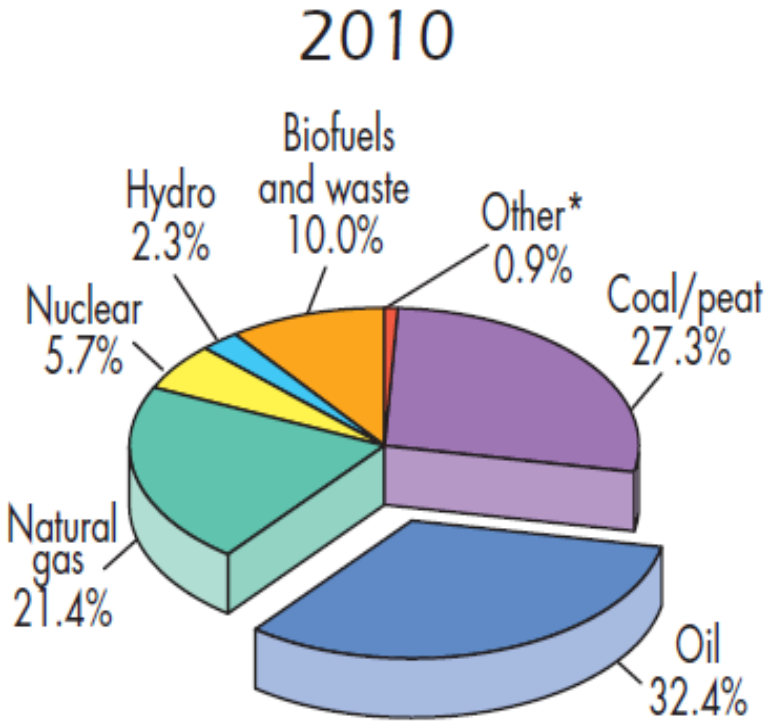
Energy as a corporate security measure

The Energy Sustainability Conclave 2013

Energy: Global Scenario

- Fossil fuel dominated energy supply

- International Energy Agency (IEA) estimates that by 2030
  - 69% of the primary energy mix - fossil fuels
  - Oil will remain the main fuel
  - Demand for coal expected to further rise

