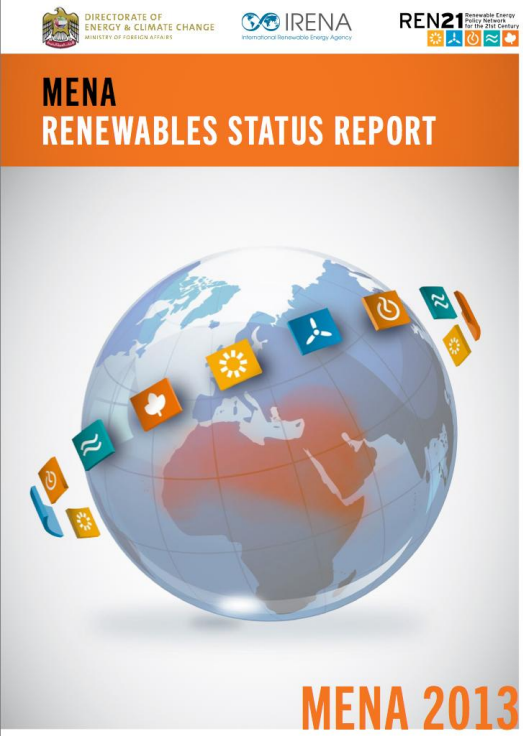
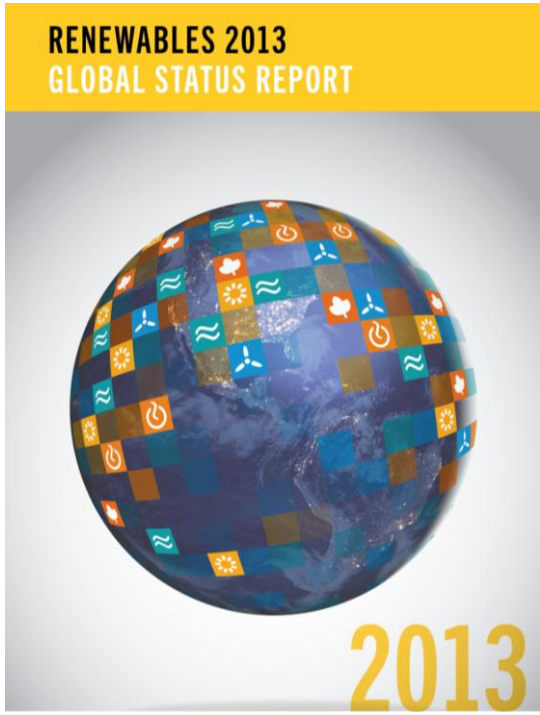


Global Status and Future Perspectives of Renewable Energy

Christine Lins
Executive Secretary of REN21

CESC Webinar MENA
22nd October 2013



About REN21

A Multi-stakeholder Policy Network grouping

Science & Academia:

IIASA, ISES, SANEDI, TERI

NGOs:

CURES, GFSE, Greenpeace, ICLEI, ISEP, JREF, WCRE, WRI, WWF

International Organisations:

ADB, EC, GEF, IEA, IRENA, UNDP, UNEP, UNIDO, World Bank

Industry Associations:

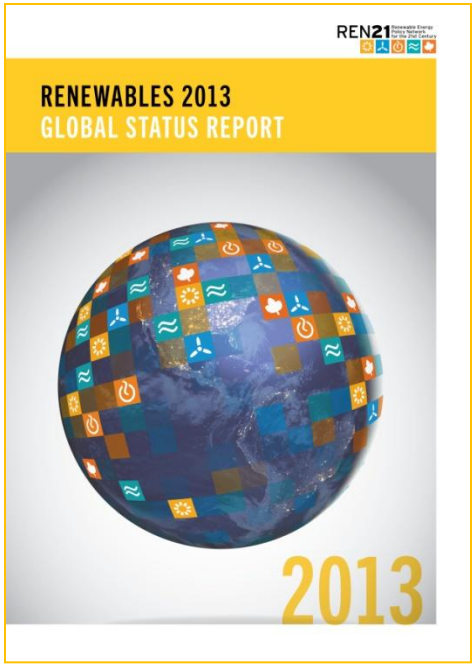
ACORE, ARE, CEC, CREIA, EREC, GWEC, IGA, IHA, WBA, WWEA

National Governments:

Brazil, Denmark Germany, India, Norway, Spain, Uganda, UAE, UK

REN21 Renewables Global Status Report

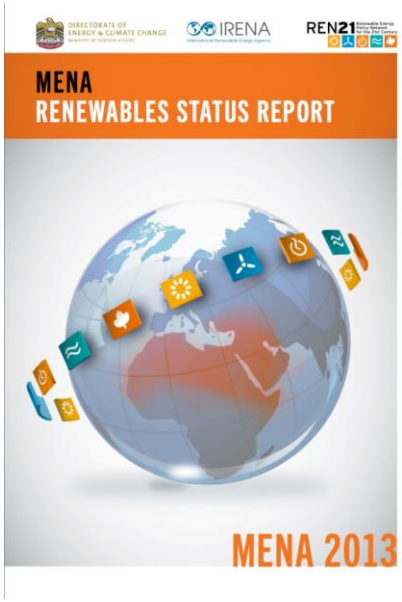
- Launched along with UNEP's Global trends in RE investment
- Team of over 500 contributors, researchers & reviewers worldwide
- The report features:
  - Global Market Overview
  - Industry Trends
  - Policy Landscape
  - Rural Renewable Energy
- All renewable energy technologies
- Sectors: power, heating/cooling, transport
- New elements in 2013:
  - Feature on system transformation



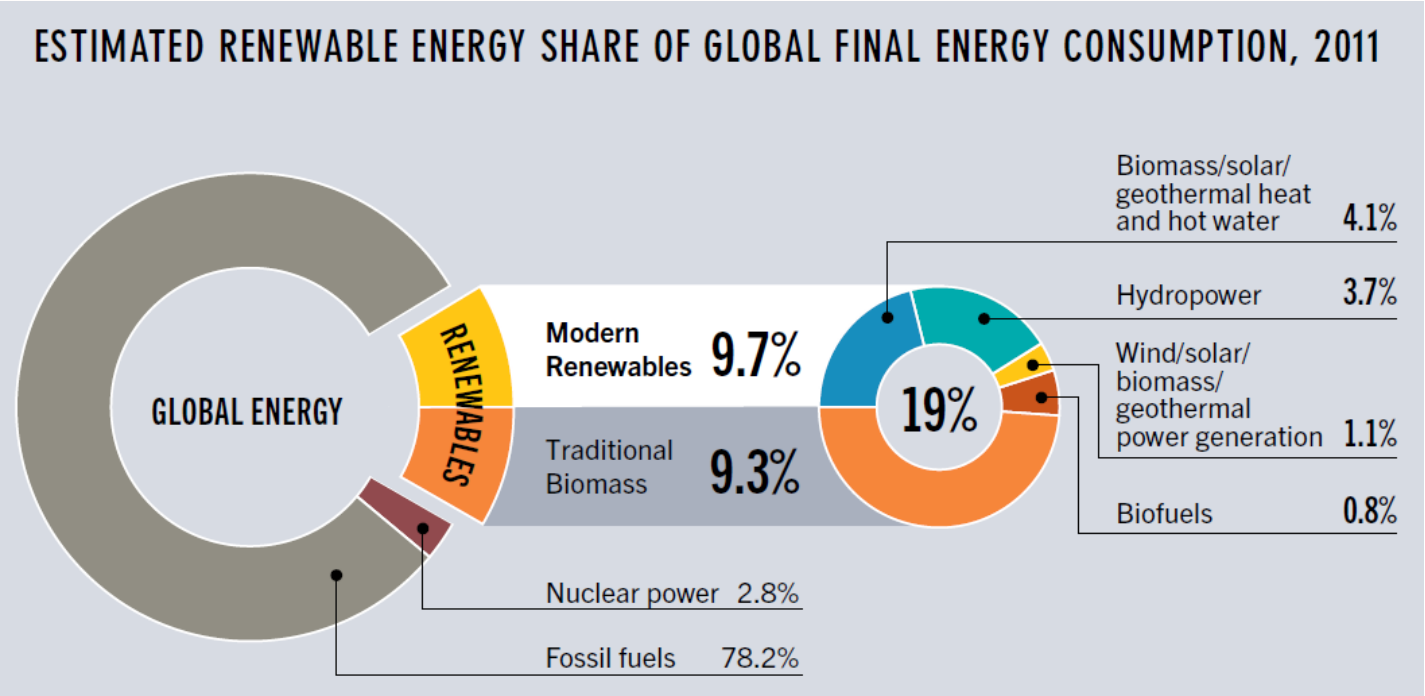
www.ren21.net/GSR

MENA Renewables Status Report

- Launched together with **IRENA** and the **United Arab Emirates** (UAE) as an outcome of the Abu Dhabi International Renewable Energy Conference (**ADIREC 2013**)
- Regional Partners: Union for the Mediterranean (UfM), Observatoire Méditerranéen de l'Energie (OME), the League of Arab States, the Regional Centre for Renewable Energy and Energy Efficiency (RCREEE), Bloomberg New Energy Finance (BNEF)
- 50 contributors, researchers & reviewers from the region
- The report features:
  - Market Overview
  - Policy Landscape
  - Investment Trends
  - Localising the RE Value Chain
- All renewable energy technologies and sectors



