



Governance & Development: Views from G20 Countries

Session 3

Presentation

Trends in the Energy Sector of the Emerging Economies

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Trends in the Energy Sector of the Emerging Economies

Presentation by

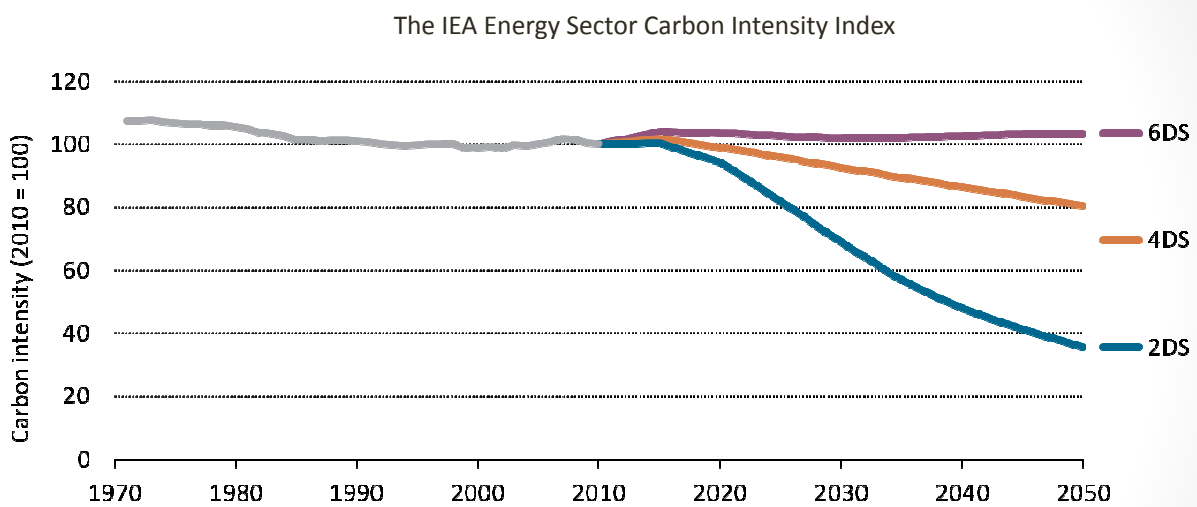
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Presentation Structure

- ◆ Global Energy Concerns
- ◆ Is there a Strategy ?
- ◆ G20 and Energy
- ◆ Tracking Growth of Clean Energy
- ◆ TIR in the making ?