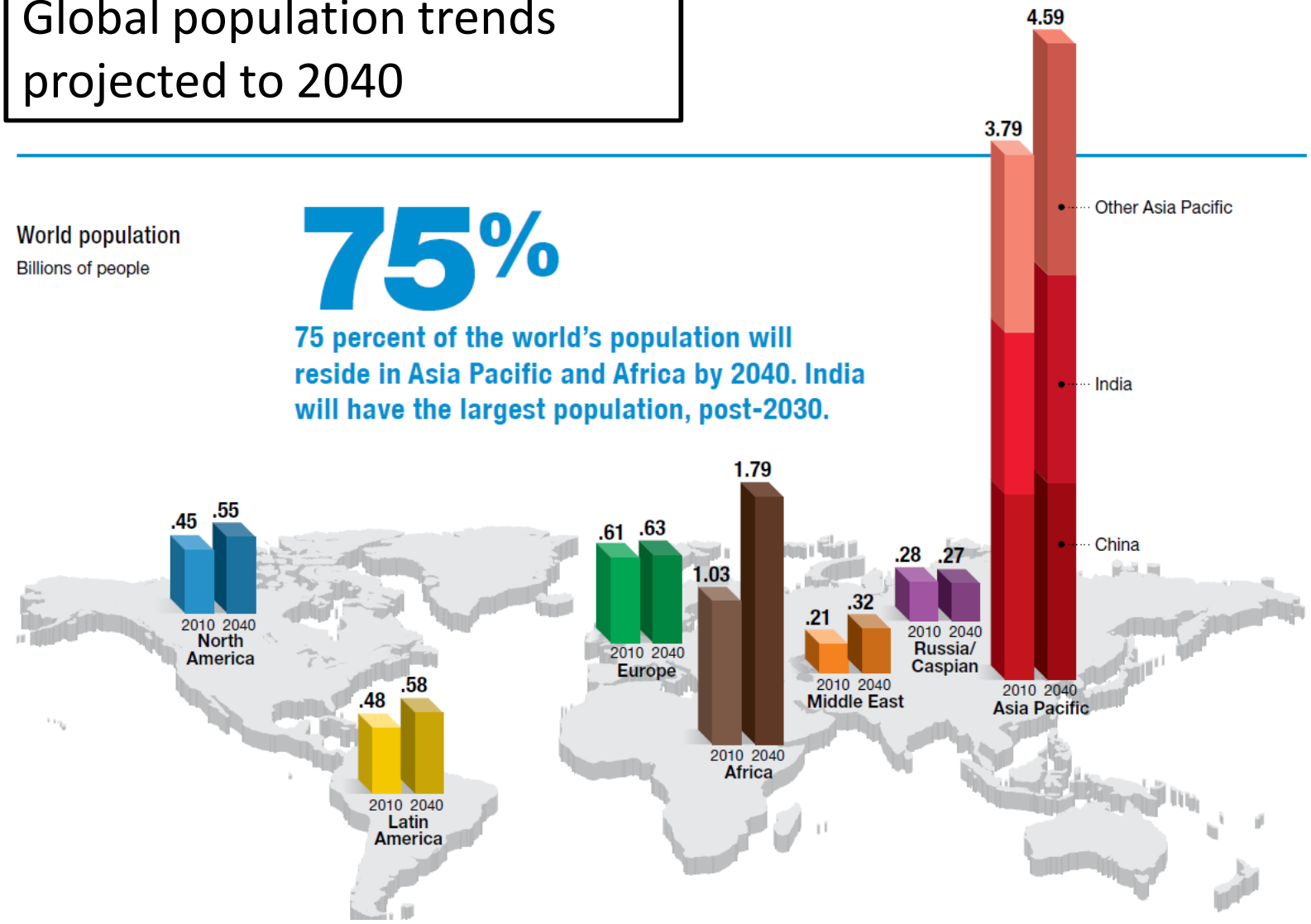


** Other includes geothermal , Solar, wind, heat, etc.*
Source: IEA

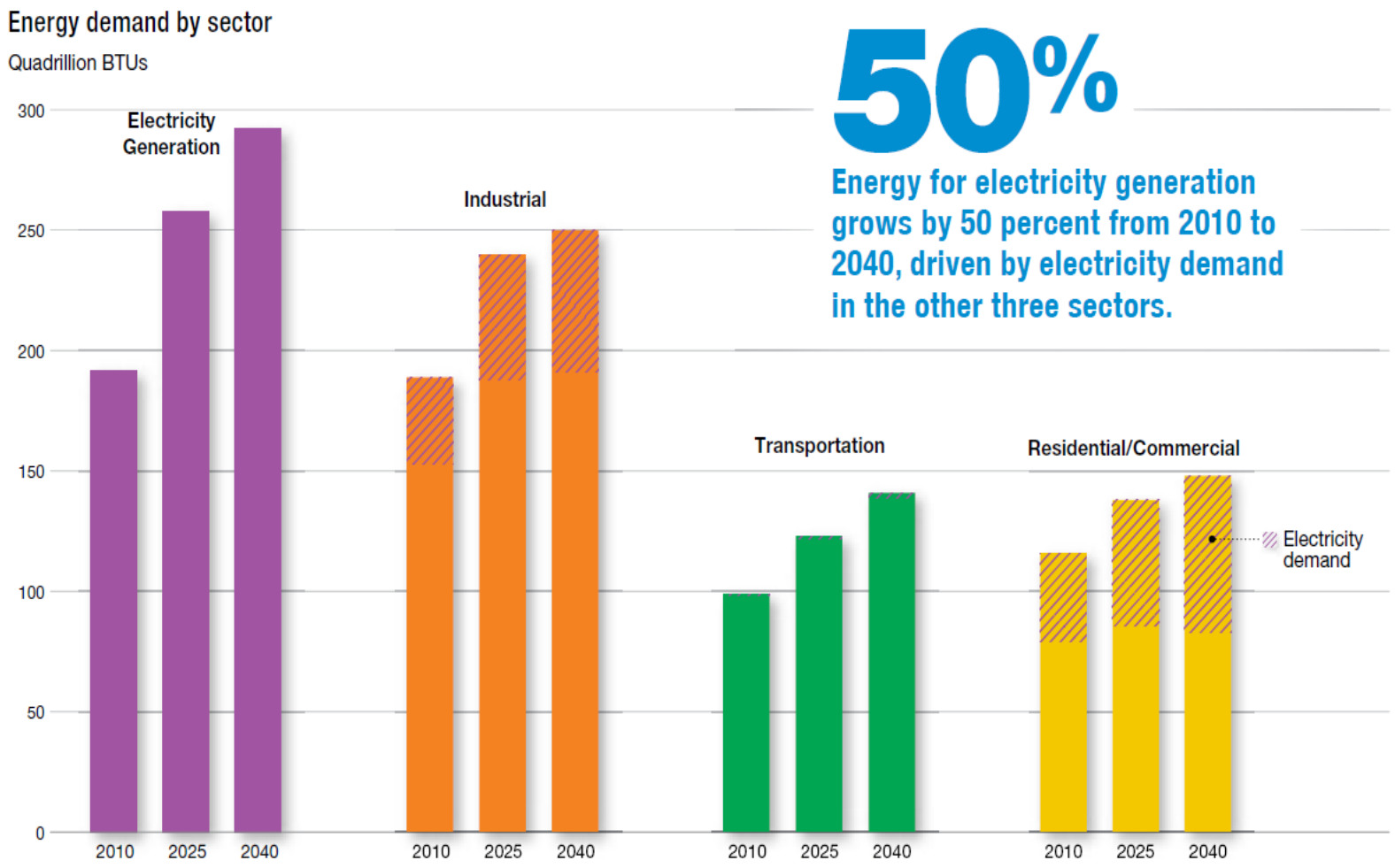
Energy: Global Scenario

- Energy demand in developing economies will rise 65% by 2040, increasing overall world energy demand by 35%
- Of this 50% will be for electricity generation
- Oil will remain global fuel no:1 and natural gas will replace coal as no:2

Global population trends projected to 2040



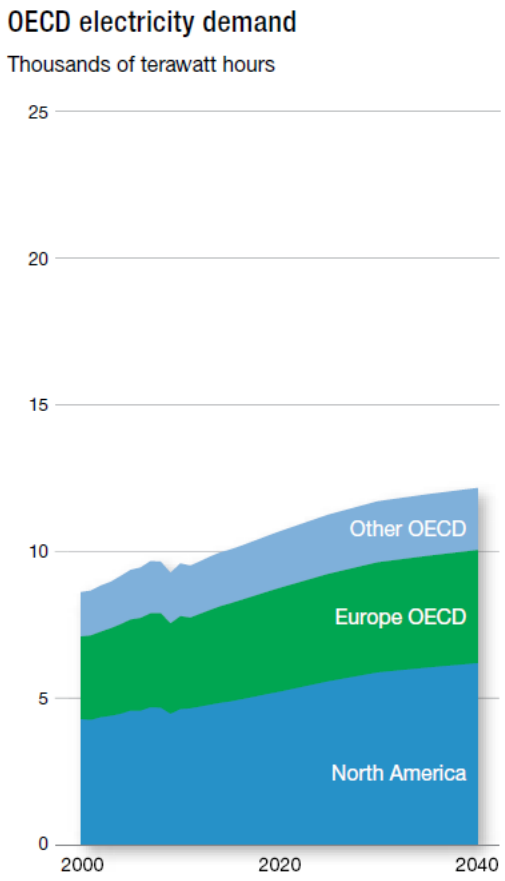
Source: Exxonmobil 2013 Energy Outlook

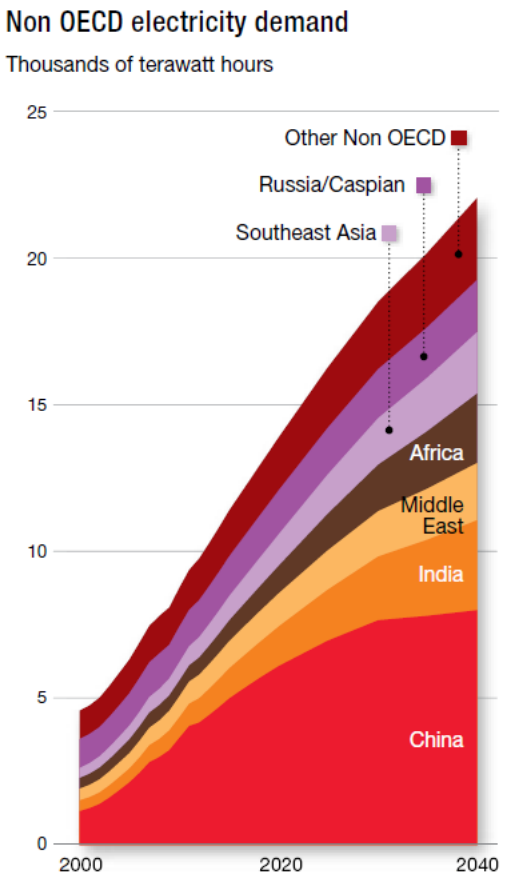


Source: Exxonmobil 2013 Energy Outlook

16,000 terawatts

By 2040, global electricity demand will grow by about 16,000 terawatt hours (about four times the current usage of the U.S.). This growth is driven primarily by an increase in the industrial sector of more than 75 percent, followed by residential/ commercial.





