International Energy Agency

A glimpse into the energy & climate future

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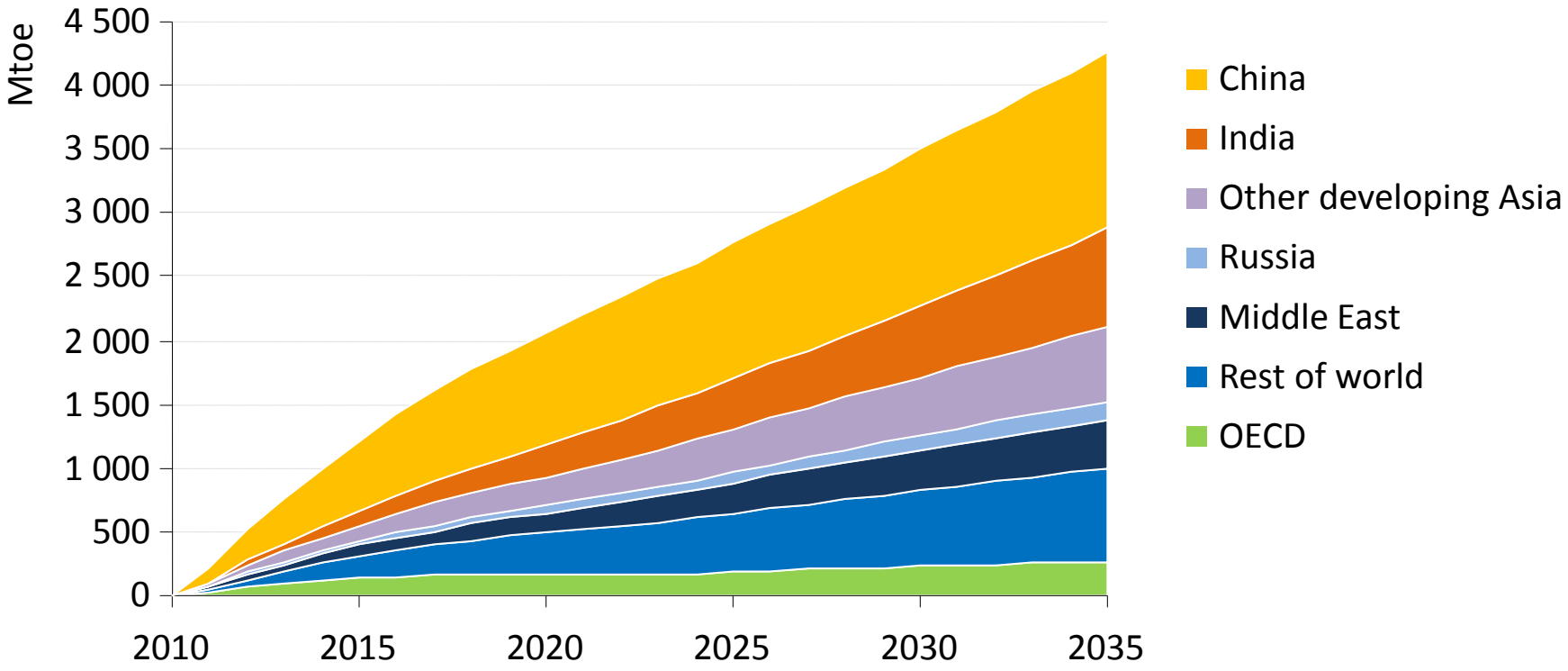
Fresh challenges add to already worrying trends

- **Economic concerns have diverted attention from energy policy and limited the means of intervention**
- **Post-Fukushima, nuclear is facing uncertainty**
- **MENA turmoil raised questions about region's investment plans**
- **Some key trends are pointing in worrying directions:**
  - ***CO_2 emissions rebounded to a record high***
  - ***energy efficiency of global economy worsened for 2nd straight year***
  - ***spending on oil imports is near record highs***

