1. Why Collect Renewable Energy Statistics?
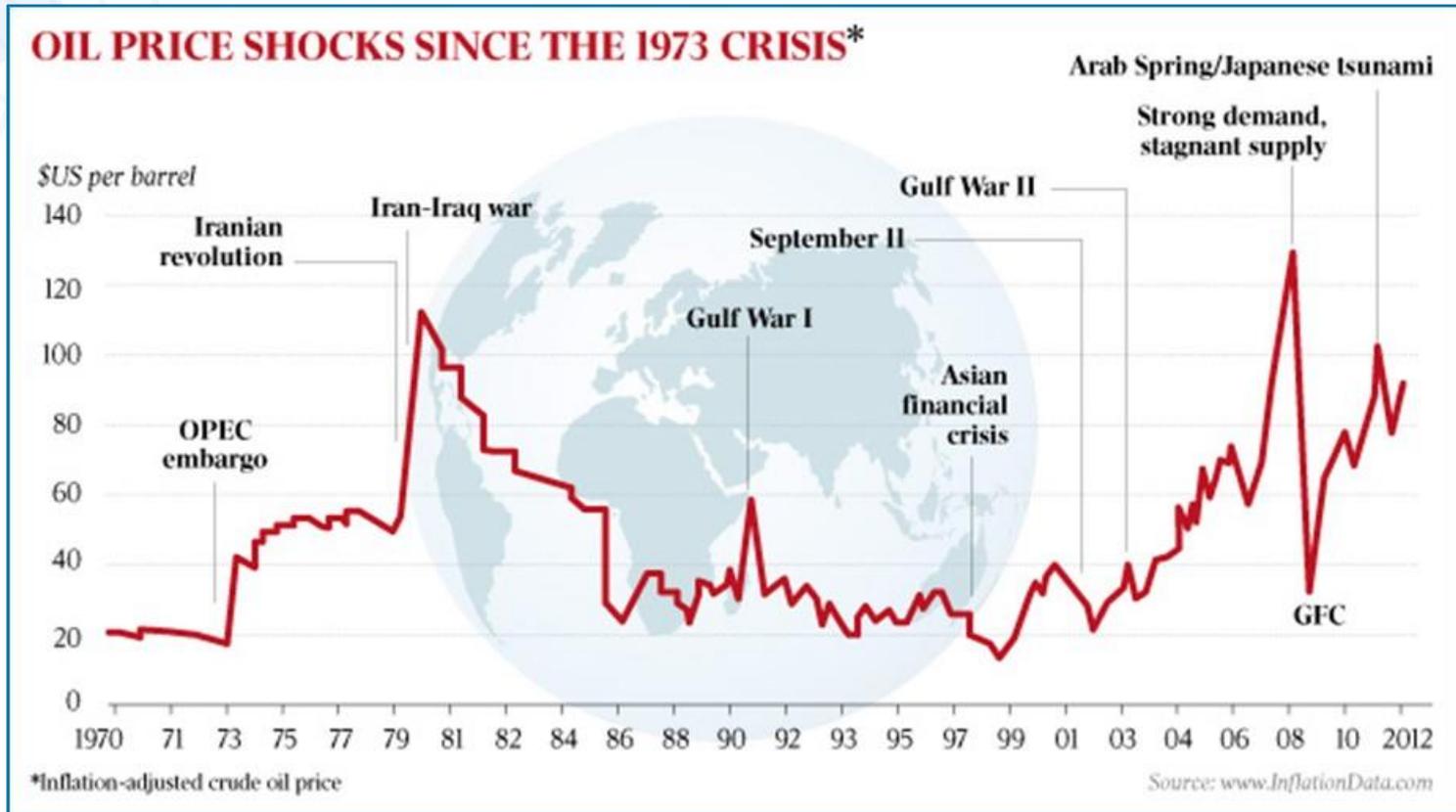
Renewable Energy Statistics Training

IRENA
International Renewable Energy Agency

Main uses of energy statistics:

