Energy databases: the multilateral perspective

ANP/ARIAE Workshop on energy databases, Rio de Janeiro, Brazil – June 2015

Pierre Boileau, Head, Non-OECD Country Energy Statistics

International Energy Agency

Founded in 1974

- **Formed in wake of 1973 oil embargo with mission to promote member country energy security -- autonomous agency of the Organisation for Economic Cooperation and Development (OECD)**

29 member countries

- **Asia Pacific:** Australia, Japan, Korea and New Zealand
- **North America:** United States, Canada
- **Europe:** Austria, Belgium, Czech Rep, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, Netherlands, Norway, Poland, Portugal, Slovak Republic, Spain, Sweden, Switzerland, Turkey and United Kingdom
- **European Commission** also participates in the work of the IEA
- **Chile** is in the process of accession to become members of the IEA

Headquarters: Paris

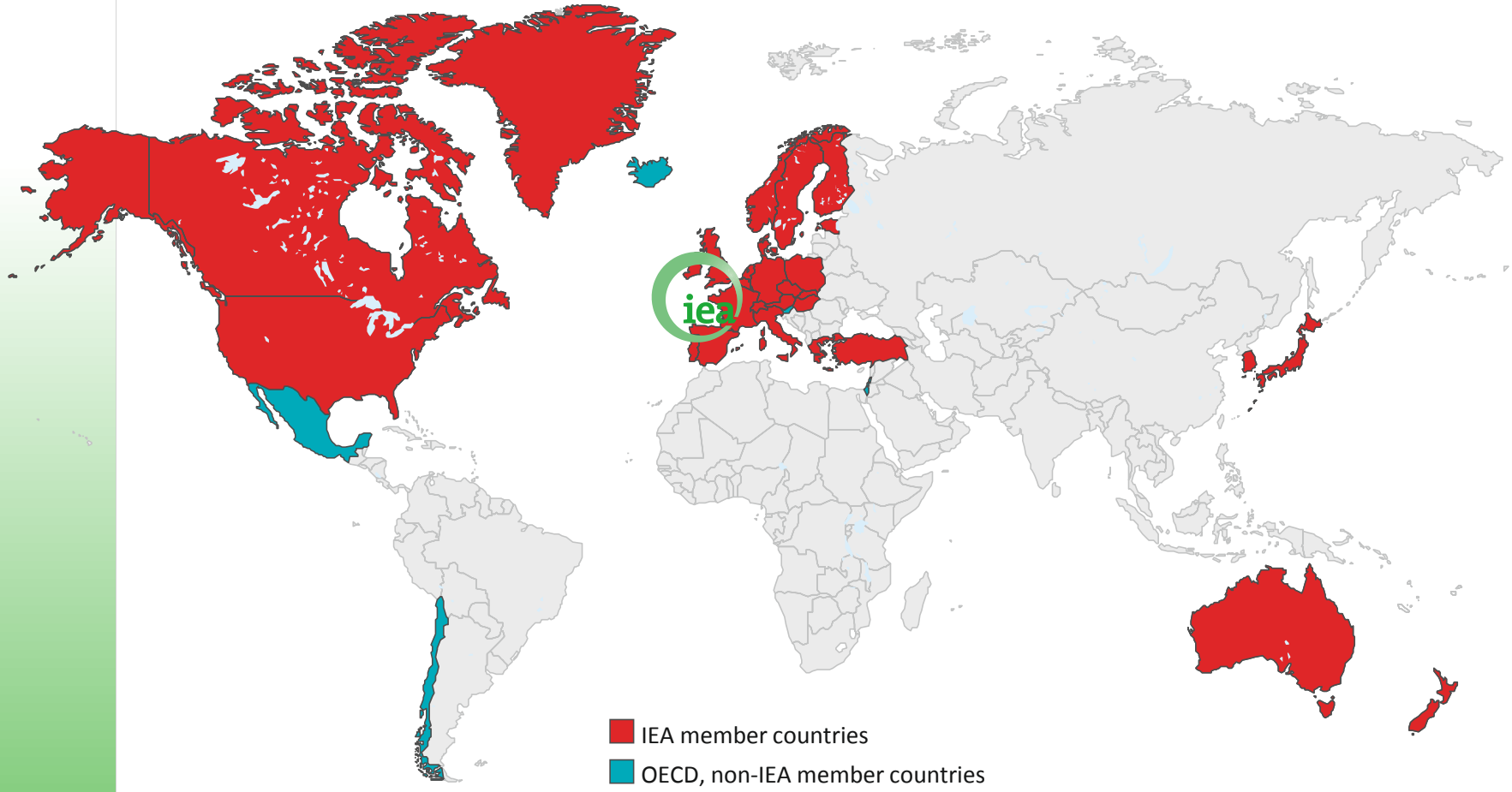
Decision-making body: Governing Board

- Consists of member country representatives
- Under the Governing Board, several committees are focusing on each area

Secretariat:

- **Staff of around 240,** mainly energy experts and statisticians from its member countries

International Energy Agency



- **Autonomous Agency of the OECD**
- **Established in 1974 after 1st Oil Crisis**
- **29 Members Countries (vs. 34 for OECD)**
- **4 Es: Energy security, Economy, Environment and Engagement**

Structure of the IEA

- Energy Data Centre
- Office of Global Energy Policy
- Office of Legal Counsel
- Office of Management and Administration
- Office of Communication and Information

Office of the Executive Director

Maria Van Der Hoeven (Executive Director)

Vacant (DED)

