



2nd Ministerial Meeting

Carbon Sequestration Leadership Forum (CSLF)

IEA World Energy Outlook and the Prospects for Carbon Capture and Storage

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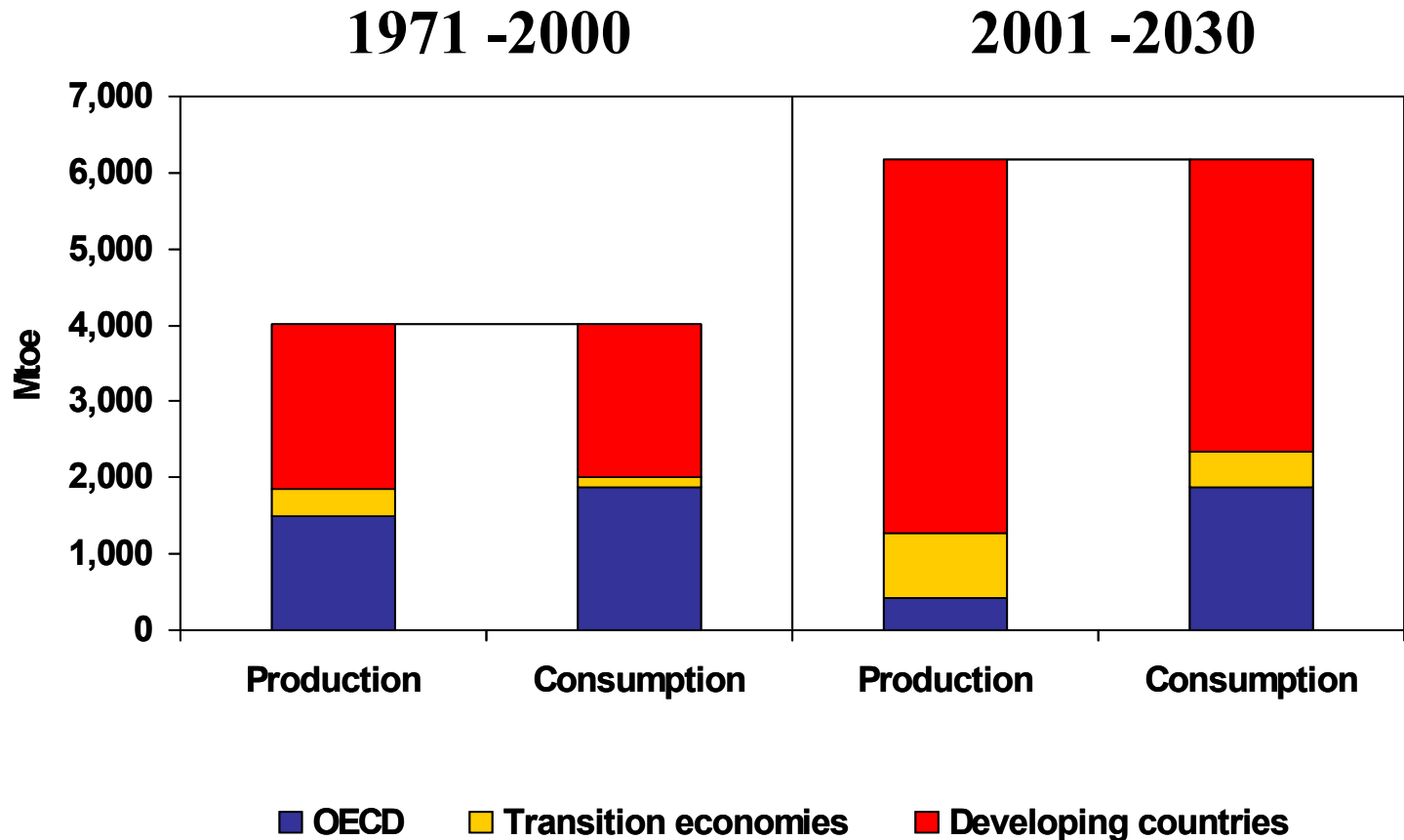
Global Strategic Challenges

IEA World Energy Investment Outlook

- **Security of Supply**
- **Threat of environmental damage caused by energy use**
- **Uneven access of the world's population to modern energy**
- **Investment in energy-supply infrastructure**