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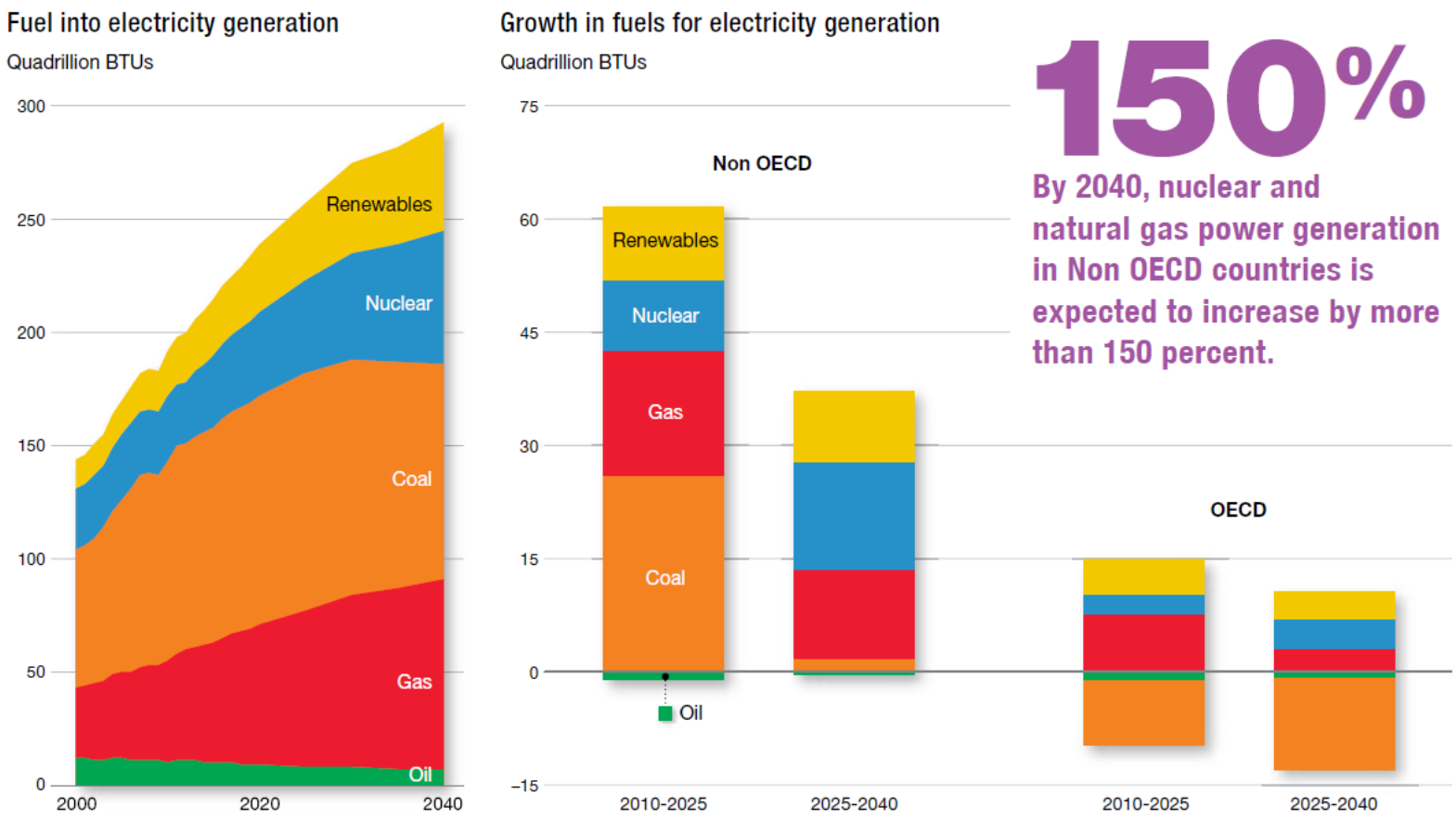


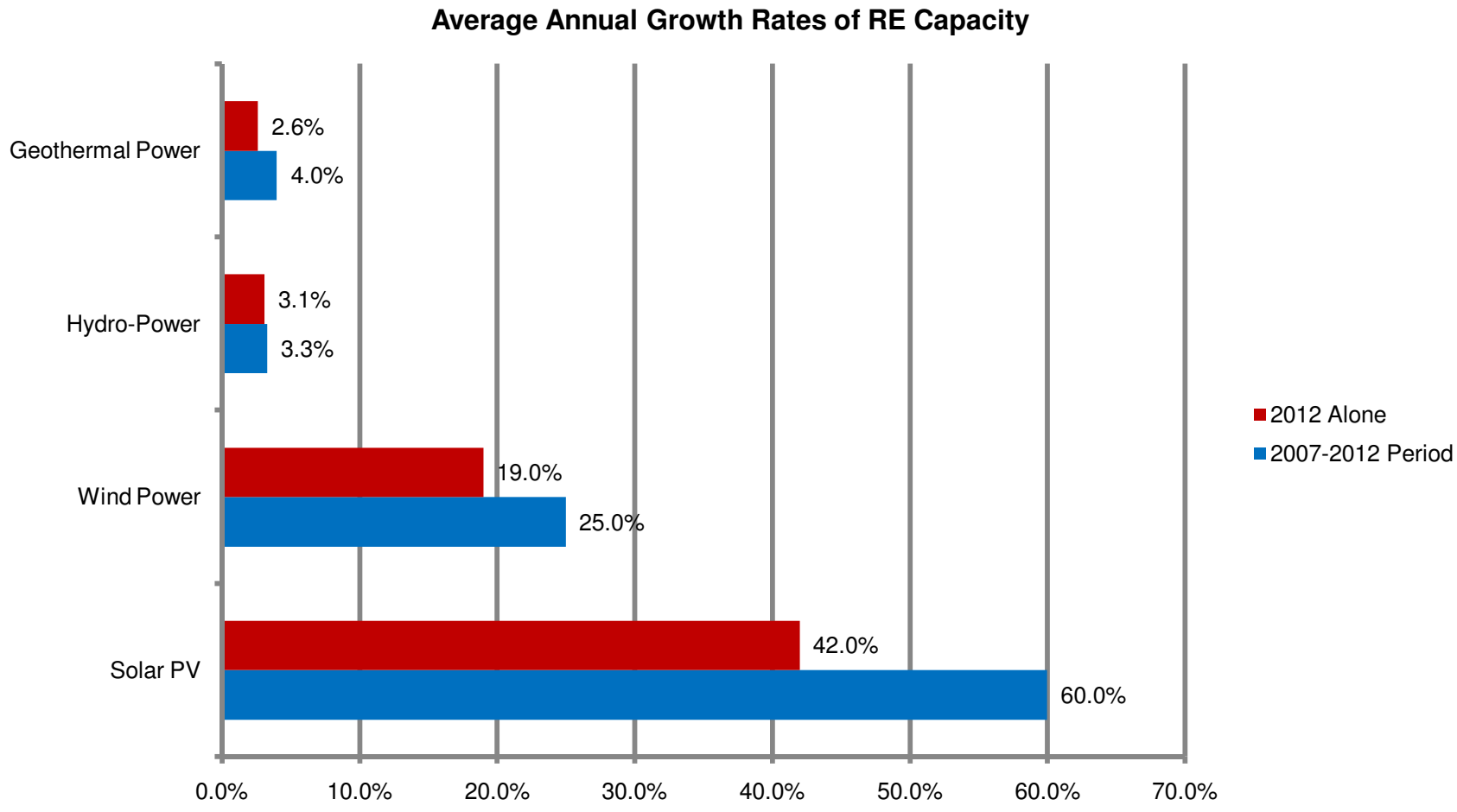
Source: Exxonmobil 2013 Energy Outlook

Energy: Global Scenario

- The prime challenges in meeting the energy demand are
  - Meeting its climate change objectives
  - To provide access to energy to the economically weaker sections of society

- Renewable sources of energy as a sustainable alternative
  - Expected to account for almost a sixth of world's primary energy use by 2040