Directorate of Global Energy Economics

Fatih Birol

Directorate of Energy Markets and Security

Keisuke Sadamori

Directorate of Sustainable Policy and Technology

Vacant

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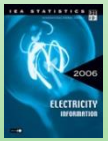
Head of Division
Duncan Millard

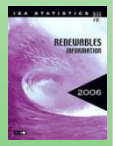
Secretariat
Maike Fischmann

Desk-Top Publisher
Sharon Burghgraeve

Coal, Electricity and Renewables
Vladimir Kubecek


Annual Coal


Annual Electricity


Annual Renewables


Short-Term Statistics (coal, electricity)

Oil and Natural Gas
Erica Robin


Annual Oil


Annual Natural Gas


Monthly Oil Statistics


Monthly Gas Statistics

JODI


Oil Emergency - Qu


Gas Trade Flow Maps

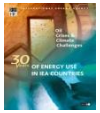
Balances, Prices & Taxes, Efficiency and Emissions
Roberta Quadrelli


Energy Prices and Taxes

Energy Statistics and Balances

SLT and R&D Statistics


CO2 Emissions


Energy efficiency

OECD

Non-Member Countries
Pierre Boileau


Energy Statistics and Balances of Non-OECD Countries


Energy Statistics and Balances of Non-OECD Countries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Energy Statistics and Balances of Non-OECD Countries

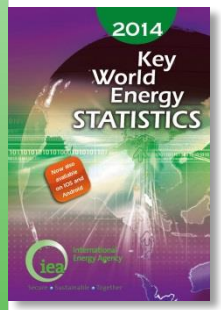
NMC

IEA Energy Data and Statistics

Books

CDs

Booklet



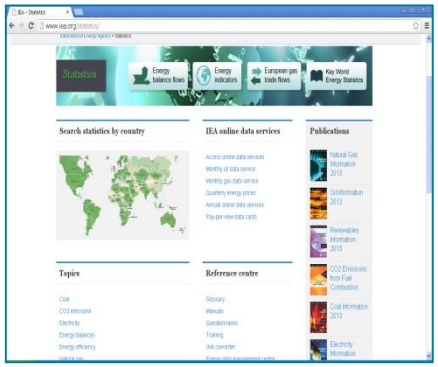
10 000 copies and over 100 000 downloads a year for the IEA Key World Energy Statistics

Mobile App

Due to the great success of the Key World Energy Statistics iPhone and iPad applications, the IEA now offers an Android application too

Internet

The statistics web page is by far the most visited page of the IEA website



Energy database or energy data management system?

