



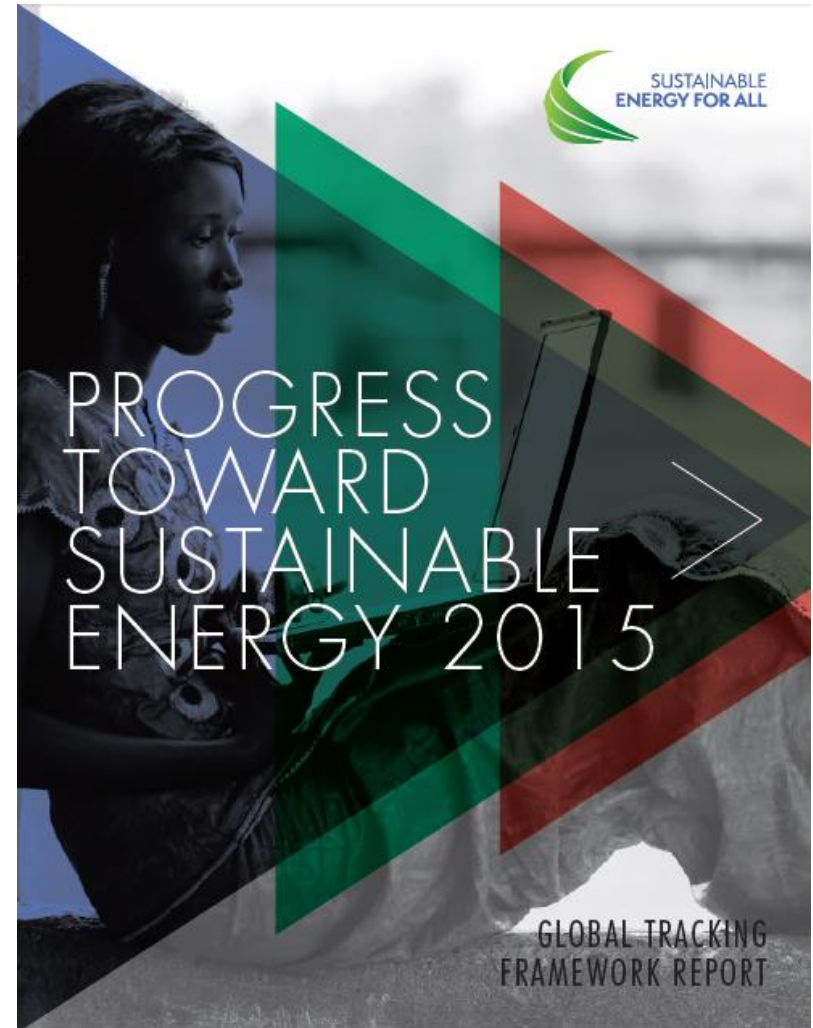
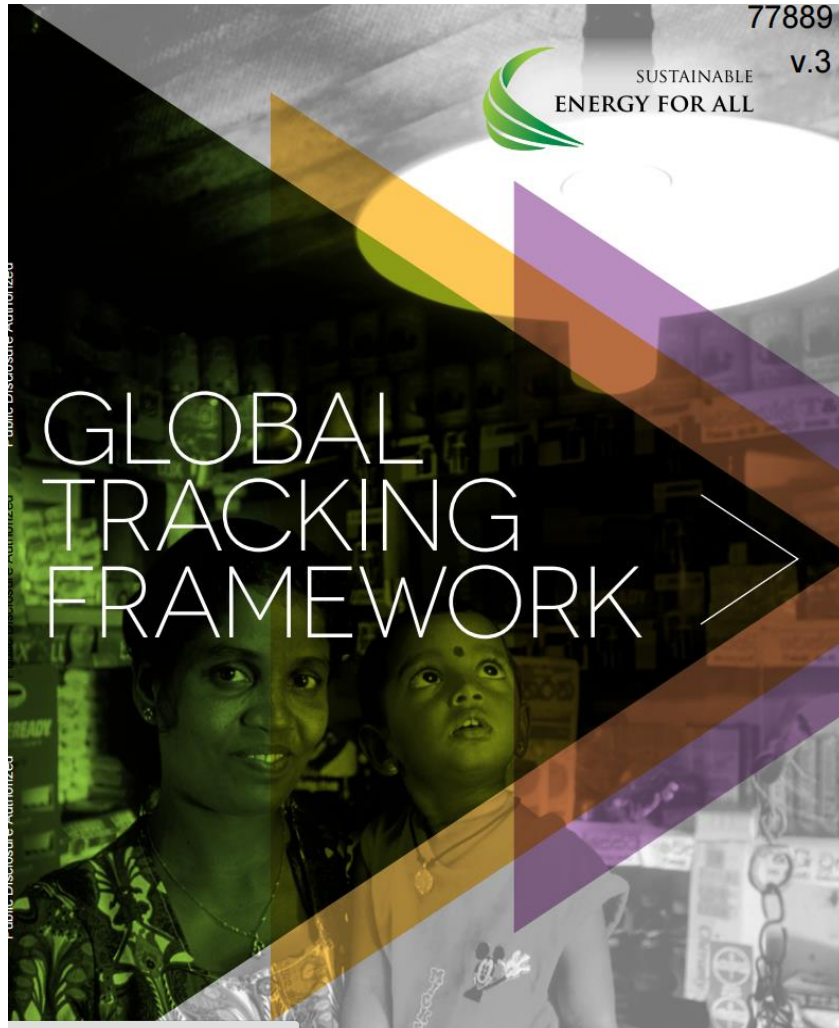
2016 InterEnerStat Workshop

Energy Efficiency Indicators in the SEforALL Global Tracking Framework

**Ivan Jaques – World Bank
Paris, December 13, 2016**

What is the Global
Tracking Framework?

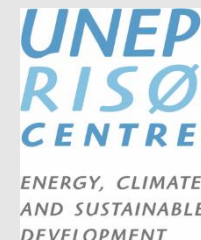
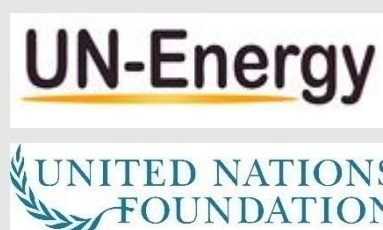
Global Tracking Framework measures progress towards SEforAll Goals



GTF Coordinators:



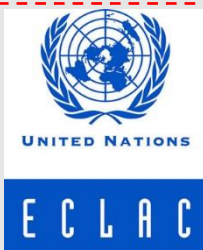
Partners:



United Nations
Statistics Division



World Health Organization

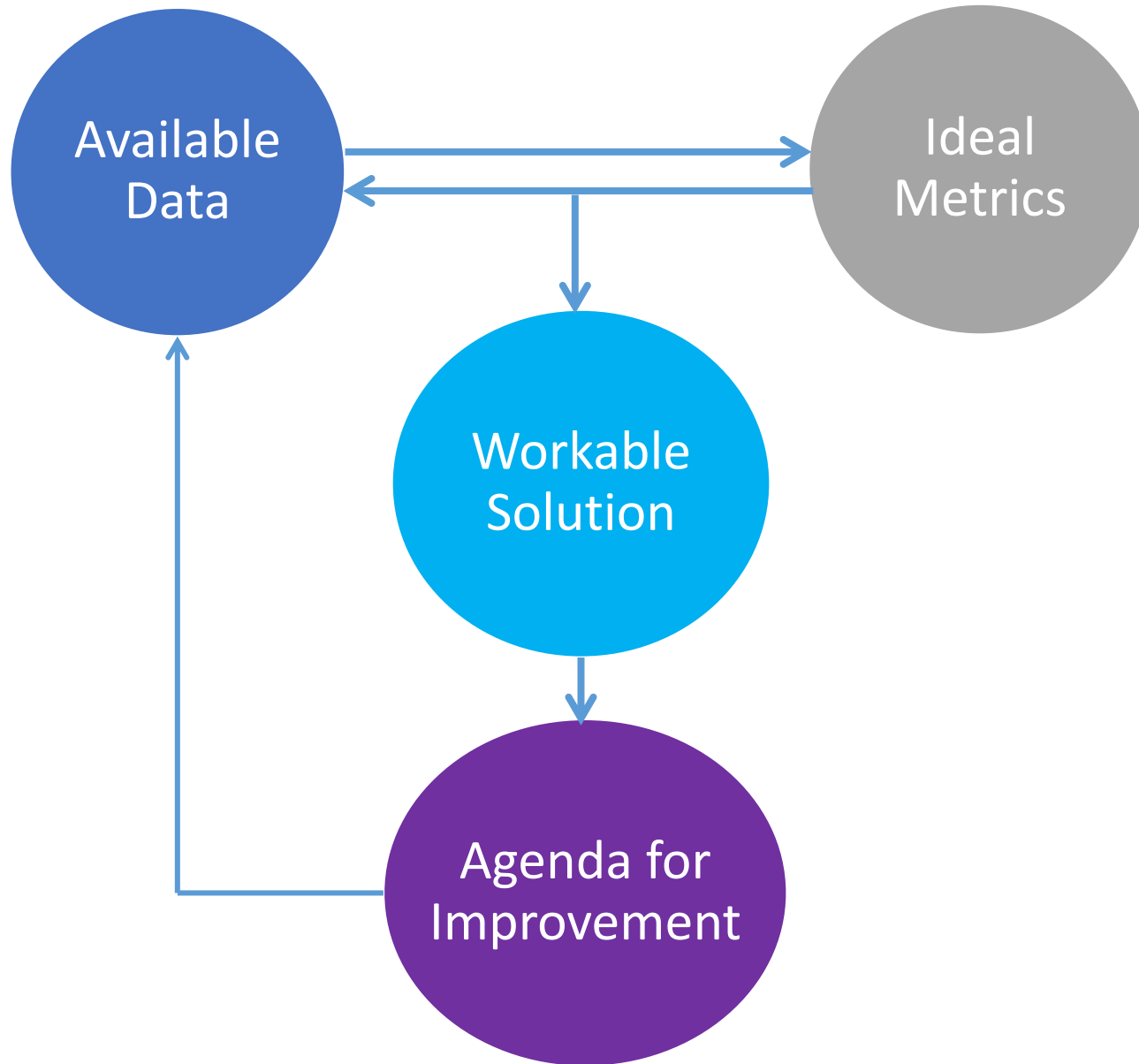


SEforALL

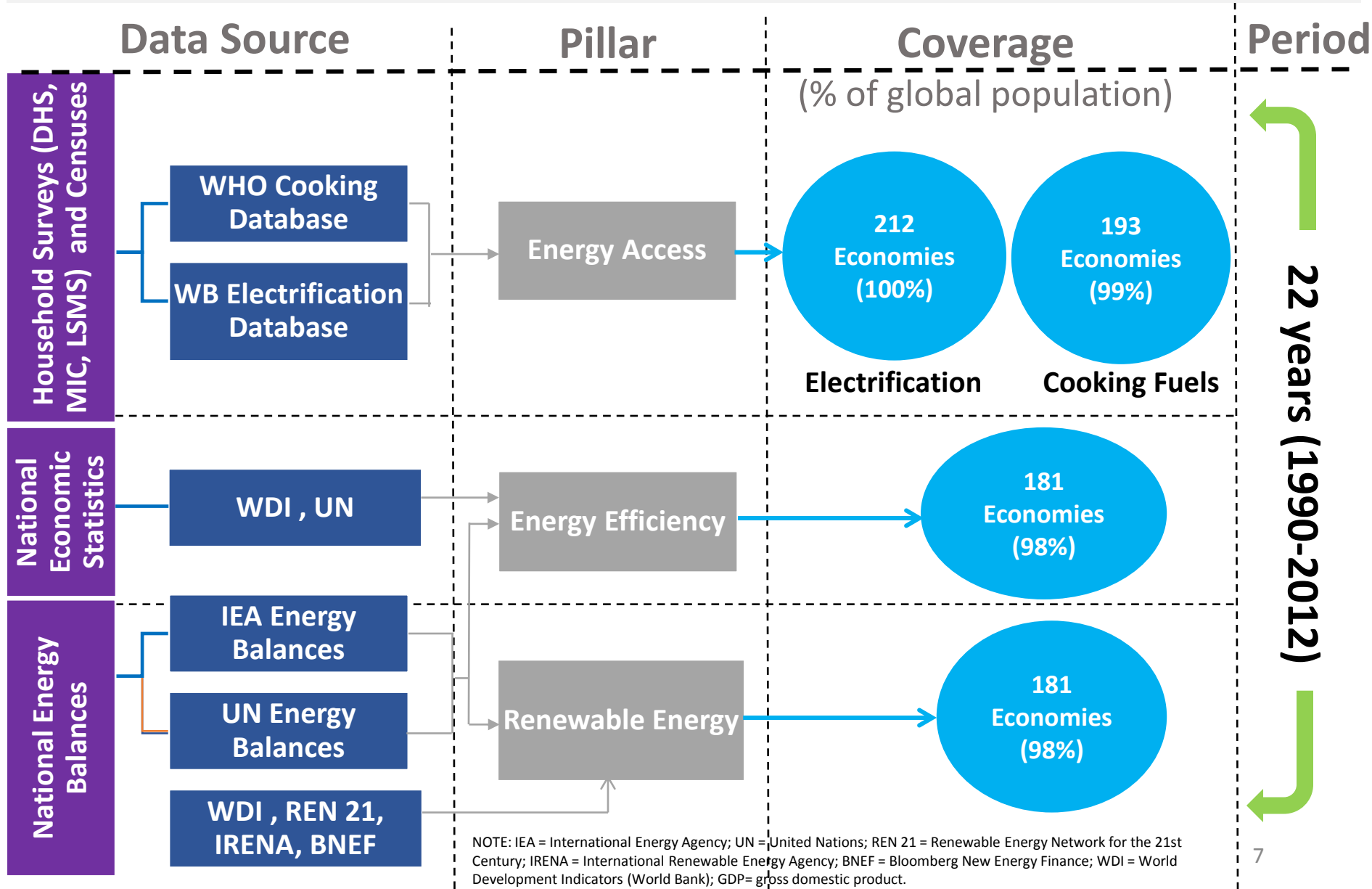
SDG 7

| | | | |
|-------------------|------------|---|--|
| Energy access | Target | By 2030, ensure universal access to modern energy services | By 2030, ensure universal access to modern, affordable and reliable energy services . |
| | Indicators | Percentage of population with access to electricity | |
| | | Percentage of population with access to non-solid fuels | Percentage of population with primary reliance on clean fuels and technology |
| Energy efficiency | Target | By 2030, double the global rate of improvement of energy efficiency | |
| | Indicator | Energy intensity measured in terms of total primary energy supply and GDP | |
| Renewable energy | Target | By 2030, double the share of renewable energy in the global energy mix | By 2030, increase substantially the share of renewable energy in the global energy mix. |
| | Indicator | Renewable energy share in the total final energy consumption | |