Emerging economies continue to drive global energy demand

Growth in primary energy demand

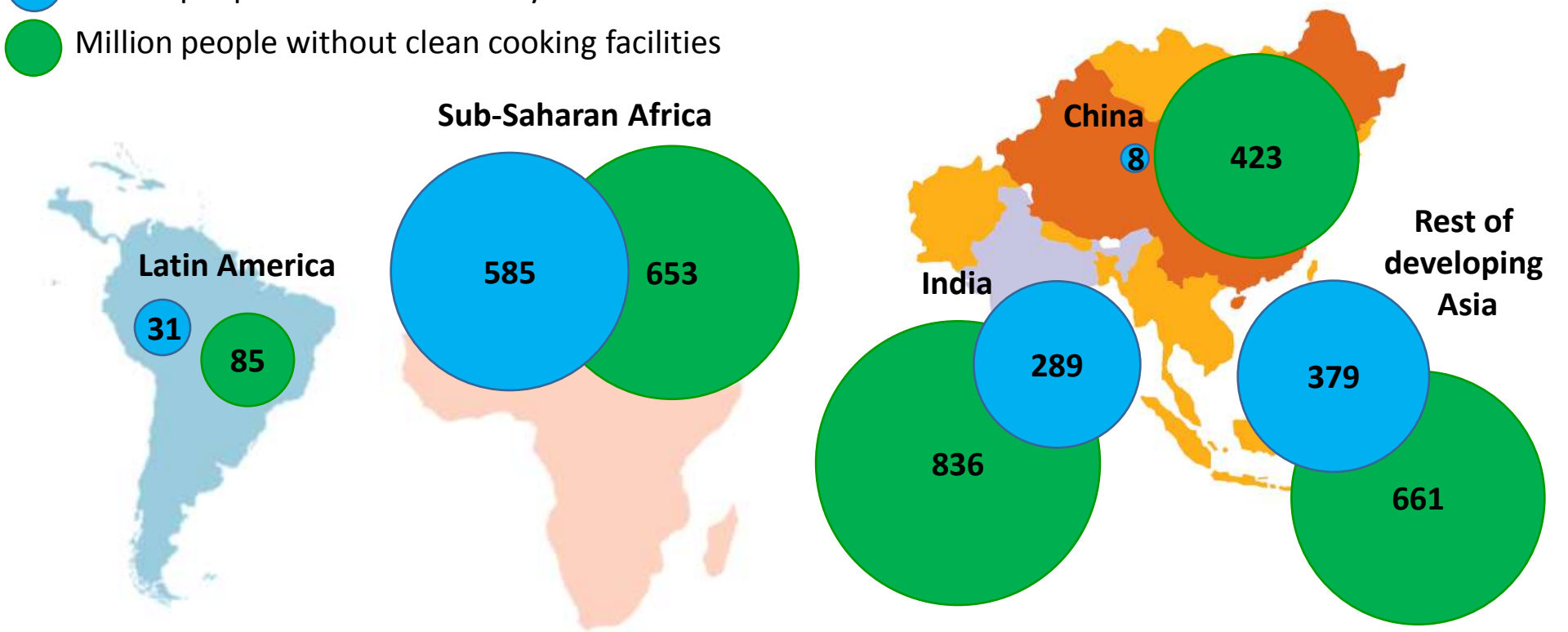


Global energy demand increases by one-third from 2010 to 2035, with China & India accounting for 50% of the growth