- Database implies only the IT component
- System includes other elements

Legislation for data collection

Policies and procedures for data compilation

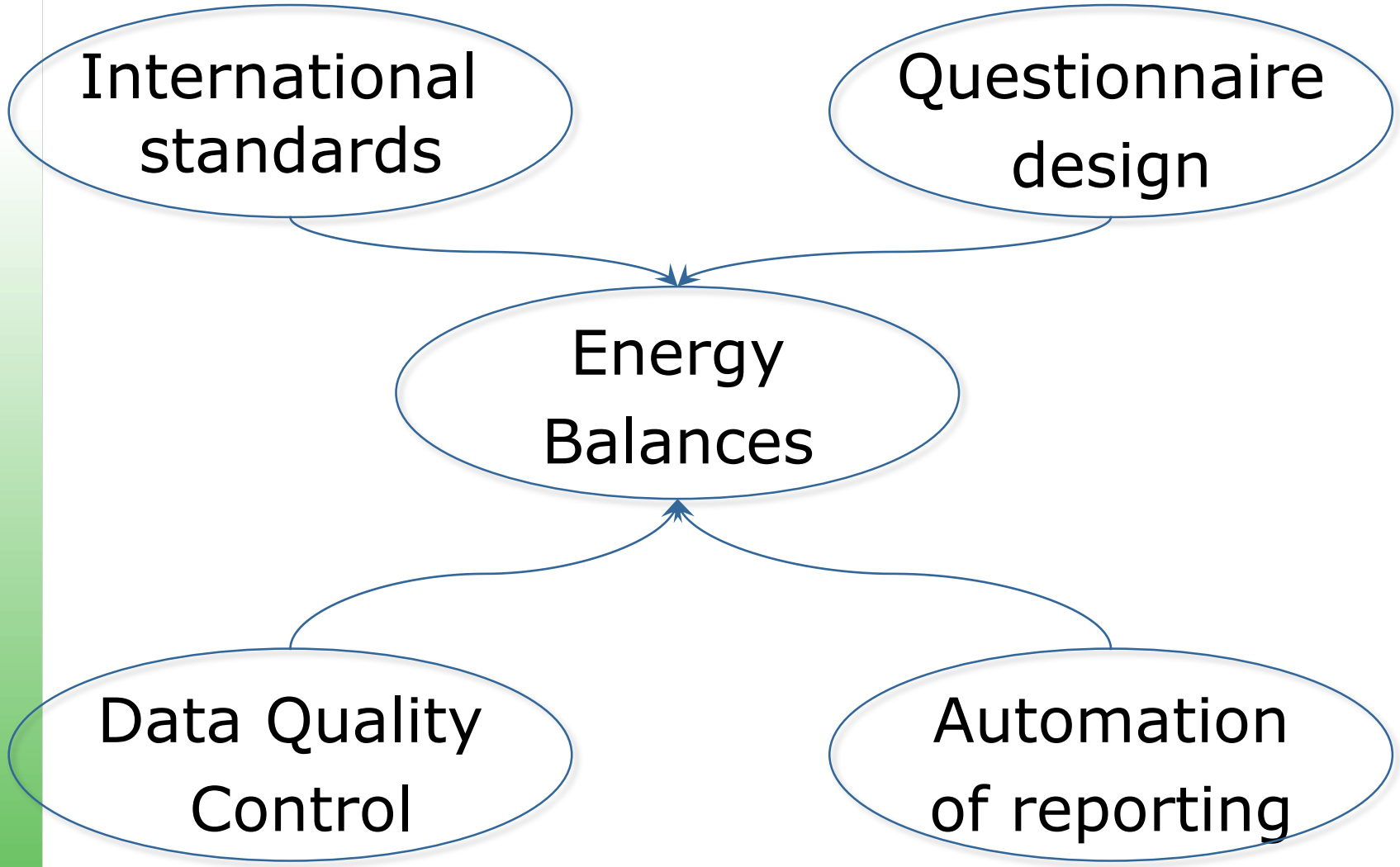
Dissemination strategy

Administrative agreements for data sharing

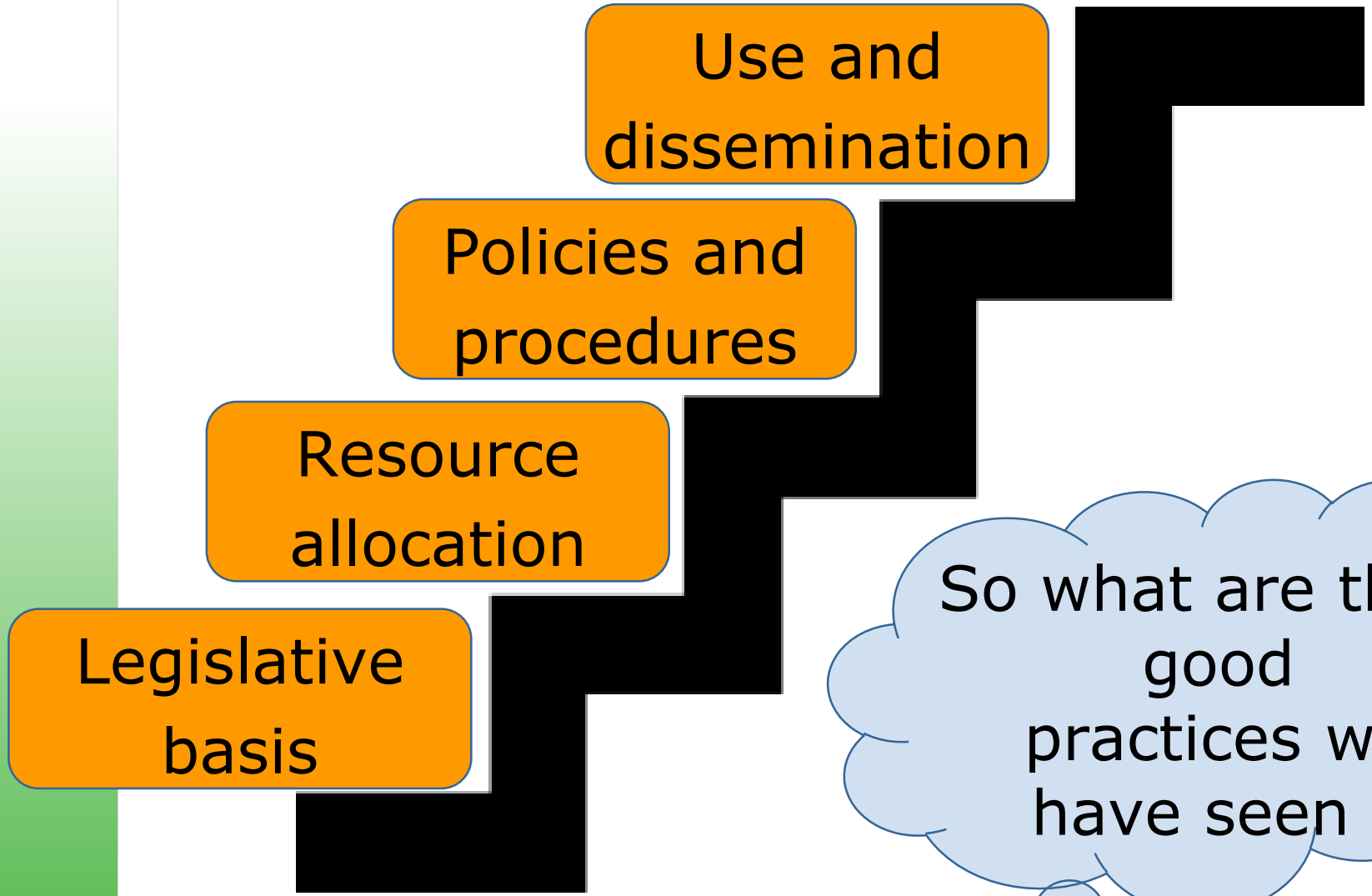
Data quality assurance

Use of data in policy analysis and decision making

IEA has certain areas of expertise



We can only observe how countries collect their data



So what are the good practices we have seen ?

