



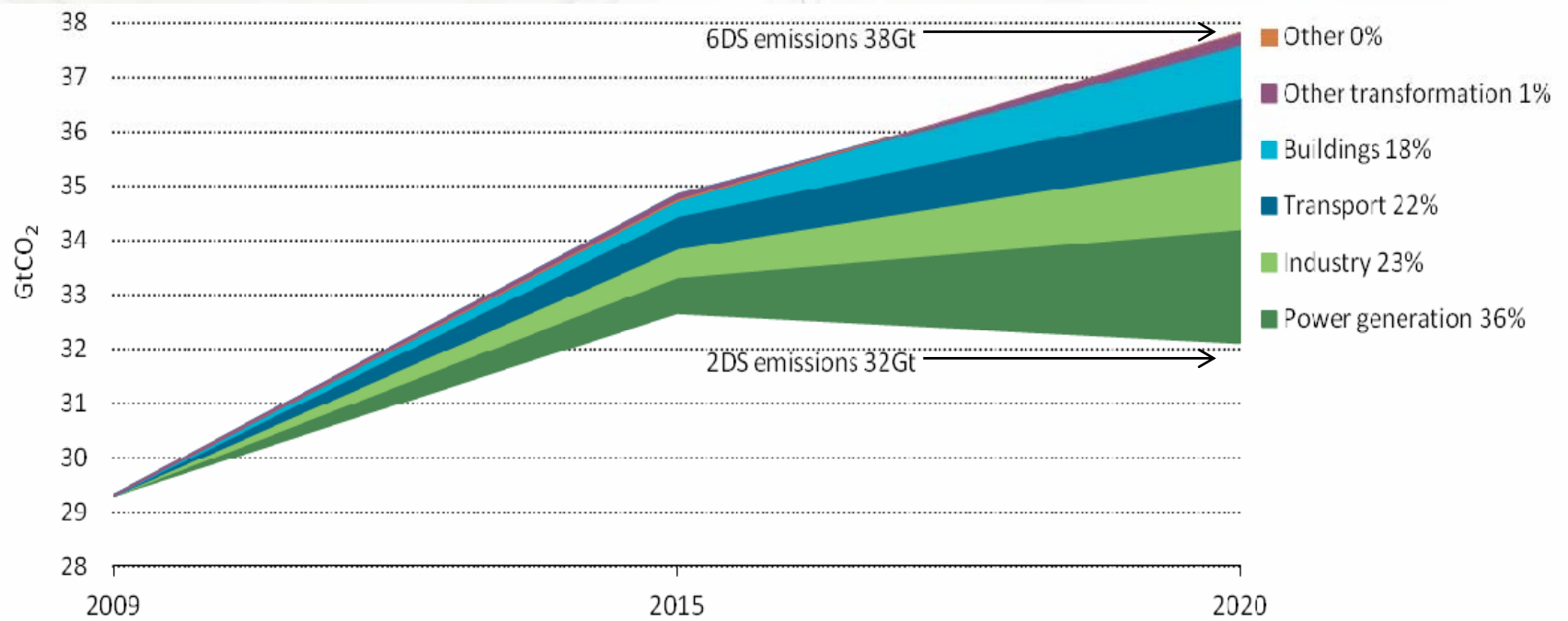
# Tracking Clean Energy Progress

Energy Technology Perspectives 2012 excerpt  
IEA input to the Clean Energy Ministerial





Ambassador Richard H. Jones,  
Deputy Executive Director,  
International Energy Agency

# Action in all sectors is necessary...


## Global CO<sub>2</sub> emissions under ETP 2012 scenarios





# Progress is falling short of what's needed

| Sector  | On track?                           | Technology             |
|---|-------------------------------------|------------------------|
|    | Not on track                        | Cleaner coal power     |
|   | Not on track                        | Nuclear power          |
|   | On track                            | Renewable power        |
|   | Not on track                        | CCS in power           |
|    | Not on track                        | CCS in industry        |
|   | Improvement, but more effort needed | Industry               |
|    | Not on track                        | Buildings              |
|   | Improvement, but more effort needed | Fuel economy           |
|  | Improvement, but more effort needed | Electric vehicles      |
|   | Not on track                        | Biofuels for transport |

- *Progress in almost all technologies areas is not where it needs to be*
- *Significant action is required to get back on track*
- *Energy security, economic and environmental benefits will be far reaching...*