Energy: Global Scenario



Source: Renewables 2013 Global Status Report

Energy: Global Scenario

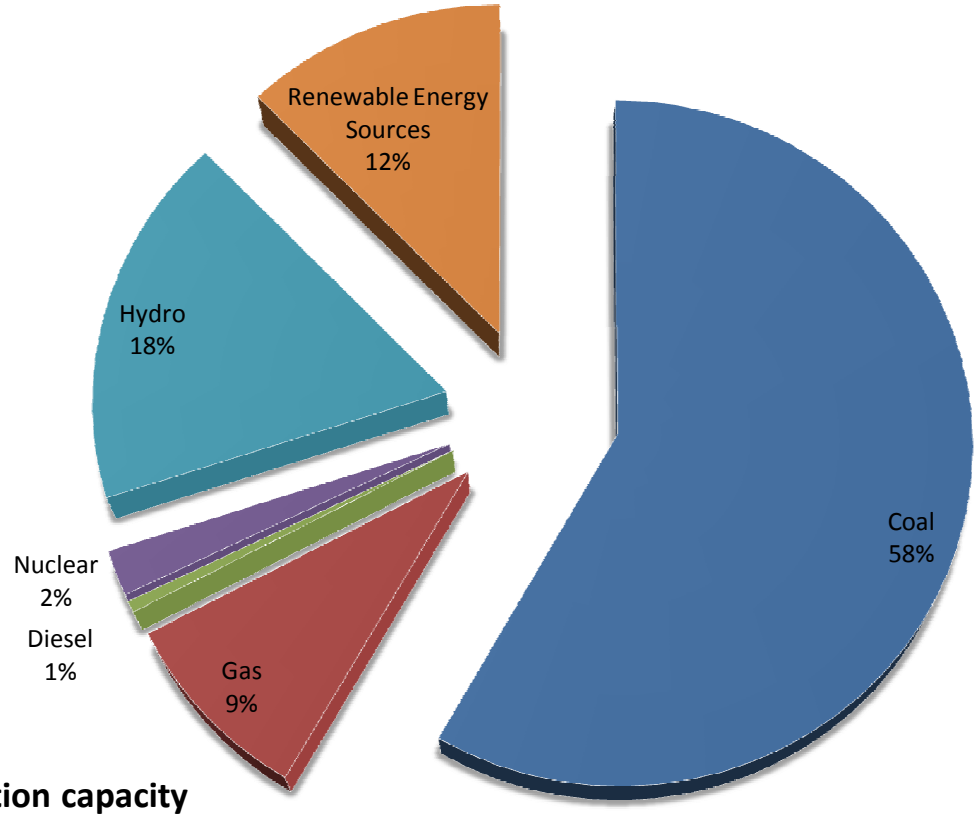
Key trends in 2012

- About half the capacity addition in the US was from renewable energy, with wind power being the largest contributor
- The increase in wind power generation in China overtook the increase in coal power and nuclear power generation for the first time ever
- In Germany, renewable energy accounted for 22.9 % of energy consumption, which is an increase of 11.7 % from 2011
- In the European Union, renewable energy accounted for almost 70 per cent of additional capacity

Energy: India

Total installed generation capacity, as on 31st March 2013

- **2,23,3435 MW**

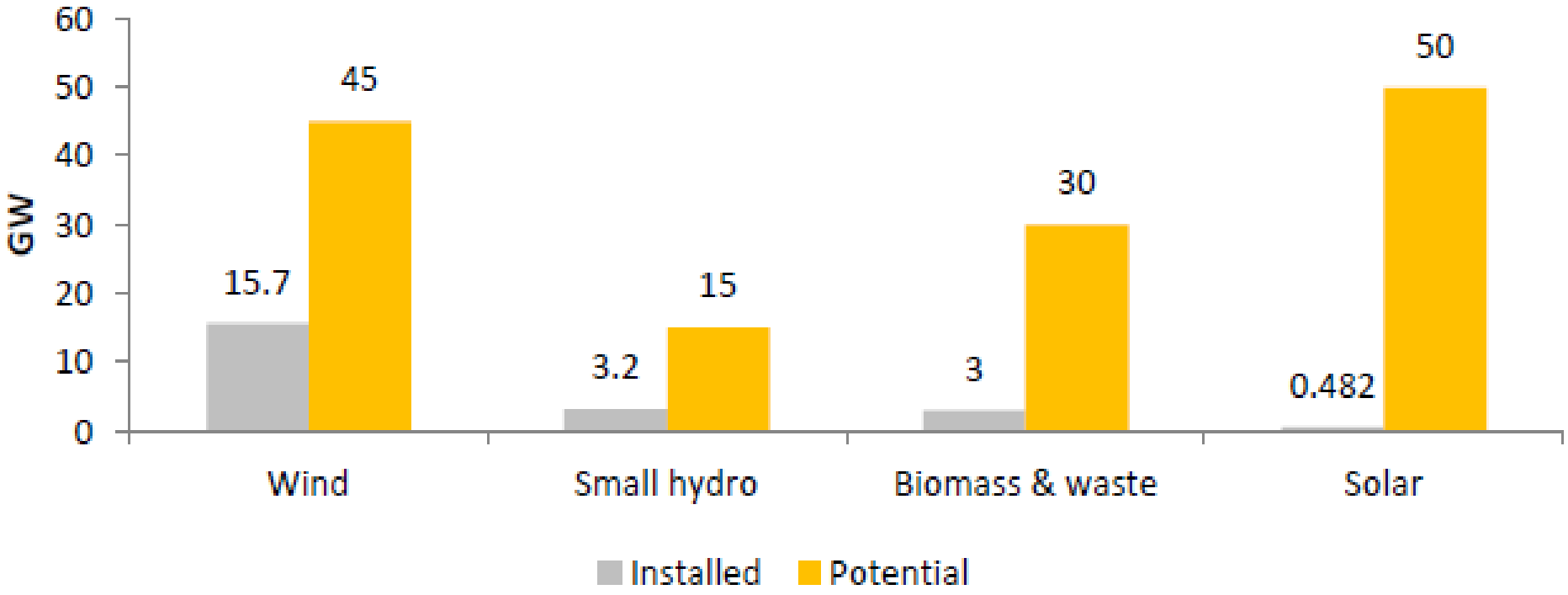


Total installed generation capacity

Source: CEA, MNRE

Energy: India

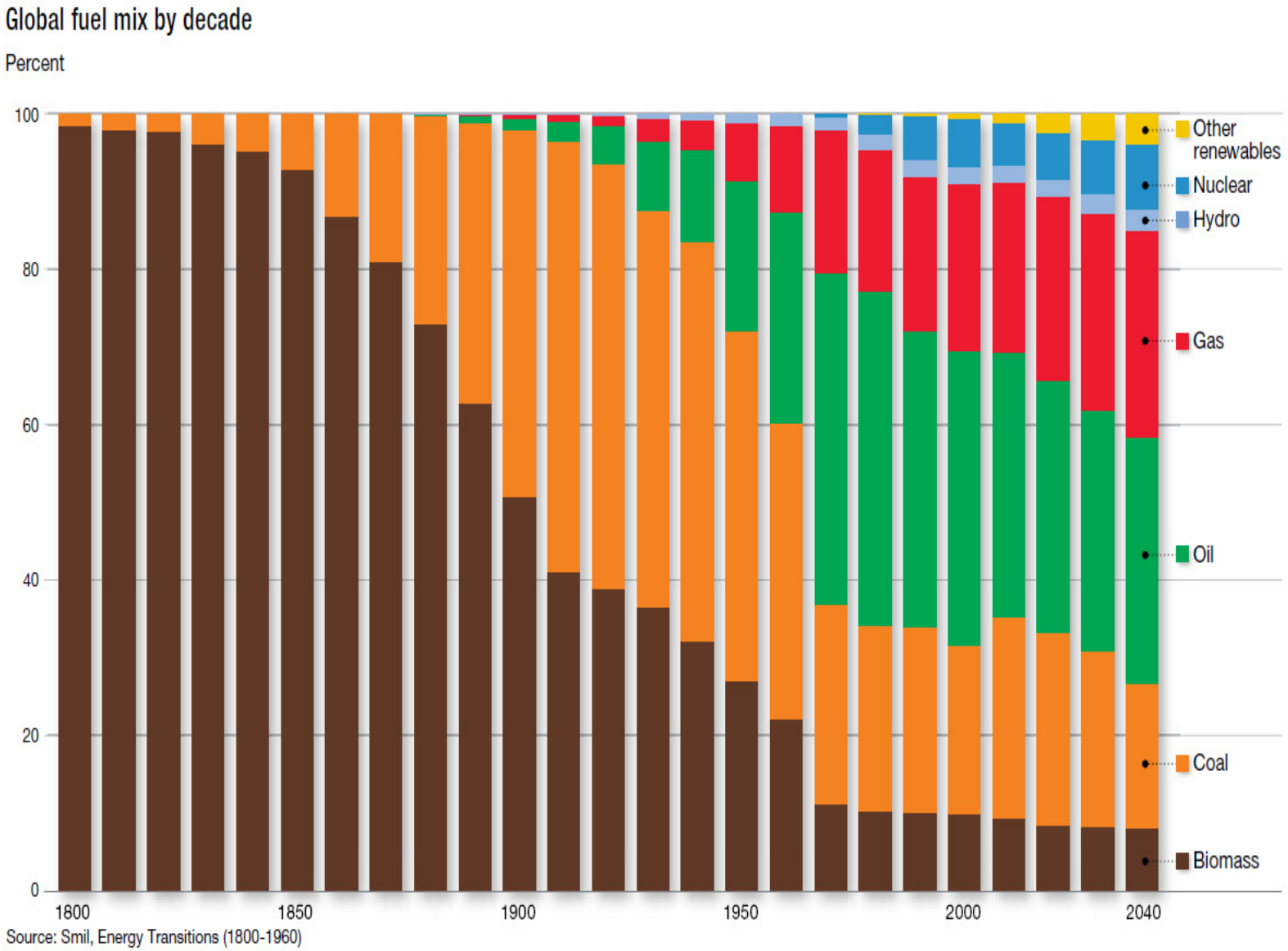
Renewable energy installed and potential capacities (As on March 31st 2012)