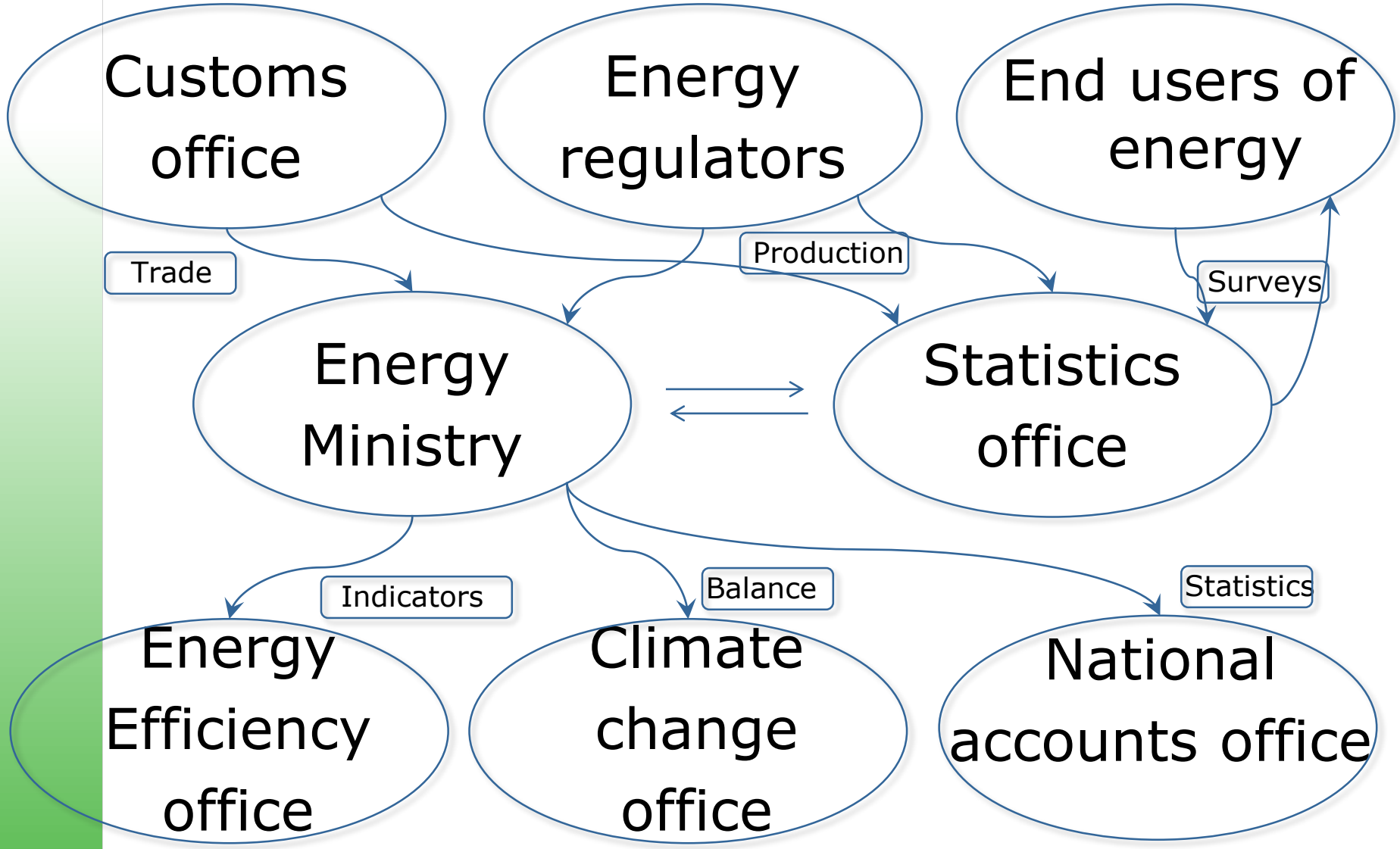
High quality data on energy are difficult to obtain

Expert staff

It requires well-defined systems and procedures at the national level

- Laws or regulations to compel reporting from all sectors;
- Well designed production and consumption surveys;
- Fixed and agreed timetables for data submissions
- Administrative agreements to get other data (e.g. energy trade);
- Enough qualified staff to process the data;
- Good relationships with reporters so you can ask questions about the data;
- User-friendly and flexible data systems for processing and reporting