Increase in World Energy Production and Consumption

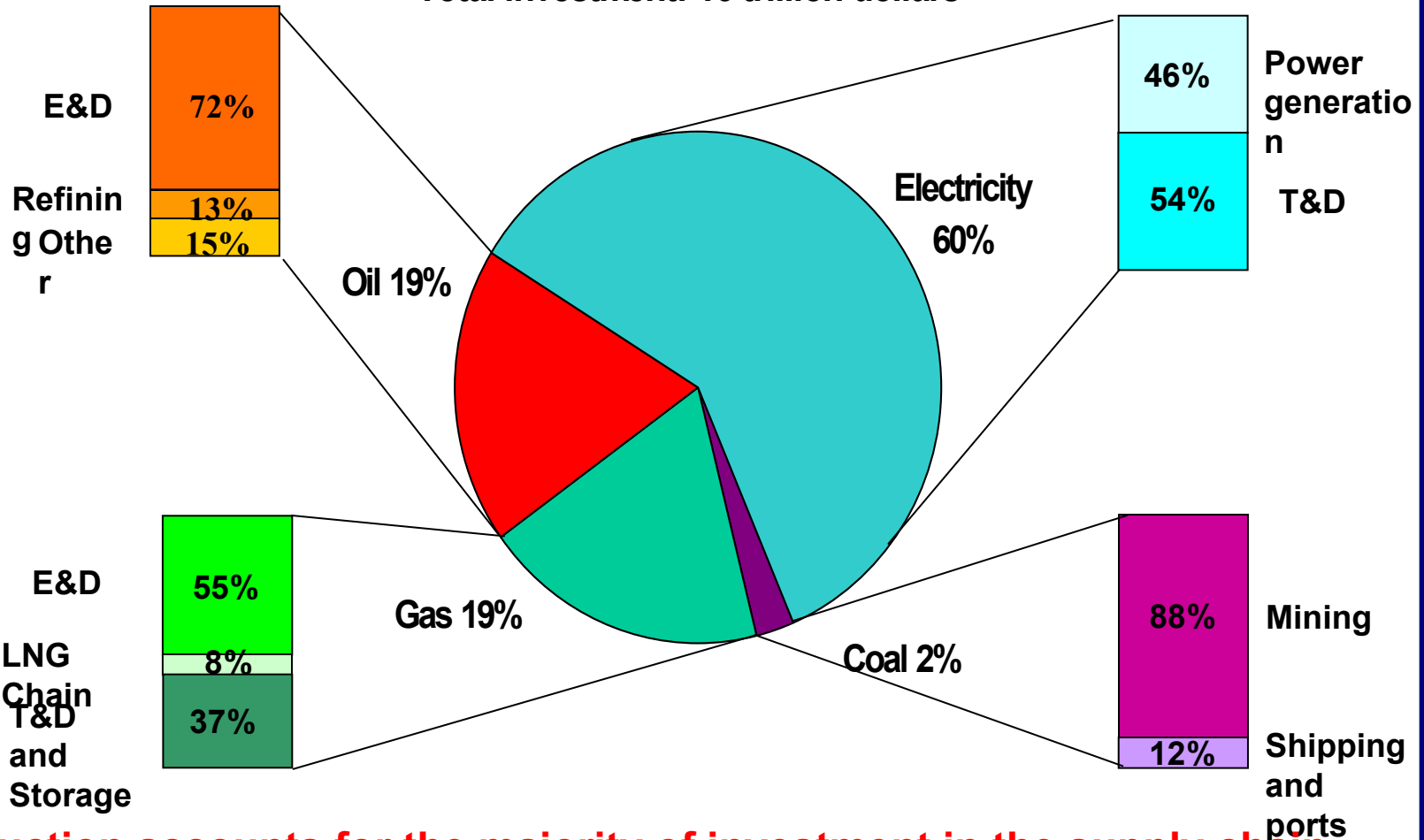


Almost all the increase in production occurs outside the OECD, compared with 60% in 1971-2000