Global Tracking Framework takes a pragmatic approach balancing ideal metrics and data availability



Global Tracking Framework pools and standardizes data produced by national statistical agencies

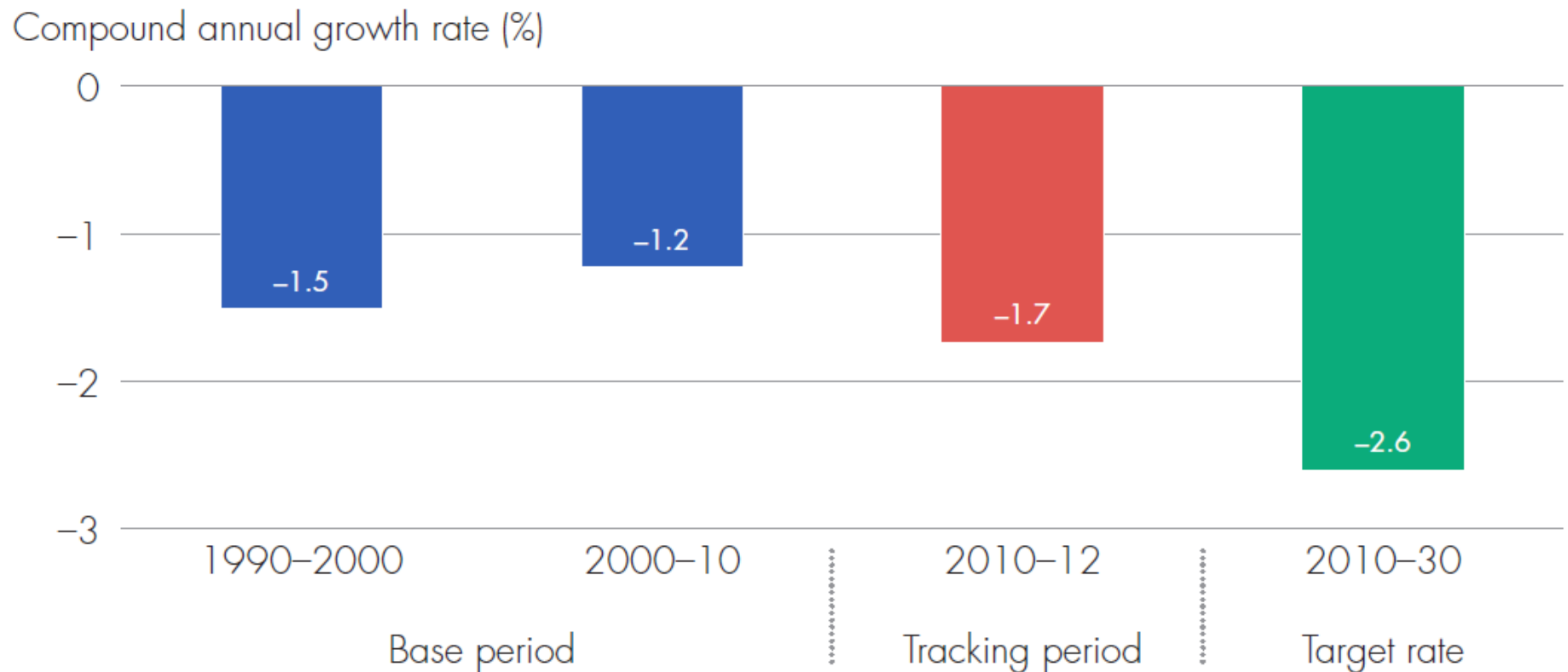


GTF energy efficiency indicators: demand side

$$\text{Energy intensity} = \frac{\text{Total Primary Energy Supply (TJ)}}{\text{GDP (2011 \$ PPP)}}$$

GTF energy efficiency indicators: demand side

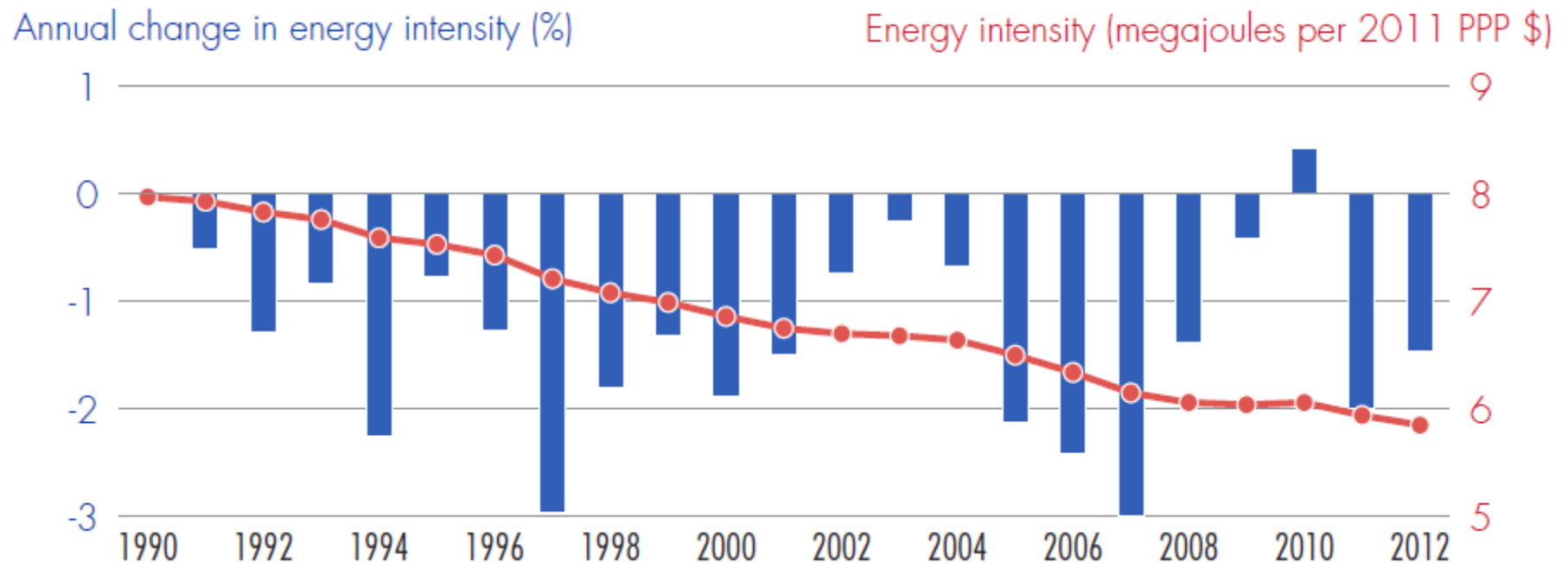
Figure O.12. Rate of change in global energy intensity (CGAR, PPP) compared with target



Source: IEA and WDI data.