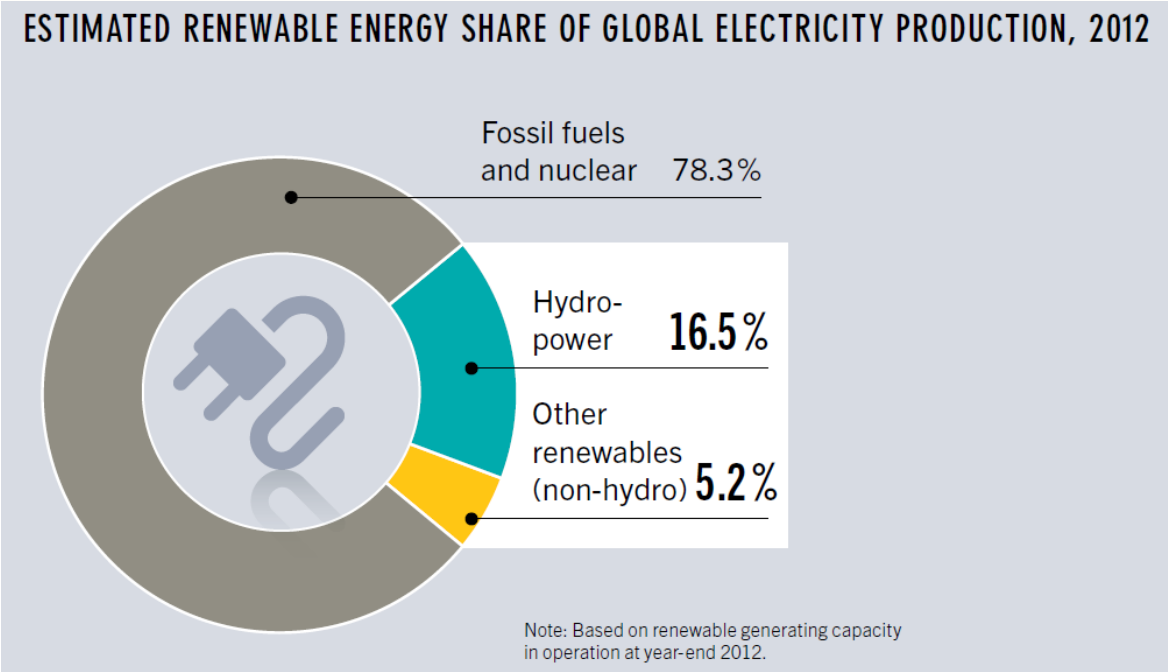
Renewable Energy in the World



Source: REN21 Renewables 2013 Global Status Report

- RE supplied an estimated **19%** of **global final energy consumption** in 2011.
- **UN Secretary General's goal : doubling the share of renewable energy** in the global energy mix from 18 % (base year 2010) to 36 % by 2030.