- Economic planning and development

- Socioeconomic development

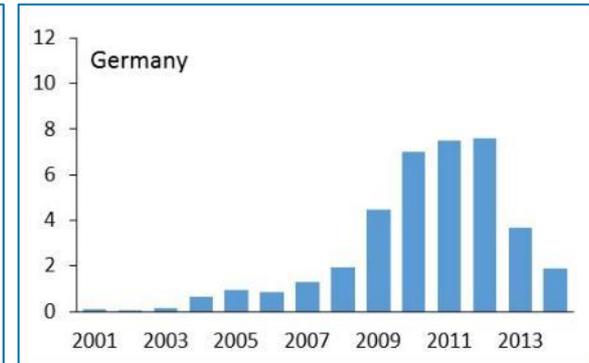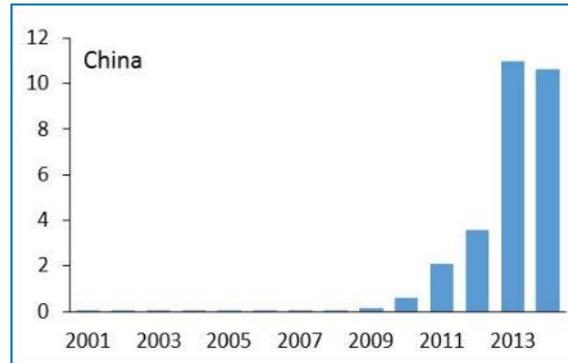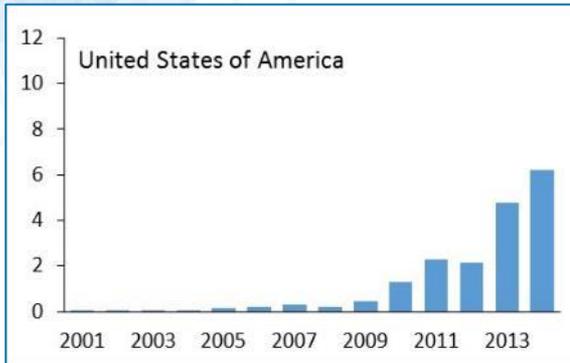- Environmental impacts

- Policy development and monitoring

Sustainable Development Goals

Short-term planning

OIL PRICE SHOCKS SINCE THE 1973 CRISIS*

Arab Spring/Japanese tsunami

Strong demand, stagnant supply

Gulf War II

September 11

Iran-Iraq war

Iranian revolution

Gulf War I

Asian financial crisis

OPEC embargo

$US per barrel

GFC

*Inflation-adjusted crude oil price
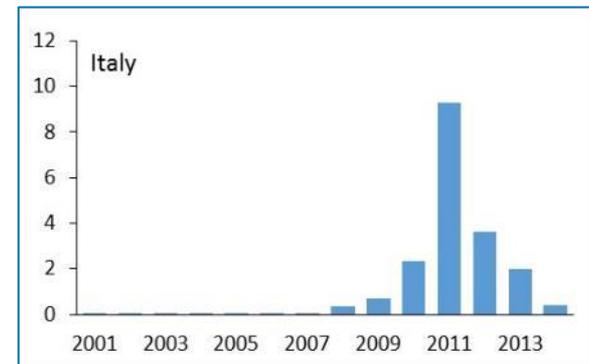
Source: www.InflationData.com

Interest in energy statistics has often been driven by market developments
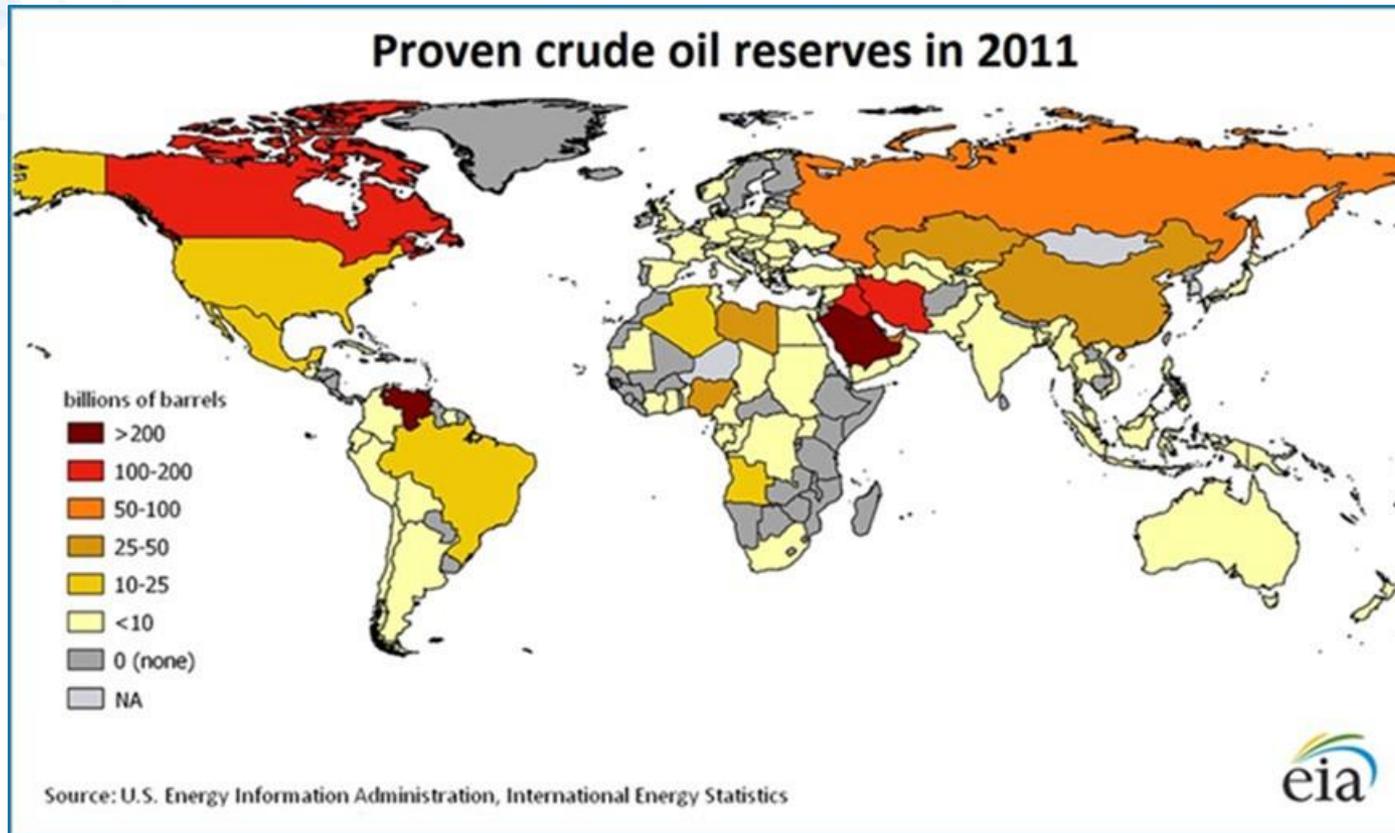
Short-term planning

