



International Atomic Energy Agency

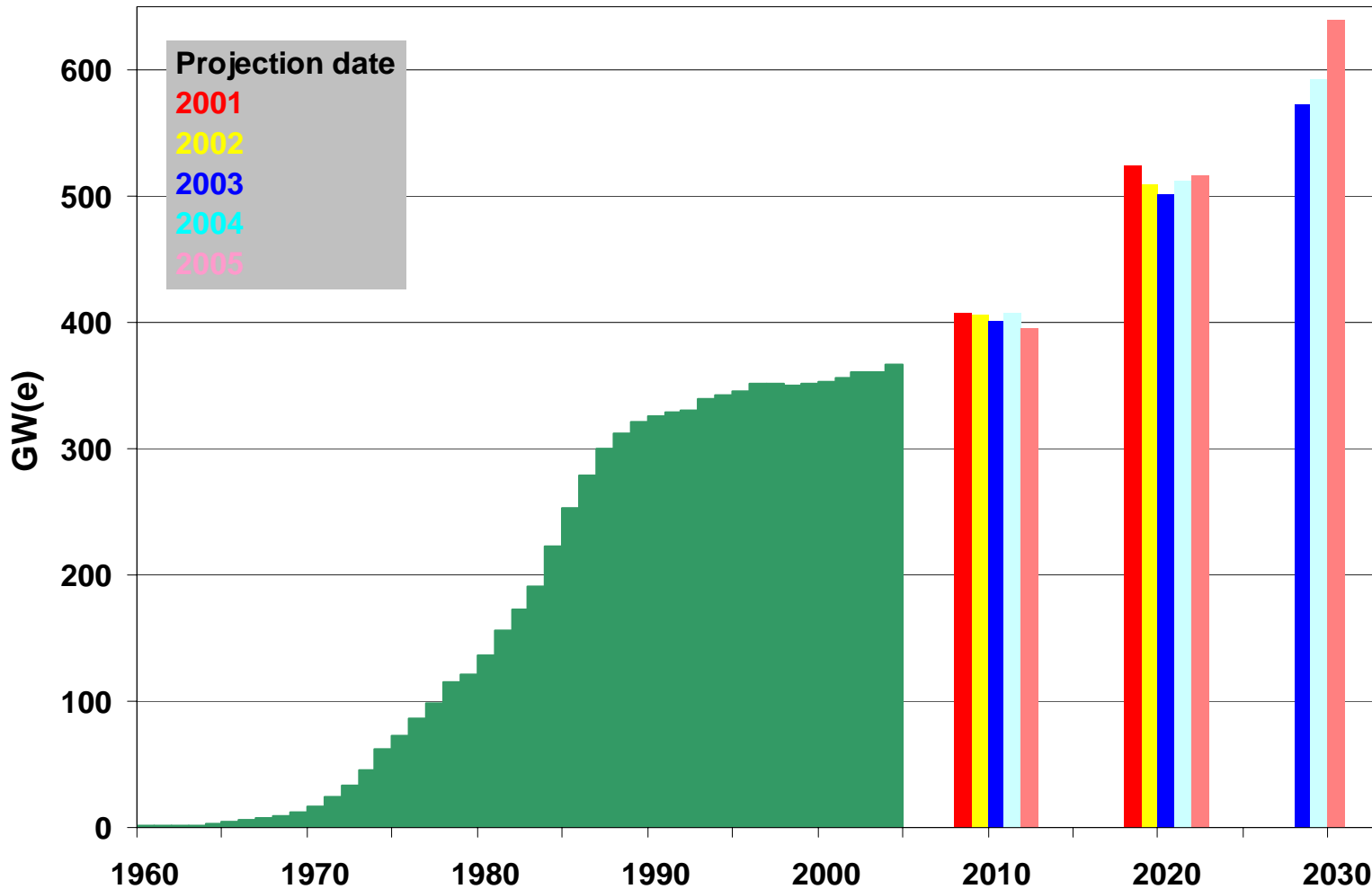
Nuclear Power Revival: Short-Term Anomaly or Long-Term Trend?

H.-Holger Rogner
Department of Nuclear Energy

Rising Expectations?

