



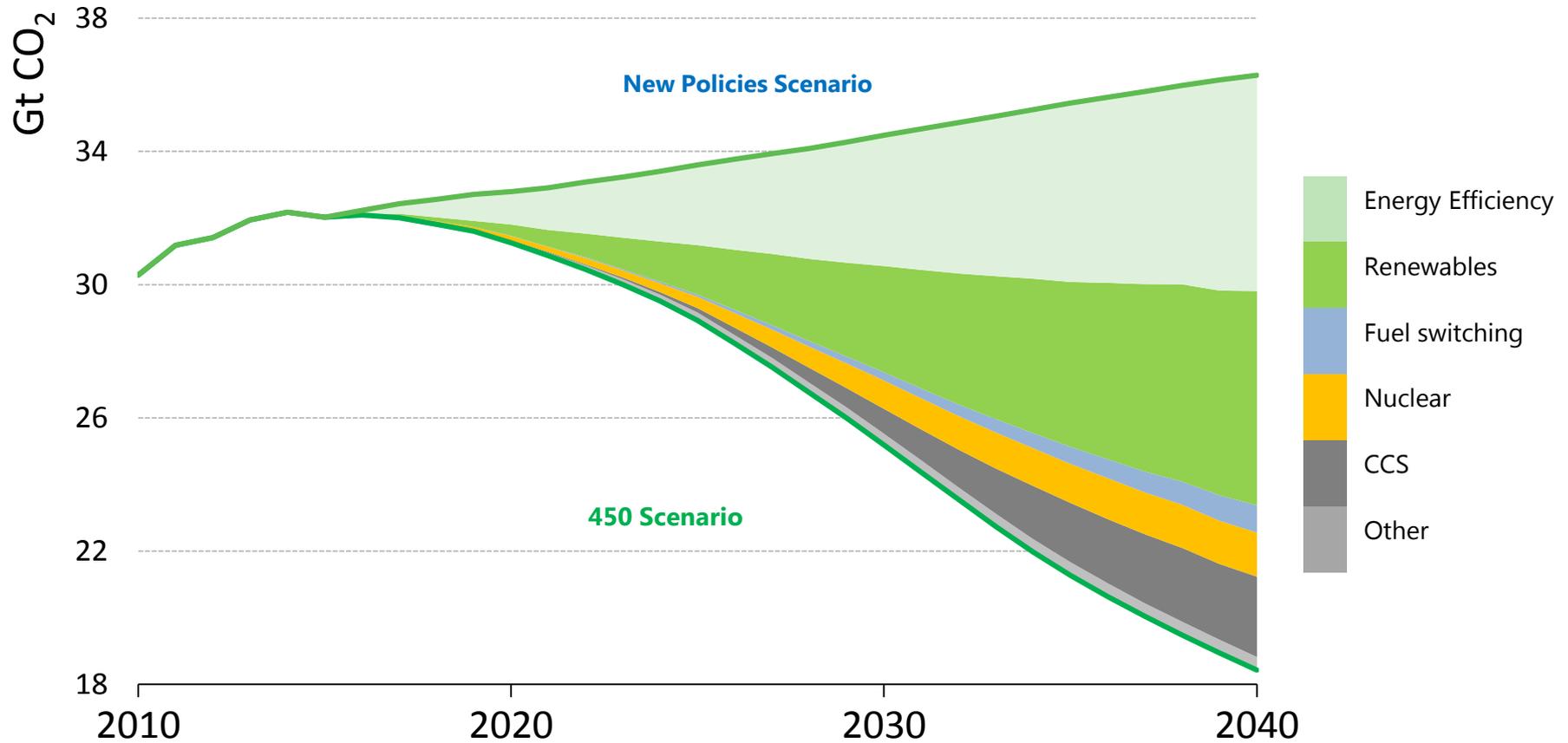
# Reducing the costs of achieving a sustainable energy future