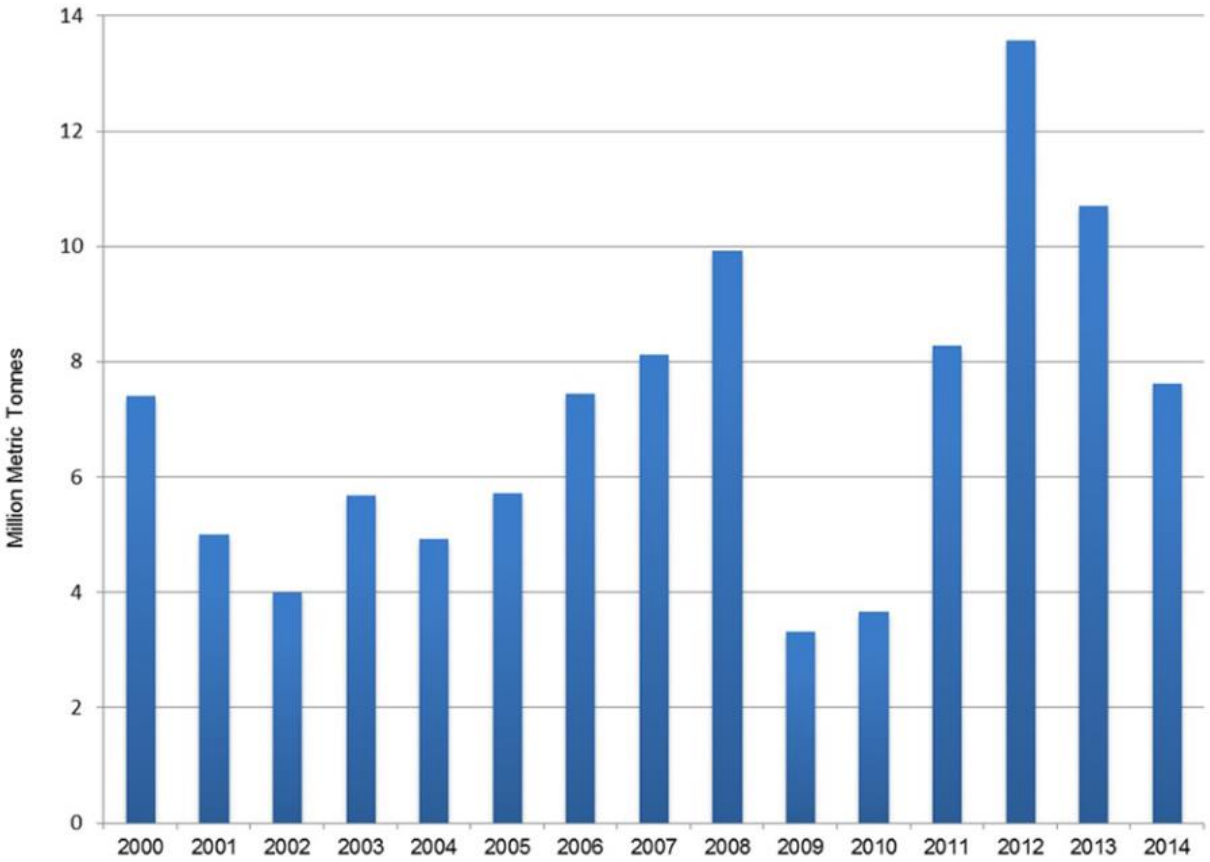
Collaboration is key



The benefits of high quality data are significant

- Help design sound energy policy
- Develop and track meaningful indicators of energy trends;
- Track historical trends accurately;
- Make plausible forward-looking projections;
- Build reliable greenhouse gas inventories
- Help ensure energy security, minimize the impacts of energy shocks
- Compare against other similar countries
- Anticipate and react to energy markets

