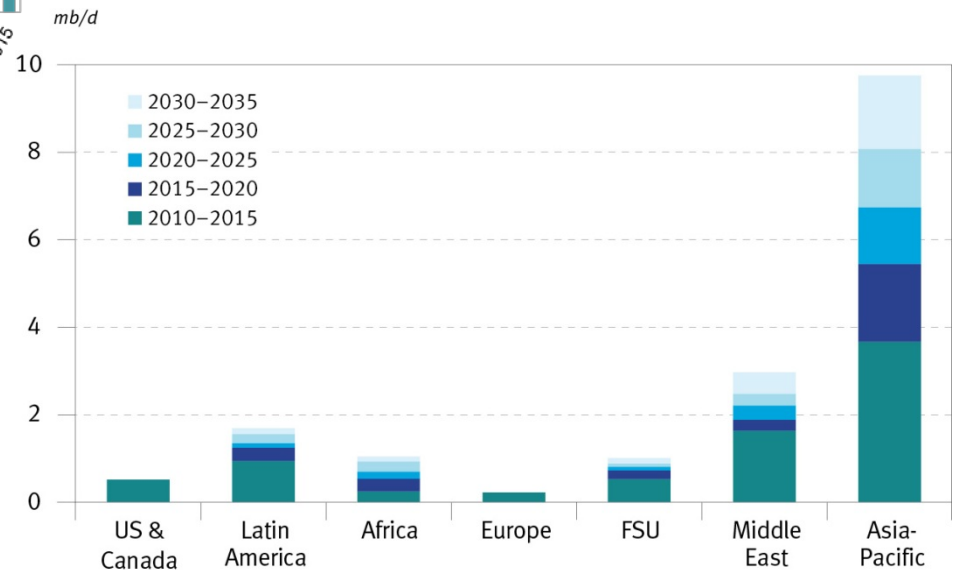


Global operational 'spare capacity', 1980-2015



Refining overcapacity set to increase in the medium-term

Asia-Pacific will dominate long-term future refining capacity additions...





- Prospects for non-crude liquids supply
- The future of conventional supply: where and how much?
- How will oil price movements affect supply?
- Where are costs headed?
- How can the industry cope with uncertainty?
- Downstream issues



- Transportation sector technologies and policies
- How might the energy mix evolve?
- Will we see technological leapfrogging in Asia? Where are the constraints to demand growth?
- What are sustainable rates of economic growth?
- Has the global economy become resilient to oil price movements?
- Where will trade patterns head? What is more likely: a revived Doha round or increased protectionism?



- Sustainable development
 - *Impacts of GHG mitigation on energy industries and implications for adaptation to climate change*
 - *How to move forward with CCS?*
 - *Energy and water: key issues and possible solutions*
- Impact of financial energy markets on oil prices
 - *Excessive price speculation: progress in market reform?*
- The persistence of energy poverty: what can be done?

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Thank you