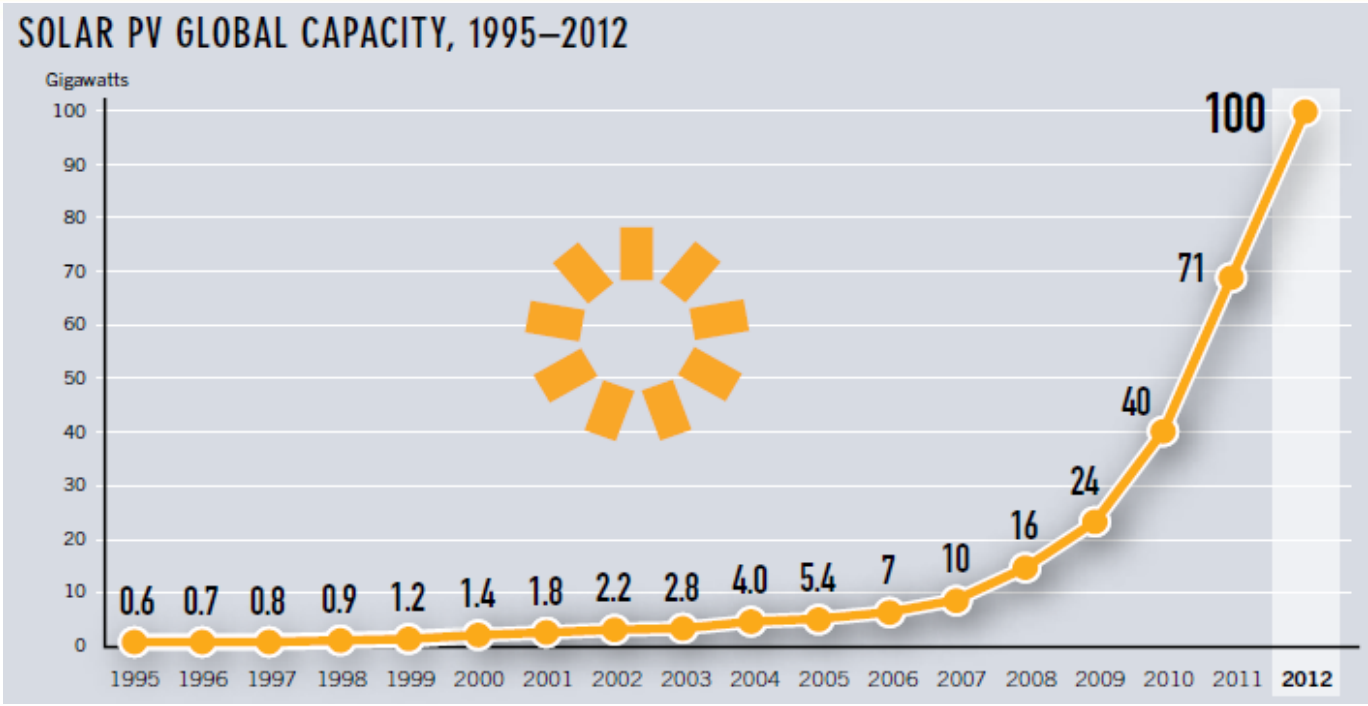
Global Market Overview – Power Markets



Source: REN21 Renewables 2013 Global Status Report

- Renewable energy comprises more than **26%** of **global power generation capacity.**
- **21.7%** of **global electricity** is produced from renewable energy.
- **Renewables** accounted for **just over half** of the estimated 280GW of new installed electric capacity in 2012.

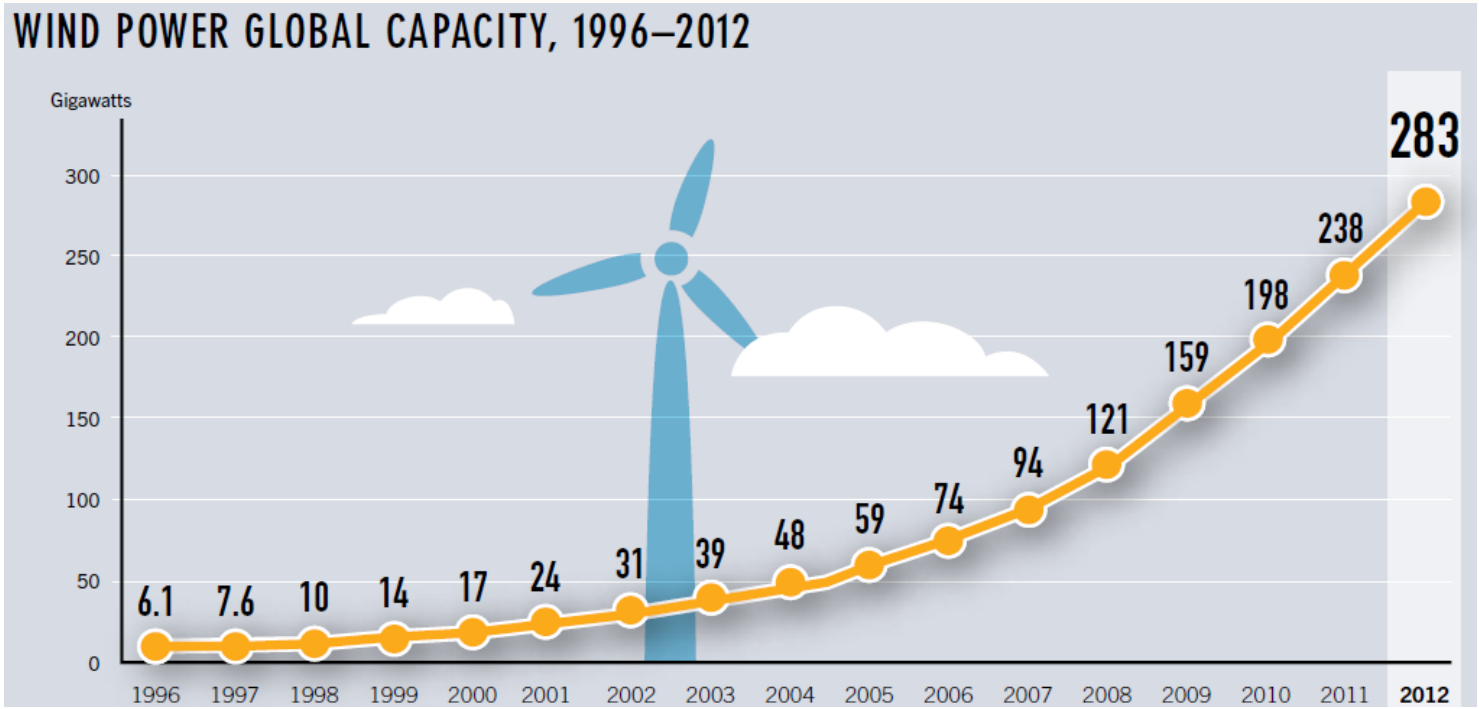
Solar Photovoltaics (PV)