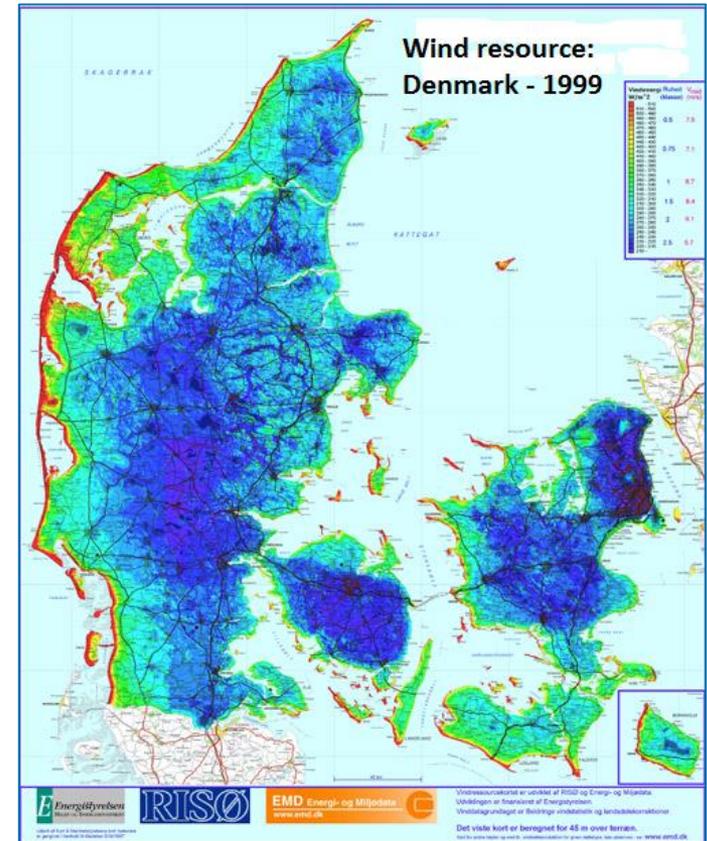*New solar PV installations (GW) in four countries with the largest capacity*

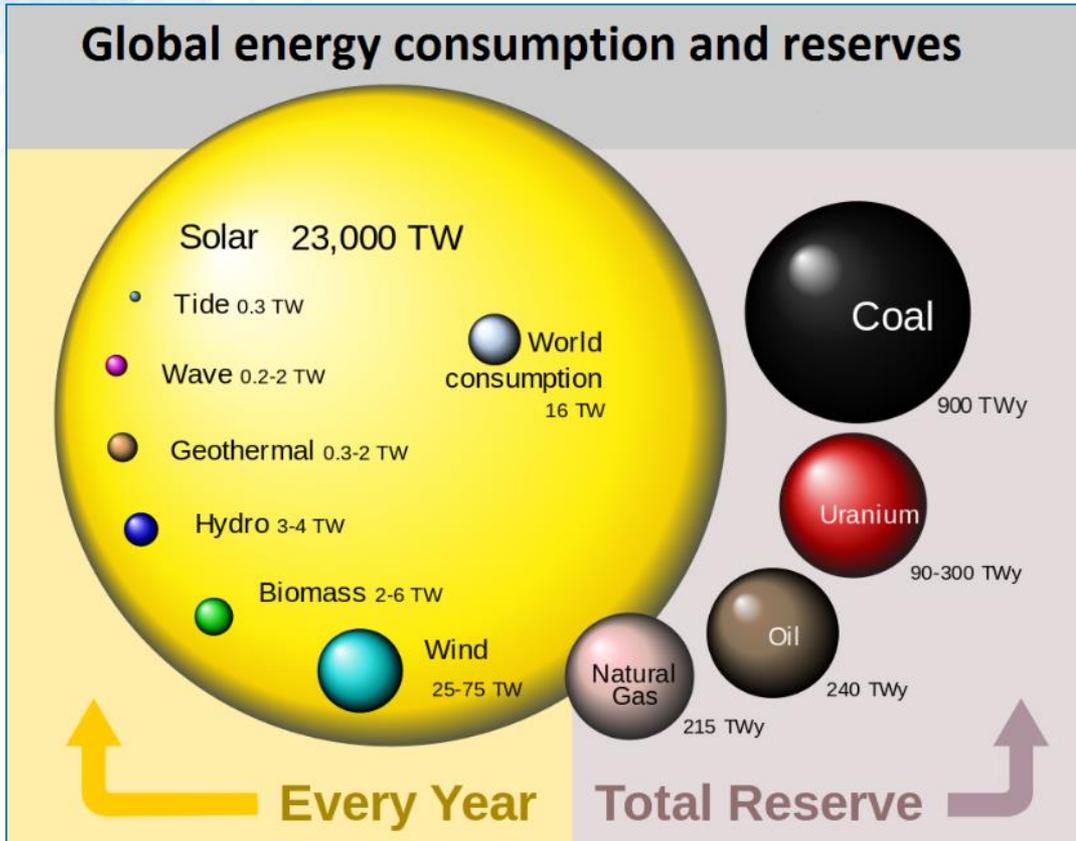Market developments in renewable energy technologies are rapid and unpredictable