World Energy Investment 2001-2030

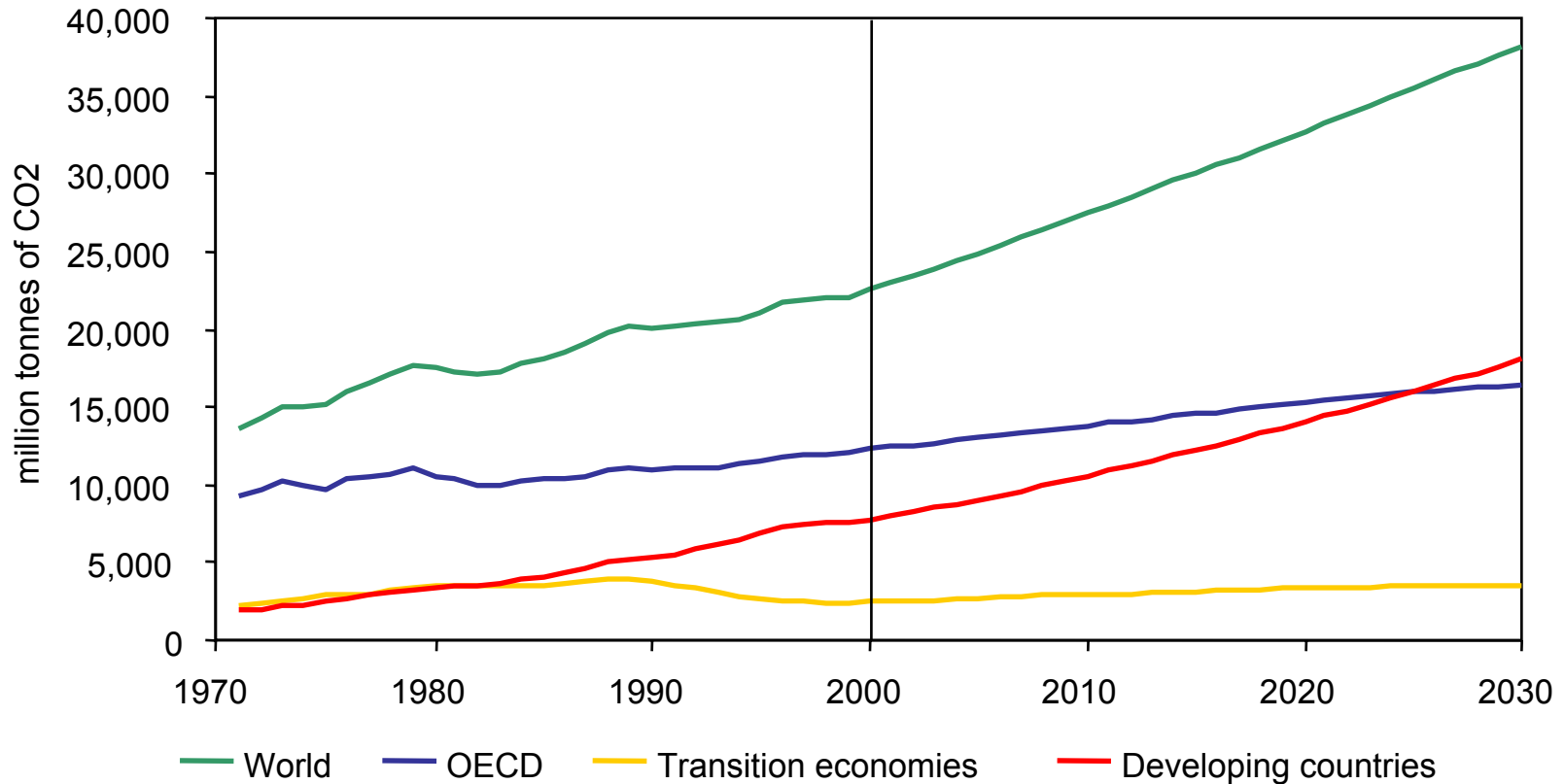
Total investment: 16 trillion dollars



Production accounts for the majority of investment in the supply chain –
except for electricity