Energy poverty is widespread

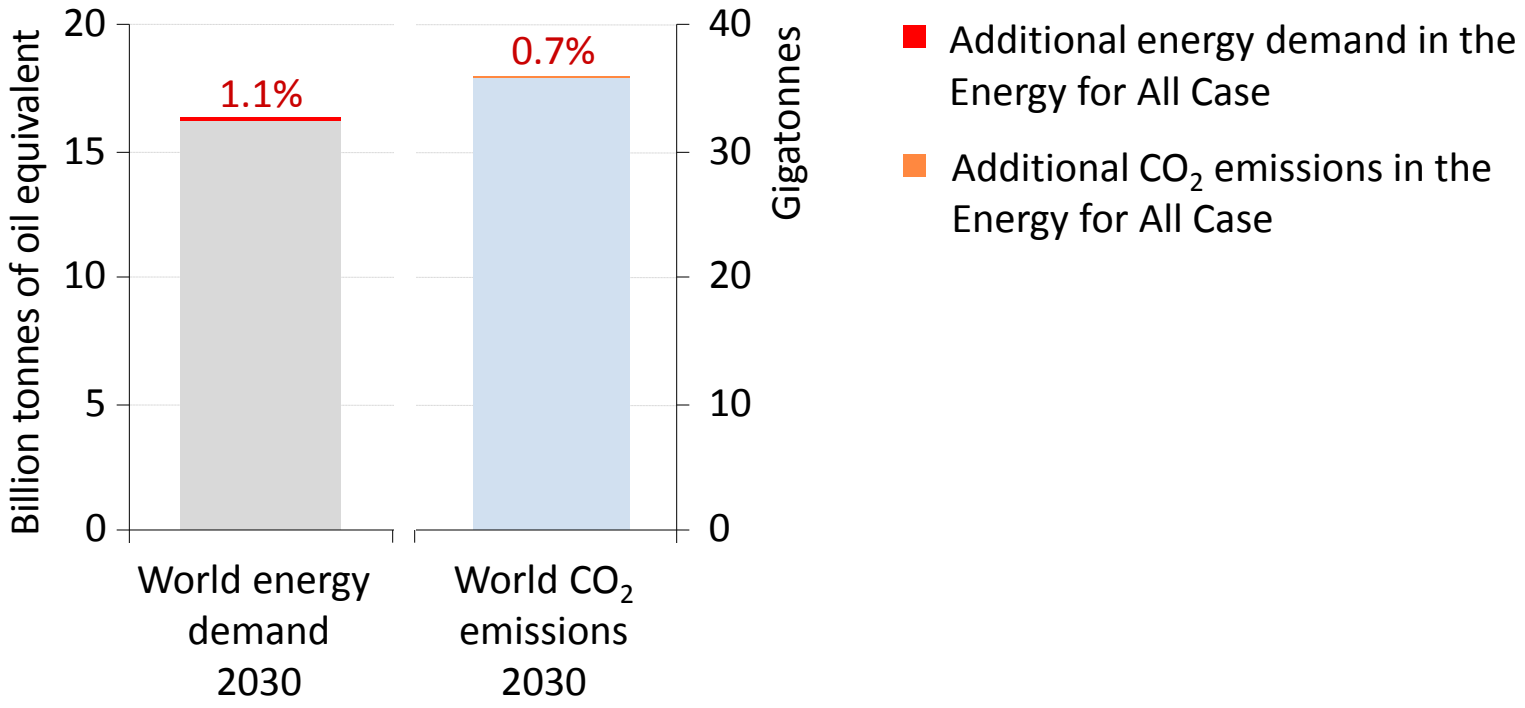
Million people without electricity

Million people without clean cooking facilities



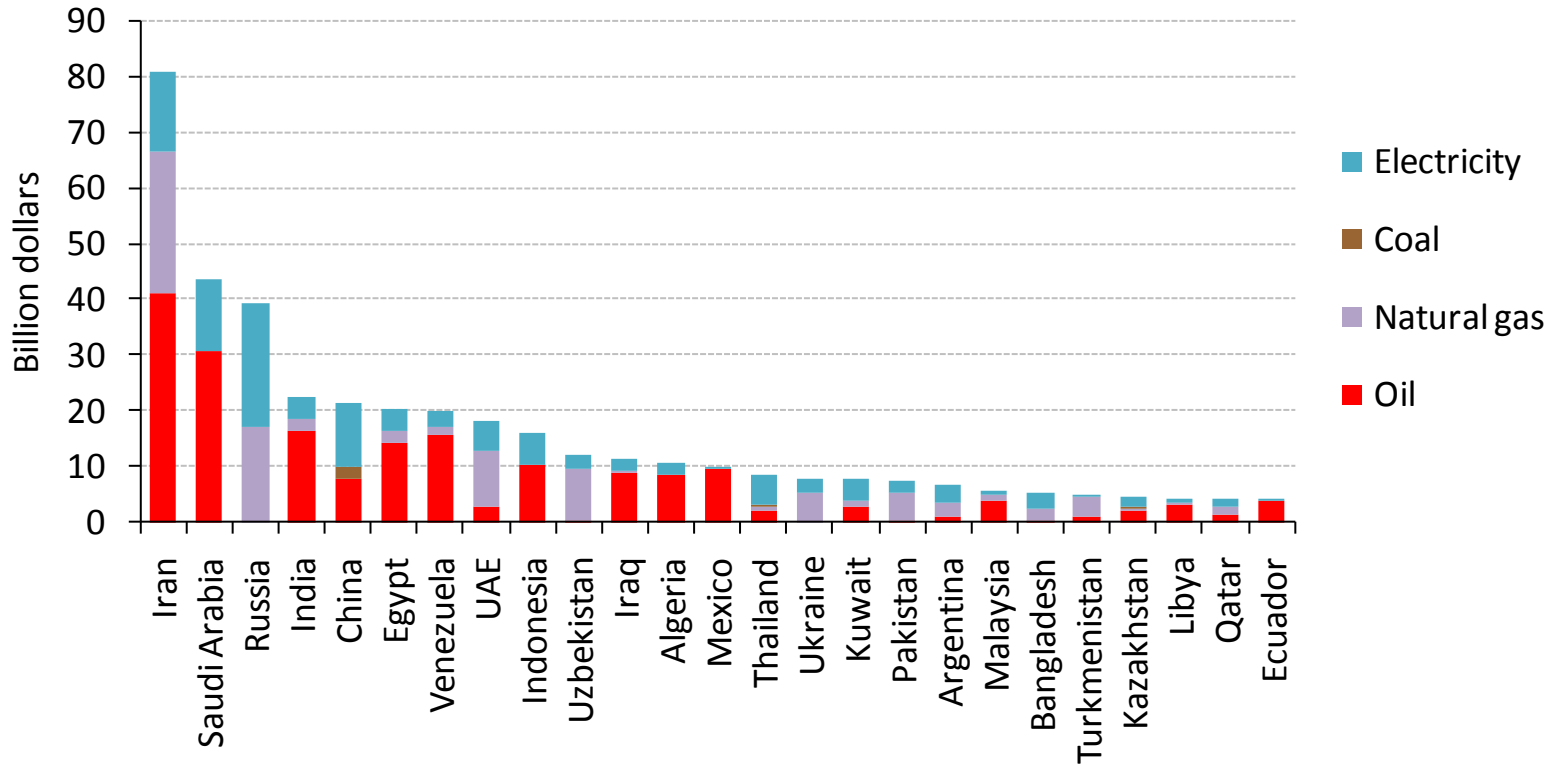
1.3 billion people in the world live without electricity and 2.7 billion live without clean cooking facilities

Implications of modern energy for all



Achieving modern energy for all would only have a negligible impact on energy security and climate change

