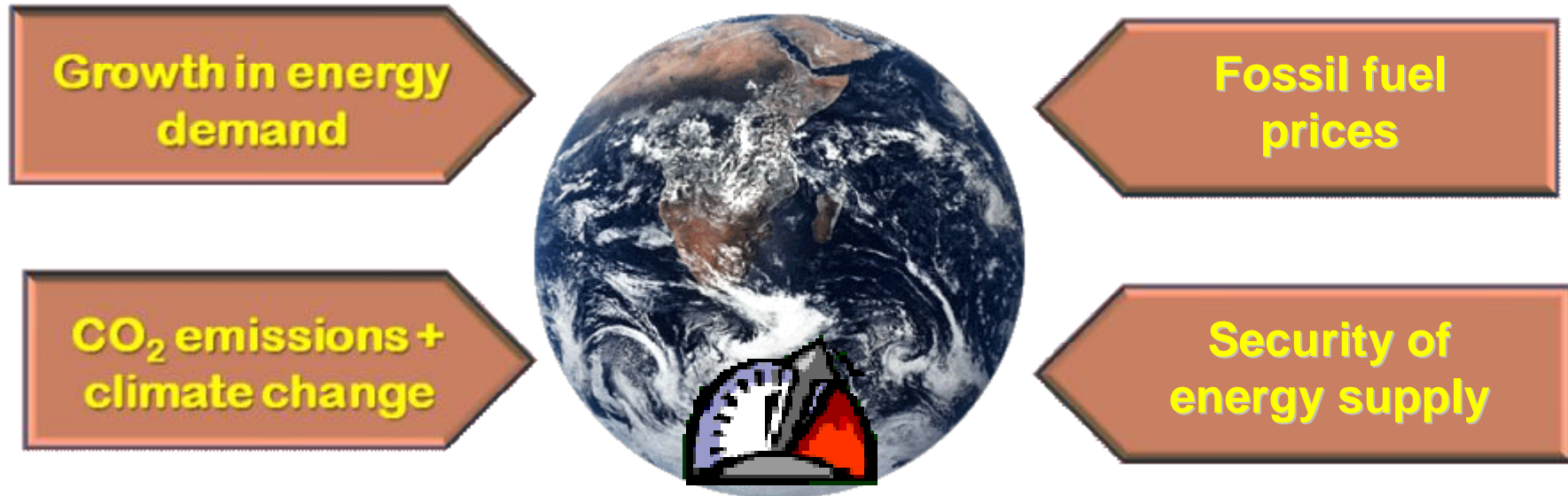


# Nuclear Energy Outlook

**Janice DUNN LEE**  
**Deputy Director-General**  
**OECD Nuclear Energy Agency**

**COP 14**  
**Poznan, Poland**  
**4 December 2008**

# Why the renewed interest in nuclear energy?



# Business as usual 2050

Population up by 50%...

Energy demand up by 100%...

Electricity demand up by 150%...