- **Medium-terms projections are on the rise**

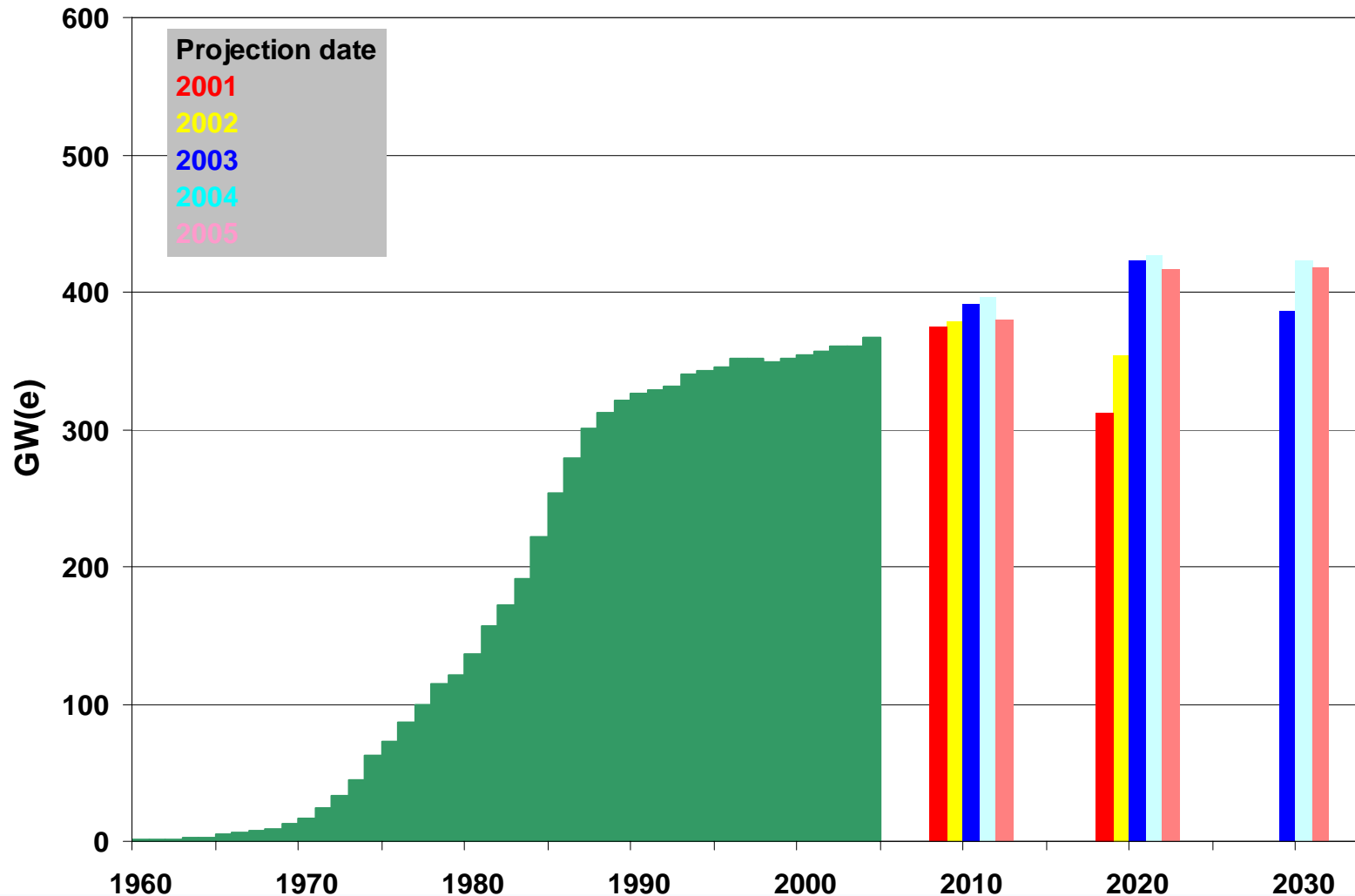
Rising expectations – A sequence of nuclear power projections (IAEA high)



Rising Expectations?

- **Medium-terms projections are on the rise**
- **However, there is quite some uncertainty about how much**