Fossil-fuel consumption subsidies for top twenty-five countries, 2010

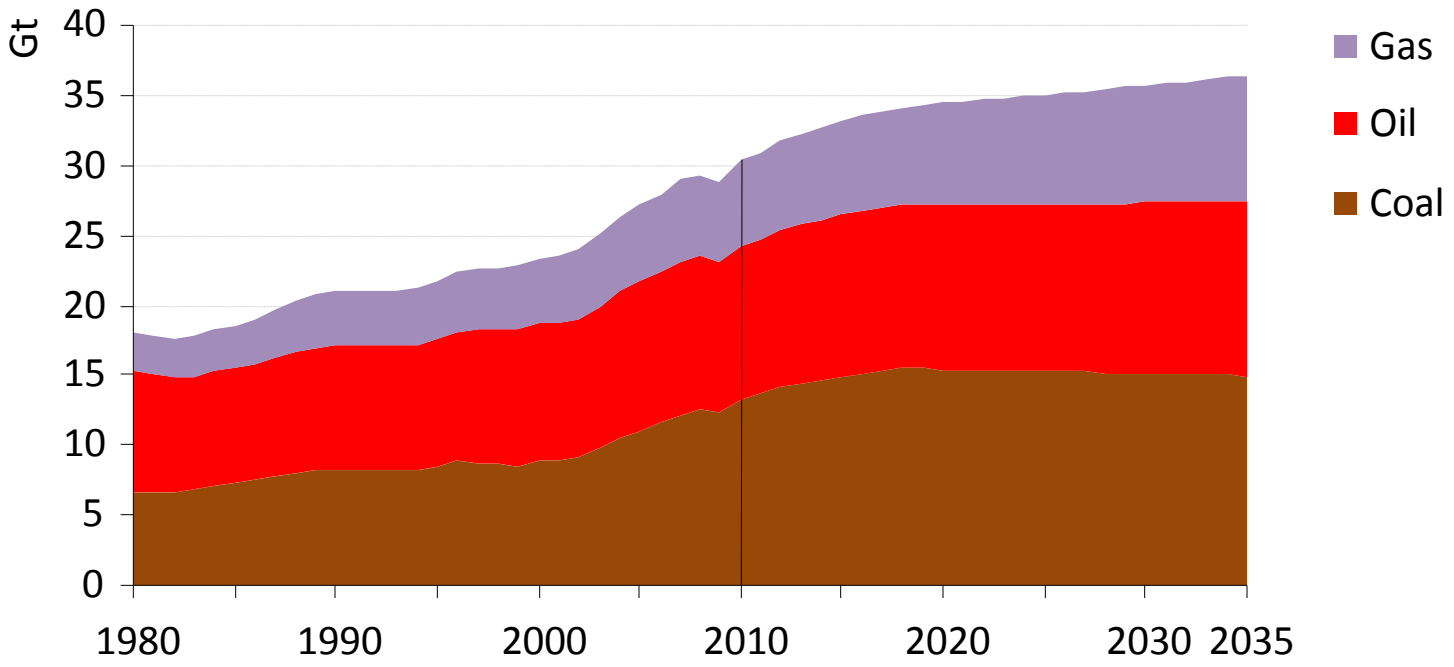


Oil products had the largest subsidies at $193 billion, followed by natural gas at $91 billion, while fossil-fuel subsidies resulting from the under-pricing of electricity reached $122 billion

Cutting fossil-fuel subsidies would bring economic, energy & environmental benefits