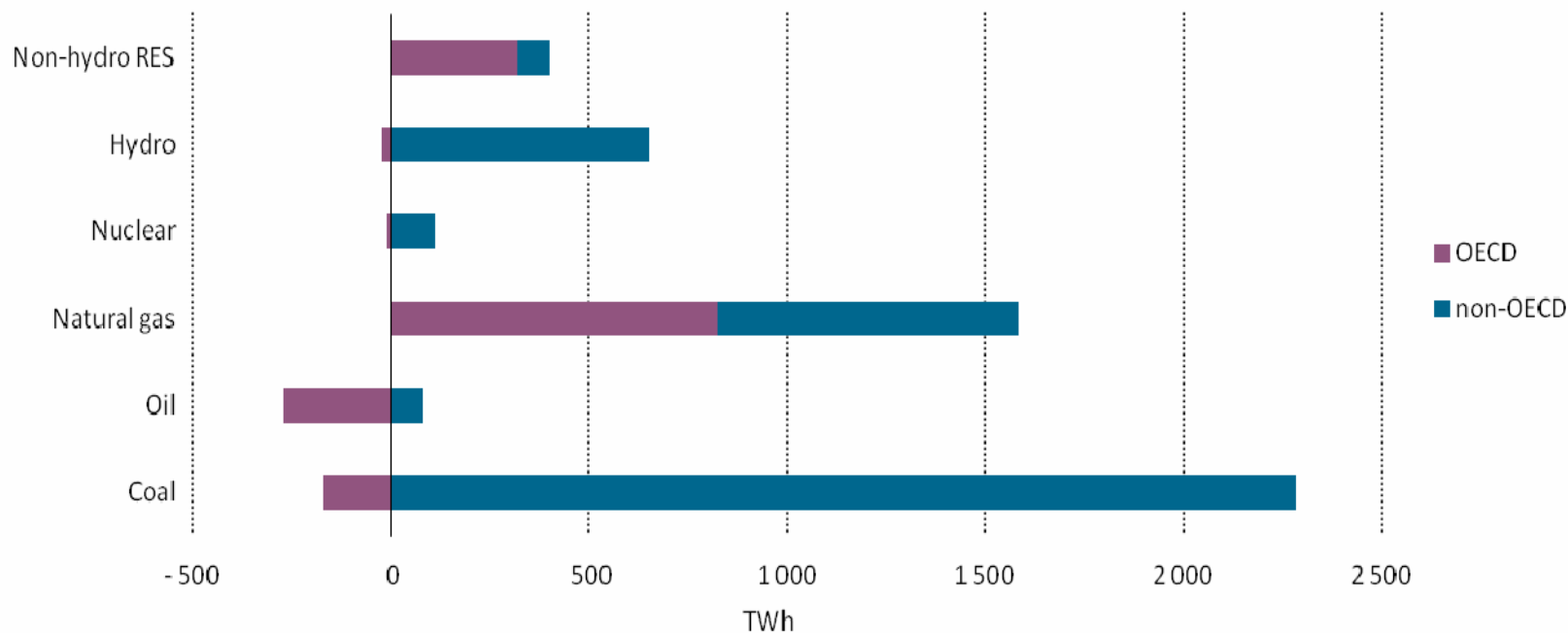
 On track

 Improvement, but more effort needed

 Not on track

# Fossil fuels continue to dominate power generation

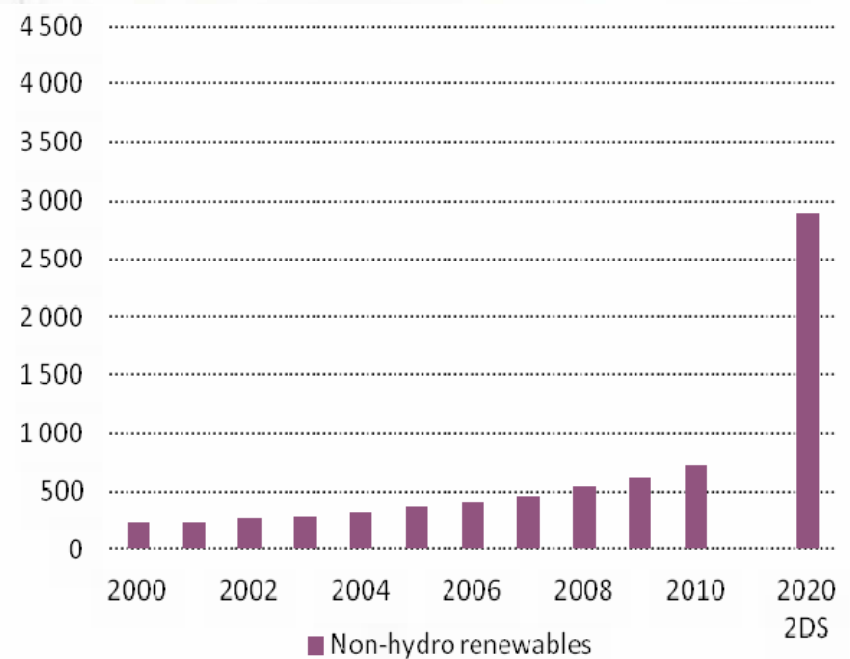
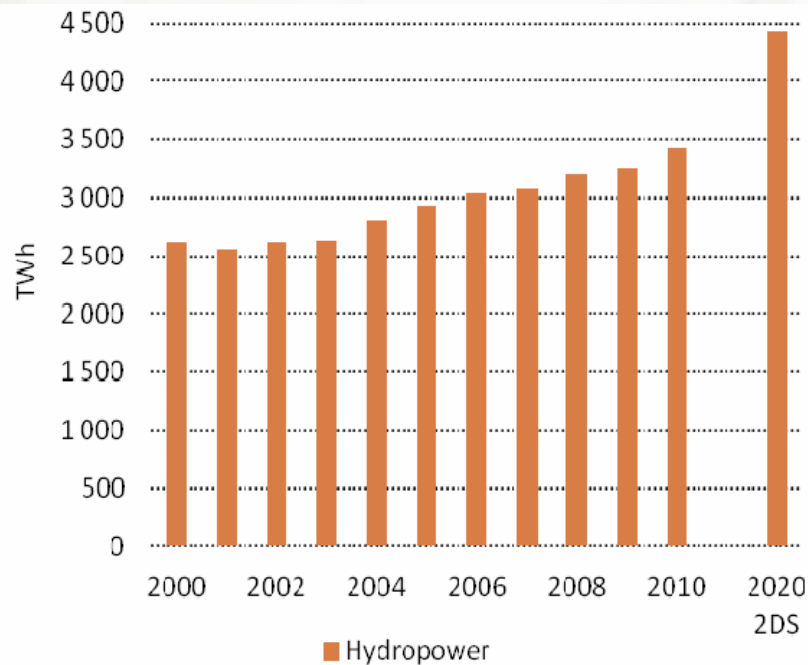
## Changes in sources of electricity supply, 2000-09



*Coal remains the largest source of electricity supply, and met about half of additional electricity demand over the last decade.*