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Asia Clean Energy Forum, 6 June 2017

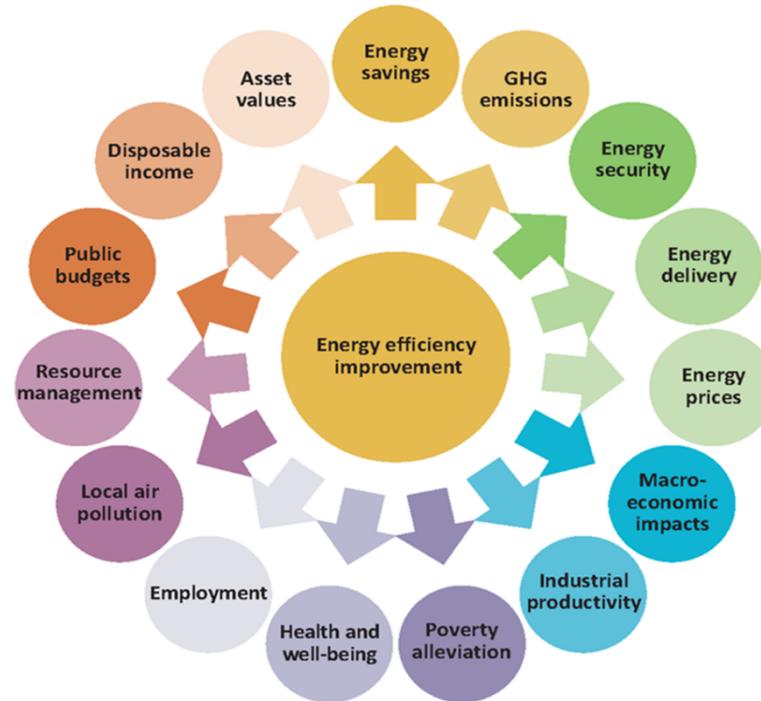
# Energy Efficiency & Renewables key to a low cost, low carbon energy system



Source: WEO 2016

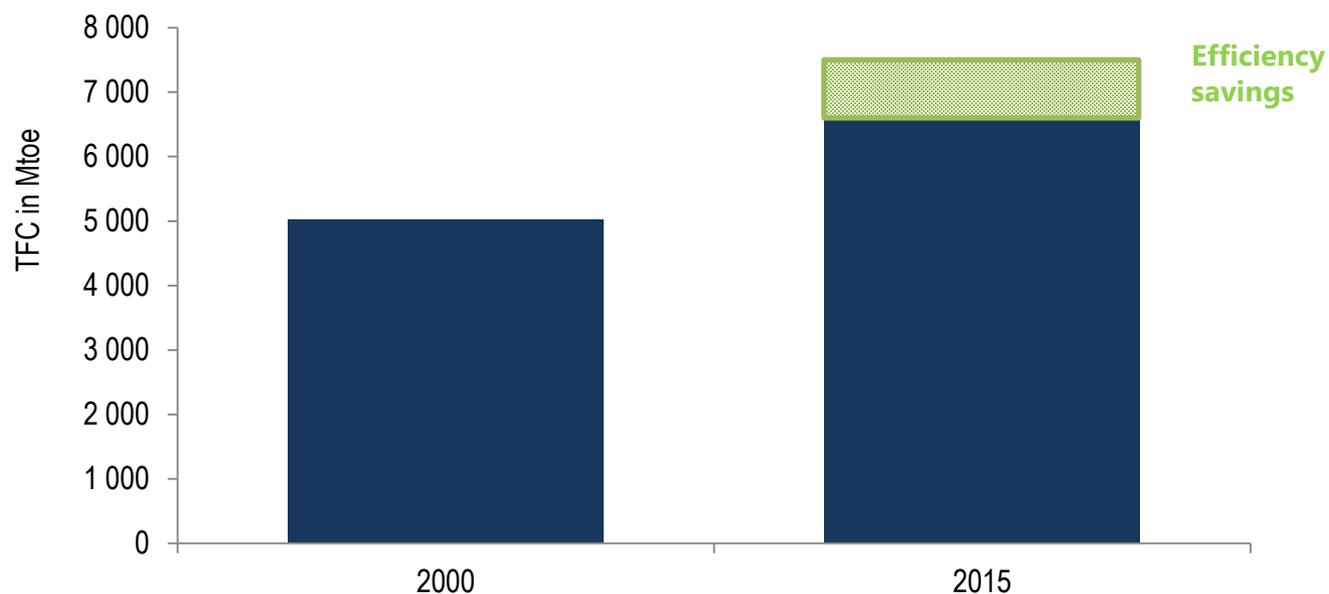
**The IEA projects that energy efficiency and renewables will contribute more than two thirds of the reductions in emissions needed over and above current policy to reach a 2 degrees scenario**