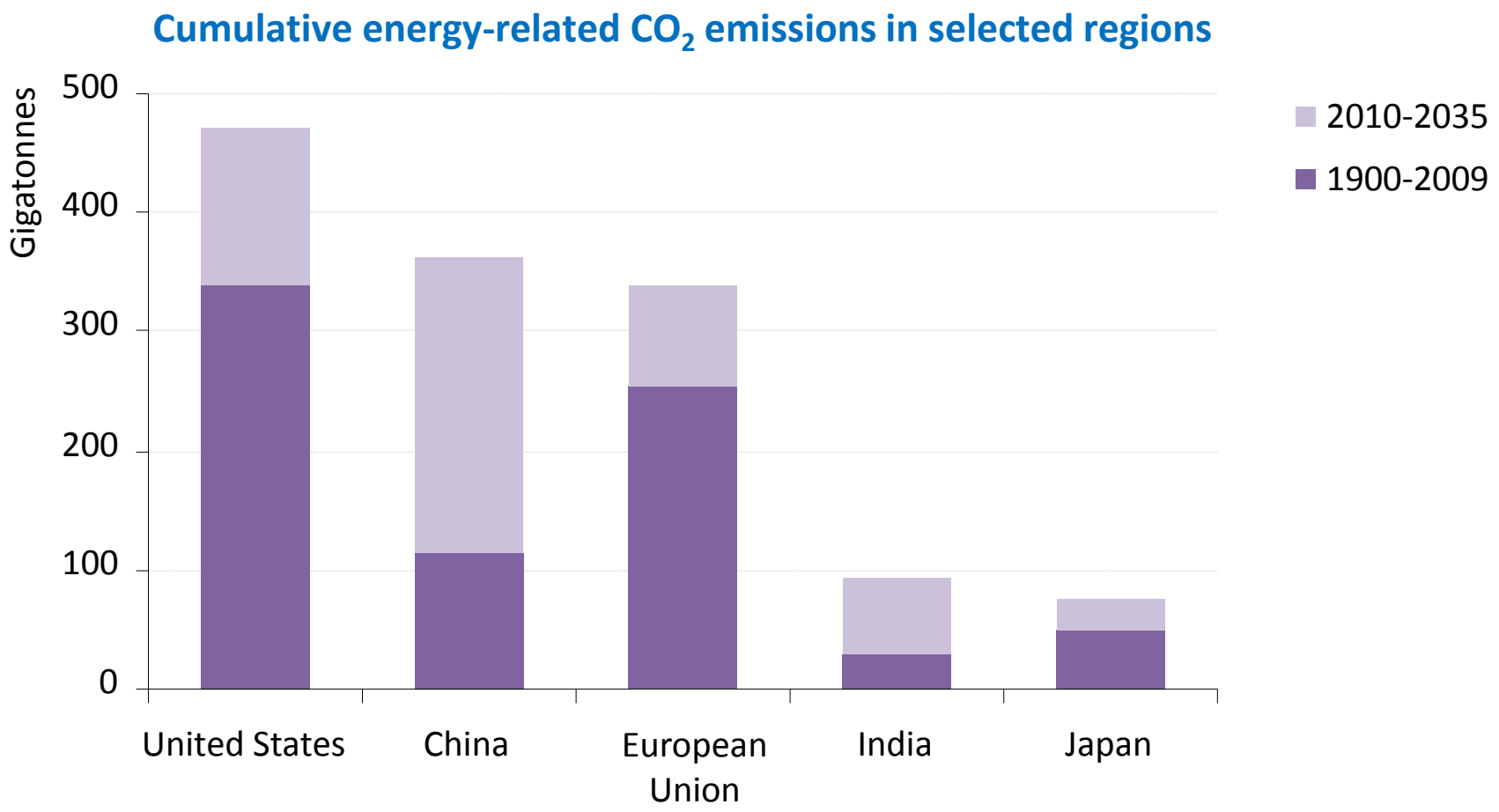
- **Without further reform, spending on fossil-fuel consumption subsidies is set to reach $660 billion in 2020, or 0.7% of global GDP**
- **Phasing-out fossil-fuel consumptions subsidies by 2020 would:**
  - *slash growth in energy demand by 4.1%*
  - *reduce growth in oil demand by 3.7 mb/d*
  - *cut growth in CO_2 emissions by 1.7 Gt*
- **Many countries have started or planned reforms since early-2010**
  - *key driver has been fiscal pressure on government budgets*
  - *G20 & APEC commitments have also underpinned many reform efforts*
  - *much more remains to be done to realise full extent of benefits*