Energy-Related CO₂ Emissions

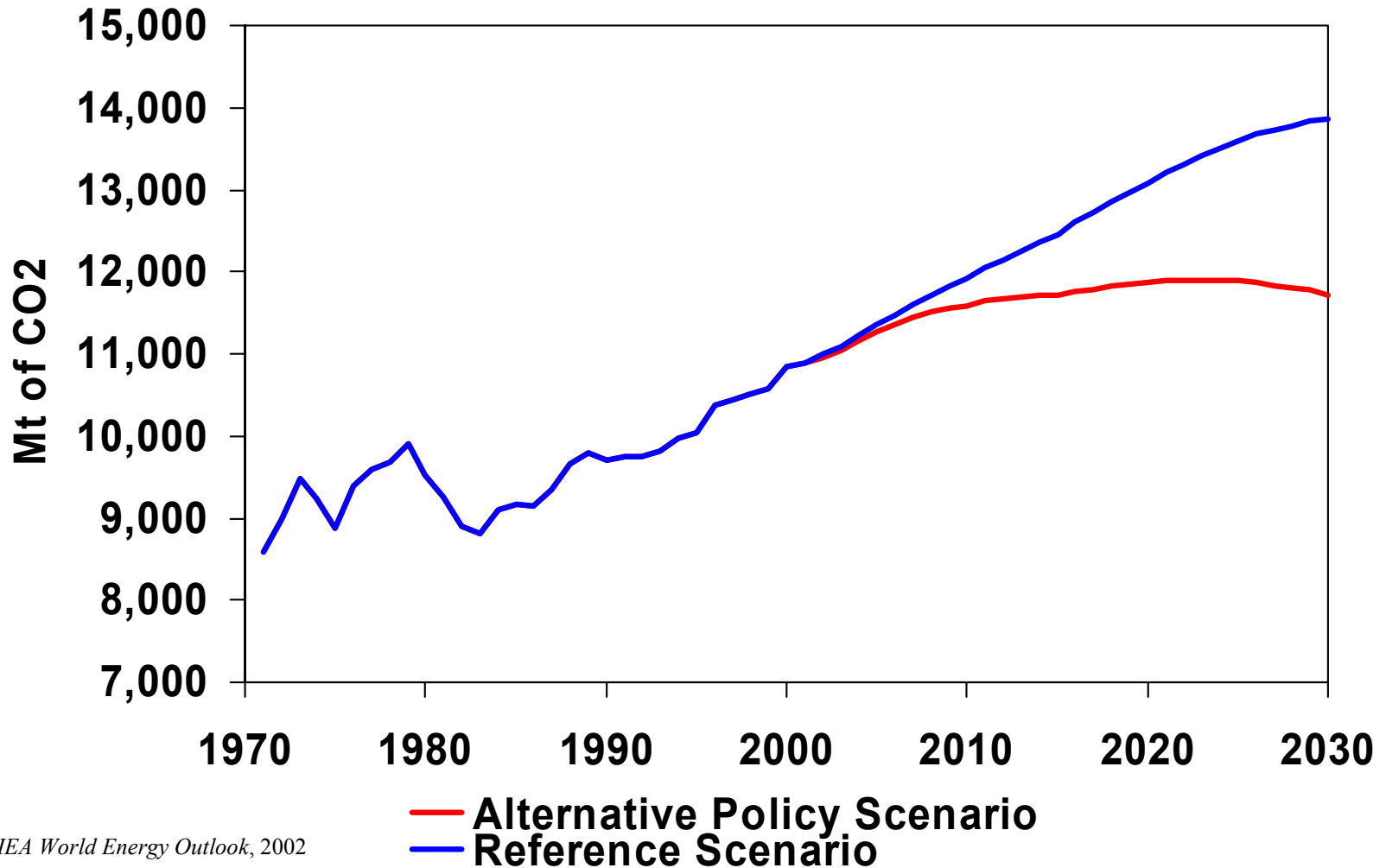


World emissions increase by 1.8% per year to 38 billion tonnes in 2030 – 70% above 2000

Source: IEA World Energy Outlook, 2002



WEO 2002 Alternative Policy Scenario Effect of Increased Efficiency + Renewables on OECD Countries' CO₂ Emissions