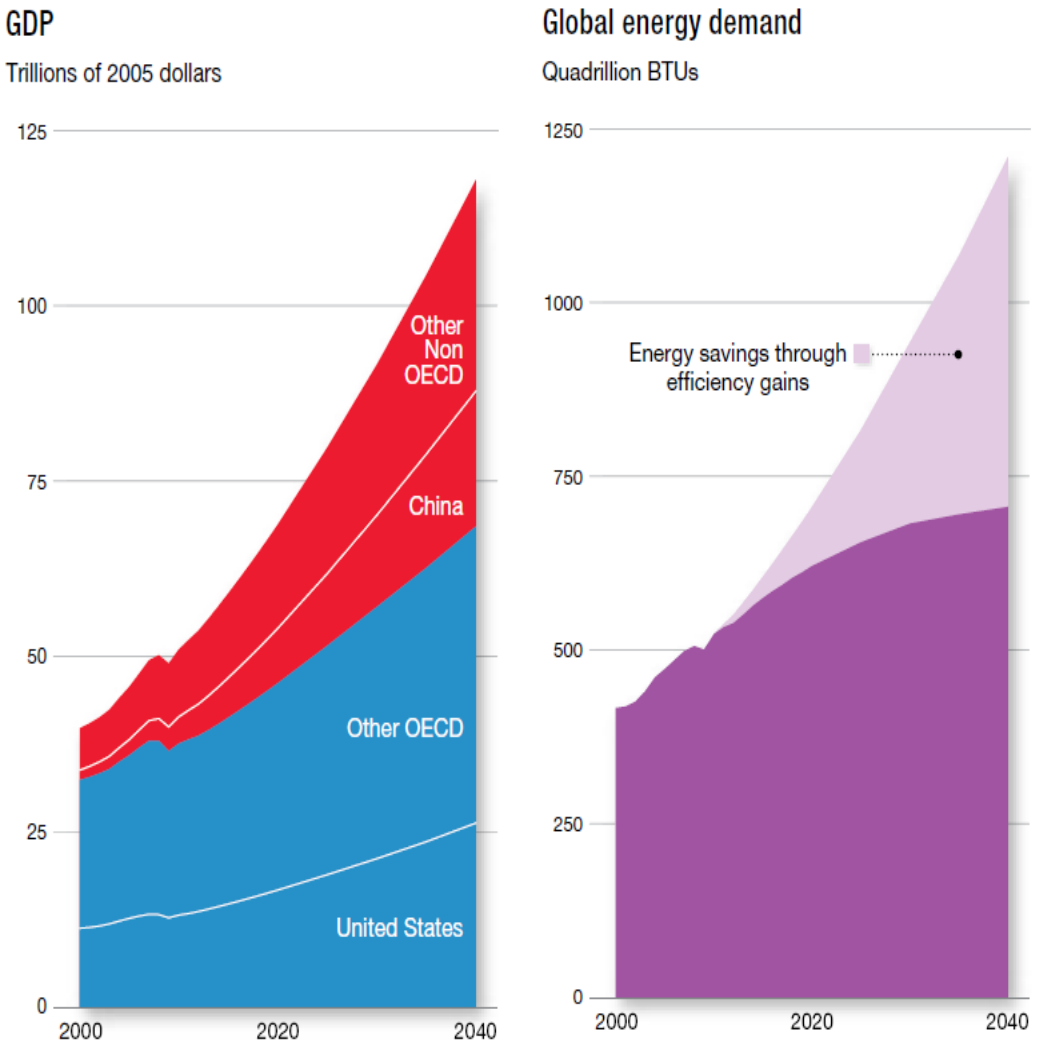
Source: CEA, MNRE

Renewable Energy

- Variability of wind and solar seriously restrict usage.
- Need significant conventional energy back up of quick start type such as Natural Gas
- Even though by 2040 wind and solar energy installations will go up 7 and 20 times it will meet only 7% and 2% of demand, respectively.