Planned policies will not halt the rise in CO_2 emissions



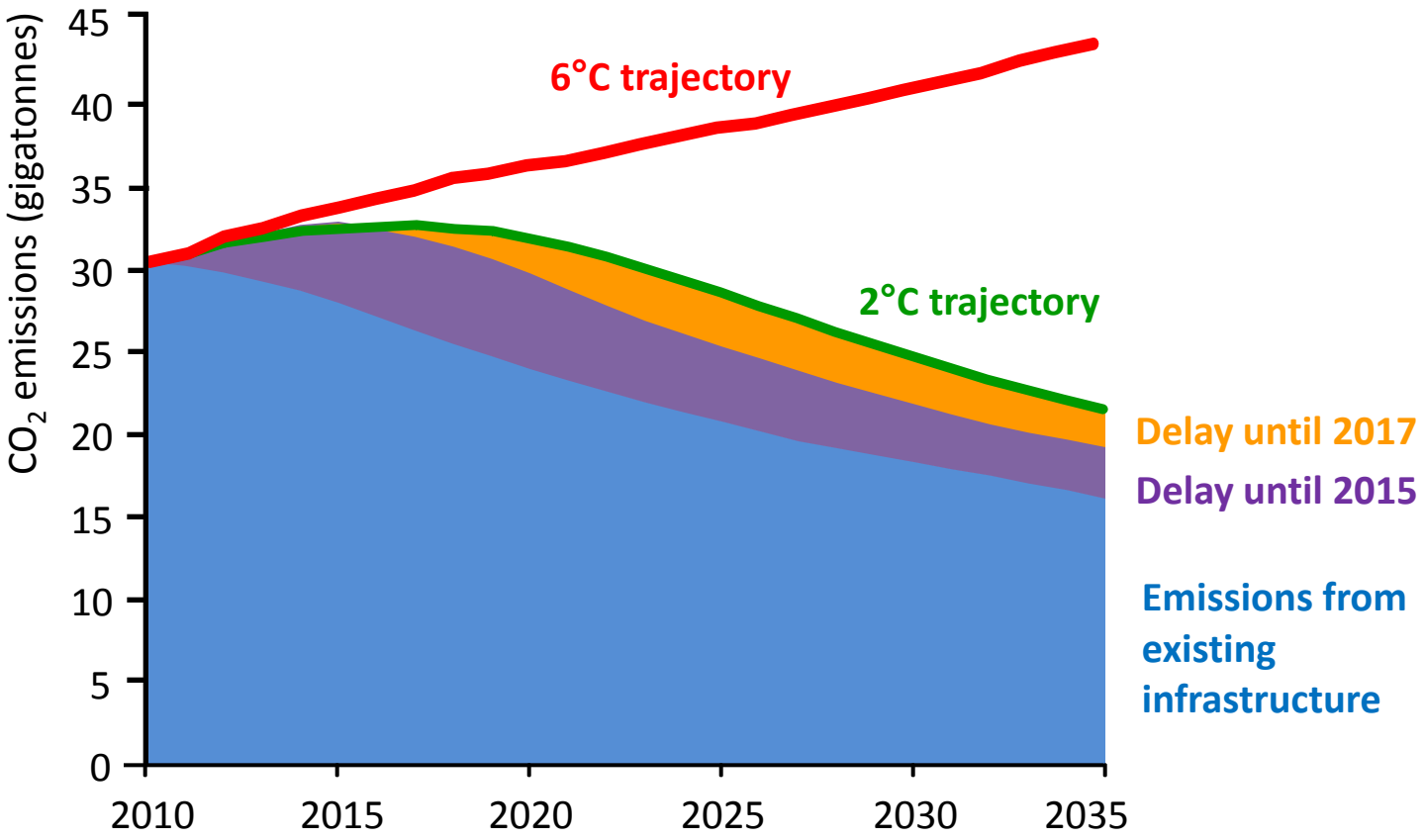
Global emissions slow but still rise by 18% between 2009 & 2035 – a trend consistent with a catastrophic rise in global temperature

Energy is at the heart of the climate challenge



By 2035, cumulative CO_2 emissions from today exceed three-quarters of the total since 1900, and China's per-capita emissions match the OECD average

Door to 2°C is closing, but will we be "locked-in" ?



Without further action, by 2017 all CO_2 emissions permitted in the 450 Scenario will be "locked-in" by existing power plants, factories, buildings, etc

If we don't change direction soon, we'll end up where we're heading

- In a world full of uncertainty, one thing is sure: rising incomes & population will push energy needs higher
- Global energy mix is set to be dominated by fossil fuels if no major policy changes happen
- Affordable and reliable modern energy for all is achievable
- Energy efficiency, renewables and nuclear – key tools to address climate change
- Both bottom up and top down initiatives are essential
- Despite steps in the right direction, the door to 2°C is closing