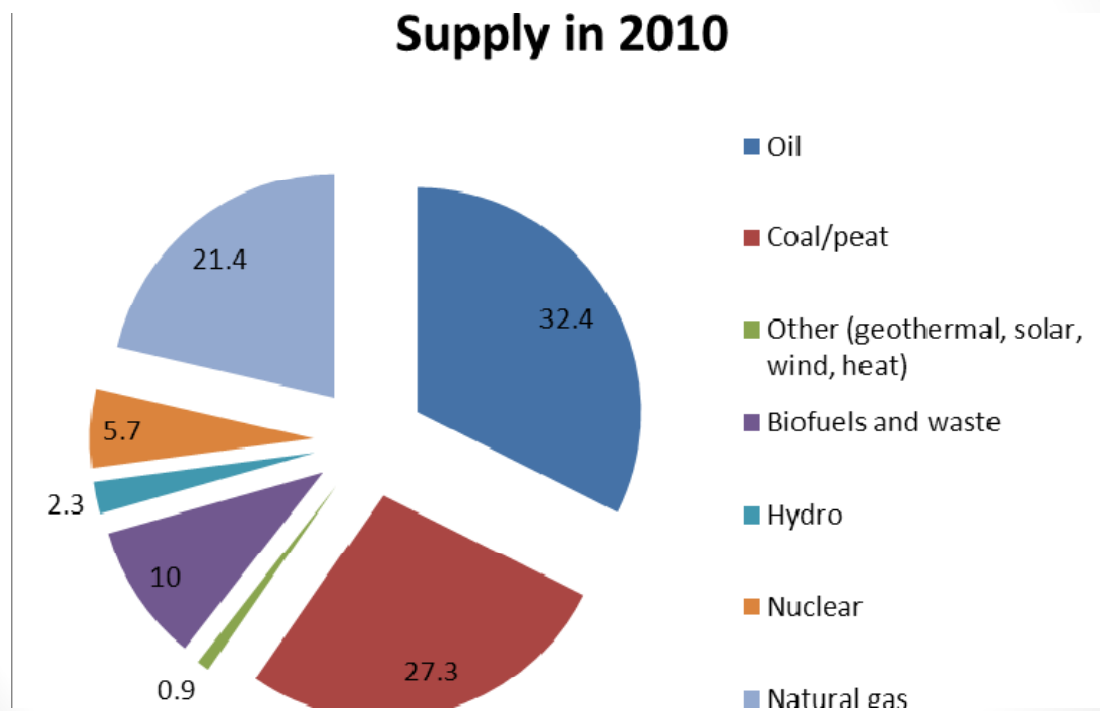
Global Energy Concerns

Fuel choices - A gloomy global picture



Source: IEA

Fuel Mix- fossil fuel dominance



Price and Supply Concerns

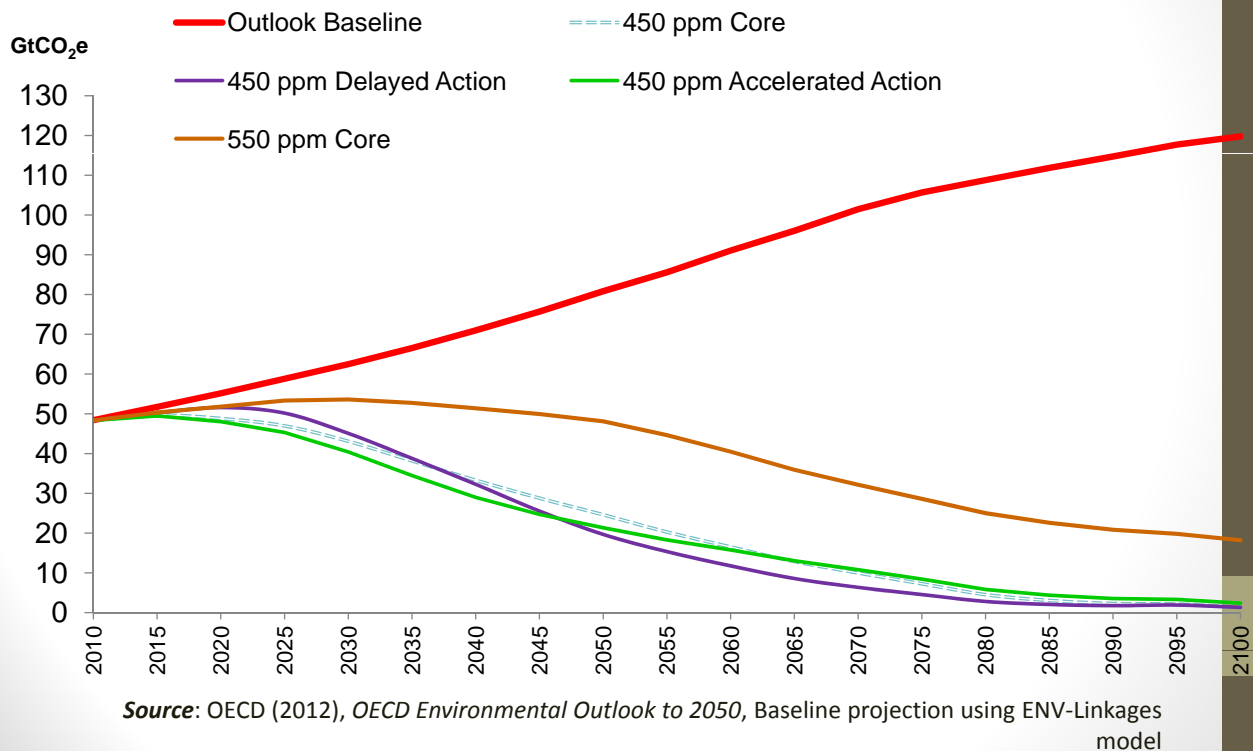
- ✓ Energy prices continue to be high – Price of oil averaged \$122/barrel in 2012, 5 times the 2002 level
- ✓ 1.3 billion people lack access to electricity and 2.6 billion to clean cooking facilities, mostly in Africa and S. Asia
- ✓ Dearth of capital exacerbates the supply problem - \$19 trillion needed in the energy sector up to 2020
- ✓ High energy prices and rising demand in emerging economies, restricts energy choice to Coal, abundantly available domestically. China and India consumed 46% and 11% of global coal consumption in 2012, respectively.
- ✓ Global economic weakness has resulted in price becoming the major driver in energy choices, even in developed economies.