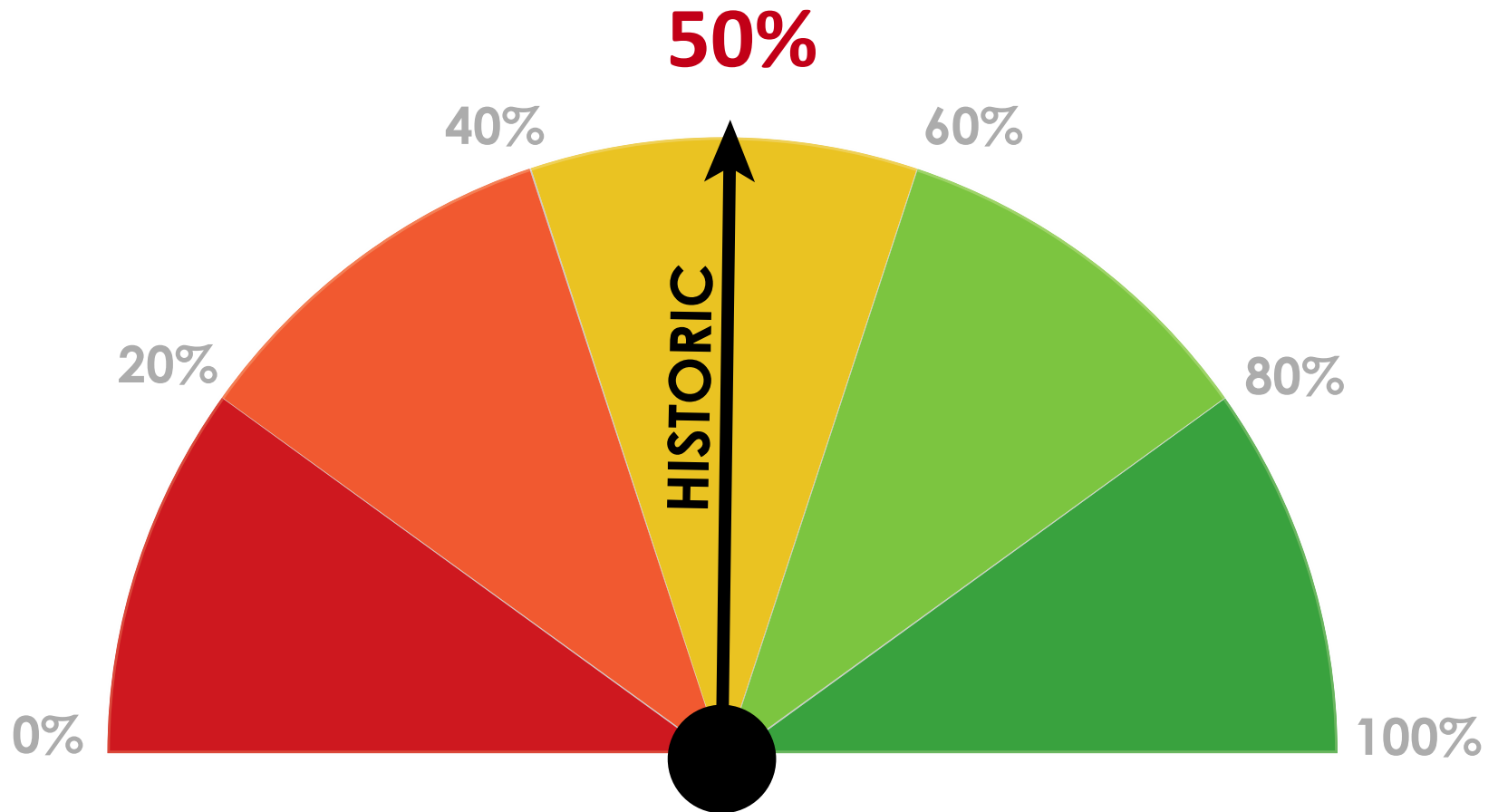
GTF energy efficiency indicators: demand side

Figure 3.2. Evolution of global energy intensity, annual change

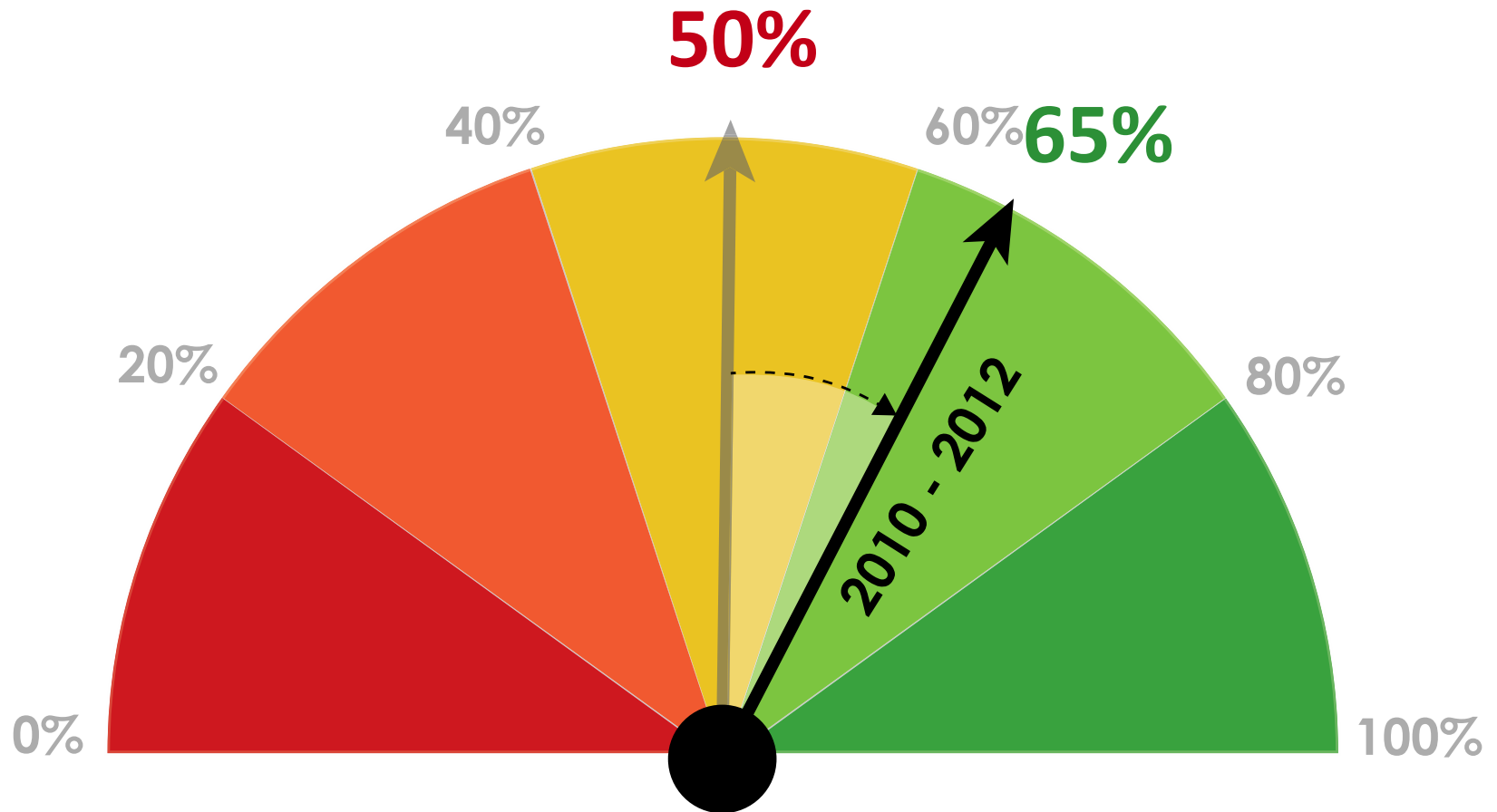


Source: IEA and WDI databases.