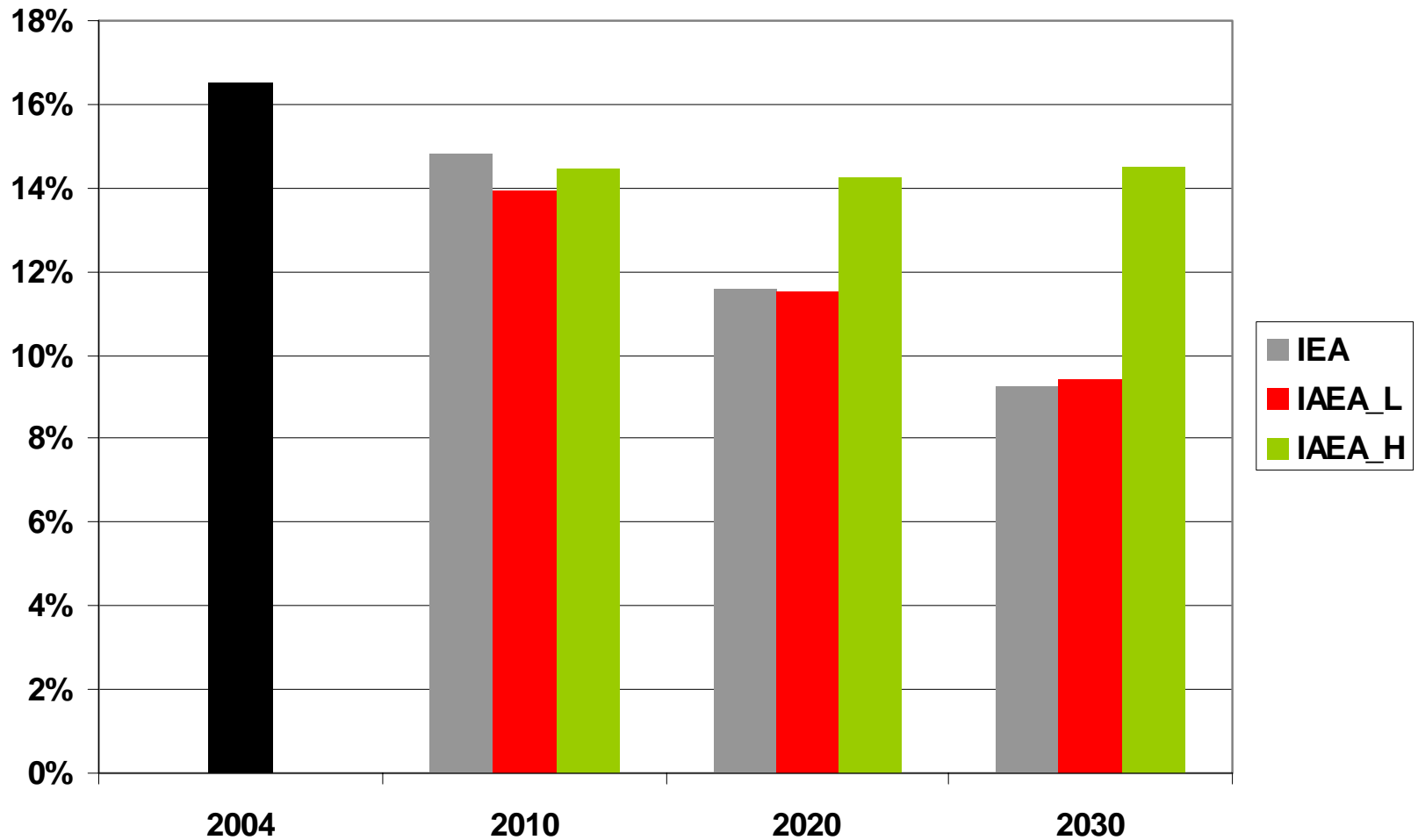
Capped optimism? – A sequence of nuclear power projections (IAEA low)



Rising Expectations?

- **Medium-terms projections are on the rise**
- **There is still quite some uncertainty about how much**
- **Short-term projections foresee a declining share of nuclear electricity**

