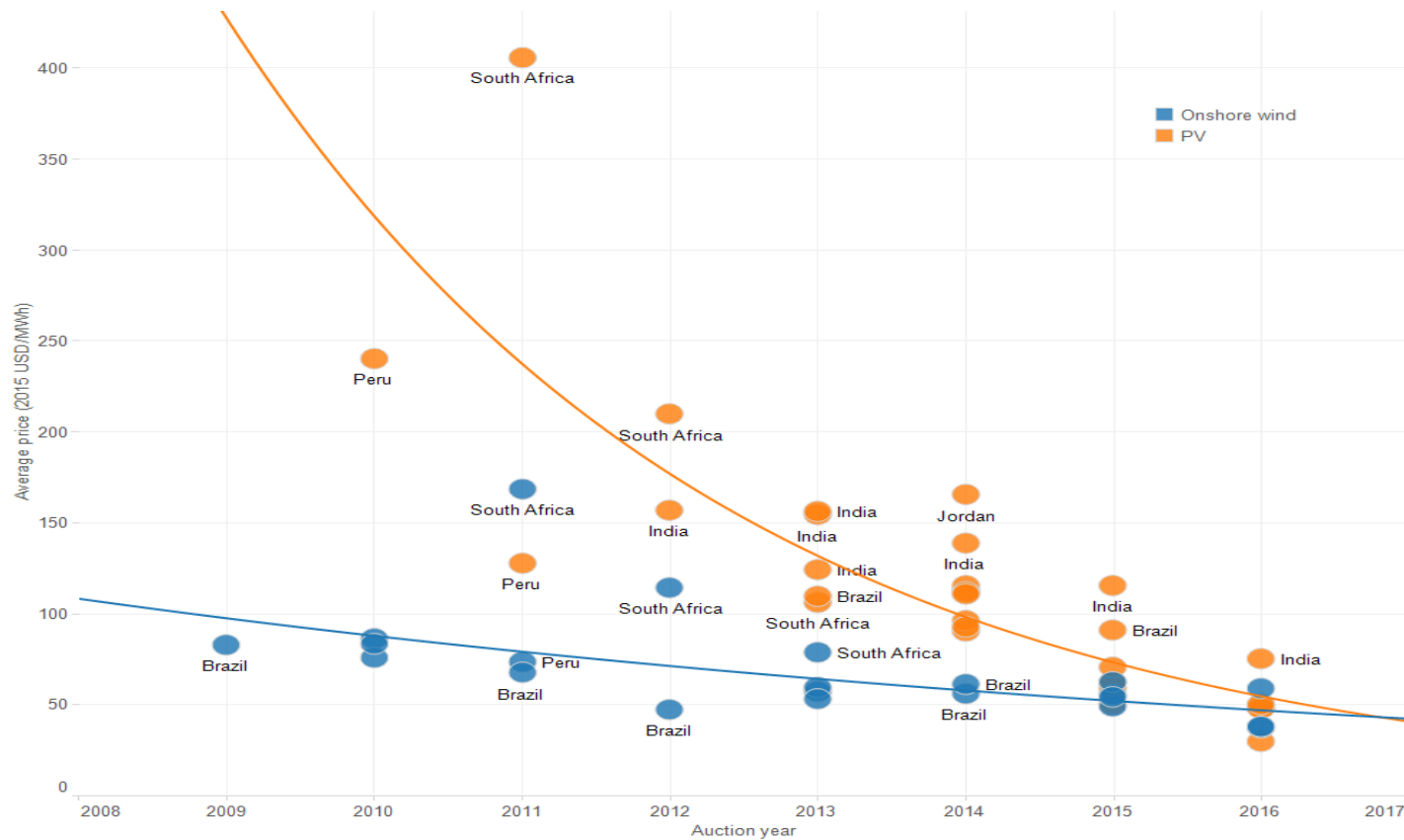


The development of renewable energy – the world and Russian trends

Sakari Oksanen
IRENA Deputy Director General