GTF energy efficiency indicators: demand side



GTF energy efficiency indicators: demand side



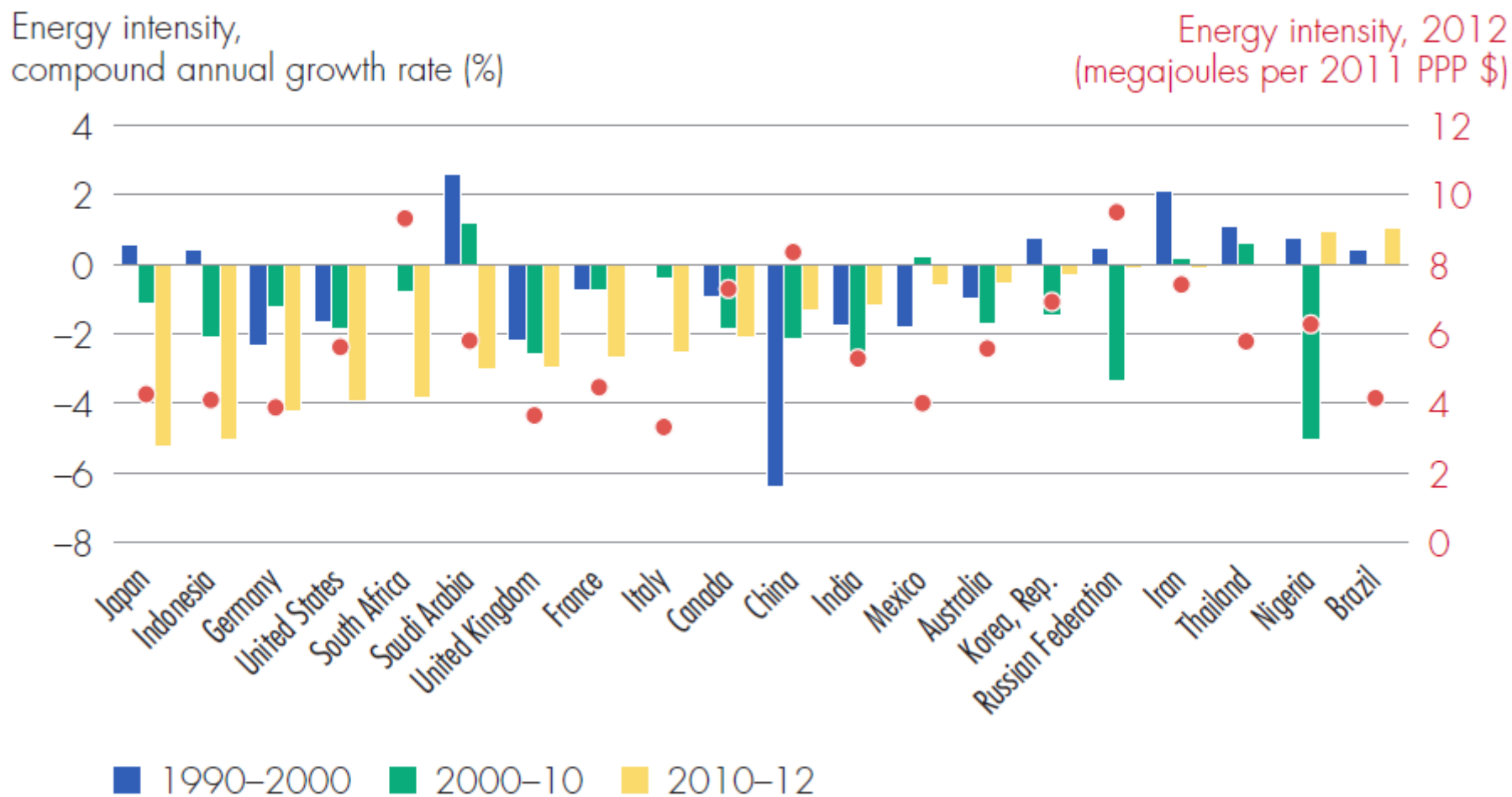
GTF energy efficiency indicators: demand side

Figure O.13. Primary energy intensity by income group: rate of change and energy intensity



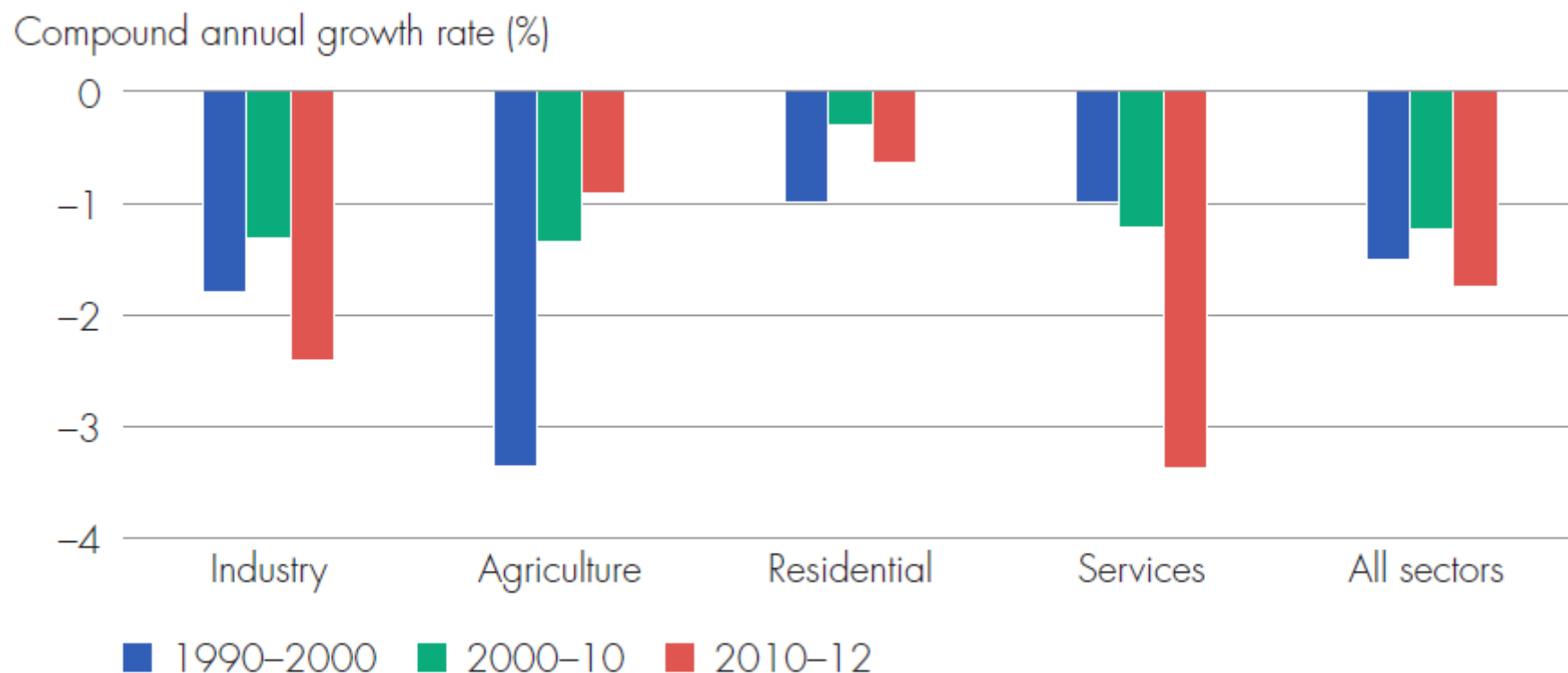
GTF energy efficiency indicators: demand side