# Renewables have seen notable success

## Renewable power generation



**42%**

Average annual growth in Solar PV

**75%**

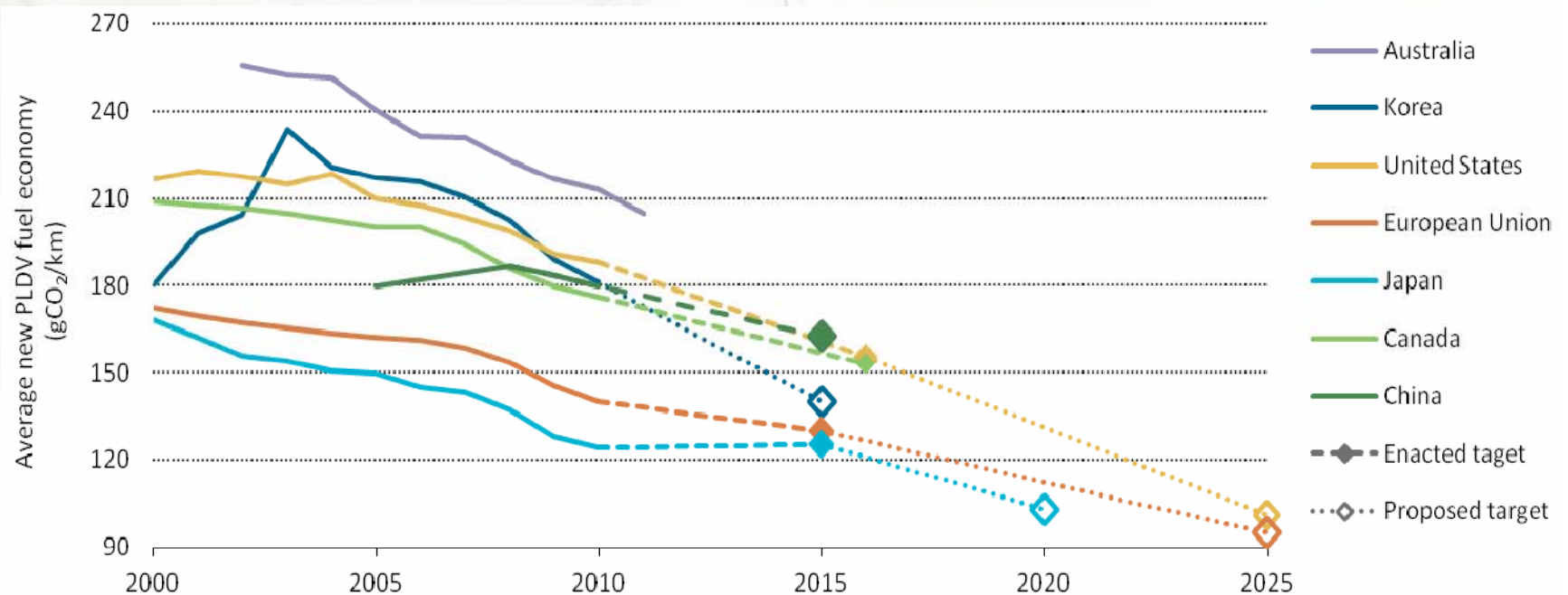
Cost reductions in Solar PV in just three years in some countries