# Energy efficiency has many other benefits of value to society



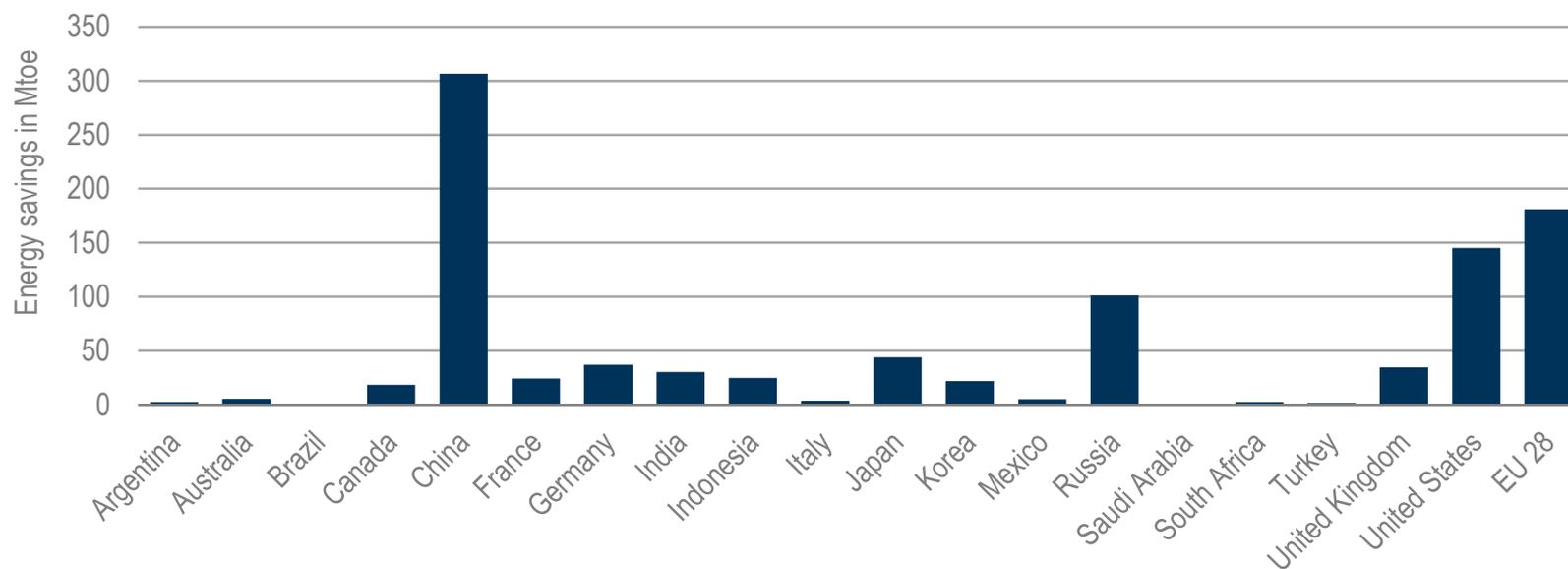
**Energy savings from efficiency improvements enhance energy security, reduce the need for subsidies, drives industrial competitiveness, creates new employment opportunities and reduces emissions**

