

# The energy world is undergoing massive transformation. Installations of renewable energy have skyrocketed around the world, exceeding most predictions from less than a decade ago.

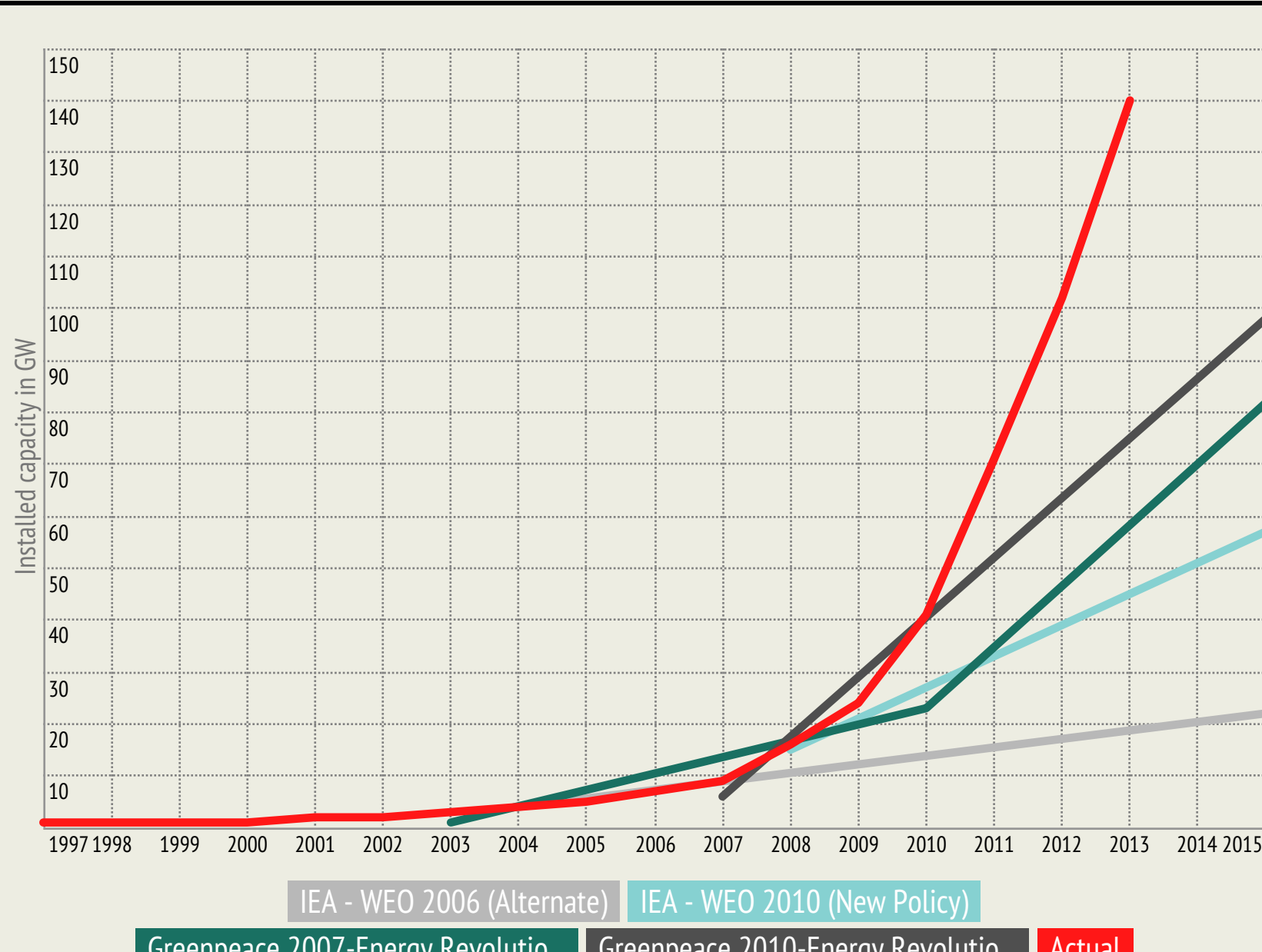


A record-breaking amount of wind and solar power was installed globally in 2014, in what the US Department of Energy has characterized as an “[energy revolution](#).” But how strong is this momentum? How much have renewable technologies like solar PV and wind actually grown in recent years?