Figure O.19. Primary energy intensity trends, top 20 primary energy consumers in 2012



GTF energy efficiency indicators: demand side

Figure 3.7. Rate of change in global final energy intensity by sector



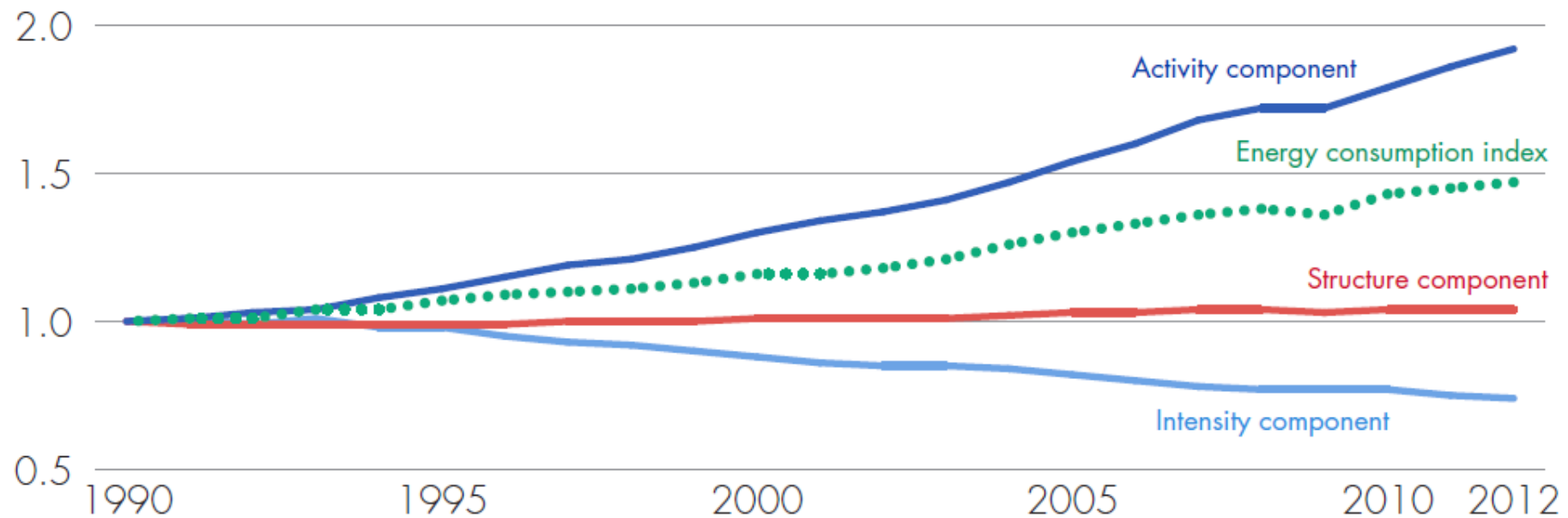
Source: IEA and WDI databases.

Note: Energy intensity in the residential sector is calculated as energy consumption per household.

GTF energy efficiency indicators: demand side

Figure 3.17. **Decomposition of trends in global final energy consumption:**
Contributions of activity, structure, and intensity components, 1990–2012

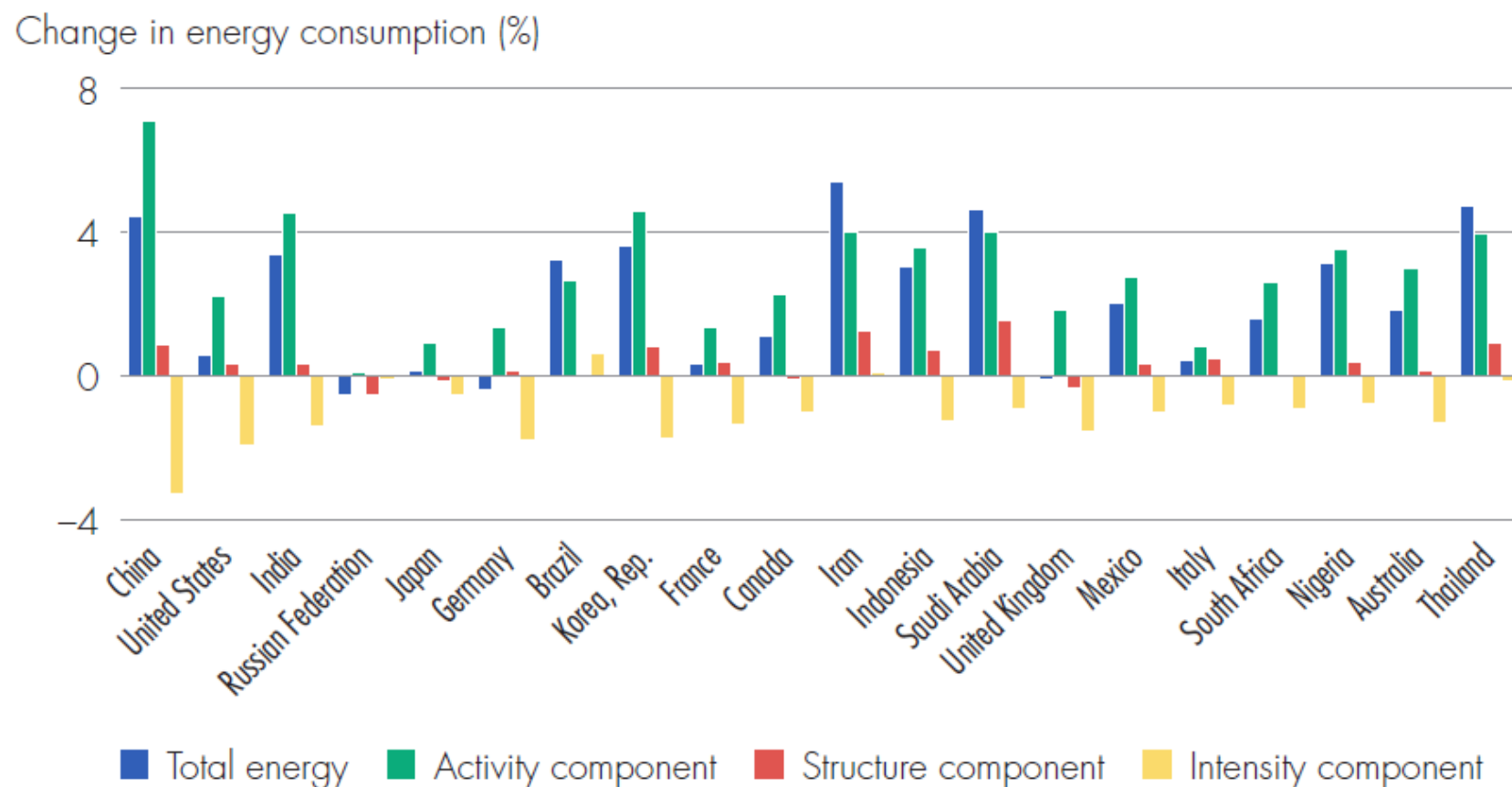
Trends by component (index, 1990 = 1.0)



Source: Energy intensity decomposition analysis based on IEA, WDI, and UN databases.