## Final Energy consumption and savings in G20



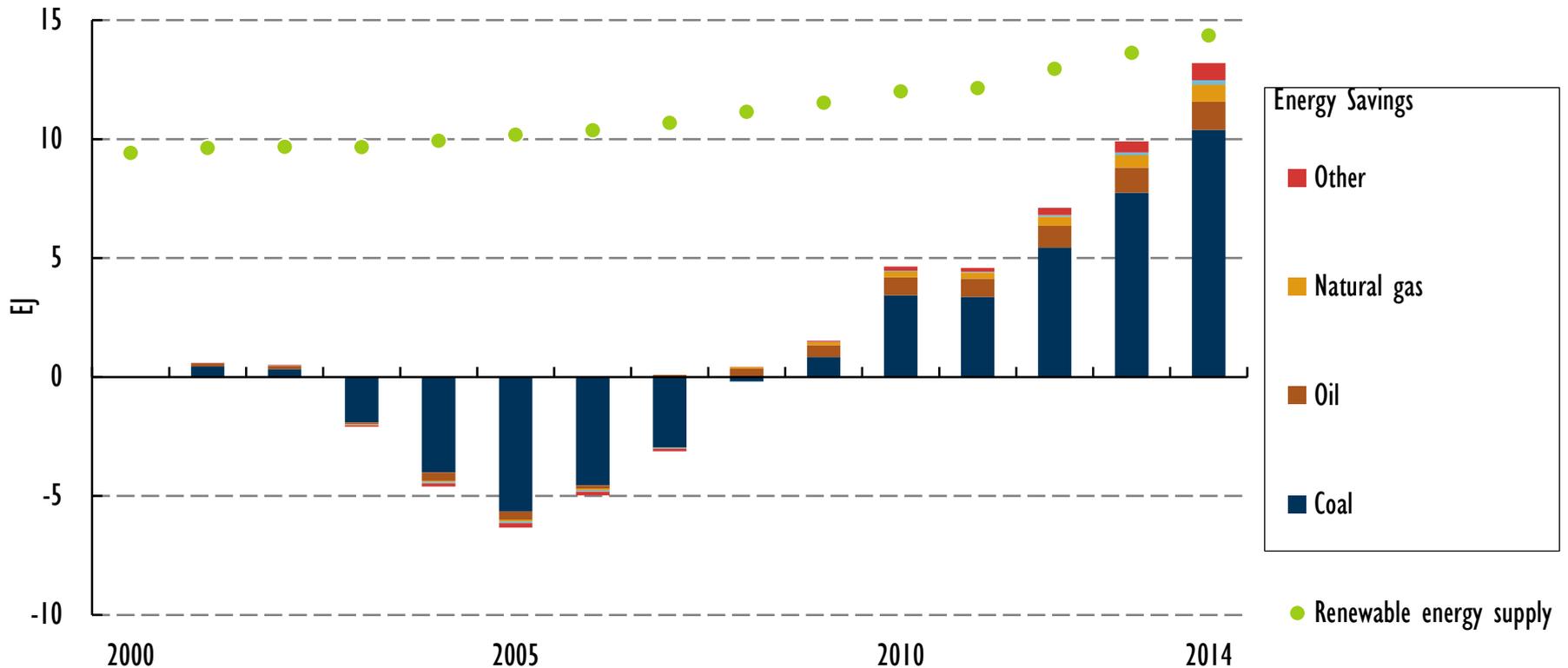
**Efficiency measures since 2000 reduced G20 final energy consumption by 13%  
This is equivalent to the total energy consumption of India and Russia combined in 2015.**