Source: IEA World Energy Outlook, 2002

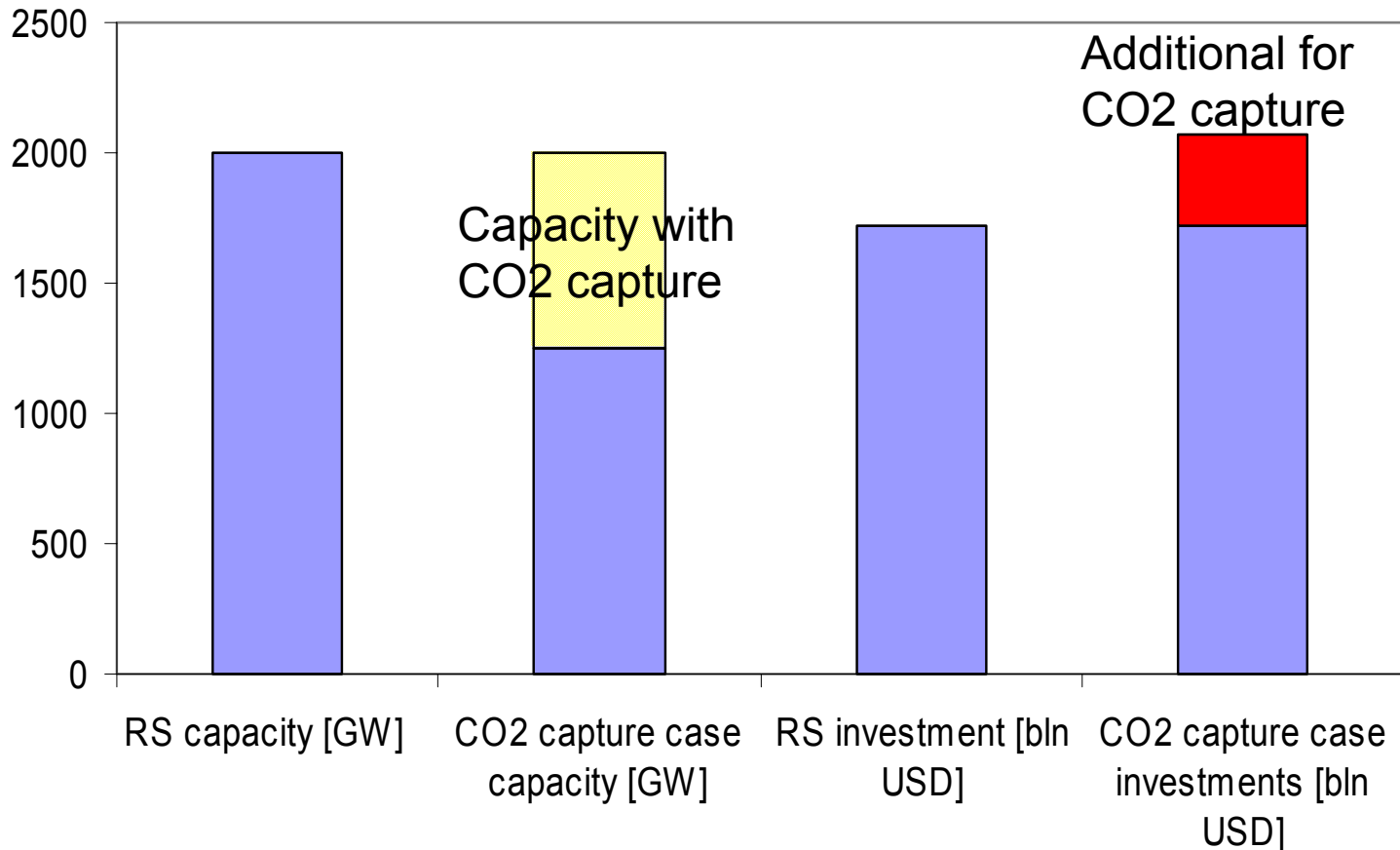


Beyond the Alternative Policy Scenario: What is needed?

- Policies that provide incentives for deep CO₂ emissions reduction
- A portfolio of technologies to save gigatonnes of CO₂
 - ◆ Efficient end-use technologies
 - ◆ Renewables
 - ◆ CO₂ Capture & Storage (CCS)
 - ◆ Advance Nuclear Reactors
 - ◆ Hydrogen
 - ◆ Advance Electricity Transmission and Distribution Technology



OECD CO₂ Capture: *Illustrative Capacity and Investments 'til 2030*





Conclusions

- **Incentives to develop advanced technologies could speed their deployment and dramatically alter energy investment patterns. CCS is one of the most promising transition technologies**
- **CCS development requires:**
 - ◆ **RD&D to develop CCS technology at competitive costs and acceptable environmental standards**
 - ◆ **Enabling legal and regulatory framework**
 - ◆ **Public acceptance**
 - ◆ **Financial incentives through carbon mitigation policies/mechanisms and level playing field to compete with other technology options**