Long-term planning

Proven crude oil reserves in 2011

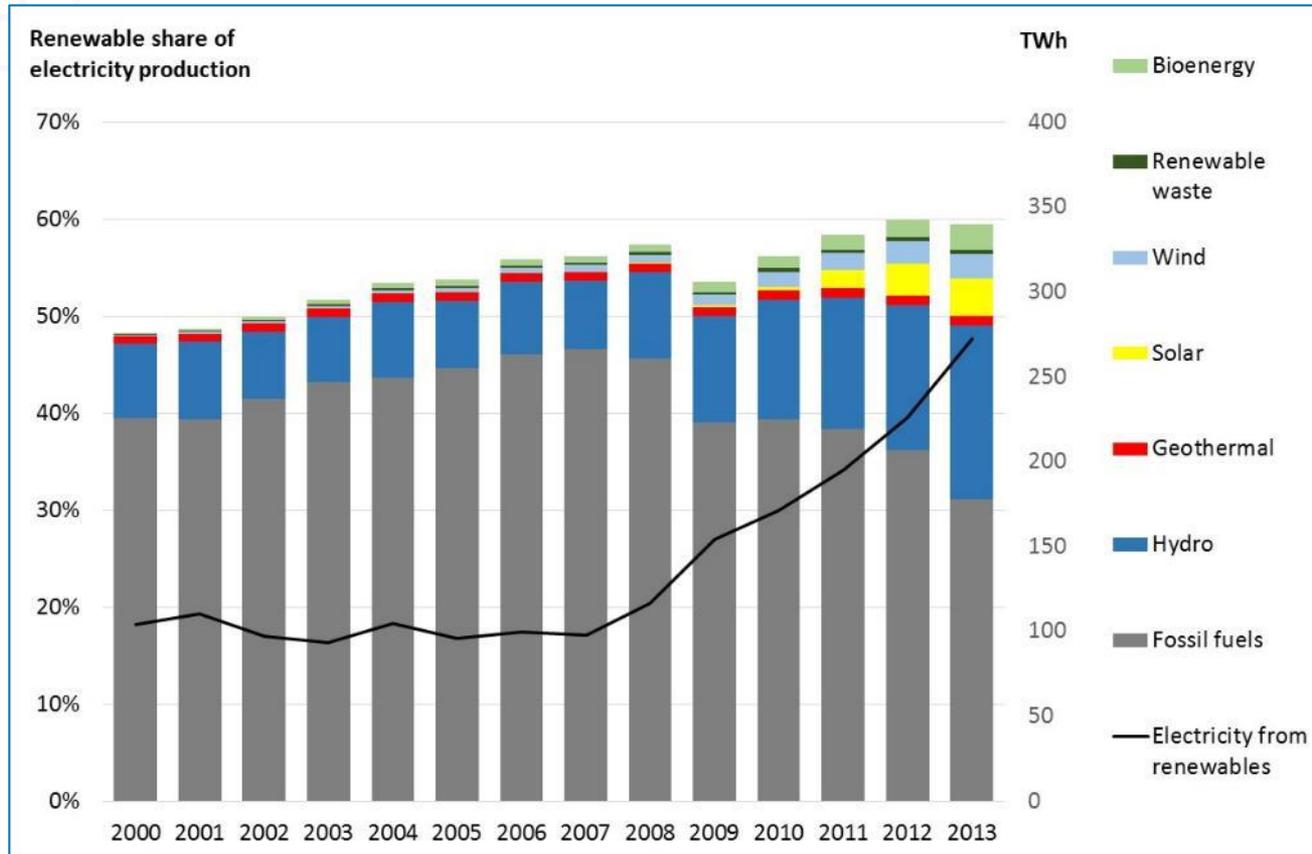Source: U.S. Energy Information Administration, International Energy Statistics