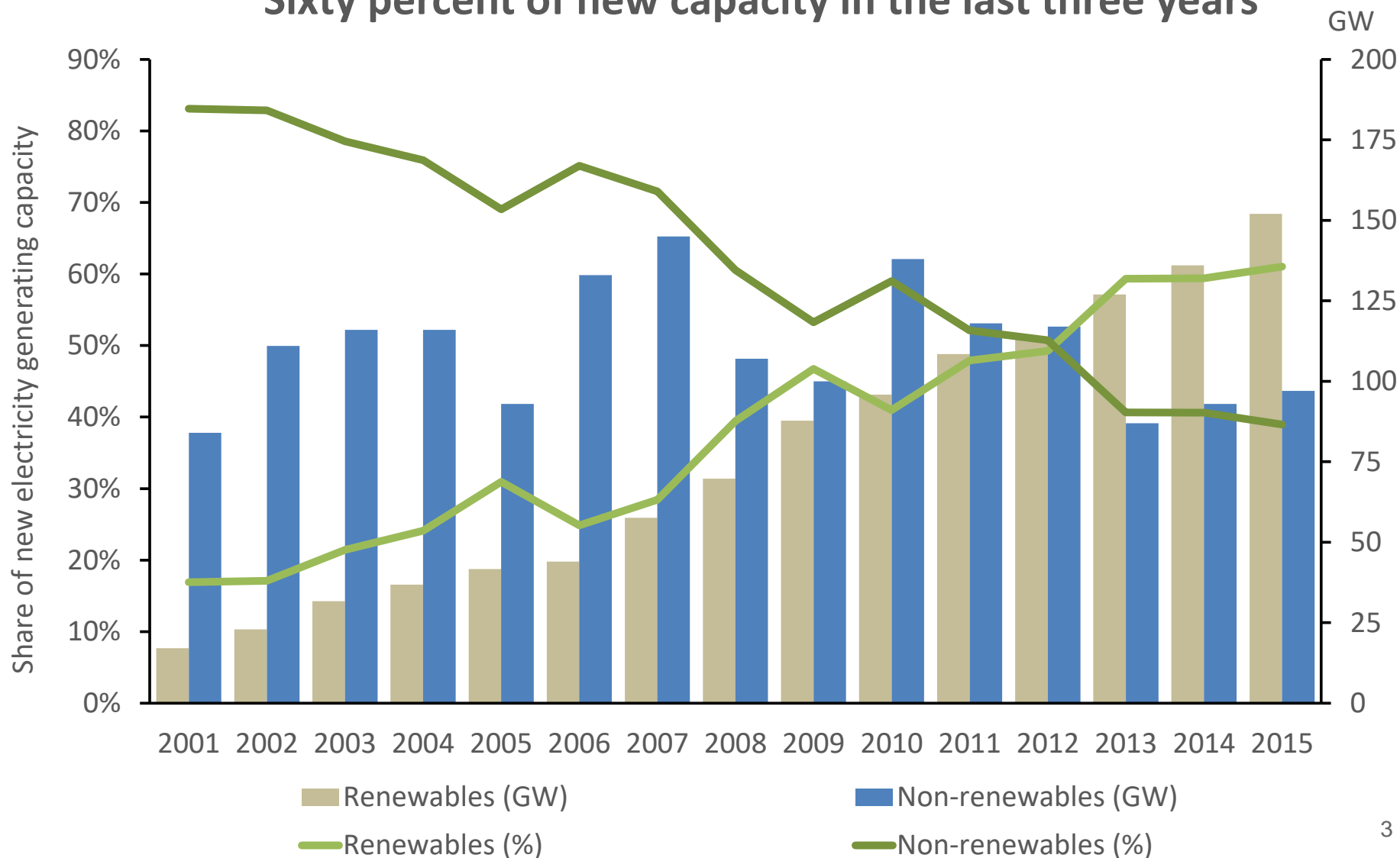
PPAs show prices are decreasing rapidly

Projects in a wide range of technologies and locations are being offered at very low long-term contract prices