Source: Exxonmobil 2013 Energy Outlook



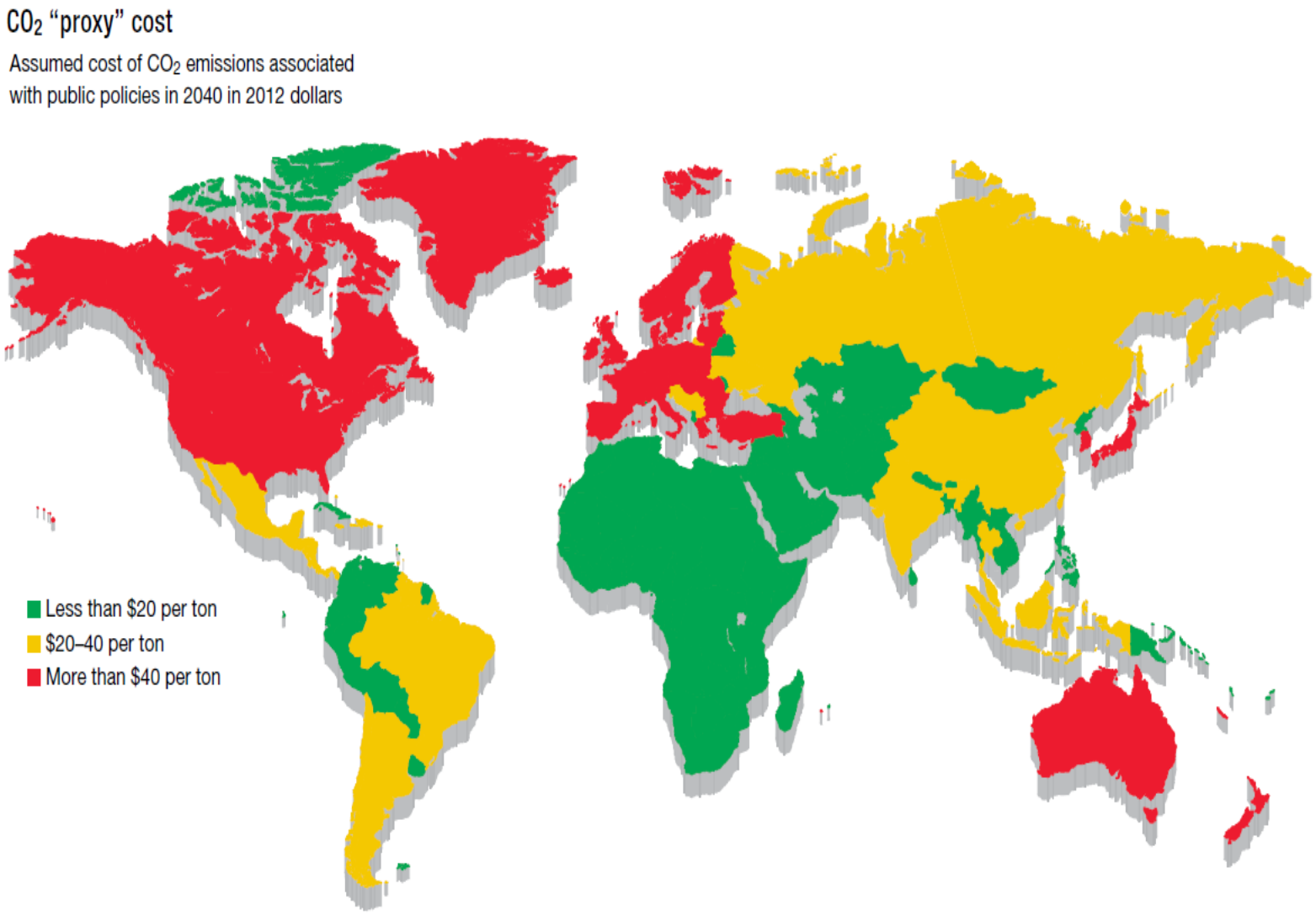
500 quadrillion

Businesses and consumers will help generate energy savings of about 500 quadrillion BTUs across our economies in 2040. The greatest source of energy for the future is continuing to use it more efficiently.

Source: Exxonmobil 2013 Energy Outlook

GHG Emissions

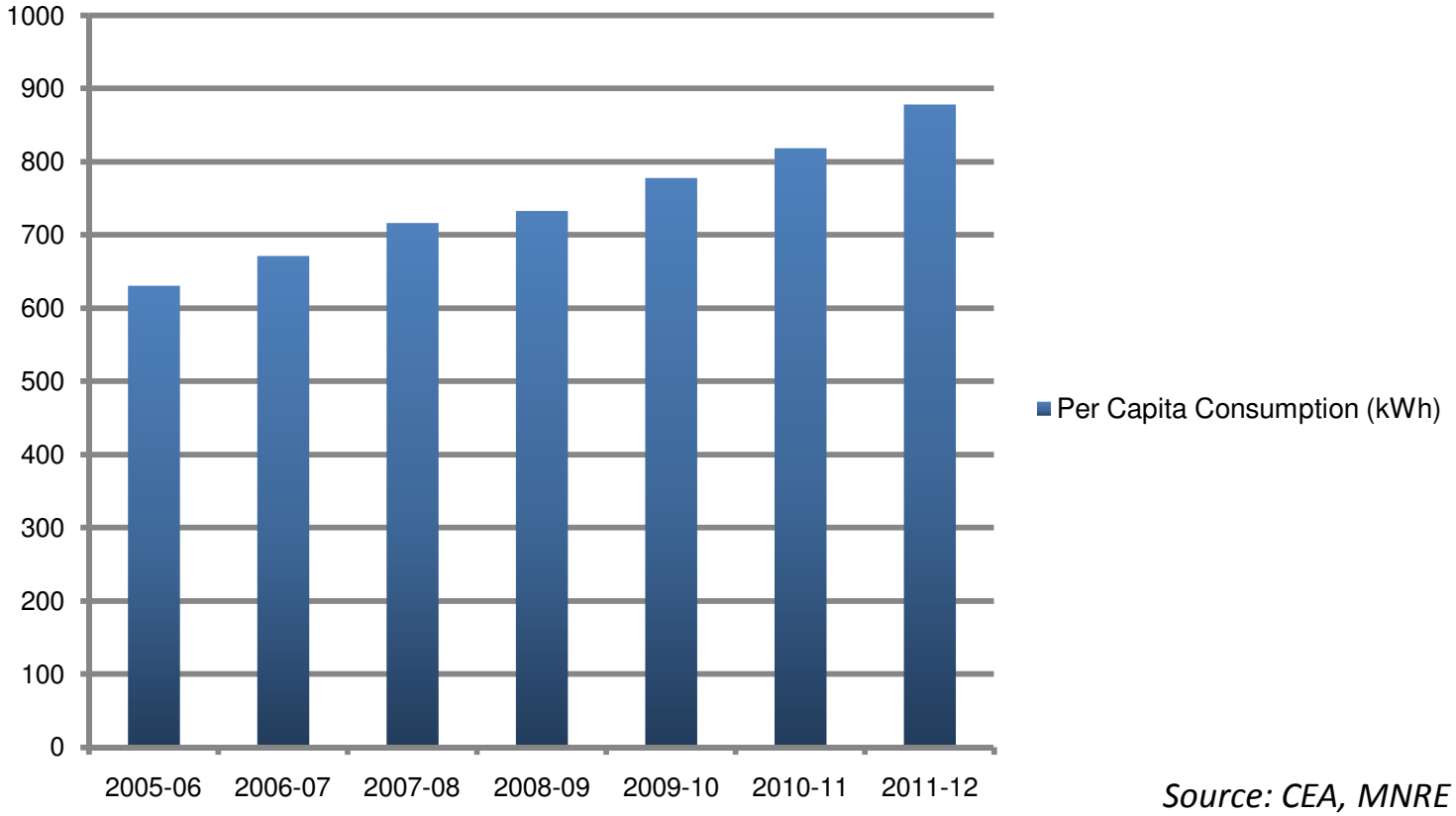
- Over time there will be a shift to a regime where some sort of carbon tax will apply.
- OECD countries will move out of coal use and increase natural gas / shale oil usage
- China already well invested in renewable energy
- India
  - Insufficient investment in both generation as well as transmission
  - System efficiencies very low