Long-term availability of energy supplies
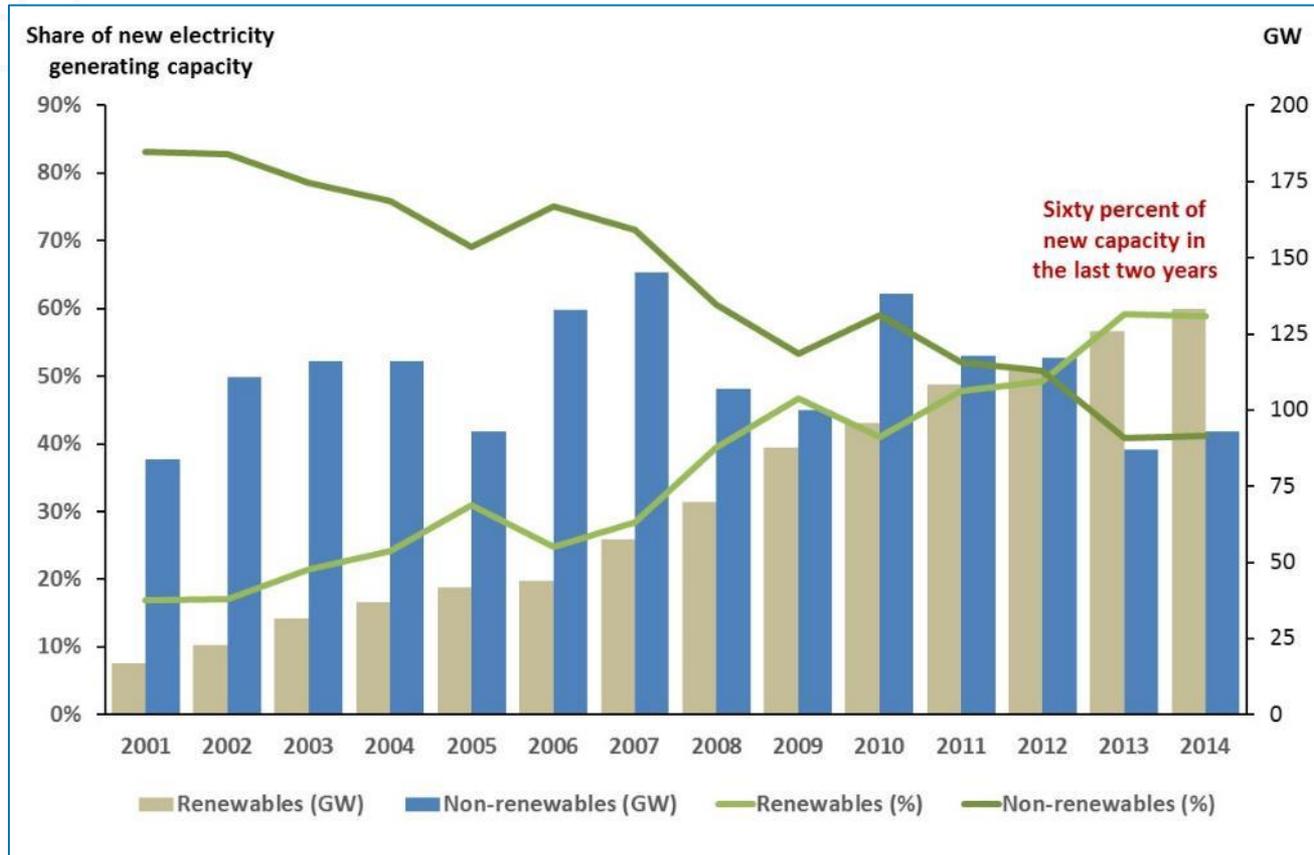
Long-term planning