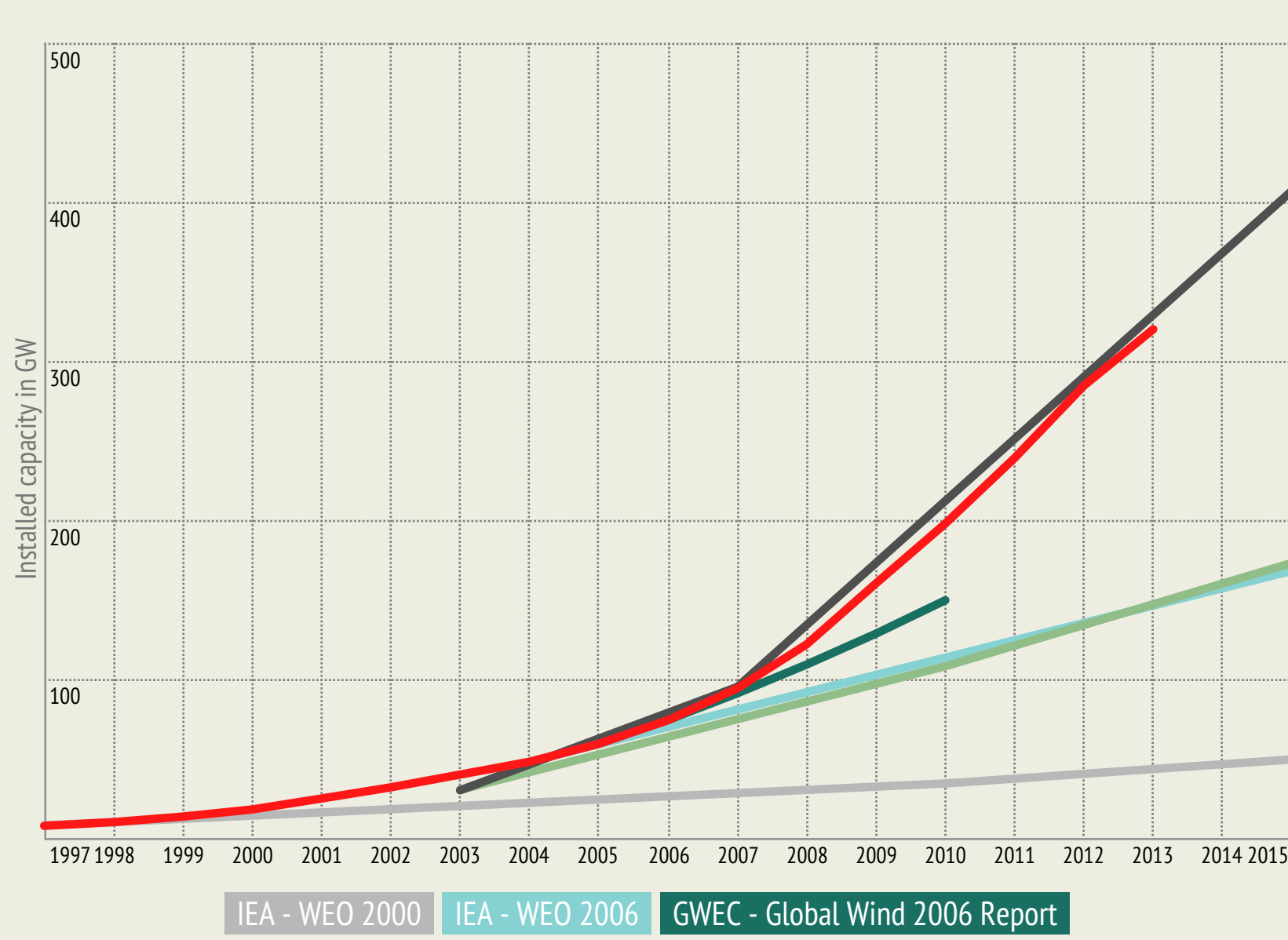
## Solar and wind: outpacing (most) expert projections

Over the past 15 years, a number of predictions – by the International Energy Agency, the US Energy Information Administration, and others – have been made about the future of renewable energy growth. Almost every one of these predictions has underestimated the scale of actual growth experienced by the wind and solar markets. Only the most aggressive growth projections, such as Greenpeace’s Energy [R]evolution scenarios, have been close to accurate.