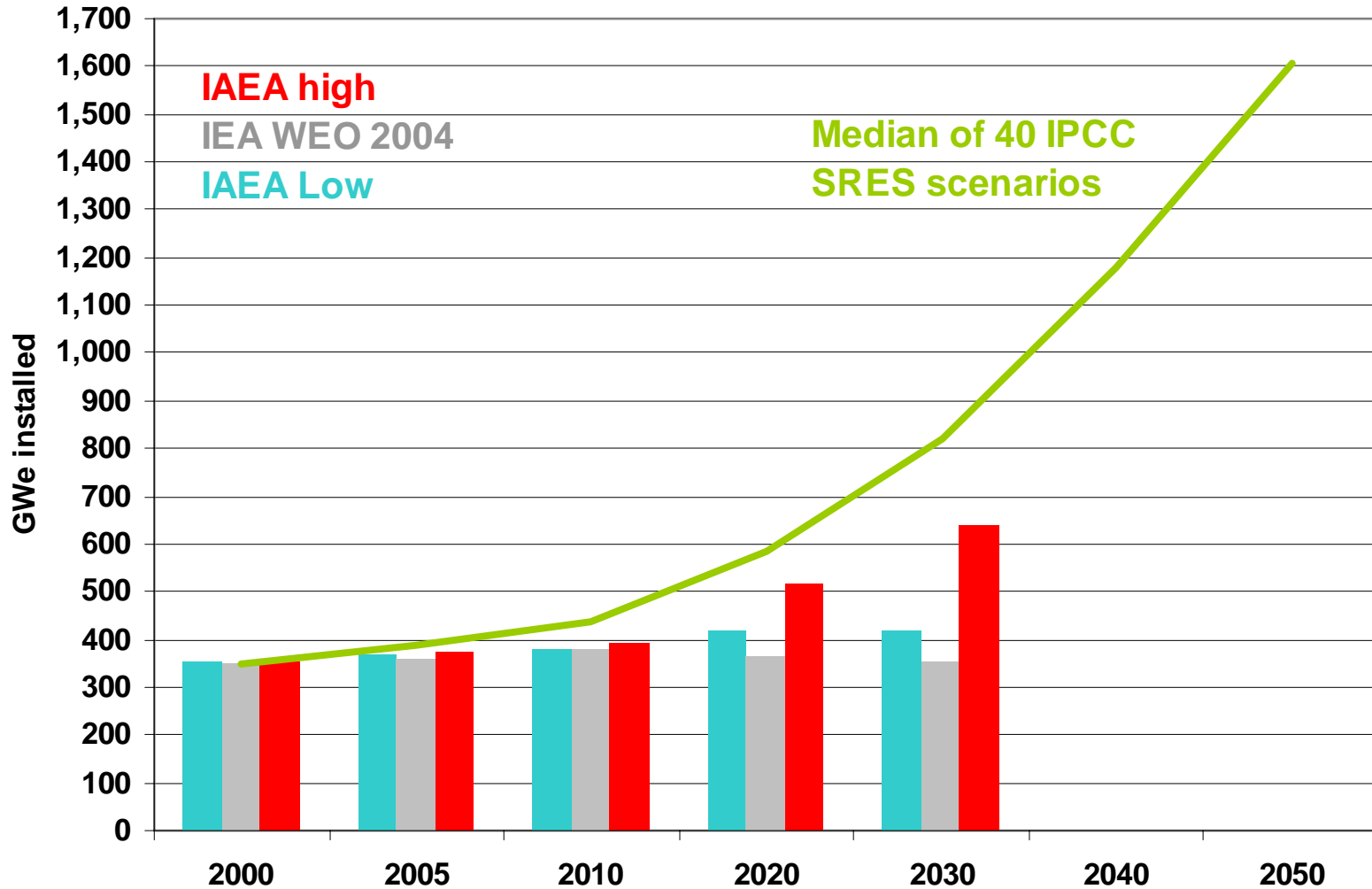
Nuclear share in electricity generation



Rising Expectations?

- **Medium-terms projections are on the rise**
- **There is still quite some uncertainty about how much**
- **Short-term projections foresee a declining share of nuclear electricity**
- **Why this projection gap?**