Source: REN21 Renewables 2013 Global Status Report

- Total global operating capacity of **solar PV reached the 100 GW milestone.**
- Prices of solar PV modules fell by more than 30 % in 2012.
- Similar to global trends, **solar PV** has been growing most rapidly in the MENA region with an **annual average growth rate of 112% from 2008 – 2011**

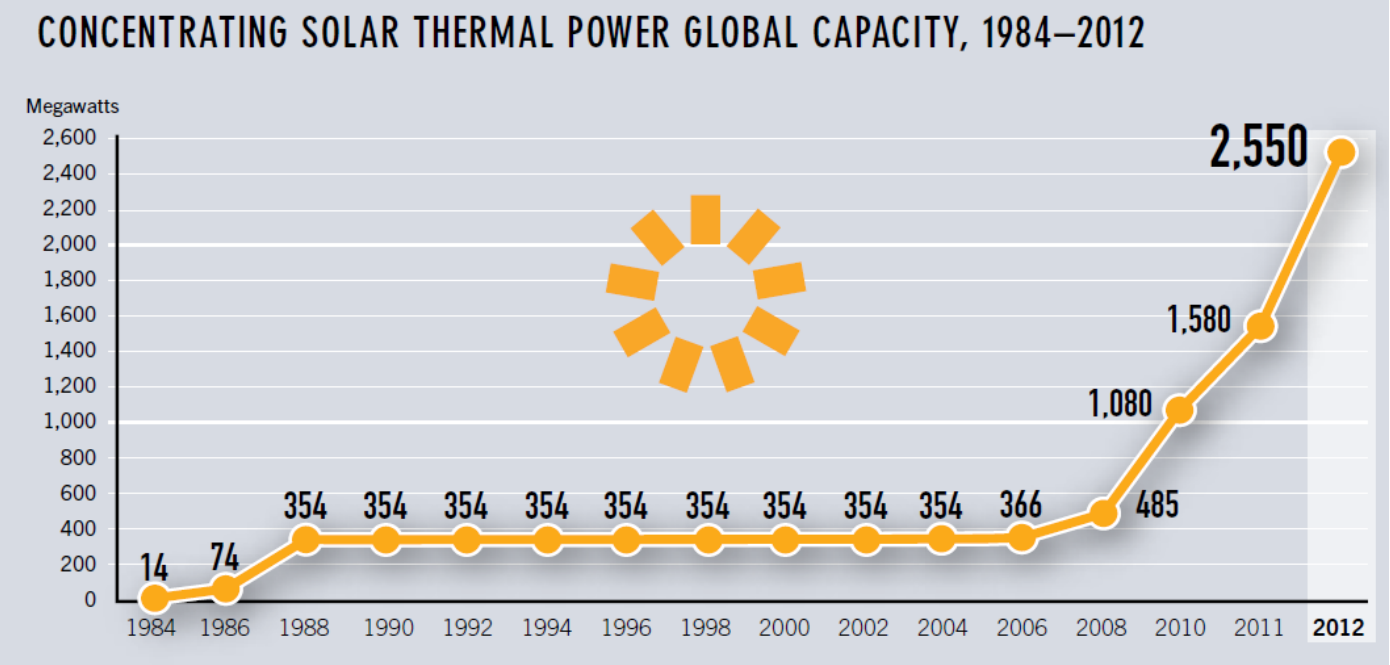
Wind Power



Source: REN21 Renewables 2013 Global Status Report

- Almost 45GW of wind power capacity came in operation in 2012, increasing global wind capacity 19% to 283GW.
- Total of **1.1 GW of wind capacity by the end of 2012** across 9 MENA countries.