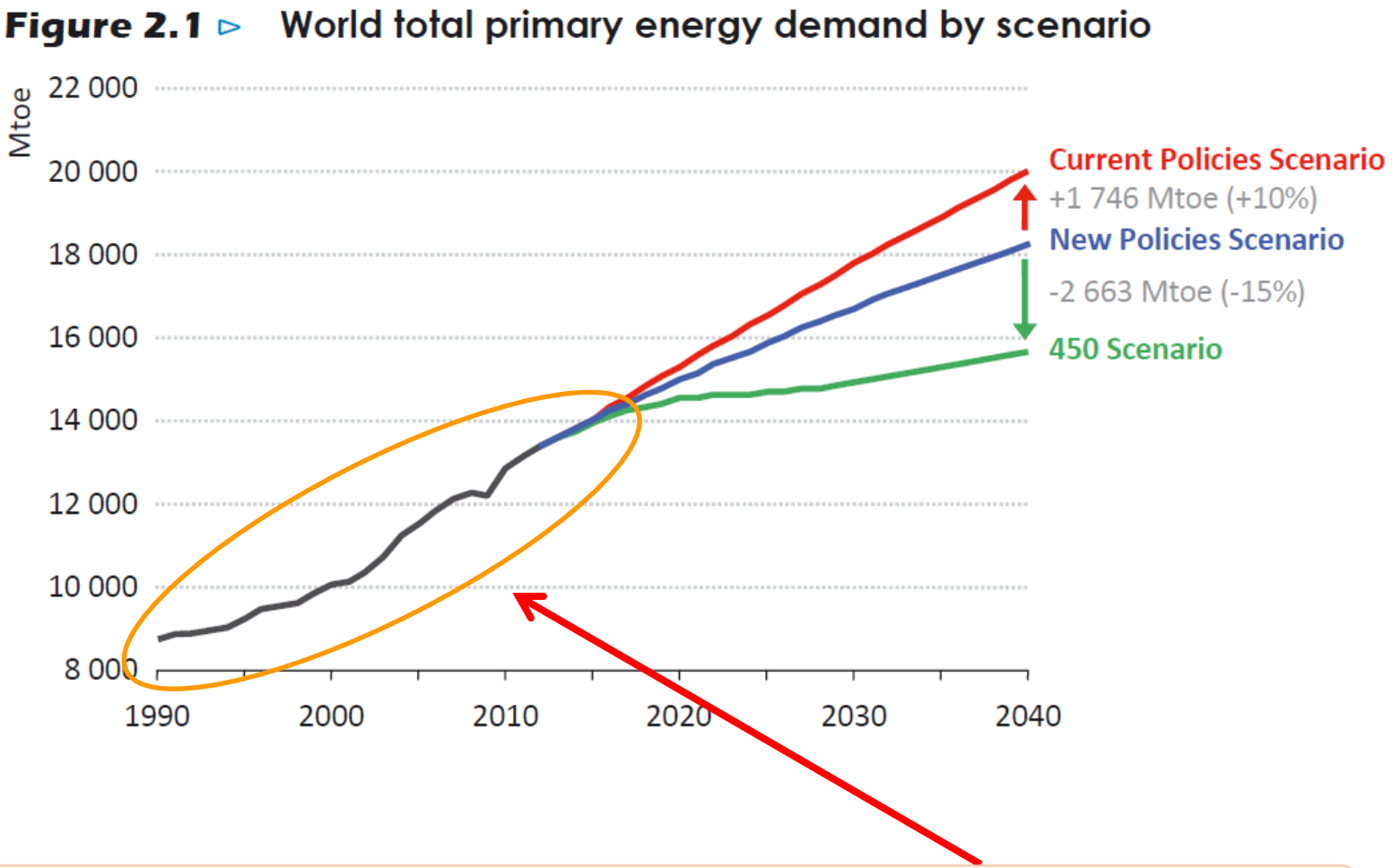
Some examples: energy shocks



Crude oil for electricity production, Japan

➔ **Environmental requirements followed by energy shock**

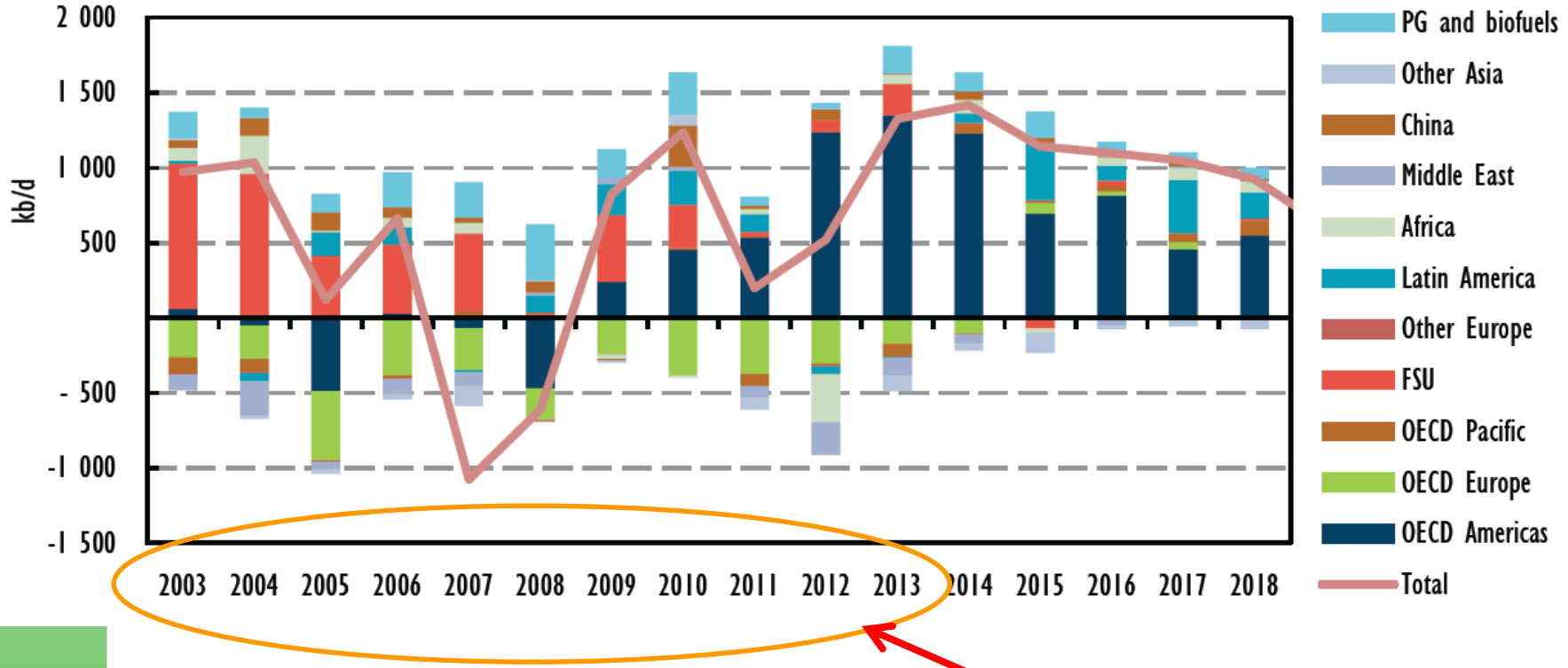
Some examples: scenarios



➔ **Historical trend influences accuracy of scenario analysis**