Source: Exxonmobil 2013 Energy Outlook

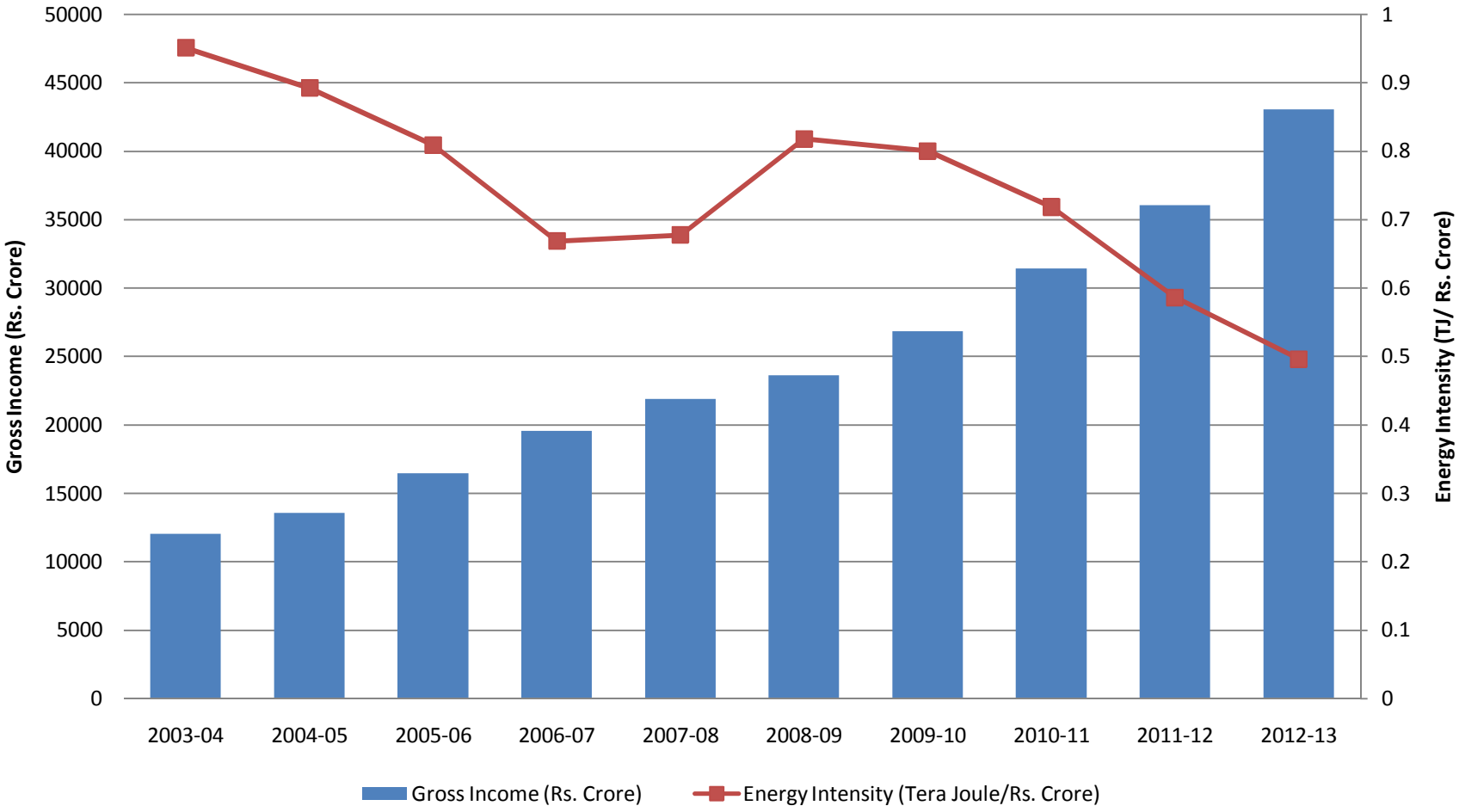
Energy: India

All India per capita consumption has gone up from **631.4 kWh** in 2005-06 to about **880 kWh** in 2011-12



Source: CEA, MNRE

ITC: Energy Performance



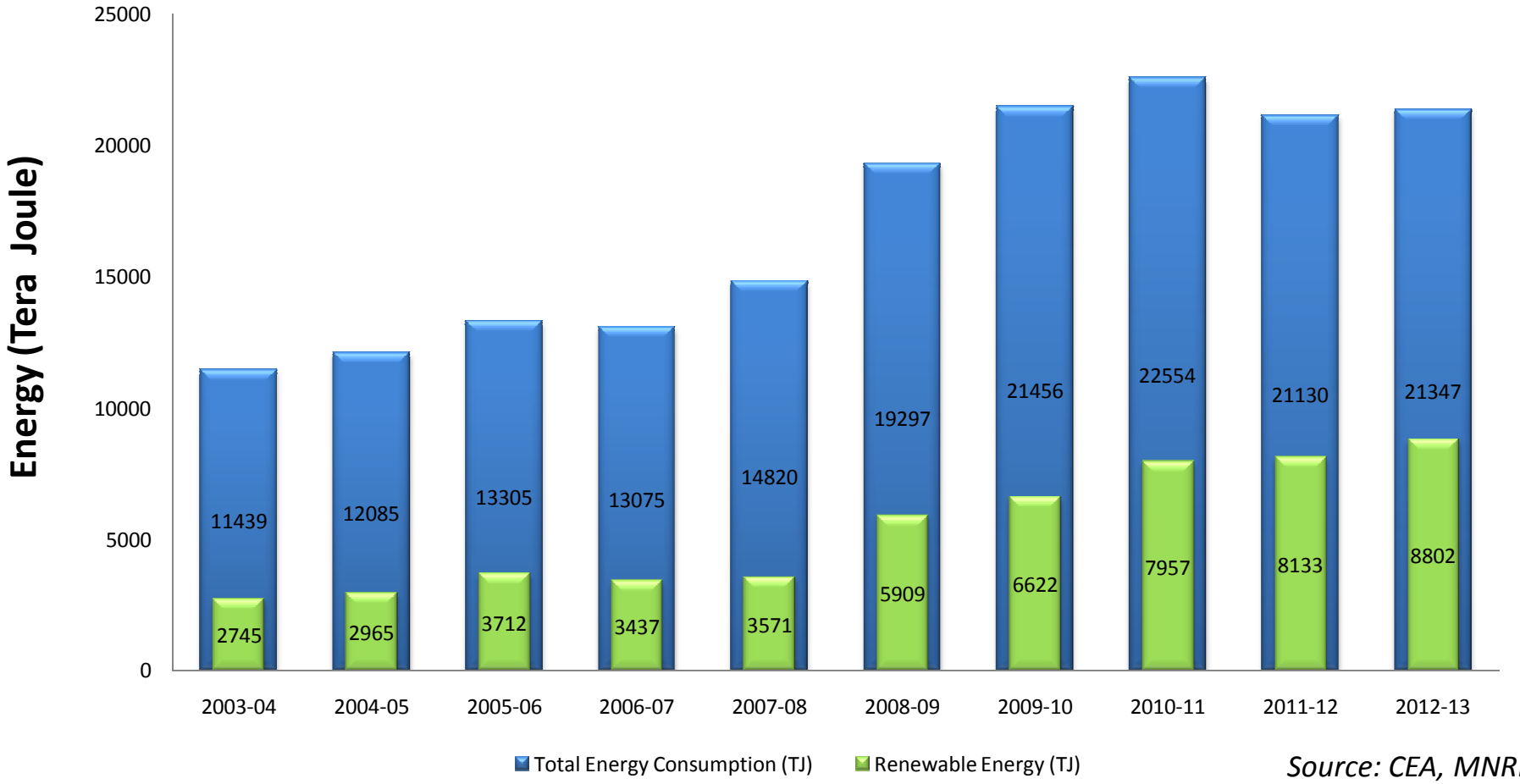
ITC: Energy Performance

- ITC's Paperboards and Speciality Papers Business (PSPD) accounts for 90.1% of total energy consumption
  - Rated as the **most energy efficient** in Paper and Paperboards sector, according to Centre for Science and Environment, New Delhi

- Specific energy consumption of PSPD Bhadrachalam (GJ/Tonne of Product) has come down from 38.4 in 2004-05 to 33.8 in 2012-13
  - **11.9%** ↓