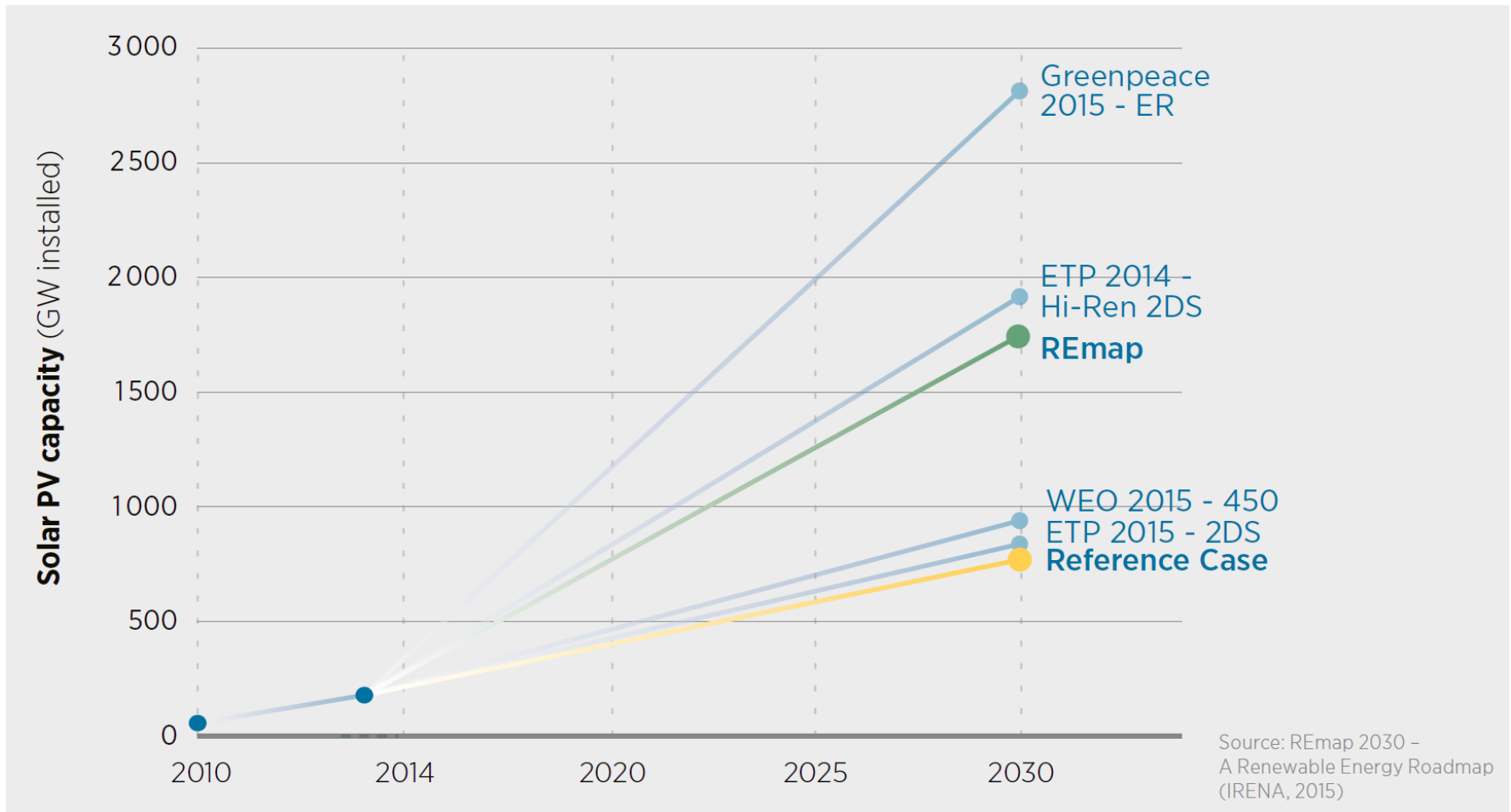


RE deployment is increasing rapidly

Sixty percent of new capacity in the last three years



Current policies are underestimating the what is happening on the ground



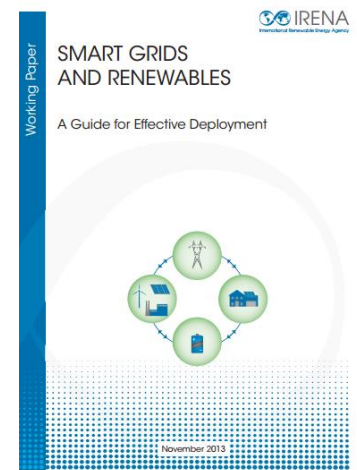
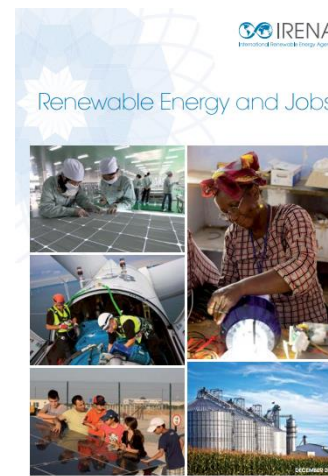
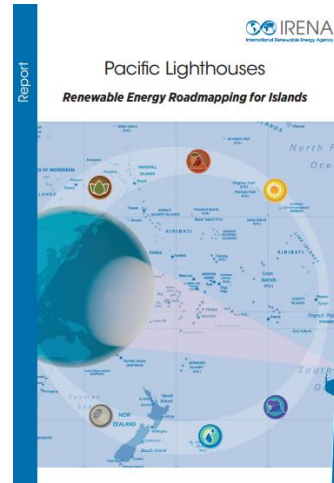
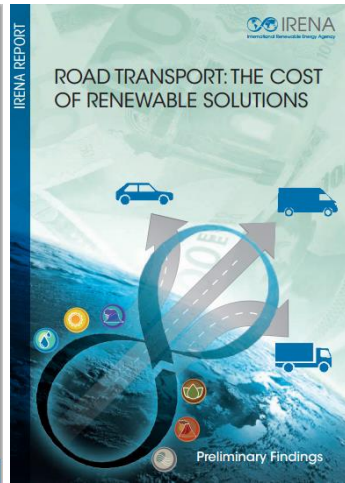
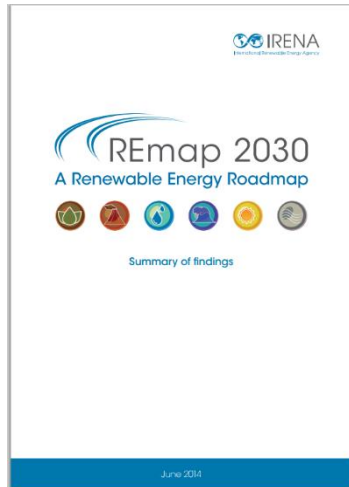
All other renewable energy technologies are catching up

- Many developments in RE during an era of low energy prices and decreasing demand for energy in North America, Europe etc
- 8 MW turbines for offshore wind introduced
- Ocean technology catching up, similar trends with onshore wind from a decade ago
- Significant progress made in reducing risks related to up-front exploration of geothermal energy
- Many more developments expected in enabling technologies (eg energy storage)
- However, more focus needed in non-power sectors, transport, heating and cooling

- Governments and businesses are positively responding to the trends
- In the past 10 years, several laws and regulations have been issued by the Russian Government
- “Year of the Environment in the Russian Federation” in 2017
- Since July 2015, Russian Federation is IRENA member

- Economic activity, job creation, science & knowledge development
- Affordable energy supply to isolated regions
 - Representing >10 million people, across 70% of the Russian territory
- Significant export potential of biofuels, hydropower and wind power
 - China, rest of East Asia and Europe
- Utilising biofuels and RE municipal waste during modernisation of the district heat sector
- Climate change and environmental concerns

Supporting Russia in renewable energy deployment



THANK YOU!