Projection Gap



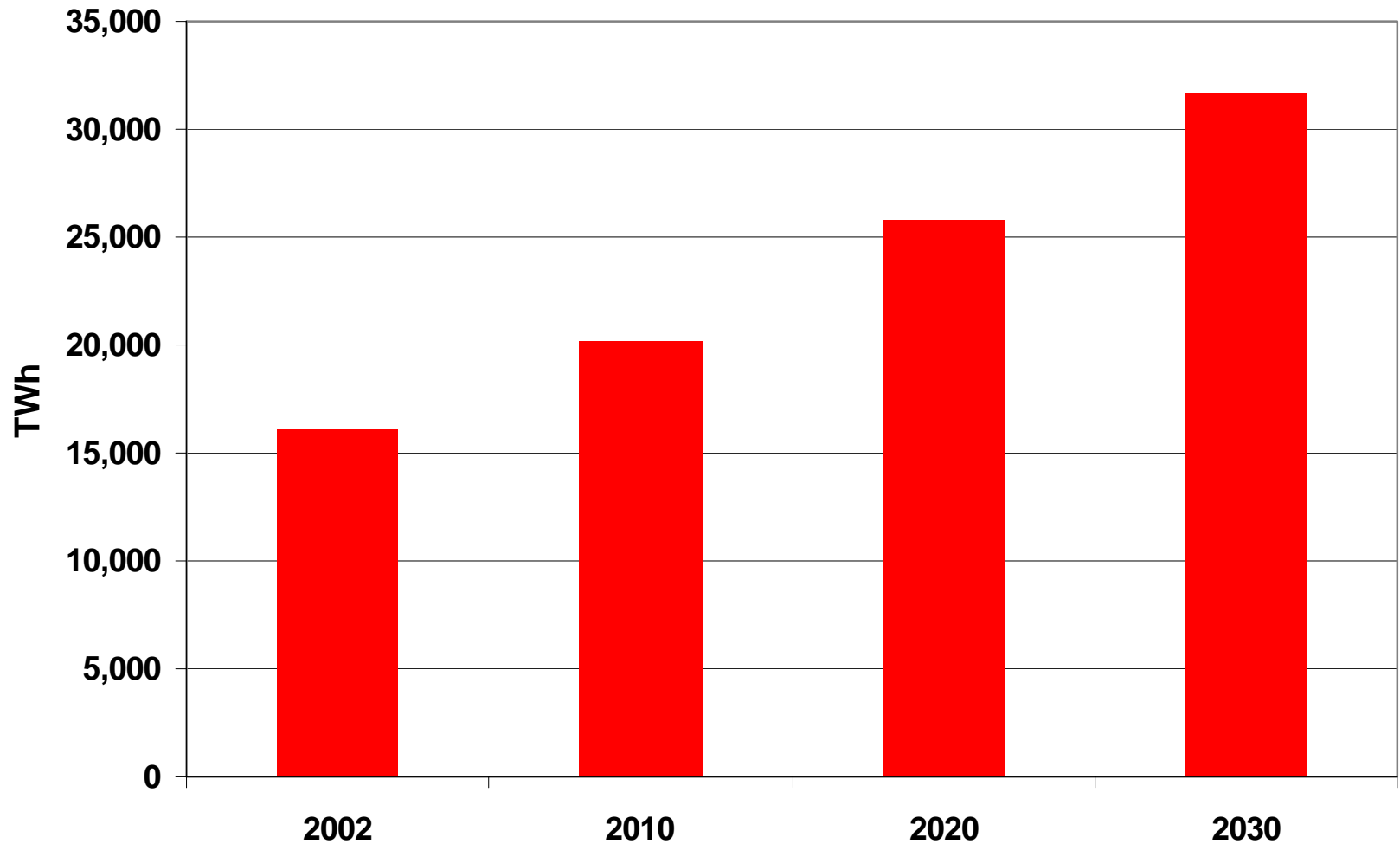
Fundamentals of the Projection Gap

- **Discount rates**
- **Financial risks**
- **Resource availability**
- **Innovation**
- **Politics vs. economics**