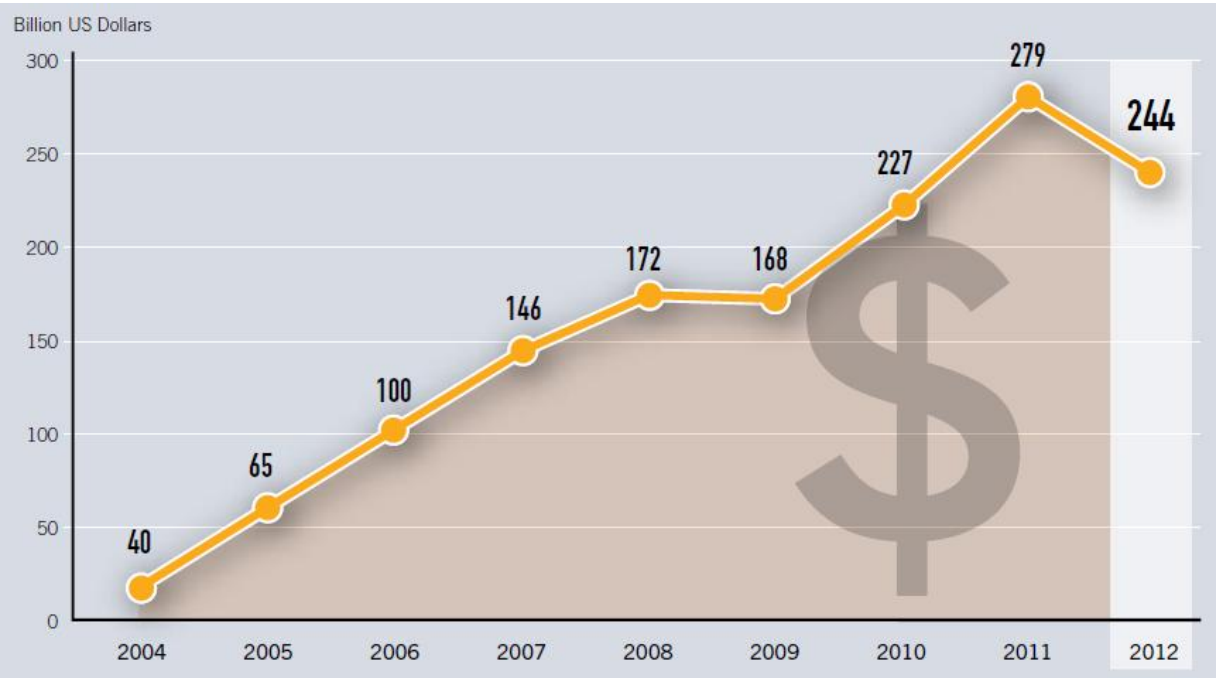
Concentrating Solar Thermal Power (CSP)



Source: REN21 Renewables 2013 Global Status Report

- Total global CSP capacity increased more than 60% to about 2,550 MW.
- In 2011, **40% of the countries operating CSP plants in the world were located in the MENA region**: Algeria, Egypt, Iran and Morocco.
- In 2013, these countries were joined by the UAE which operates **the world's largest CSP plant**, Shams 1, with an installed capacity of 100MW.

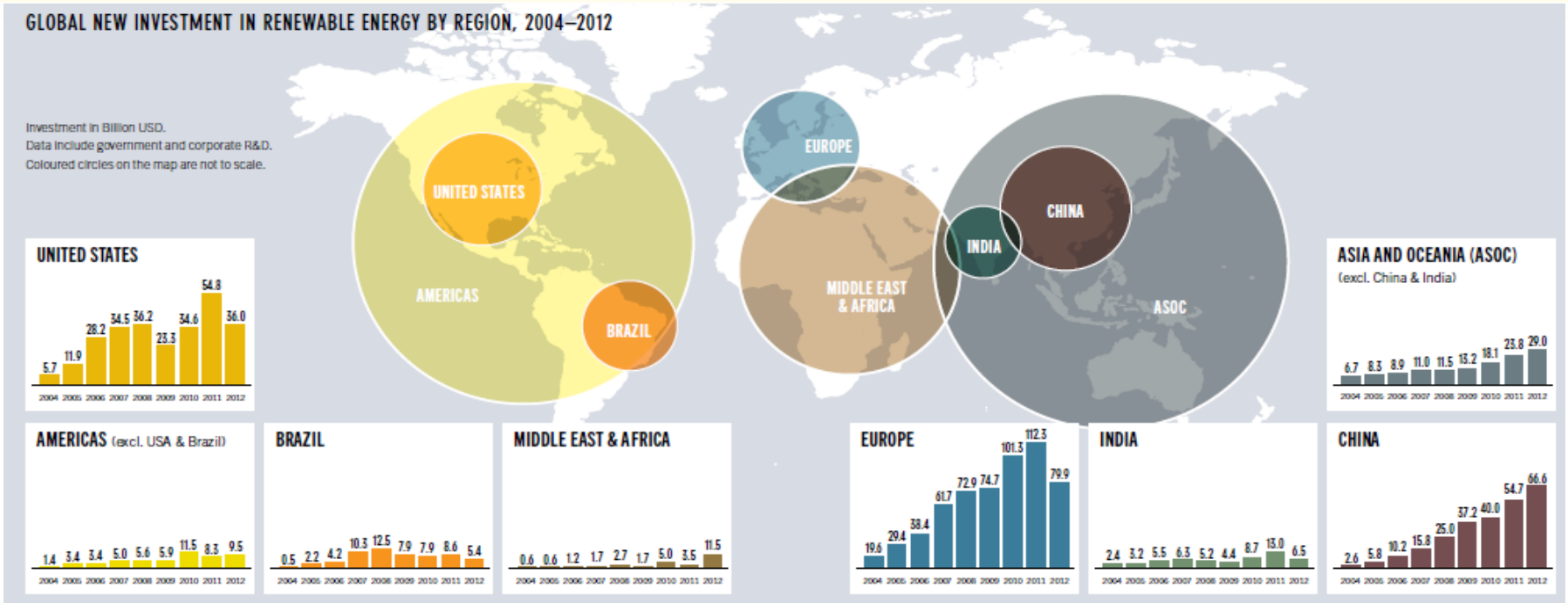
Global New Investment in Renewable Energy



Data Source: UNEP FS/ BNEF Global Trends in Renewable Energy Investment 2013

- Global new investment in renewable power decreased 12% from the previous year's record (still the second highest ever).
- **Installed capacity continued to grow due to falling technology costs.**
- 2012 showed a continued shift in the balance of investment activity between developed and developing economies.