GTF energy efficiency indicators: demand side

Figure 3.24. Decomposition of trends in total final energy consumption, top 20 primary energy consumers, 2012

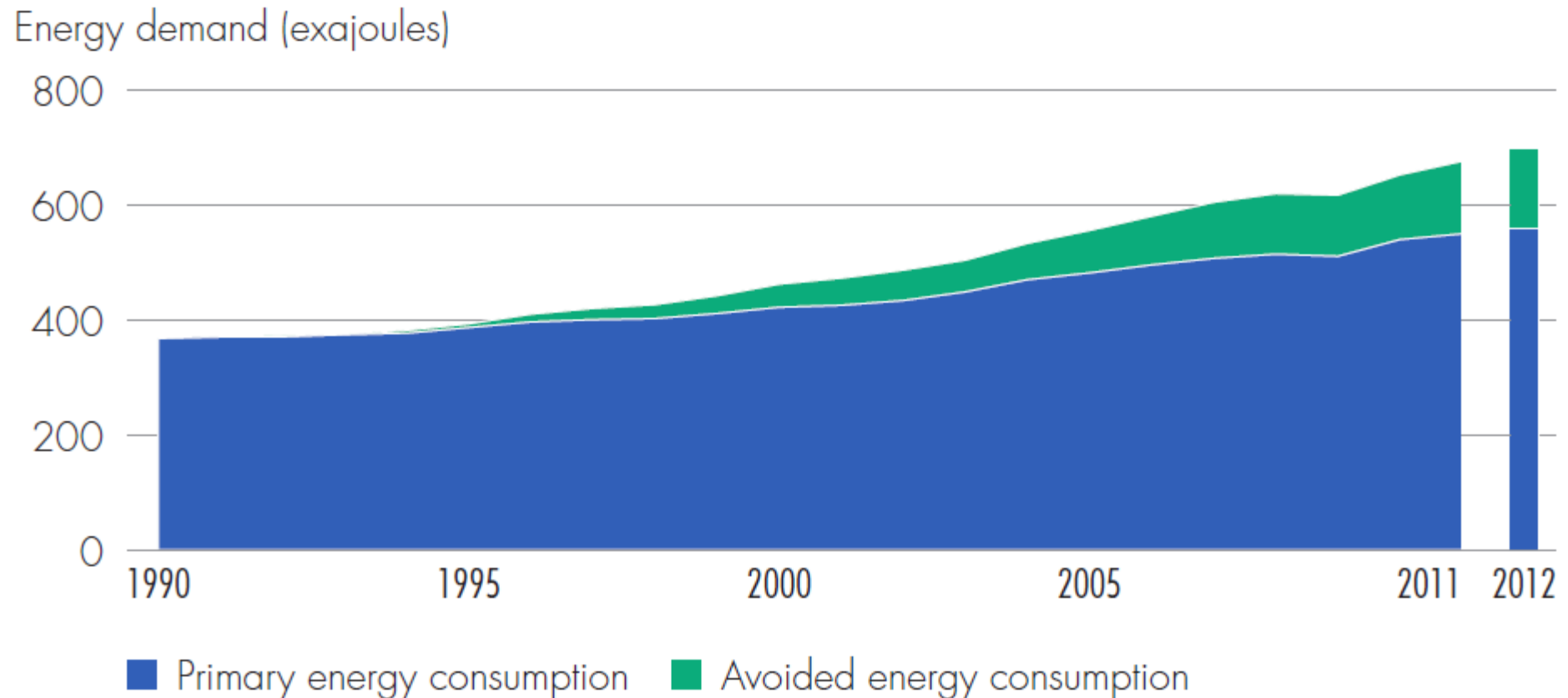


Source: Energy intensity decomposition analysis based on IEA, WDI, and UN databases.

Note: Countries ordered by total final energy consumption in 2012. See annex 1 for data and methods used for this and following figures. Includes transport, with activity measured as value added.

GTF energy efficiency indicators: demand side

Figure O.11. **Actual and avoided global primary energy consumption due to declining energy intensity**



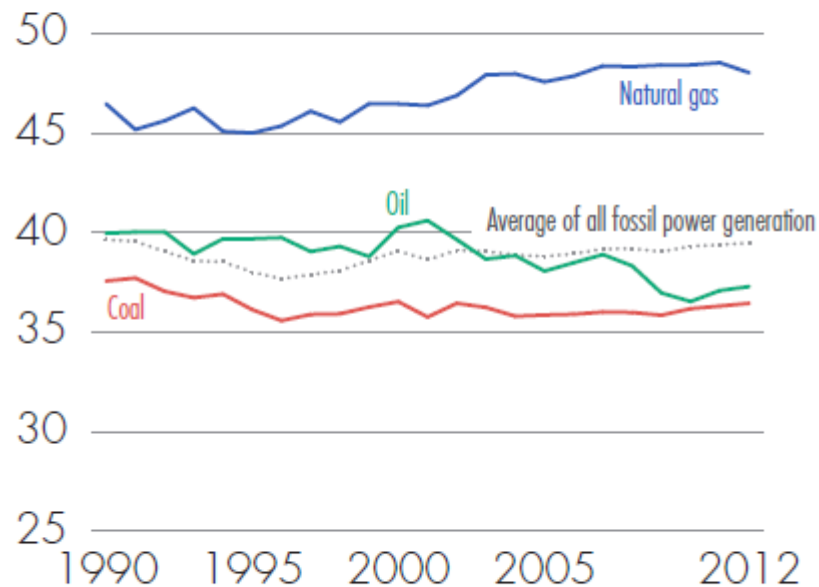
Source: Energy intensity decomposition analysis based on IEA, WDI, and UN data.

GTF energy efficiency indicators: supply side

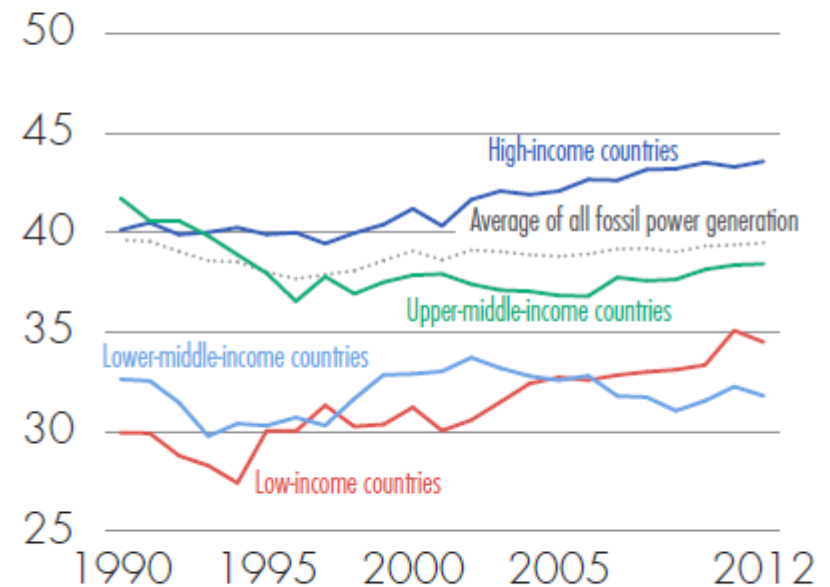
Figure 3.10. Thermal efficiency of fossil power generation by fuel and by income group

Overall thermal efficiency of fossil power generation (main activity producer plant, %)

