International Energy Agency

WORLD ENERGY OUTLOOK 2012

World Energy Outlook 2012

Presentation to the press

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Foundations of global energy system shifting

- > Resurgence in oil & gas production in some countries
- Retreat from nuclear in some others
- > Signs of increasing policy focus on energy efficiency

All-time high oil prices acting as brake on global economy

Divergence in natural gas prices affecting Europe (with prices 5-times US levels) and Asia (8-times)

Symptoms of an unsustainable energy system persist

- Fossil fuel subsidies up almost 30% to \$523 billion in 2011, led by MENA
- > CO₂ emissions at record high, while renewables industry under strain
- > Despite new international efforts, 1.3 billion people still lack electricity



Share of global energy demand



Global energy demand rises by over one-third in the period to 2035, underpinned by rising living standards in China, India & the Middle East



US oil and gas production



The surge in unconventional oil & gas production has implications well beyond the United States



Iraq oil exports

Iraq oil production



Iraq accounts for 45% of the growth in global production to 2035; by the 2030s it becomes the second-largest global oil exporter, overtaking Russia



Middle East oil export by destination



By 2035, almost 90% of Middle Eastern oil exports go to Asia; North America's emergence as a net exporter accelerates the eastward shift in trade

Natural gas: towards a globalised market

Major global gas trade flows, 2035

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Rising supplies of unconventional gas & LNG help to diversify trade flows, putting pressure on conventional gas suppliers & oil-linked pricing mechanisms



Net oil & gas import dependency in selected countries



While dependence on imported oil & gas rises in many countries, the United States swims against the tide

A power shift to emerging economies WORLD ENERGY OUTLOOK 2012

Change in power generation, 2010-2035



The need for electricity in emerging economies drives a 70% increase in worldwide demand, with renewables accounting for half of new global capacity



Global renewable energy subsidies



Renewable subsidies were \$88 billion in 2011; over half the \$4.8 trillion required to 2035 has been committed to existing projects or is needed to meet 2020 targets



Average household electricity prices, 2035



Electricity prices are set to increase with the highest prices persisting in the European Union & Japan, well above those in China & the United States

Energy is becoming thirstier in the face of growing water constraints

Global water use

100% 80% 60% 40% 20% Energy 2010 2010 Biofuels Fossil fuels Coal Coal 2010

Water for energy

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The energy sector's water needs are set to grow, making water an increasingly important criterion for assessing the viability of energy projects



Energy efficiency potential used by sector in the New Policies Scenario



- Unrealised energy efficiency potential
- Realised energy efficiency potential

Two-thirds of the economic potential to improve energy efficiency remains untapped in the period to 2035



Total primary energy demand



Economically viable efficiency measures can halve energy demand growth to 2035; oil demand savings equal the current production of Russia & Norway



Energy expenditure in 2035 compared with 2010



In addition to cutting energy expenditures by an average of 20%, improved efficiency brings wider economic gains, particularly for India, China, the United States & Europe

The Efficient World Scenario delays carbon lock-in



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Energy efficiency can delay "lock-in" of CO_2 emissions permitted under a 2 °C trajectory – which is set to happen in 2017 – until 2022, buying five extra years



- Policy makers face critical choices in reconciling energy, environmental & economic objectives
- Changing outlook for energy production & use may redefine global economic & geopolitical balances
- Iraq set to play a pivotal role in global oil markets
- As climate change slips off policy radar, the "lock-in" point moves closer & the costs of inaction rise
- The gains promised by energy efficiency are within reach & are essential to underpin a more secure & sustainable energy system