**27%**

Average annual growth in wind

# Fuel economy has improved, but large potential remains

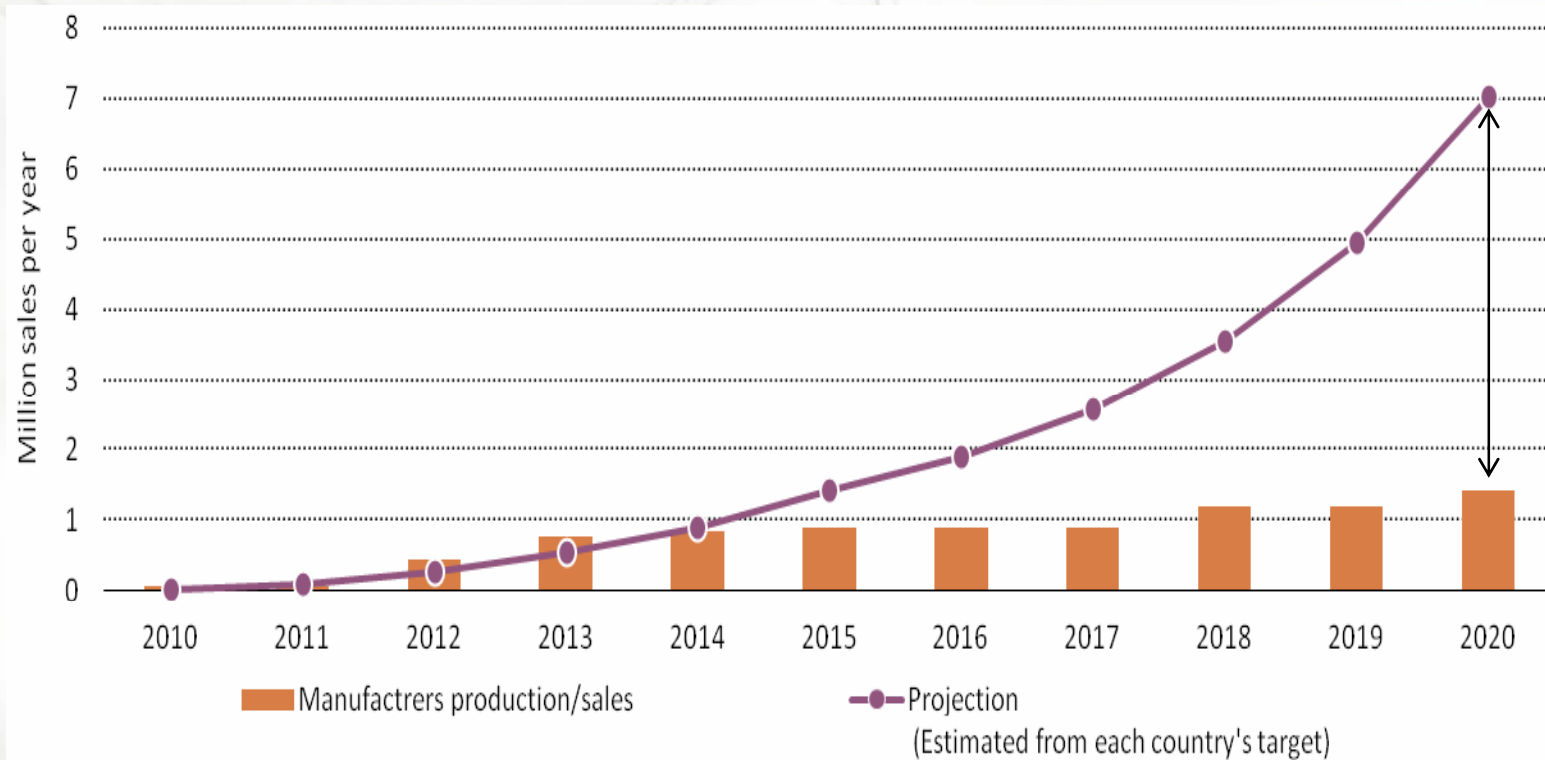
## Vehicle fuel economy, enacted and proposed standards