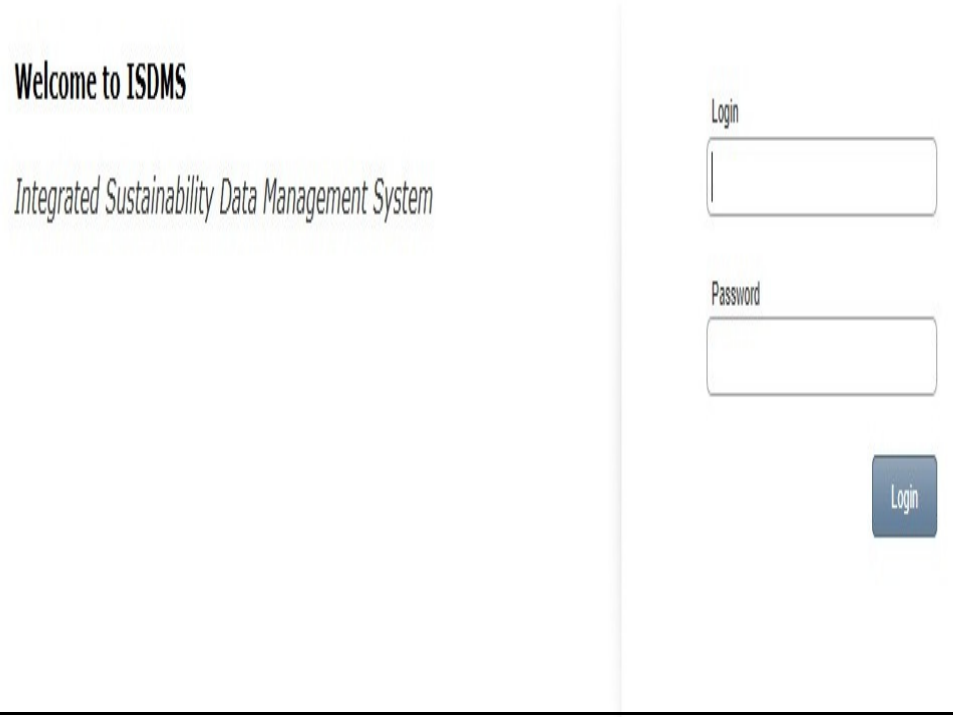
ITC: Energy Performance

Renewable energy share - **24%** in 2003-04 to **41.2%** in 2012-13



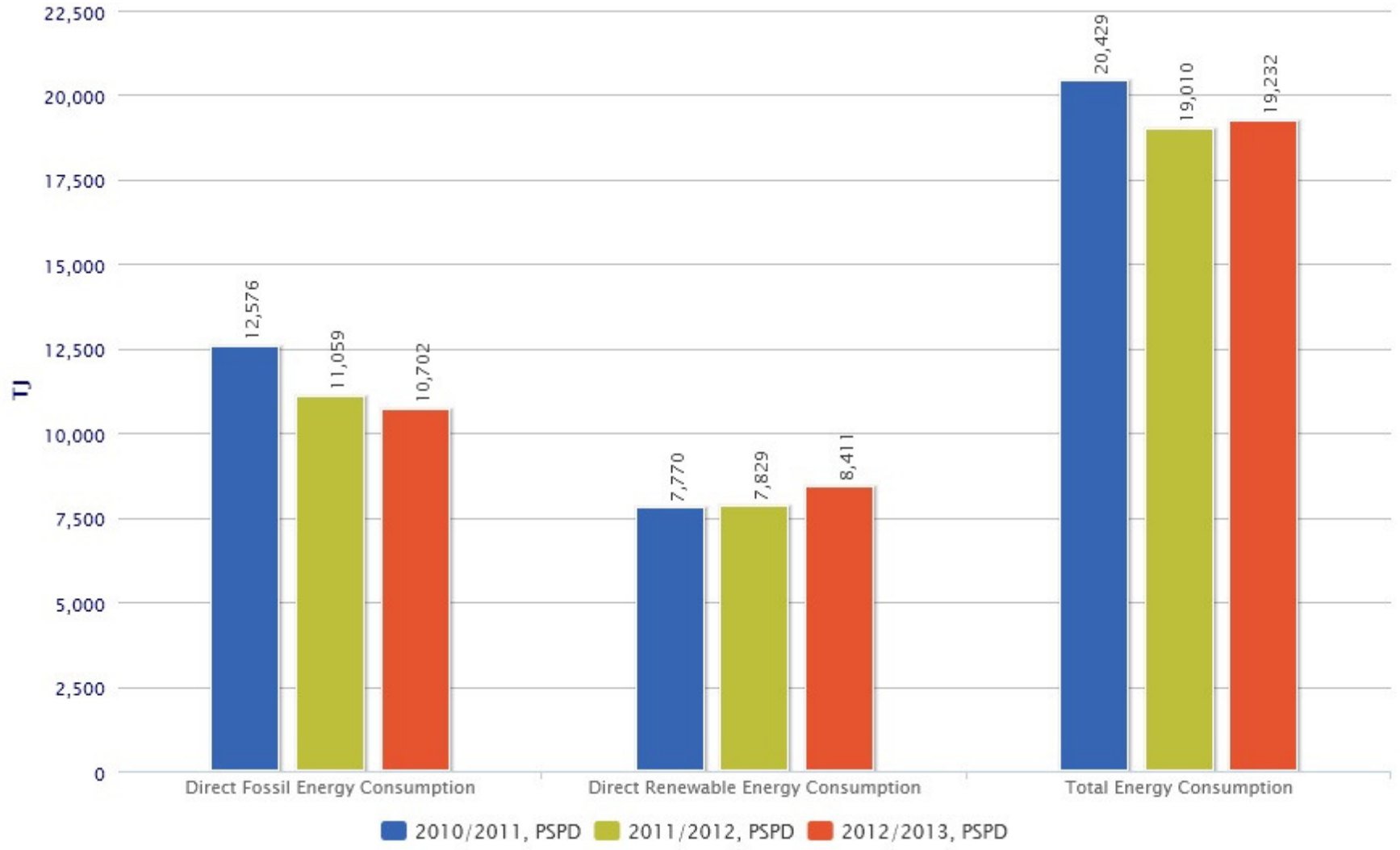
Source: CEA, MNRE

Integrated Sustainability Data Management System (ISDMS)



- ITC Sustainability Report –
  - Benchmarked in India
  - Globally ranked 7th in carbon disclosure (CRRA 2011)
- Focus on Performance Management than just reporting
- Integrated data management & Integrated Report

Integrated Sustainability Data Management System (ISDMS)



Why a Sustainability Performance Management System?

- Single platform for all public & sustainability reporting
  - Data accuracy
  - Auditability
- System for sustainability performance management of individual businesses
  - KPIs monitoring by Businesses

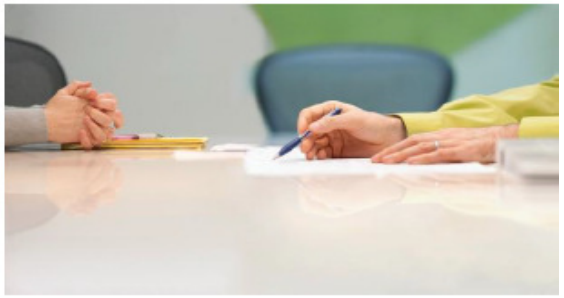
ISDMS – Standard Operating Procedure

- Ensure absolute data quality, tracebility of data to the source and consistency in application of methodologies across ITC

- ITC: ‘ Carbon Positive Company’ 8th year in a row

  – ITC’s GHG inventory assured as per ISO 14064:2006 to a **‘reasonable level**’ by Llyod’s Register Quality Assurance Limited.

Standard Operating Procedure (SOP) –
Integrated Sustainability Data Management System



ITC Strategy: Way Ahead

- Adopting a low carbon growth path through:
  - continued reduction in specific energy consumption
  - enhanced use of renewable energy sources

    ✓ A study is being carried out at organizational level, with an objective to enhance the renewable energy portfolio to **50%** of total energy consumption in next few years.

- Need however to work with industry and government towards improving infrastructure availability and efficiency

THANK YOU