## Cumulative installed solar PV capacity: Global



## Cumulative installed wind capacity: Global



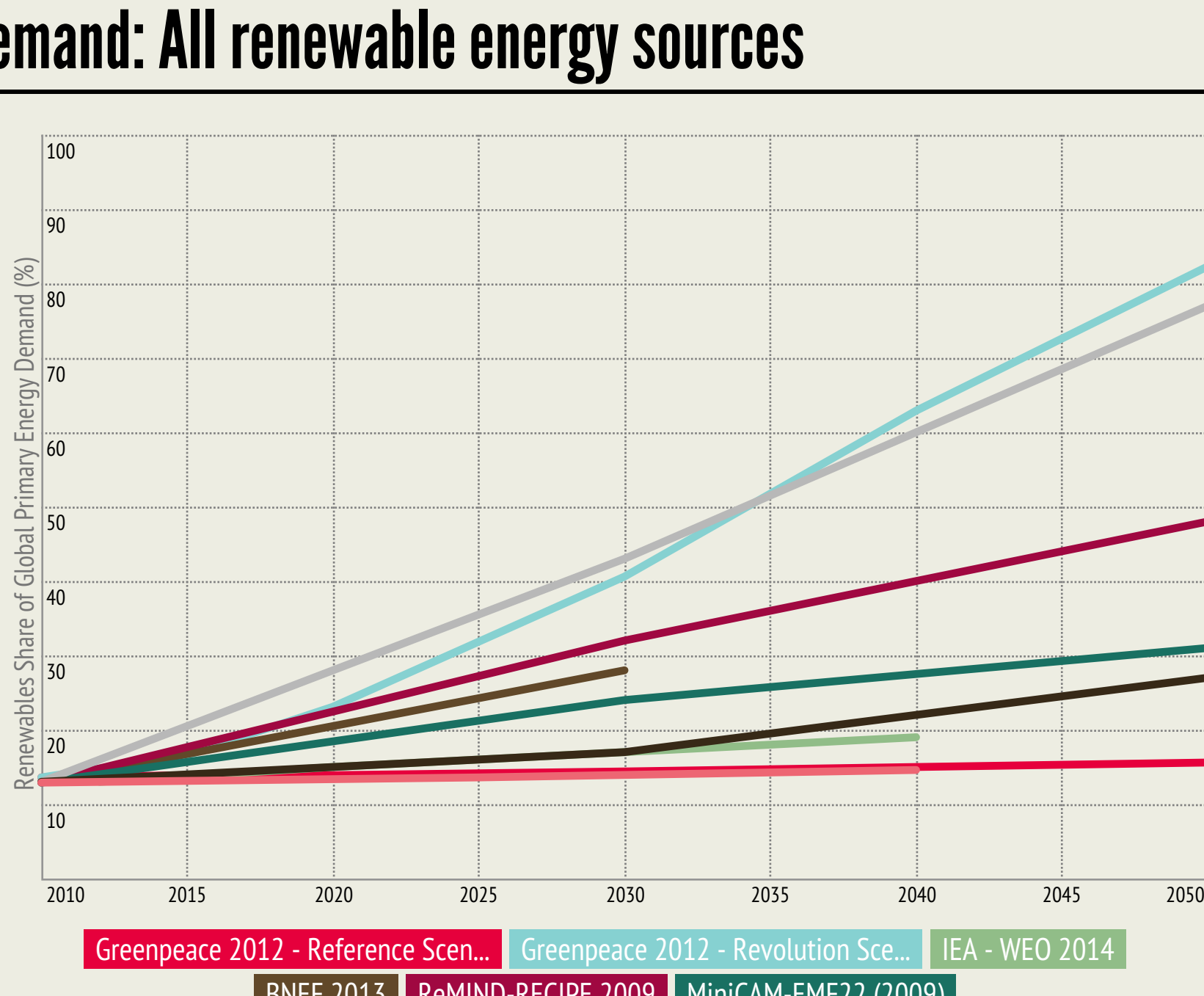
(Click [here](#) for additional wind & solar PV growth projections for North America, the EU, and China.)

Greenpeace’s projections have been predicated upon drastic structural, policy, and business changes. The recent moves seen by [E.ON](#), [China](#), and across countless other local and global institutions suggest that these changes are already underway.

## What lies ahead?

No one knows what the future electricity mix will look like, and that uncertainty is mirrored more broadly in projections for the energy system as a whole. Approximately 13% of global primary energy demand is derived from renewable sources, and it is almost a certainty that renewables will continue to expand. The question is: by how much? Projections and scenarios range from 15% to 82% of global primary energy demand by 2050.

## Projected renewables share of global primary energy demand: All renewable energy sources



To win in the future global marketplace, business leaders and policymakers will need to manage change effectively. The next phase in the renewable transformation will likely involve substantial changes to the structure of the global energy system. This means new policies, new business models, new grid management systems and the potential for massive disruption – all of which raise a number of questions:

- How can policymakers, businesses, and community leaders work together to effectively manage the transformation?
- How can leaders align stakeholder interests to implement the right policies and regulations across regions?
- What new business models need to be deployed to deliver greater levels of cost-effective renewable and energy efficiency projects?
- How can investors mobilize to finance major energy infrastructure?

Strategic questions such as these are at the forefront of energy discussions around the world. At the same time, they presume that energy stakeholders will have some degree of control over the changes that are coming. As has been seen in the past, however, renewable energy market growth has consistently surprised (on the upside) the analysts, planners, and policy makers who have attempted to predict the future.