Issues in Global Energy Trade

- ✓ Both price and supply barriers manifest in international trade of energy, denying stable markets for a global energy transition
- ✓ US curbs on Shale gas exports to non-FTA, leading to a large differential in global gas prices by region
- ✓ LNG continues to be priced much higher in Asia-Pacific, due to oil indexed prices against other norms elsewhere
- ✓ Access to resource ownership restricted in many oil and gas endowed countries
- ✓ Geo – political issues (Iraq and Iran to start with, and then Libya and Syria) disturb oil markets, play havoc with oil importing economies
- ✓ Concerns on lack of transparency in global oil markets

Is there a Strategy ?

GHG emission Scenarios -2100



IEA Scenarios

- ✓ The **6°C Scenario (6DS)** is largely the BAU situation. By 2050, energy use almost doubles (compared with 2009). Average global temperature rise is projected to be at least 6°C.
- ✓ The **4°C Scenario (4DS)** takes into account recent pledges made by countries to limit emissions and step up efforts to improve energy efficiency. This is already an ambitious scenario, as capping the temperature increase at 4°C requires significant cuts in emissions in the period up to 2050.
- ✓ The **2°C Scenario (2DS)** describes an energy system consistent with an emissions trajectory that would give an 80% chance of limiting average global temperature increase to 2°C. It sets the target of cutting energy-related CO₂ emissions by more than half in 2050 (compared with 2009) and ensuring that they continue to fall thereafter.

Source: IEA

Multilateral Action

- ✓ UNSE4ALL – A renewed focus on global energy access issues, extending the earlier concentration merely on climate change negotiations.
- ✓ World Bank – supports the above UN agenda relating to access. Also, involved in transformation of energy policies and sector reform of developing countries.
- ✓ CEM – a consortium of 23 country Governments with an aim to disseminate technology and policy briefs towards advancement of clean energy.
- ✓ G20 – offers the unique non-negotiating forum of developed and emerging economies to forge consensus on broad economic policy having international ramifications
- ✓ Multiple international agencies – IEA, IRENA, IEF, OPEC and others, working in the energy sector

A United Effort ?

- ✓ A shared understanding between the North and South on climate change and energy strategy, notwithstanding divergent views on the former
- ✓ Developing countries agree that clean energy is essential – 55% of the additional electricity connections needed for universal access to be achieved through off grids and micro grids
- ✓ New global order is evident from IEA's offer to the non-OECD members of G20 to become its 'partner countries'
- ✓ Global energy alliances changing with shift of balance in energy markets – Asian energy buyers becoming dominant
- ✓ However, technology and capital movement from the developed to the emerging countries in energy is not encouraging, most flows from North to North

G20 and Energy

Energy Dialogue under Russian Presidency (2013)

- ✓ Russian Presidency merged 4 different energy workstreams into a unified Energy Sustainability Working Group (ESWG)
- ✓ The chosen topics were – energy & commodity markets, promoting energy efficiency and green growth, sound regulation for energy infrastructure and marine environment
- ✓ Substantial achievements relate to fossil fuel subsidy peer review, expert consultation on electricity regulation, sharing of best practices on green growth and marine protection
- ✓ Energy issues got high visibility in G20 under Russian Presidency and afforded a platform for diverse interest groups
- ✓ Major achievement of ESWG in 2013 has been building the energy agenda of for future debates