Some examples: Oil supply

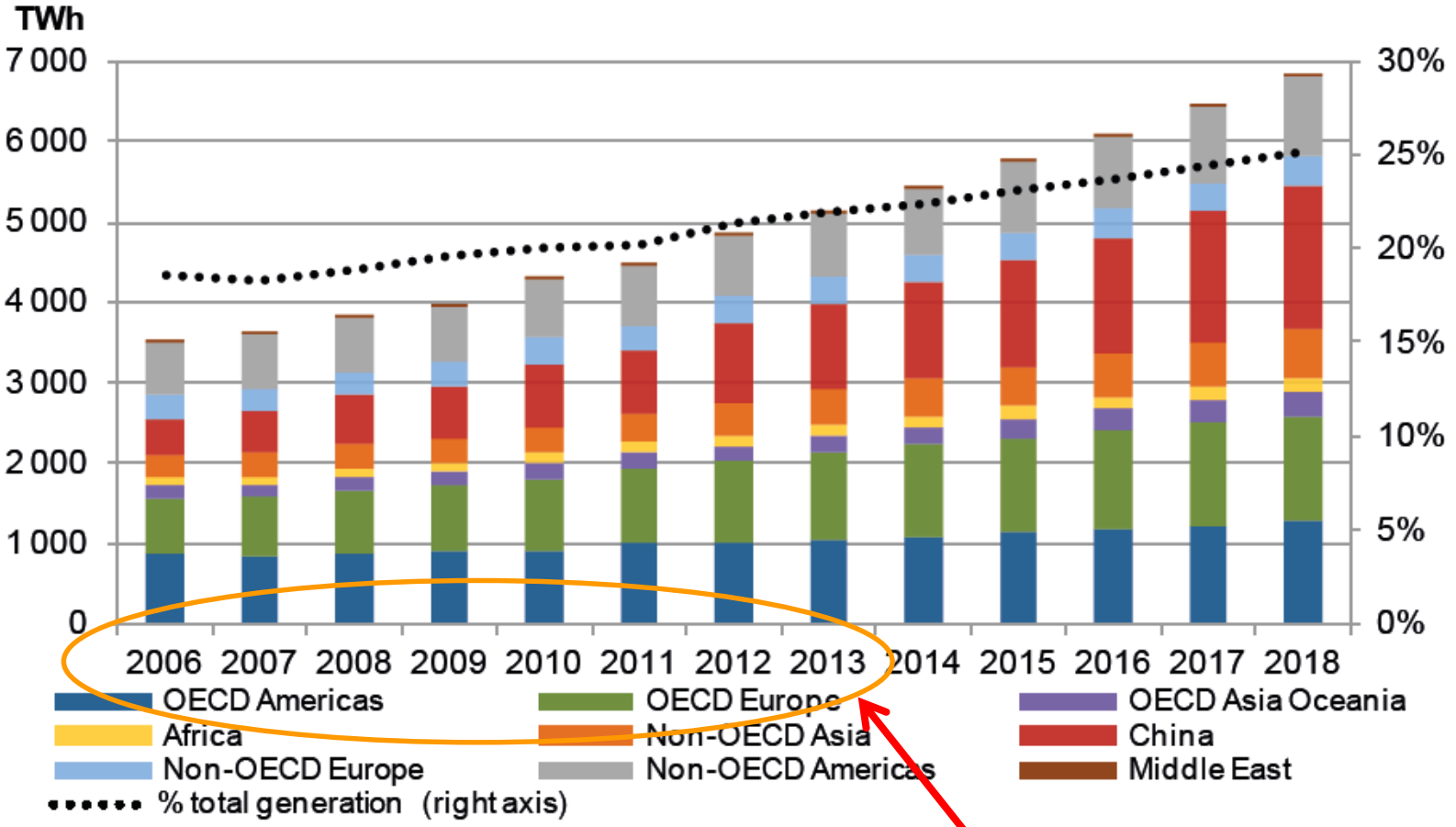
Figure ES.2 Annual non-OPEC supply growth



➔ **Historical trend influences accuracy of market projection**

Some examples: renewables

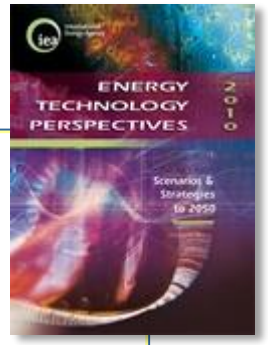
Figure 1 Global renewable electricity production by region