Investment Flows



Data Source: UNEP FS/ BNEF Global Trends in Renewable Energy Investment 2013

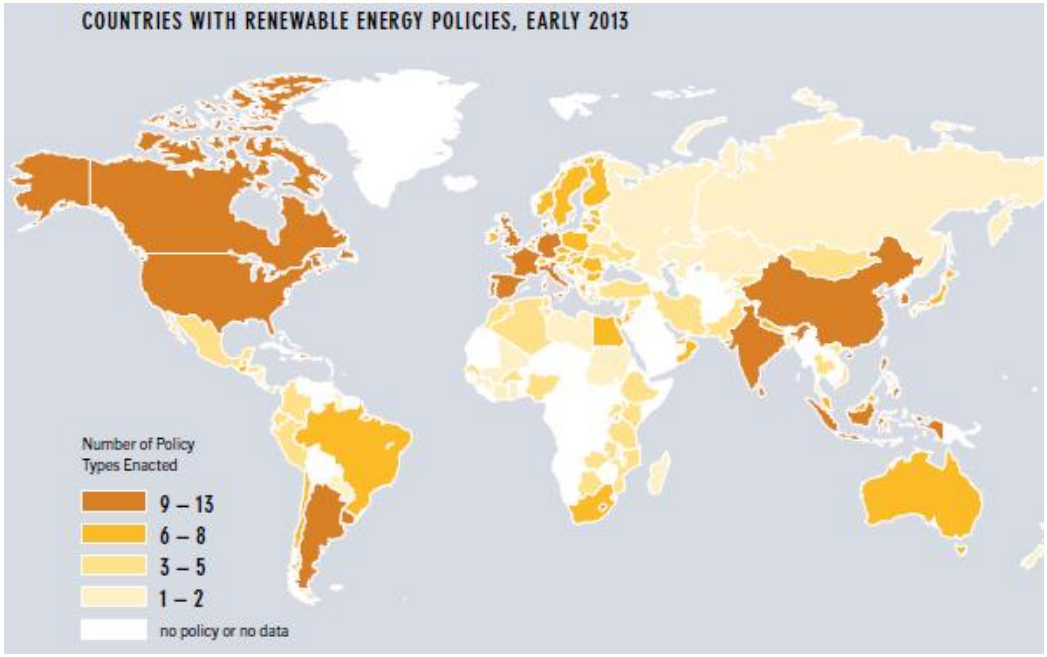
- Dramatic shift in the balance of new investment activity between developed and developing economies.
- **Developing countries** reached USD 112 billion, representing 46% of the world total; this was up from 34% in 2011, and continued an unbroken eight-year growth trend.
- **Developed economies** fell 29% to USD 132 billion, the lowest level since 2009.

Renewable Energy and Jobs

Data source: IRENA , Renewable Energy and Jobs (2013)

- Worldwide renewable energy employment continues to increase.
- An estimated **5.7 million people** work in the renewable energy sector.

Renewable Energy Policy Landscape



Source: REN21 Renewables 2013 Global Status Report

- At least **138 countries had renewable energy targets by the end of 2012**.
- The number of countries with renewable energy targets more than doubled between 2005 and 2012.
- **All 21 MENA countries now have policy targets**, up from 5 in 2007, with at least 19 countries having technology specific targets.

Outlook 2030

Three complementary goals by 2030:

1 ENSURE
universal access
TO MODERN ENERGY SERVICES.

2 DOUBLE THE GLOBAL RATE OF IMPROVEMENT IN
energy efficiency

3 DOUBLE THE SHARE OF
renewable energy
IN THE GLOBAL ENERGY MIX.

SUSTAINABLE
ENERGY FOR ALL

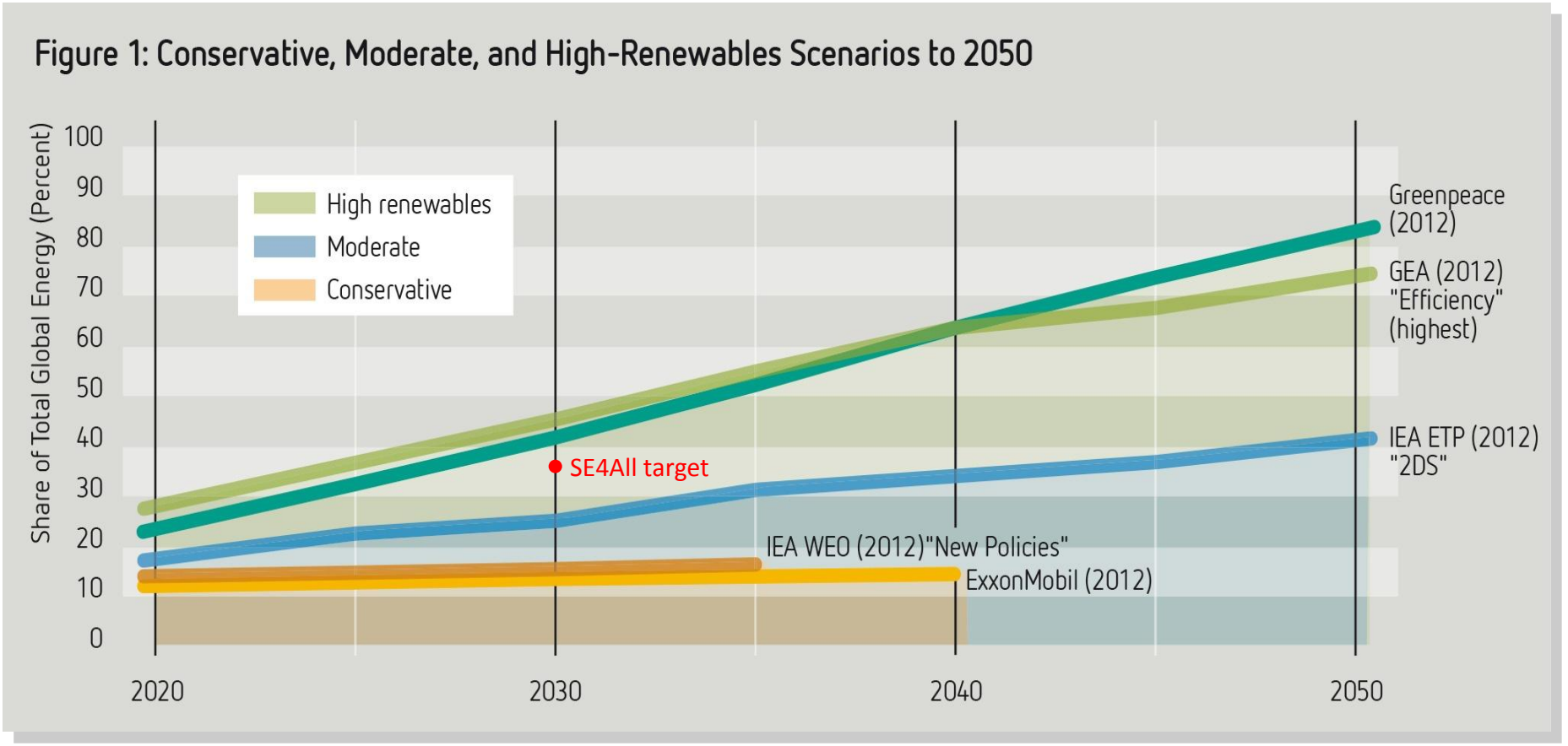
Starting point for SE4ALL goals can be established on this basis

SUSTAINABLE ENERGY FOR ALL

Percent	Universal access to modern energy services		Doubling global rate of improvement of energy efficiency	Doubling share of renewable energy in global energy mix
Proxy indicator	Percentage of population with electricity access	Percentage of population with primary reliance on non-solid fuels	Rate of improvement in energy intensity	Renewable energy share in TFEC
1990	76	47	**–1.3**	16.6
2010	**83**	**59**		**18.0**
2030	100	100	–2.6	36.0

Source: Global Tracking Framework @ International Energy Agency and World Bank, 2013

Future outlook – what is in the cards?



In conclusion

- Achieving objectives will take bold policy action aimed at doubling or tripling financial flows.
- Stable and predictable policy frameworks are key for the industry.
- Doubling the share of renewables by 2030 will need to result in at least a tripling of the share of modern renewables incl. sustainable hydropower.
- Both centralised and decentralised renewables will be needed.
- Phase out of untargeted fossil fuel subsidies is indispensable (RE support is still 6 times less than fossil fuel subsidies).
- Integration of renewable energy will become more important.

REN21 Flagship Products & Activities

Renewables Global Status Report
www.ren21.net/gsr

Renewables Interactive Map
www.map.ren21.net

Renewables Global Futures Report
www.ren21.net/gfr

Regional Status Reports

REN21+: REN21's Global Web Platform
www.ren21plus.ren21.net

The True Cost of Electric Power

Facilitation of IRECs

Global Status Report on Local Renewable Energy Policies

secretariat@ren21.net

www.ren21.net