A Cautious Approach

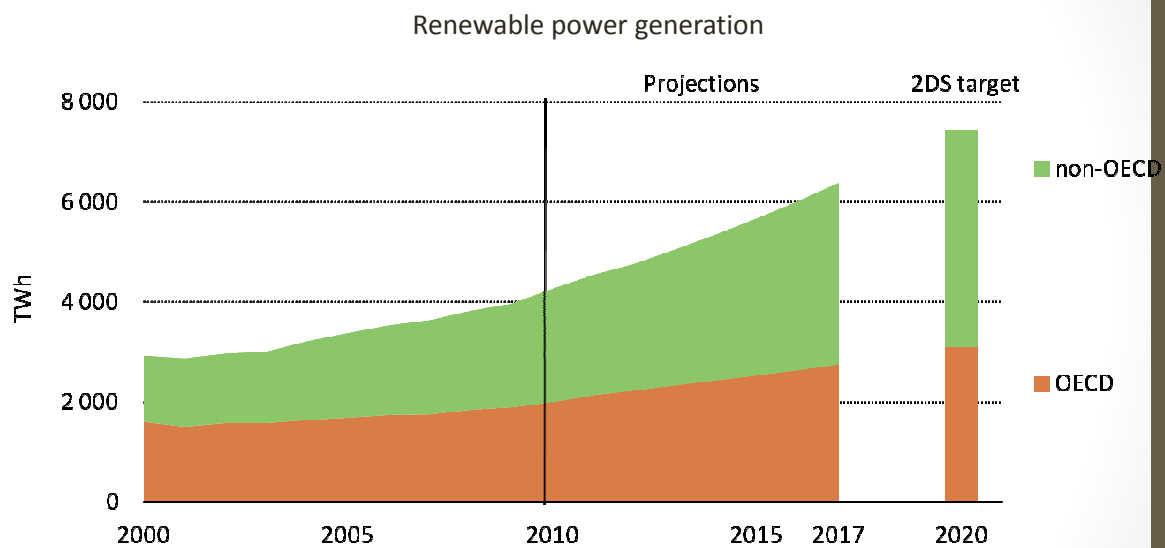
- ✓ G20, brings together diverse interest groups - energy producers-consumers, developed-developing, with representation of all IOs
- ✓ The mandate being one of forging consensus on global issues, and not a negotiating forum, encourages free discussions
- ✓ The flip side being, reservation of even one member enough to exclude a reference in the outcomes
- ✓ Sharp divisions noticed on strategic issues – FFS, green growth, energy markets and price discovery, with major energy producers treading a cautious line
- ✓ The issue of fossil fuel subsidy high on the agenda of the North, but hesitation on green growth and clean energy
- ✓ Role of Regulatory regime in facilitating investment in energy infra noted, but ‘national approach’ acknowledged

G20 – Energy Agenda for 2014

- ✓ Fossil fuel subsidy review to gain strength under Australian G20 leadership, but not likely to get traction in the developing world, at whom it is actually targeted
- ✓ Energy Regulation and energy efficiency/green growth likely to be in sharp focus
- ✓ However, the issues of energy market reforms and transparency in price discovery may need consensus building
- ✓ Global economic situation, particularly currency devaluations in emerging economies, may influence the energy agenda
- ✓ Neutral issues - Technology sharing, green growth consultation, and marine environment – to get impetus
- ✓ Role of IOs like IEA, IRENA, IPEEC, OECD, OPEC, World Bank, IMF and IEF in global consultations to get impetus

Tracking Clean Energy Growth

Renewable Energy – Generation and Investments (2012)



42%

Solar PV capacity growth 2012

19%

Wind capacity growth 2012

-11%

Slowdown in renewable capacity investment 2012

Source: IEA

Opportunities for RE and EE

- ✓ Primary energy consumption to grow in non-OECD countries by 70% until 2030 (40% globally) – easier to create new green capacity, than retire/replace existing non-green sources
- ✓ 75% of new supplies to come from non-fossil fuels (2030). By 2020 China to source 20% power from RE sources same as Europe, while India has targeted 15%.
- ✓ Policy push rather than State subsidies to drive RE
- ✓ EE to improve 2% annually, against 1.2% in the last 20 years.
- ✓ Buildings/appliances account for 31% energy consumption globally; major energy gains as new buildings conform to energy efficiency codes (70% of stock of buildings in India in 2030 to be new builds) at negative incremental costs.