Closing the Gap

➤ Global energy demand

Electricity Demand Projection

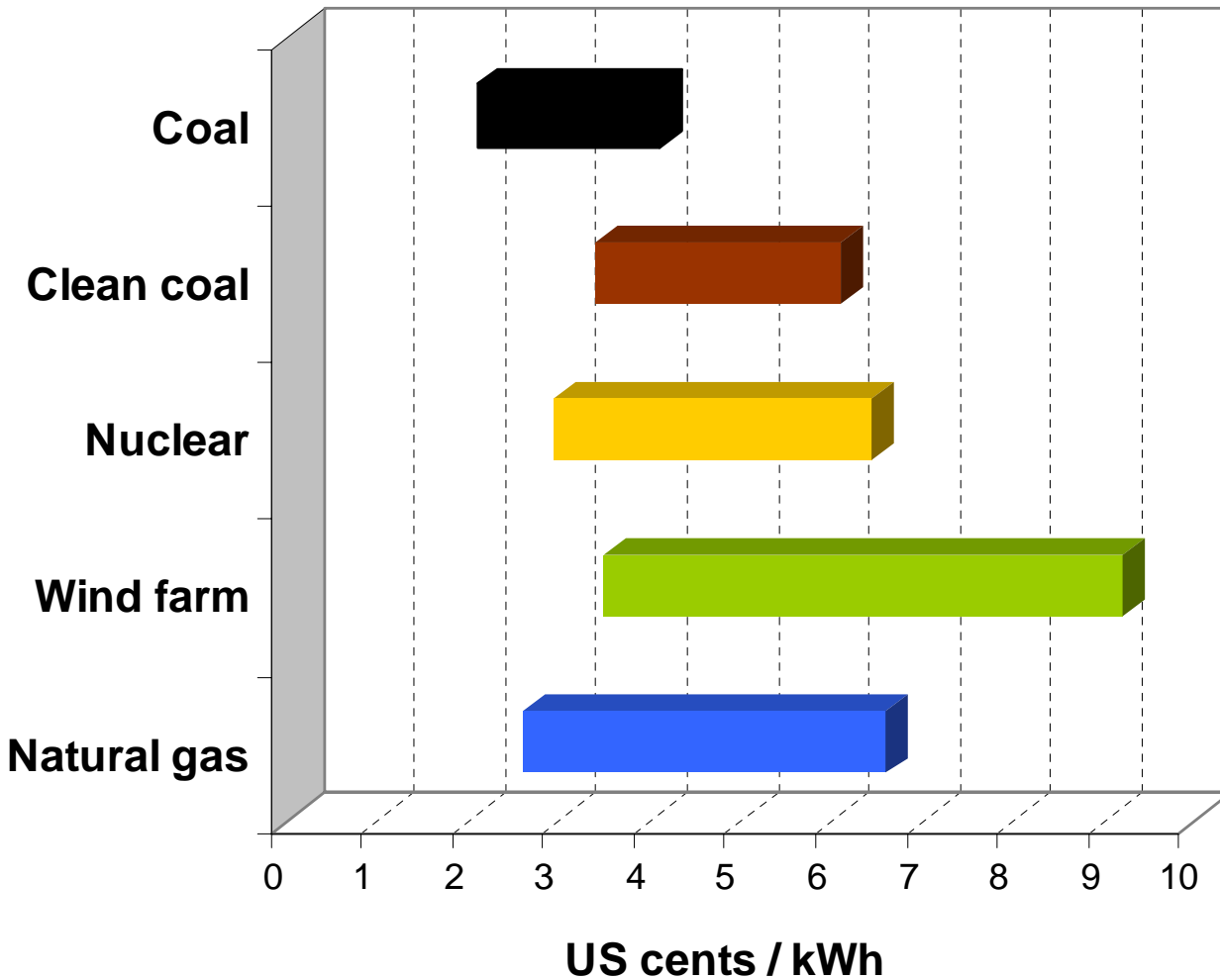


Source: IEA WEO 2004

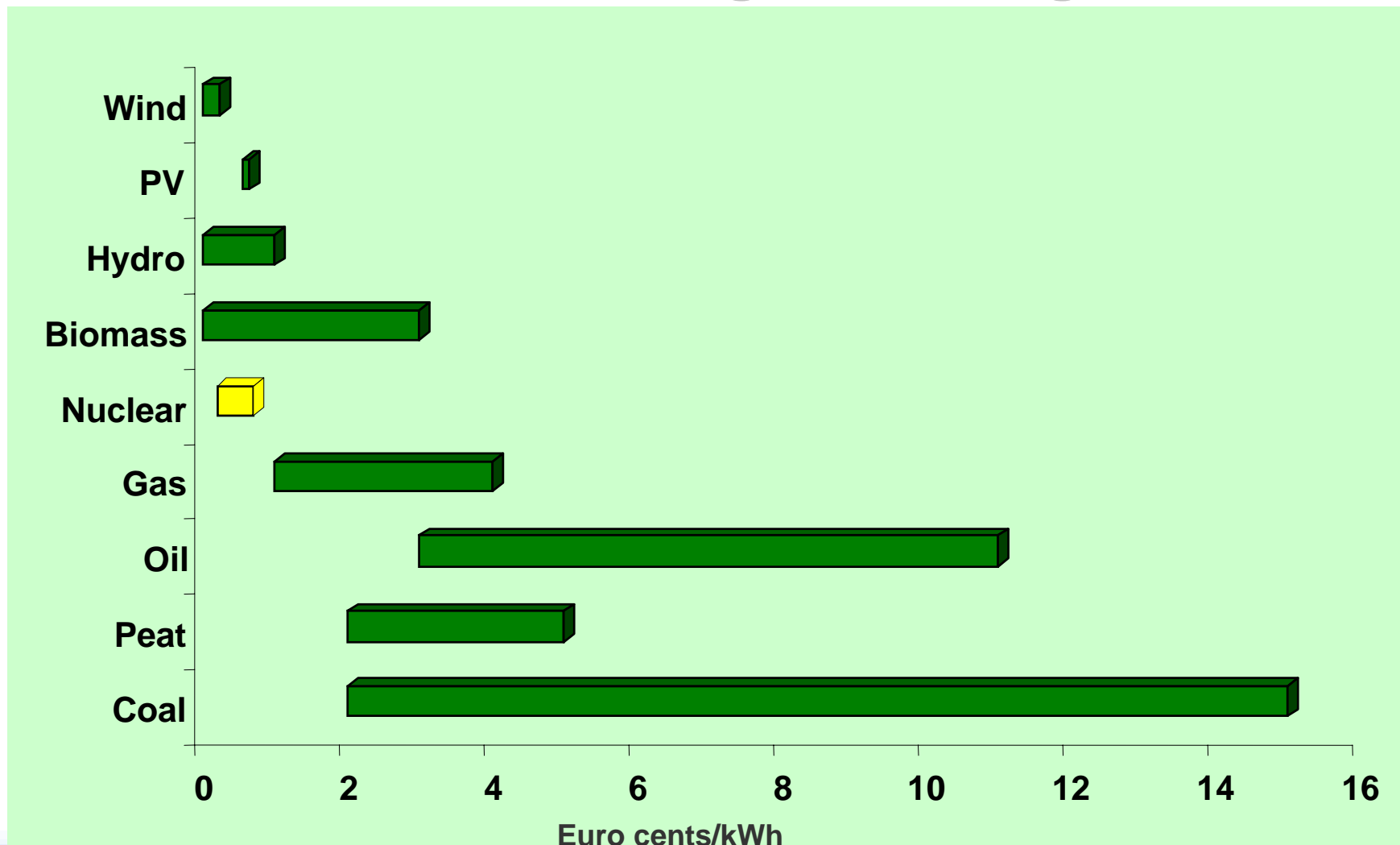
Closing the Gap

- **Global energy demand**
- **Economics**
 - **US\$20 oil is history**
 - **Nuclear generating costs competitive**
 - **Externalities largely internalized**