Availability of renewable energy

Energy security: long-term

Italy: electricity production 2000 - 2013

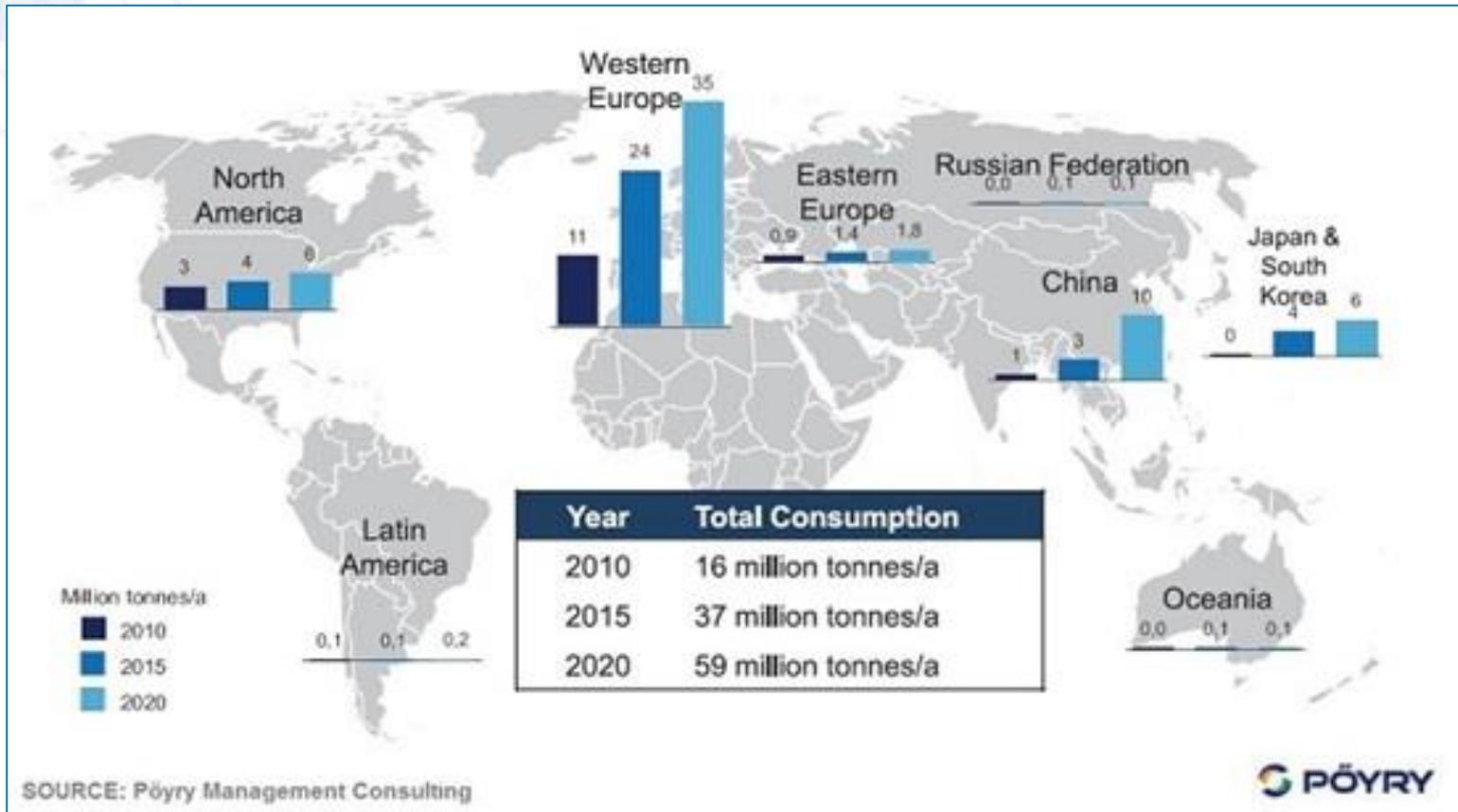# Energy security: long-term

Global annual increase in generating capacity 2001 - 2014

Energy security: short-term

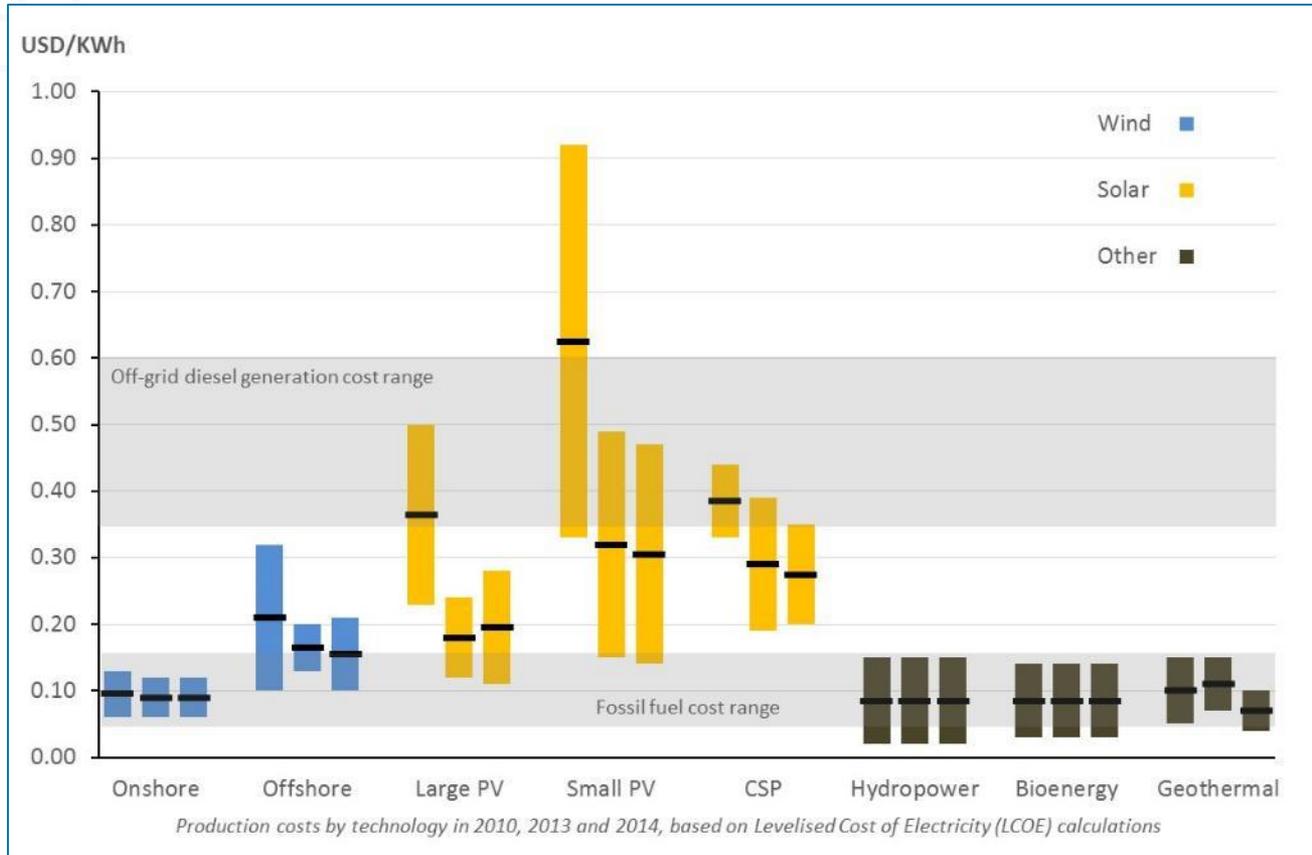Grid integration, especially variable resources

Trade analysis