*The number one opportunity over the next decade in the transport sector, but few countries have standards in place.*

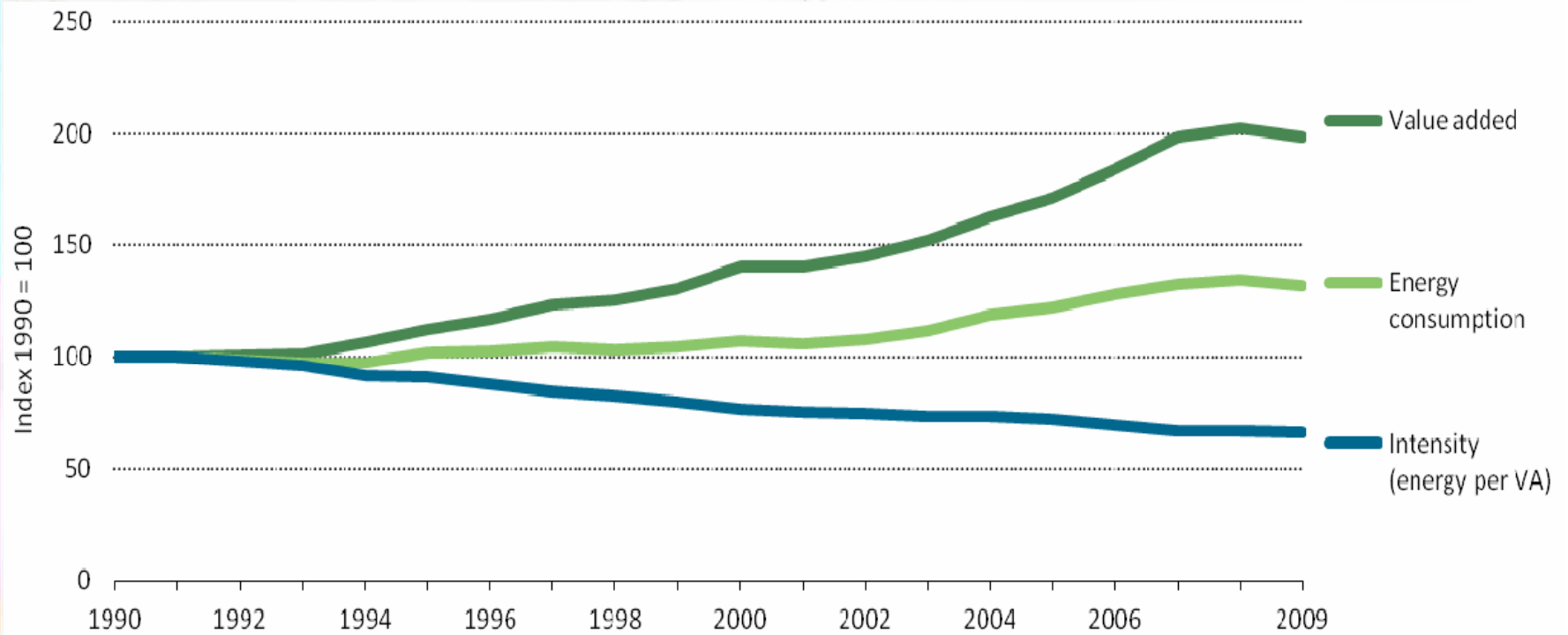
# Government ambitions must translate into action on the ground...