Levelized Generating Costs of New Electricity Generating Capacities



External Cost Figures for Electricity Generation in the EU for Existing Technologies

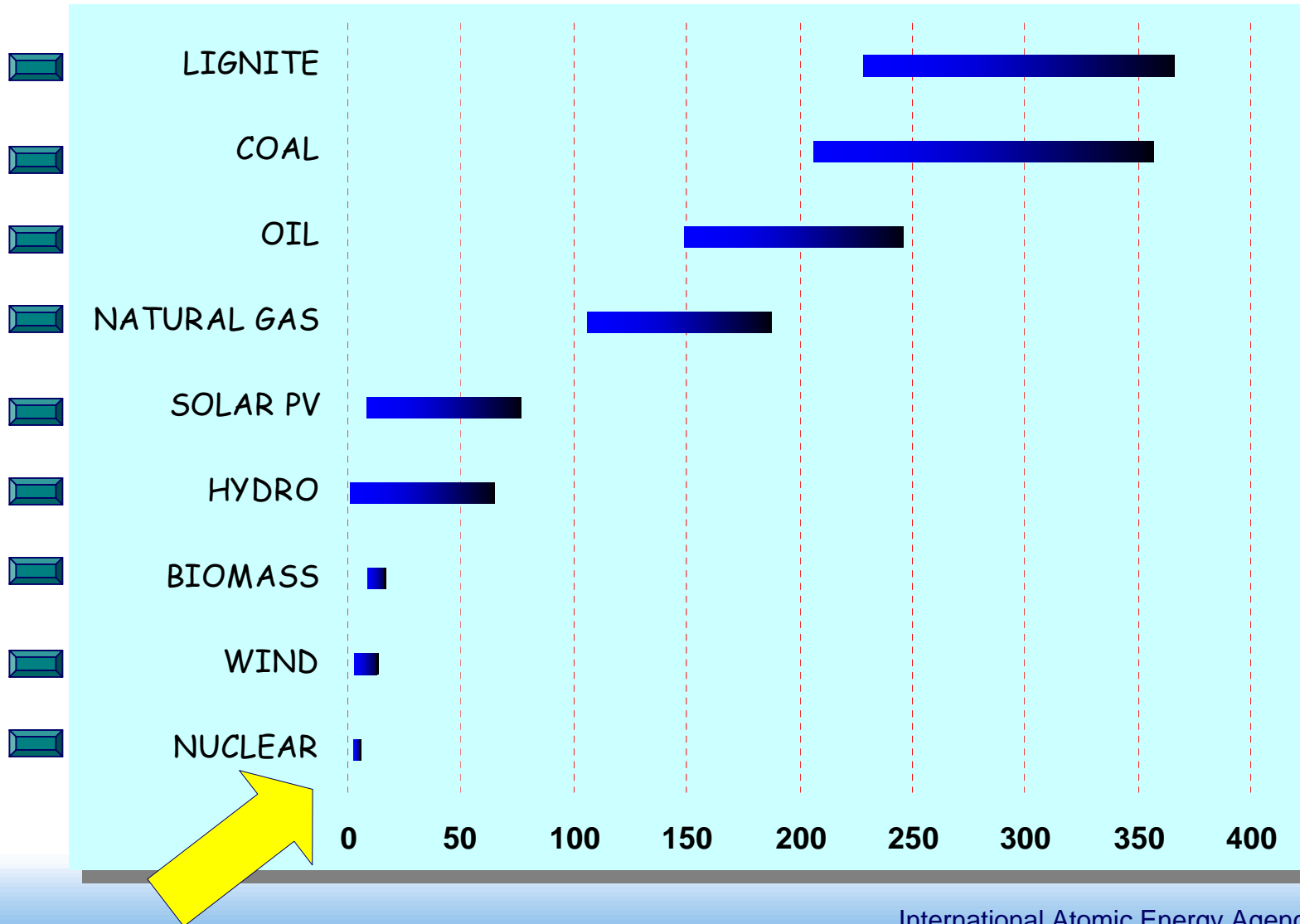


Closing the Gap

- **Global energy & electricity demand**
- **Economics**
- **Climate change (>> US\$100/tC)**