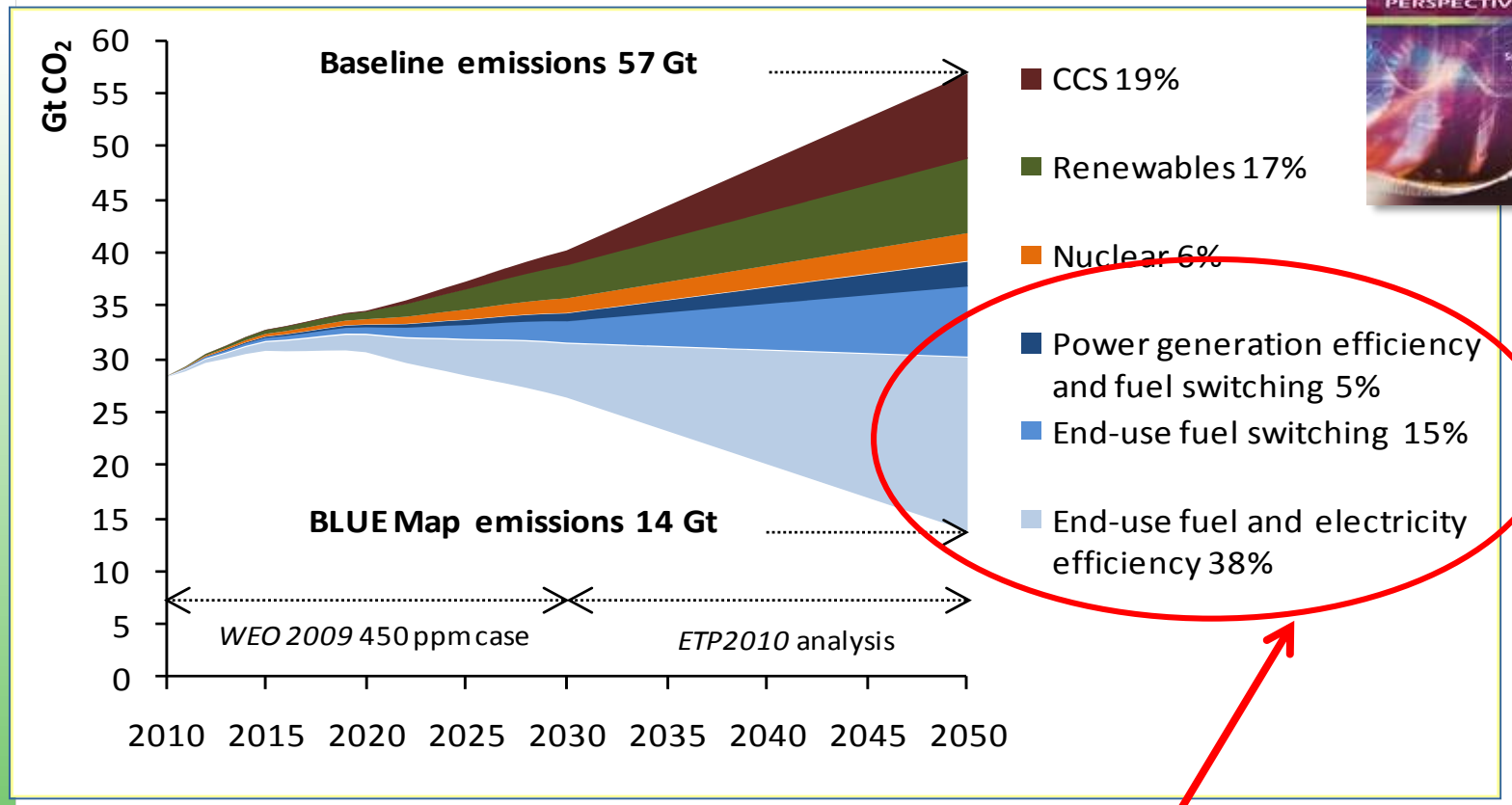


Notes: TWh = terawatt hours. Unless otherwise indicated, all materials in figures and tables in this chapter derive from International Energy Agency (IEA) data and analysis.

➔ **Historical trend influences accuracy of market assessment**

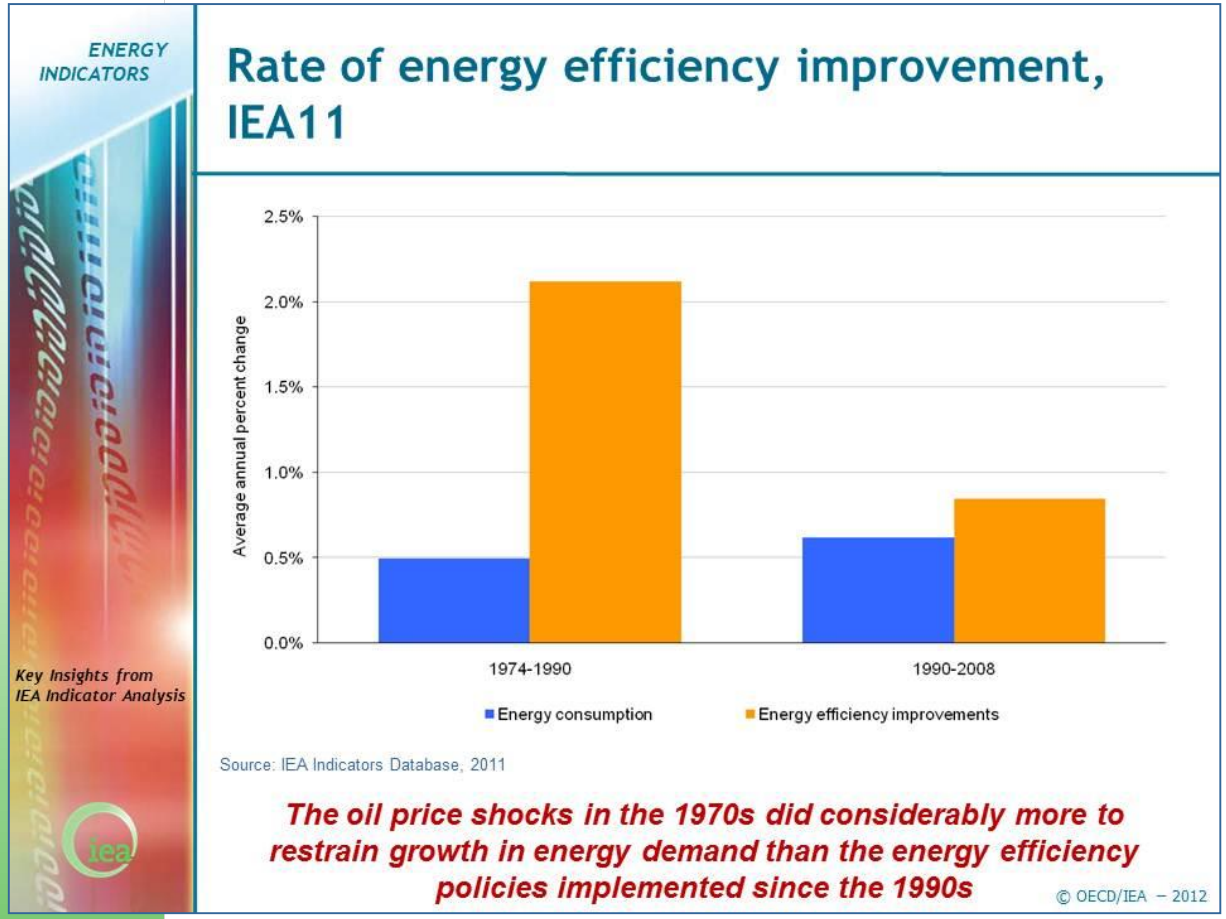
Some examples: emissions





➔ **Energy efficiency will account for almost half of the reduction**

Some examples: energy efficiency



From 1974 to 1990, energy efficiency contributed to 2% per year to maintain growth

From 1990 to 2008 it contributed to less than 1% per year

➔ So, why little when much more should be done?

International Energy Agency

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Thank you

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