By fuel



By income group

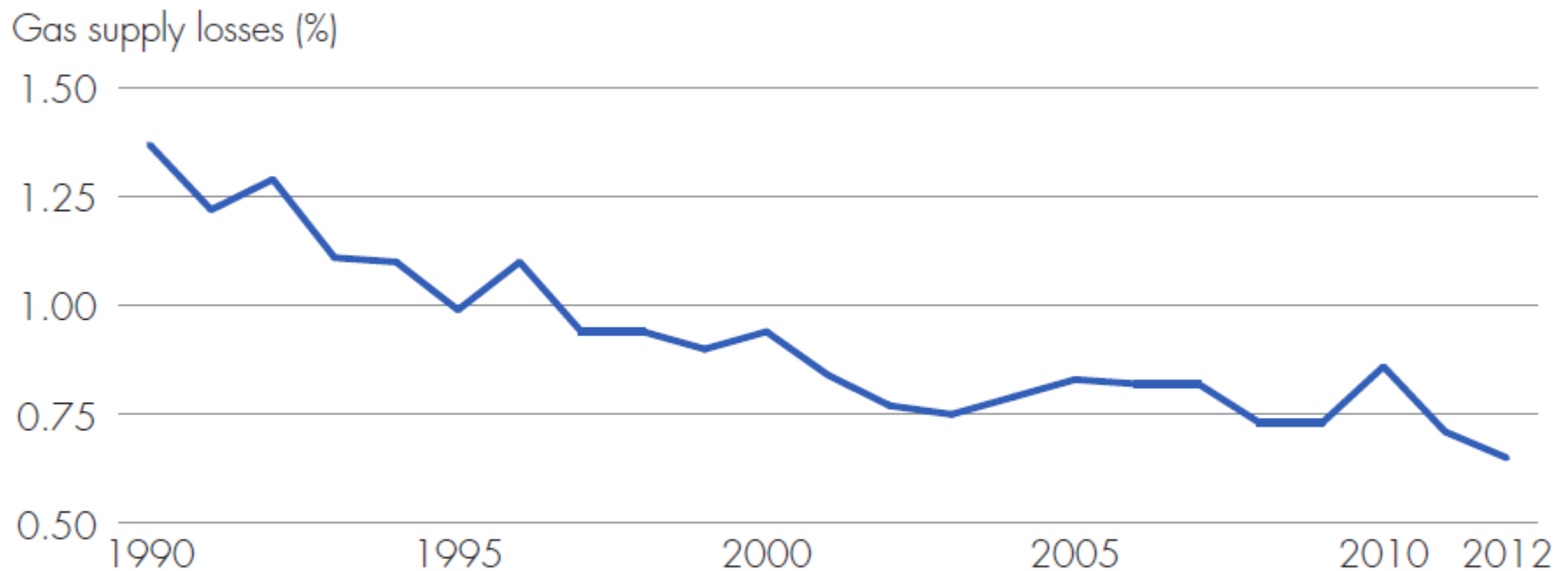


Source: IEA databases.

Note: Data are for main activity electricity plants, excluding, for instance, on-site power generation at industrial facilities.

GTF energy efficiency indicators: supply side

Figure 3.9. Global losses in natural gas transmission and distribution



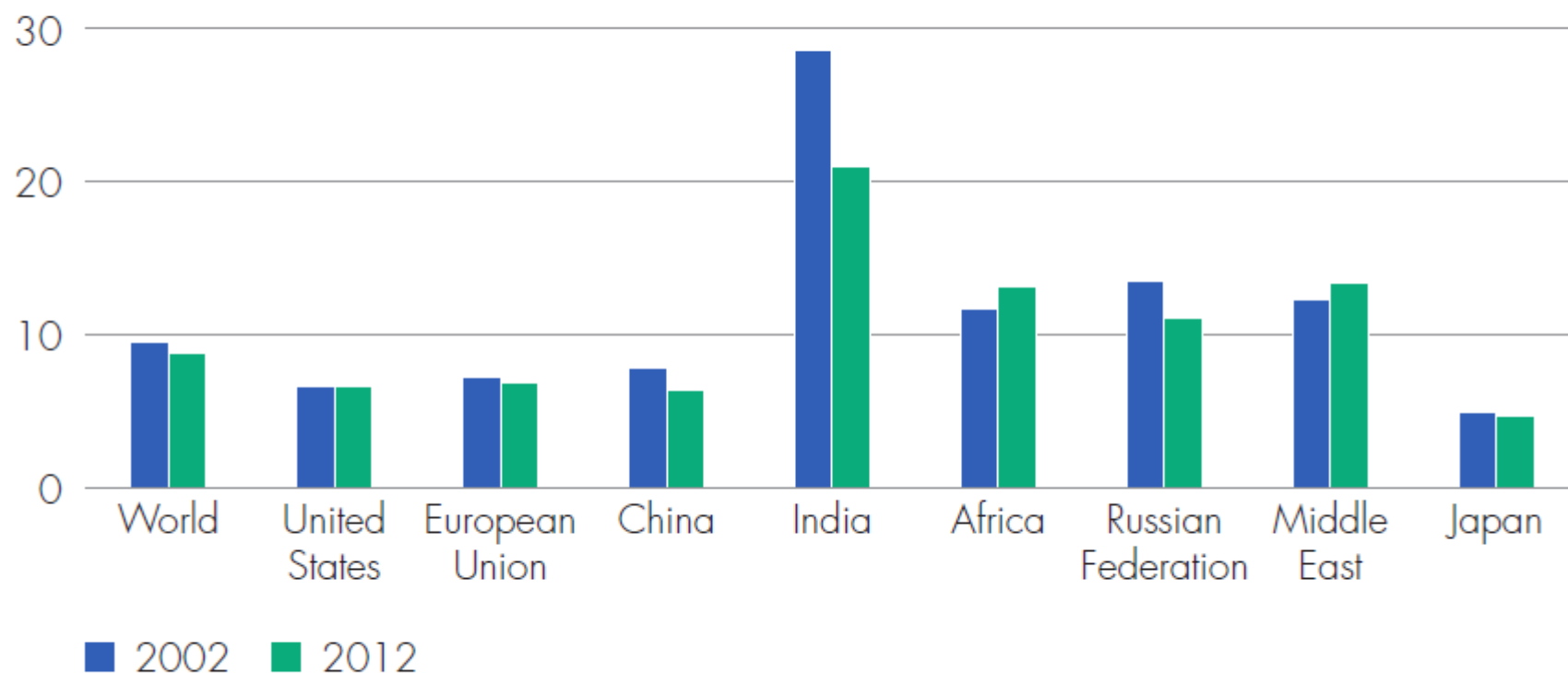
Source: IEA databases.

Note: To compensate for inconsistencies in the underlying data, U.S. refinery losses are assumed constant at 2012 levels throughout the period.

GTF energy efficiency indicators: supply side

Figure 3.11. T&D loss rates in the power sector, selected countries and regions

Transmission and distribution loss rate (%)



Source: IEA data.

Note: Transmission and distribution loss rates are calculated as a share of domestic supply (net generation plus imports less exports).

Improvements needed

Is this enough? NO!

- Improve what we have
 - Fill gaps in basic data sets
 - Harmonization
 - Communicate results better
- Add better indicators using expanded datasets
 - Explanatory drivers
 - Measure impact
- Capacity building

For more information on the GTF report,
please go to:

trackingenergy4all.worldbank.org

[#endenergypover](https://twitter.com/endenergypover)