Source: BP Energy Outlook 2030

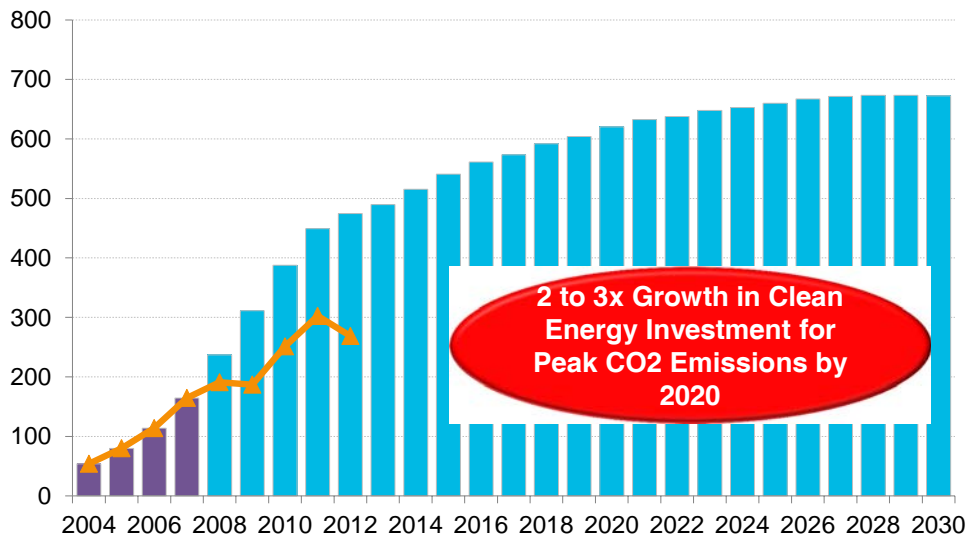
Tracking Clean Energy Investment

- ✓ Global investments have historically risen in double digit percentage terms annually, peaked in 2011 (\$300 bln), excepting 2012 (- 11% at \$270 bln)
- ✓ Asia and Oceania lead the world in investment, no let up even in 2012 while investments in N. America and Europe slowed
- ✓ A concern that Fossil fuel based investment has reversed its downward trend, while clean energy investments not rising
- ✓ Welcome drop in prices of solar PV modules by 80% since 2008, while those of wind turbine have also fallen by 29%
- ✓ Price of power from good wind sites now at parity with new coal and \$6/MMBTU priced gas power

Source: BNEF

Slipping Investments

(\$BN)



Note: Global Futures figures from 2008 restated to reflect current investment calculation methodology

Source: New Energy Finance Global Futures 2008, Bloomberg New Energy Finance

TIR in Making ?

Emerging Economies to drive RE

- ✓ Global energy use to rise by 56% upto 2040; demand falling in OECD (4 out of last 5 years), all energy growth to be in South
- ✓ For non-OECD, RE is a vital energy source (not just clean), offers off grid supply solution. Share of RE in all electricity sources to be same as in OECD - 20% (2020), and 80% in 2050.
- ✓ Developing world lies in high solar insolation and windy latitudes, added benefit of solar and wind peaks alternate in many regions; can meet seasonal peak energy demands
- ✓ South meeting its investment requirement internally. Only 10% of all cross border investment flows in this sector came to South from North in 2011 (~ \$10 bln).
- ✓ OECD needs to step up its investments in emerging economies by 10 times to meet the Copenhagen commitment of \$100 bln

Thank You