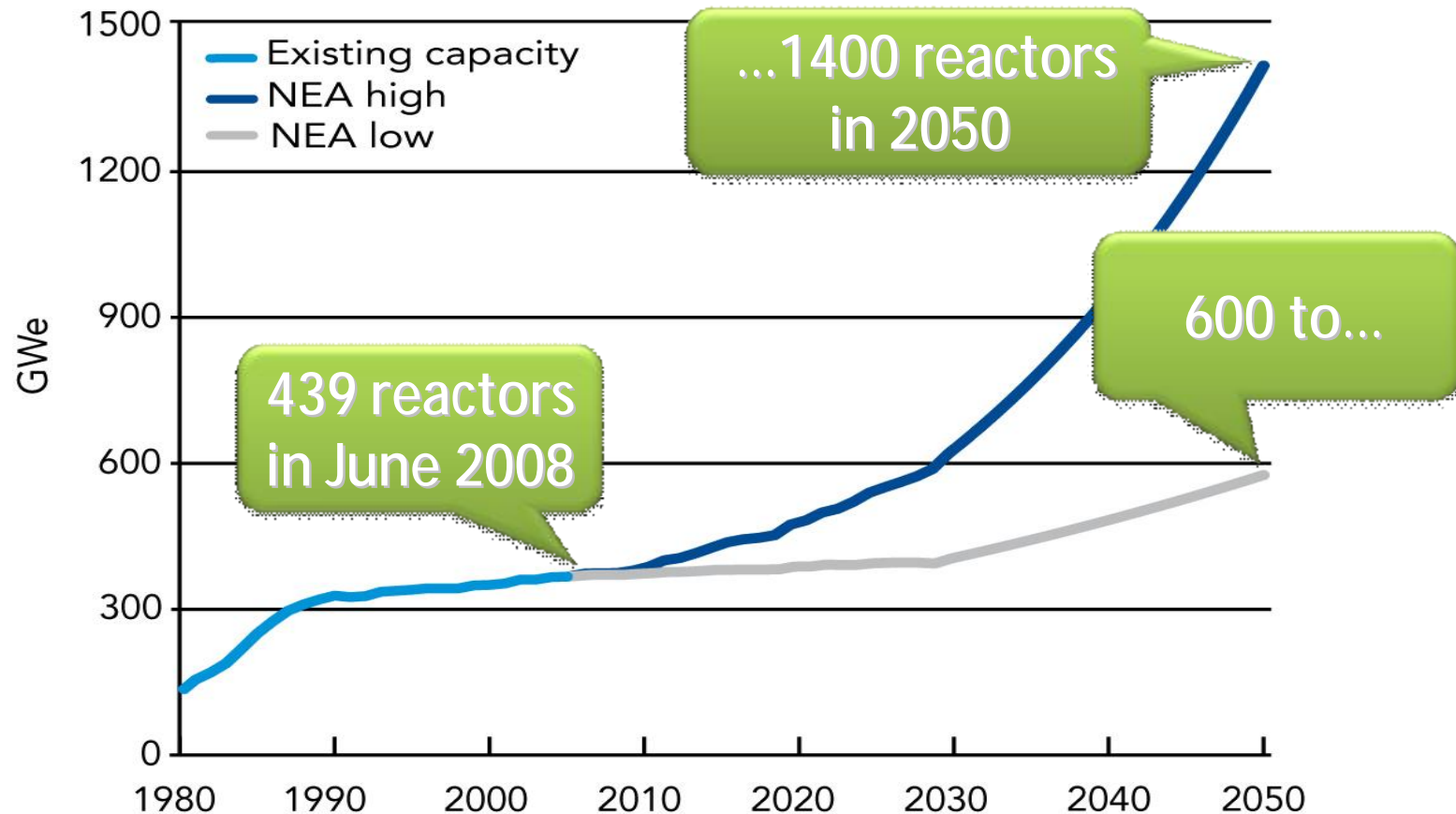


CO<sub>2</sub> emissions per unit of energy consumption must be reduced by a factor of 4

Nuclear power could make a significant contribution

# Nuclear energy's potential role

Figure 3.11: Global nuclear capacity in the NEA high and low scenarios



Nuclear power could expand by a factor of nearly 4

# Potential benefits of nuclear power


- **Virtually CO<sub>2</sub>-free**
- **Diverse, politically stable sources of plentiful uranium**
- **Cost competitive**
- **Avoids significant health effects**

# **Managing current and future challenges**

- **Nuclear Safety**
- **Radioactive Waste**
- **Nuclear Proliferation**

# 1400 reactors in 2050?

Today's reactors are fit for purpose and could provide for a significant expansion to 2050



**Significant CO<sub>2</sub> alleviation now**

Tomorrow's fast reactors can expand the energy available from uranium by up to 60 times



**Vast resources of virtually  
CO<sub>2</sub>-free energy**

# But!...

**Governments have clear responsibilities to enable nuclear energy's role in future sustainable energy mixes**



# The facts are all here...



- Chapter 1. Current Status
- Chapter 2. Programmes and Government Policies
- Chapter 3. Projections to 2050
- Chapter 4. Environmental Impacts of Energy Use and Power Production
- Chapter 5. Uranium Resources and Security of Supply
- Chapter 6. Providing Electricity at Stable and Affordable Costs
- Chapter 7. Nuclear Safety and Regulation
- Chapter 8. Radioactive Waste Management and Decommissioning
- Chapter 9. Non-proliferation and Security
- Chapter 10. Legal Frameworks
- Chapter 11. Infrastructure: Industrial, Manpower and R&D Capability
- Chapter 12. Stakeholder Engagement
- Chapter 13. Advanced Reactors
- Chapter 14. Advanced Fuel Cycles