Renewable Energy’s Record Year Helps Uncouple Growth of Global Economy and CO₂ Emissions

Record installations for wind and solar PV in 2014;
Renewable energy targets created in 20 more countries, new total: 164;
Renewables account for over 59% of net additions to world’s power capacity;
Policy-makers more attentive to green energy heating/cooling;
Developing world investments on par with developed world, total $301 billion

Renewable energy targets and other support policies, now in place in 164 countries, powered the growth of solar, wind and other renewable technologies to a record-breaking energy generation capacity last year: about 135 GW of added renewable energy power increasing total installed capacity to 1,712 GW, up 8.5% from the year before.

Despite the world’s average annual 1.5% increase in energy consumption in recent years and average 3% growth in Gross Domestic Product, carbon dioxide (CO₂) emissions in 2014 were unchanged from 2013 levels. For the first time in four decades, the world economy grew without a parallel rise in CO₂ emissions.

The landmark “decoupling” of economic and CO₂ growth is due in large measure to China’s increased use of renewable resources, and efforts by countries in the OECD to promote more sustainable growth—including increased use of energy efficiency and renewable energy.

“Renewable energy and improved energy efficiency are key to limiting global warming to two degrees Celsius and avoiding dangerous climate change,” says REN21 Chair Arthouros Zervos, who released the new report at the Vienna Energy Forum.

Thanks to supportive policies now in place in at least 145 countries (up from 138 countries reported last year), worldwide power generation capacity from wind, solar photovoltaic (PV), and hydro sources alone were up 128 GW from 2013. As of end-2014, renewables comprised an estimated 27.7% of the world’s power generating capacity, enough to supply an estimated 22.8% of global electricity demand.
Solar PV capacity has grown at the most phenomenal rate—up 48-fold from 2004 (3.7 GW) to 2014 (177 GW)—with strong growth also in wind power capacity (up nearly 8-fold over this period, from 48 GW in 2004 to 370 GW in 2014).

Global new investment in renewable power and fuels (not including hydropower >50 MW) increased 17% over 2013, to USD 270.2 billion. Including large-scale hydropower, new investment in renewable power and fuels reach at least USD 301 billion. Global new investment in renewable power capacity was more than twice that of investment in net fossil fuel power capacity, continuing the trend of renewables outpacing fossil fuels in net investment for the fifth year running.

Investment in developing countries was up 36% from the previous year to USD 131.3 billion. Developing country investment came the closest ever to surpassing the investment total for developed economies, which reached USD 138.9 billion in 2014, up only 3% from 2013. China accounted for 63% of developing country investment, while Chile, Indonesia, Kenya, Mexico, South Africa and Turkey each invested more than USD 1 billion in renewable energy.

By dollars spent, the leading countries for investment were China, the United States, Japan, the United Kingdom and Germany. Leading countries for investments relative to per capita GDP were Burundi, Kenya, Honduras, Jordan, and Uruguay.

The sector’s growth could be even greater if the more than USD 550 billion in annual subsidies for fossil fuel and nuclear energy were removed. Subsidies perpetuate artificially low energy prices from those sources, encouraging waste and impeding competition from renewables.

Says Christine Lins, Executive Secretary, REN21: “Creating a level playing field would strengthen the development and use of energy efficiency and renewable energy technologies. Removing fossil-fuel and nuclear subsidies globally would make it evident that renewables are the cheapest energy option.”

Employment in the renewable energy sector is growing rapidly as well. In 2014, an estimated 7.7 million people worldwide worked directly or indirectly in the sector.

Despite spectacular growth of renewable energy capacity in 2014, more than one billion people, or 15% of humanity, still lack access to electricity. Moreover, approximately 2.9 billion people lack access to clean forms of cooking. With installed capacity of roughly 147 GW, all of Africa has less power generation capacity than Germany. Further attention needs to be paid to the role that distributed renewable energy technologies can play in reducing these numbers by providing essential and productive energy services in remote and rural areas.

Available publicly from June 18 (at www.ren21.net/gsr), REN21’s Renewables 2015 Global Status Report is the 10th annual edition of the world’s most frequently-referenced report on the global renewable energy market, industry, and policy landscape.

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