Greenhouse Gas Emissions (gC_{eq} per kWh)



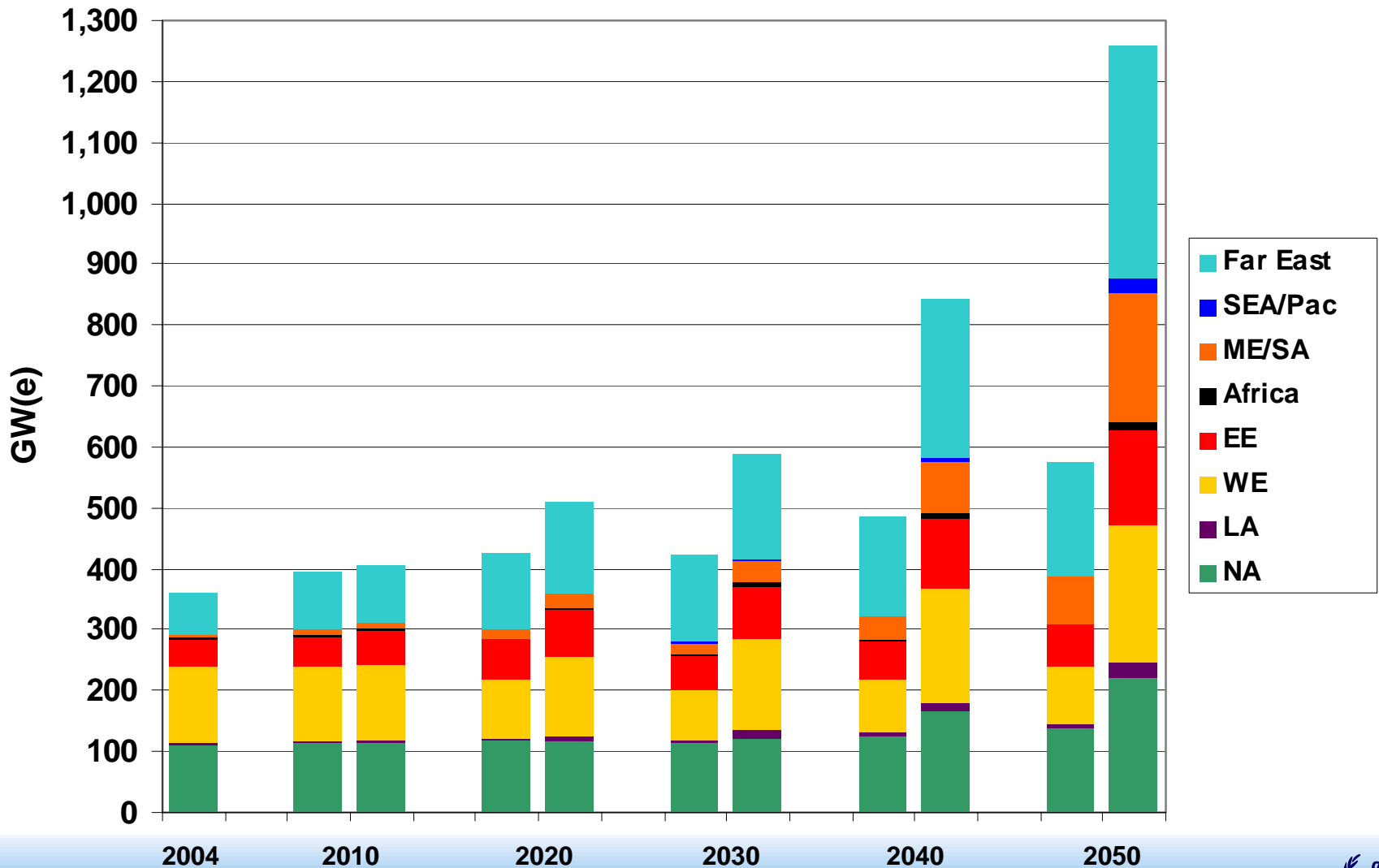
Closing the Gap

- **Global energy & electricity demand**
- **Economics**
- **Climate change (>> US\$100/tC)**
- **Politicians**
- **Prominent members of the Greens**
- **Media**

Is the Nuclear Renaissance here?

- **Rising expectations**
- **Area of immediacy is broadening**
- **Post Kyoto negotiations & schemes**
- **Economics the ultimate driver**

A Longer-Term Perspective



IAEA



...atoms for peace.