Wood pellet trade outlook: four-fold increase in 10 years

Production cost analysis

Production costs by technology in 2010, 2013 and 2014, based on Levelised Cost of Electricity (LCOE) calculations

Cost of electricity generation from renewables is falling

Investment analysis
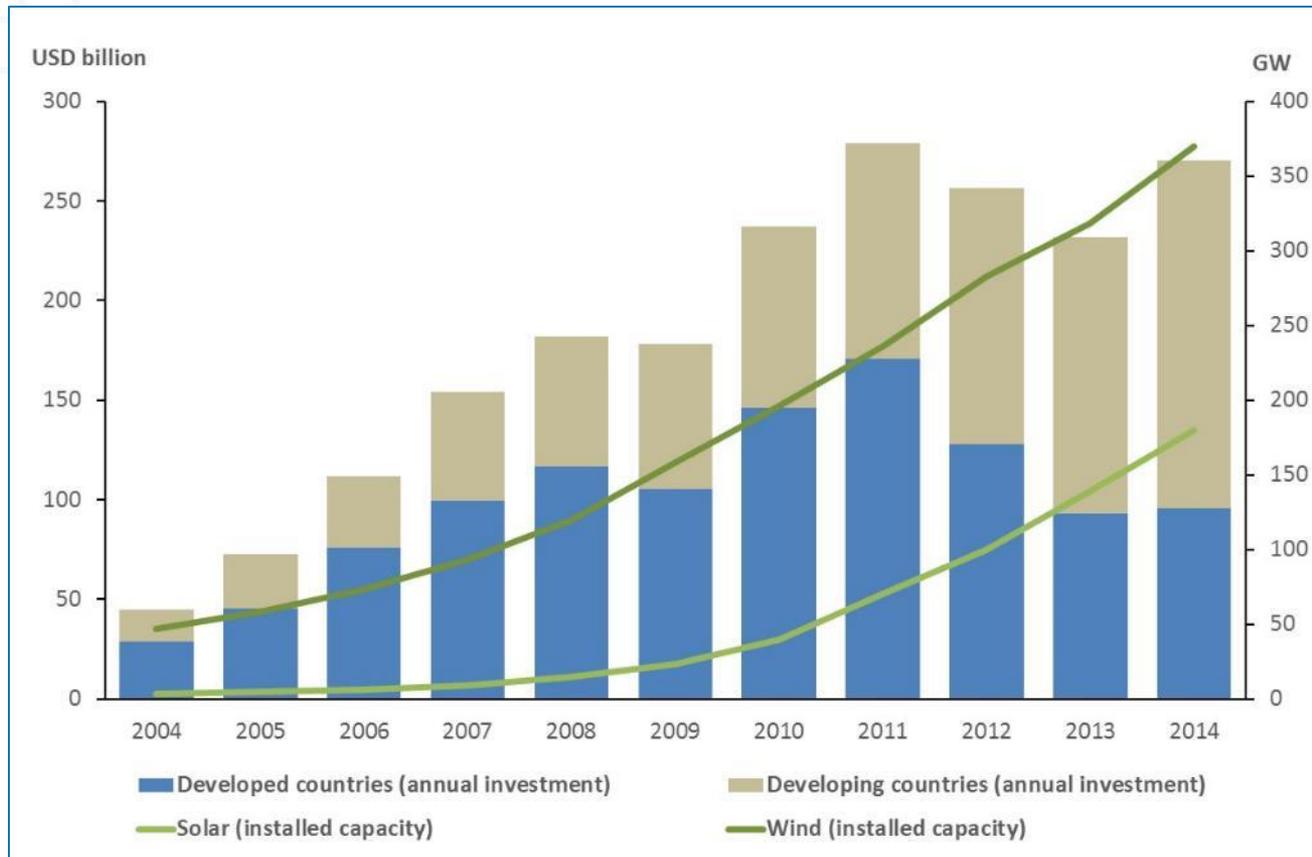
Global investment in renewable electricity capacity