## Energy savings in G20 member economies, 2000-15



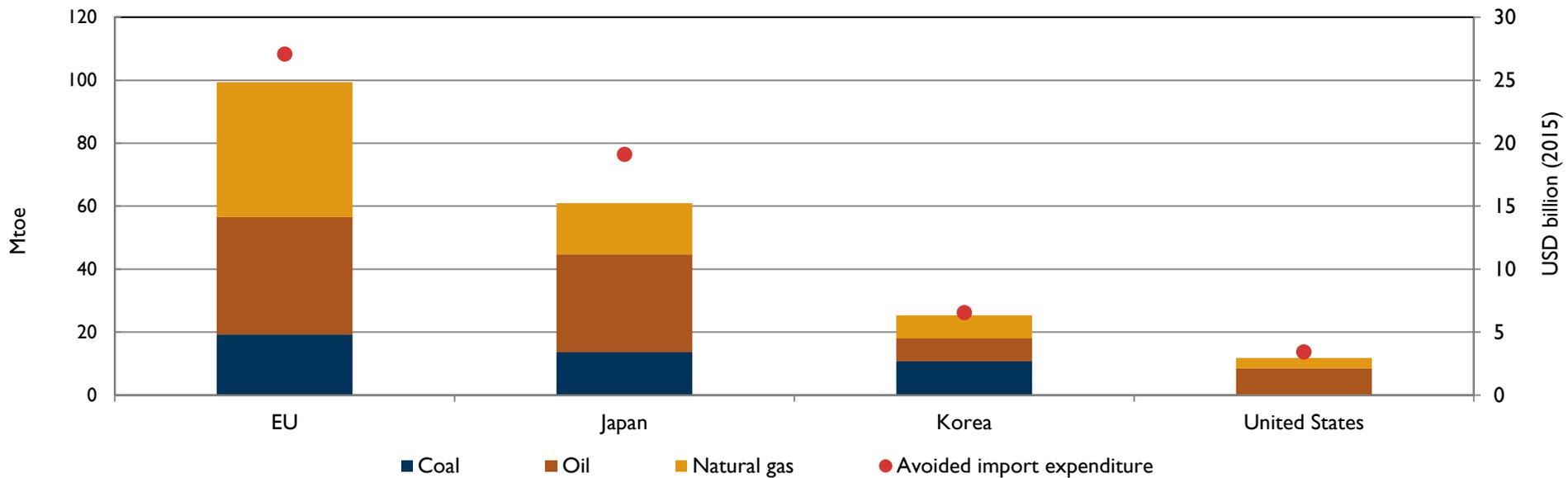
**Energy efficiency savings have reduced energy expenditure in IEA member G20 countries by USD 450 billion and reduced G20 total greenhouse gas emissions by 3.2 billion tonnes**

## Primary energy savings from efficiency gains since 2000 and renewable energy supply in China



**Dramatic progress on energy efficiency since 2006 saved 350 million tonnes of coal in 2014. Energy savings are as large as China's renewable energy supply.**

## Avoided imports for sample countries from efficiency gains, 2015



Energy efficiency has reduced EU imports by \$27 billion - 10% of its total energy import bill