## Government and manufacturer Electric Vehicle targets



# Energy intensity must continue to decline

## Progress in energy intensity

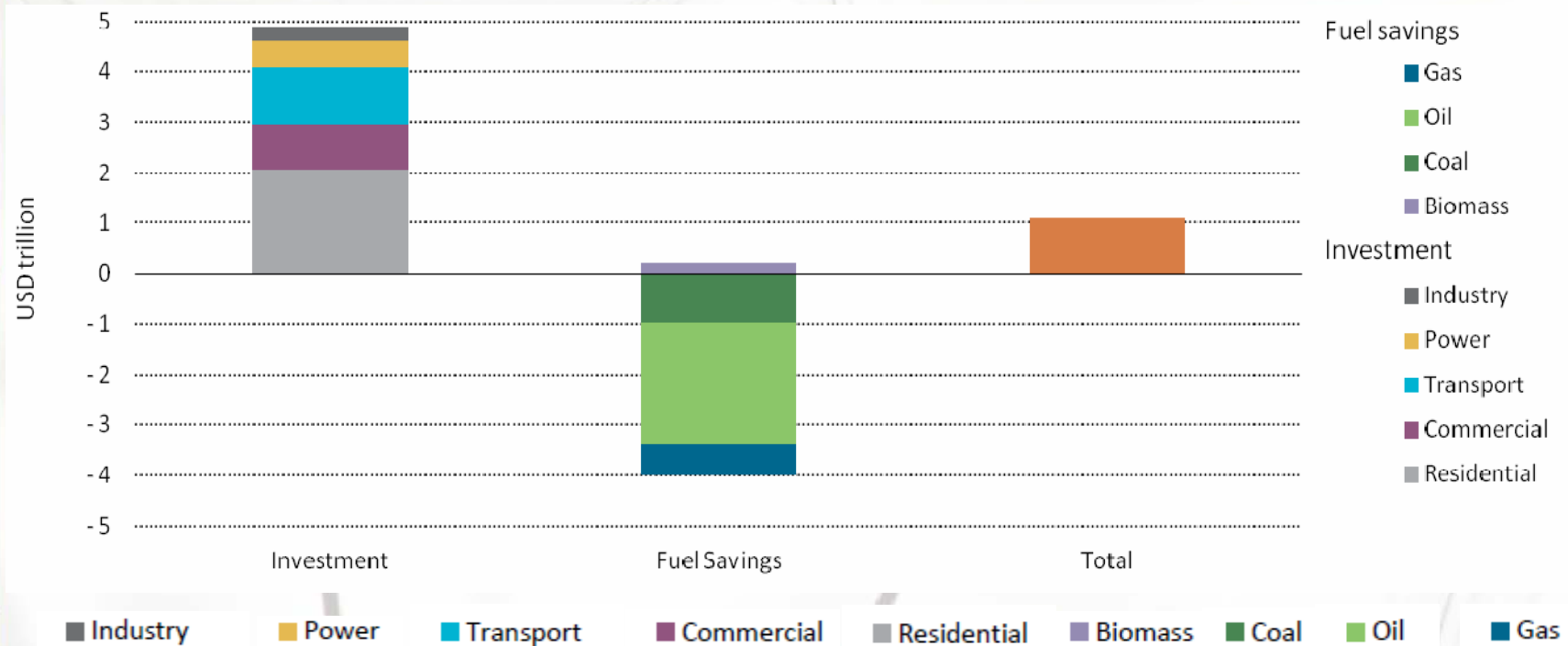


*Significant potential for enhanced energy efficiency can be achieved through best available technologies.*



# Fuel savings and infrastructure benefits will be achieved

## Additional investments and fuel savings in the 2DS



*In the near-term, USD 5 trillion of additional investment is required, but USD 4 trillion in fuel savings is achieved.*

# Recommendations for Energy Ministers

- 1) Level the playing field for clean energy technologies
- 2) Unlock the potential of energy efficiency
- 3) Accelerate energy innovation and public research, development & demonstration

*Help move clean energy from fringe, to main stream markets...*