Socioeconomic analysis

Solar powered school (Liberia)

Desert hut with solar panel (Algeria)

Rural health centre (DR Congo)

Biomass stove (Ecuador)

Solar water pumping (Chad)

One of the main socioeconomic benefits derived from energy is its contribution to the fulfilment of basic human needs for food, water, shelter, health and education.

Energy access

Availability and affordability

Household uses:

- Cooking/heating

- Lighting

Social costs

Cooking with wood (India)

Jobs, income and trade

Income and employment in:

- Fuel production (bioenergy)

- Equipment manufacturing

- Construction and installation

- Operation and maintenance

Trade in products and services

Wind turbine (Brazil)

Environmental impacts

Measures of environmental impact:

- Carbon-dioxide and other emissions

- Water use, land use

- Sustainability of bioenergy production

Policy monitoring

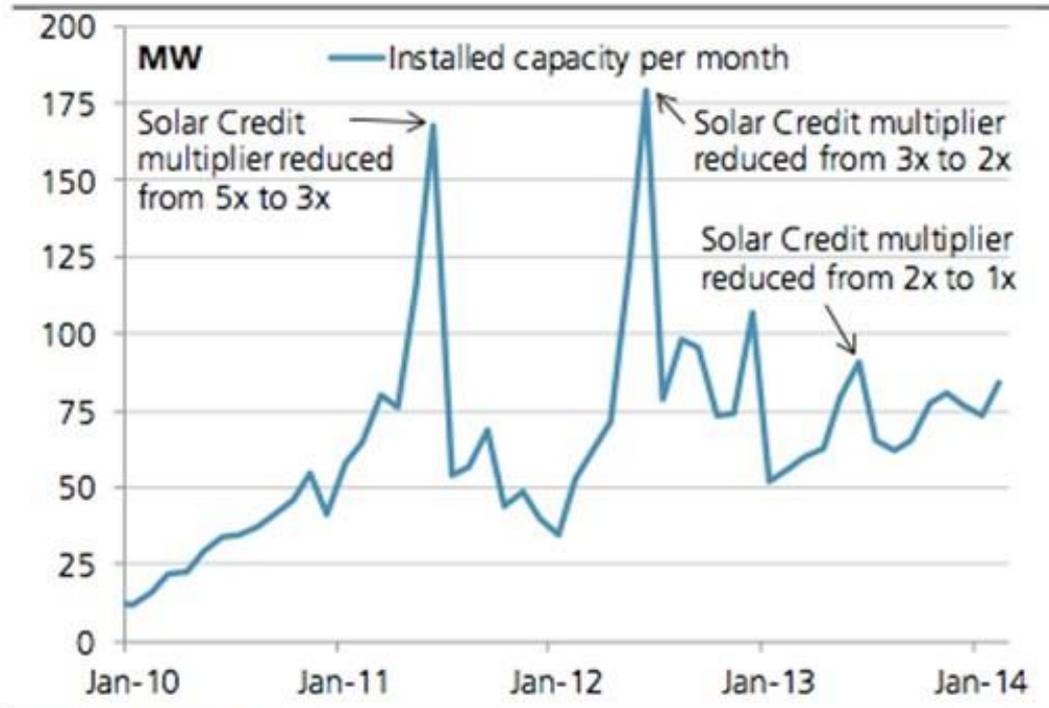## UAE Energy Strategy for 2050

Targets include:
- 44% clean energy
- 38% gas
- 12% clean coal
- 6% nuclear
- 40% reduction in residential energy consumption.

Policy monitoring

Figure 12: Solar incentives and installations

Australia: Rooftop solar panel installation

Energy SDG and targets

SDG 7: Ensure access to affordable, reliable, sustainable and modern energy for all

- *Ensure universal access to affordable, reliable and modern energy services*

- *Increase substantially the share of renewable energy in the global energy mix*

- *Double the global rate of improvement in energy efficiency*

- *Enhance international cooperation to facilitate access to clean energy research and technology…..*

- *Expand infrastructure and upgrade technology for supplying modern and sustainable energy services….*

Thank you!