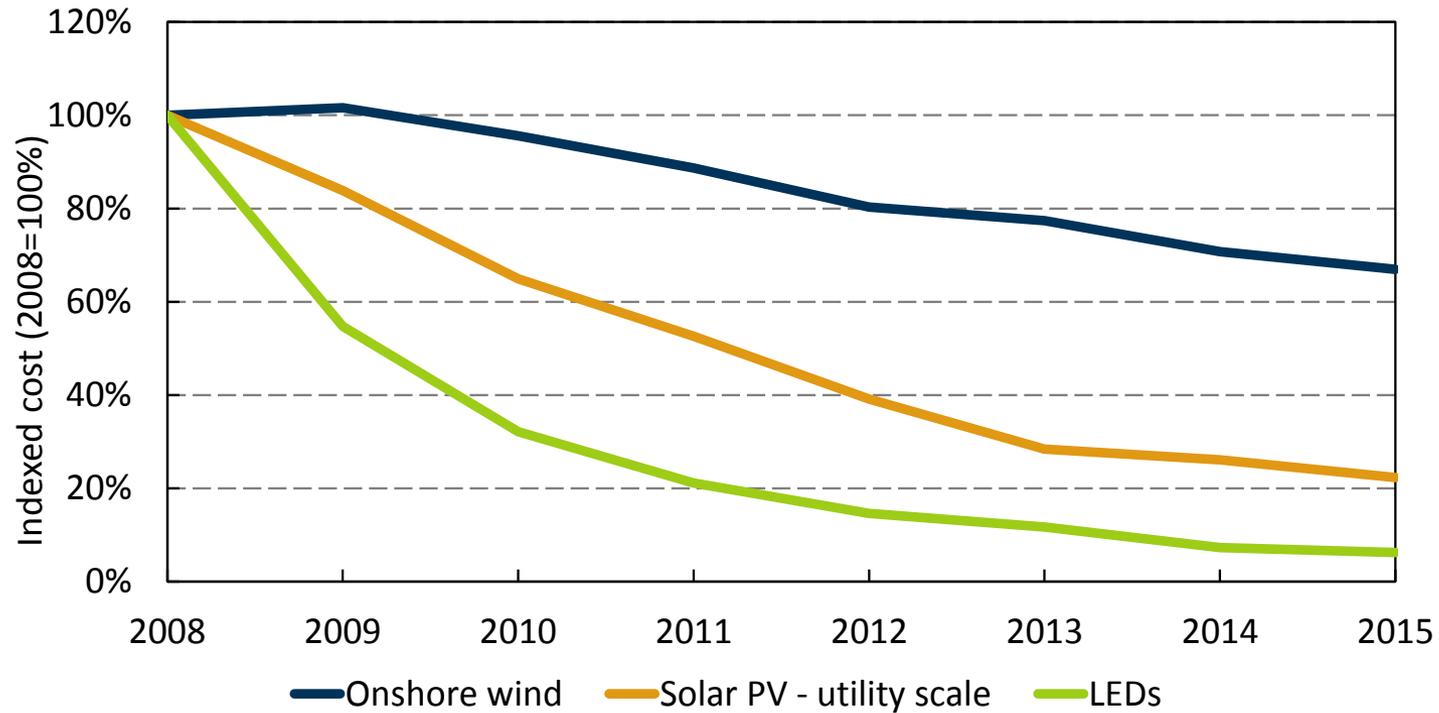
- Energy providers in California and New York are looking to energy efficiency, storage and distributed renewables to reduce the cost of upgrading or replacing aging energy infrastructure.
- Other energy providers in places like Western Australia are replacing electricity distribution poles and wires with distributed solar and battery systems for fringe of grid farms.

**Energy efficiency is the cheapest way to add capacity to meet increasing demand or replace obsolete generating plant**

- Energy efficient appliances together with the BBOXX home solar system enable customers to use the following appliances for up to 6 hours:
  - 4 X lights;
  - 15.6" TV;
  - Radio;
  - Portable light;
  - Charge 2 mobile phones;
- Solar system supplies 100Wh and the appliances consume approx. 88Whs;
- Service is managed and paid for through mobile phone.



# Policies have dramatically reduced clean energy technology costs



**Policies have driven technology costs down both on the supply and demand sides**

- Most countries, whether driven by decarbonisation, security, competitiveness, access or a combination of all of these, want to see both efficiency and renewables play a much greater part in their energy systems.
- Both have been growing steadily in their deployment and impact, and technology developments and falling costs should see this accelerate.
- Policy is driving these improvements but as they take greater shares of the markets policies need to be well coordinated or even integrated.
- We are entering a new phase where we need to continue to work together to share experience and learn how to make these integrated policies most effective.

