



International
Energy Agency

Secure • Sustainable • Together

An IEA's Perspective on Global Energy Challenges

IEEJ 50th / APERC 20th Anniversary Joint Symposium
May 26th, 2016

Kamel Ben-Naceur
Director, Sustainability, Technology and Outlooks
International Energy Agency

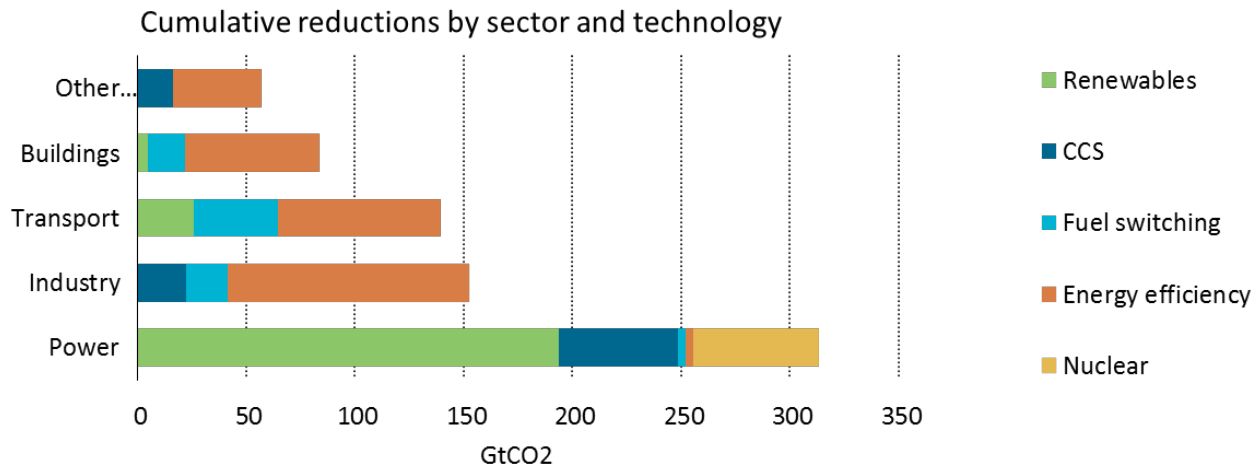
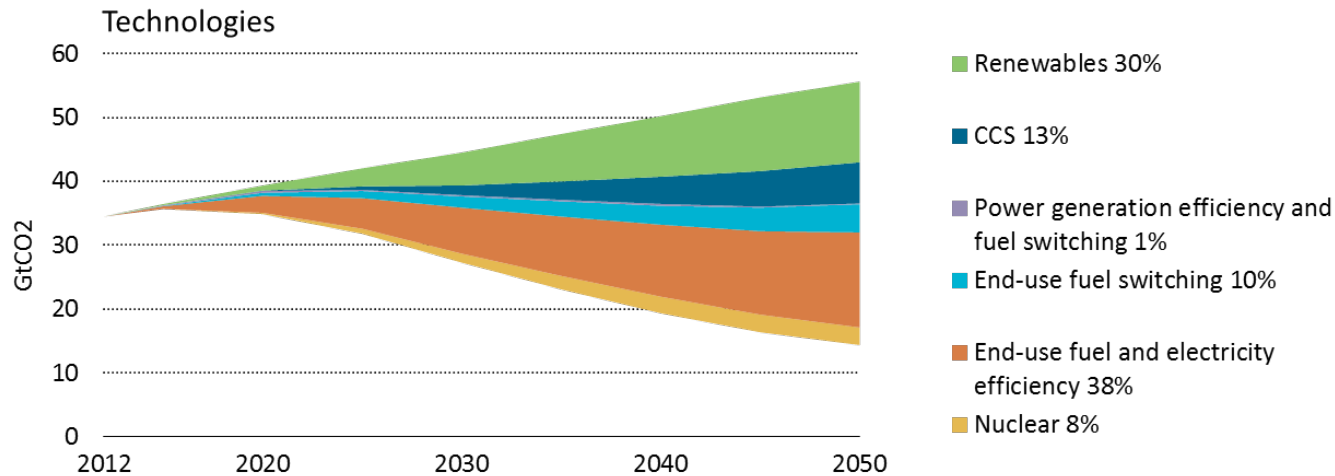
www.iea.org

- **Current Policies Scenario (CPS)** takes into account only the energy policies for which implementing measures have been formally adopted
- **New Policies Scenario (NPS)** is the Central scenario also account for other relevant policy intentions. This includes the INDCs (Intended Nationally Determined Contributions)
- **450 Scenario (450S) /2DS** assumes a set of policies that bring about a trajectory of greenhouse-gas emissions from the energy sector that is consistent with the international goal to limit the rise in the long-term average global temperature to two degrees Celsius

LONG-TERM MITIGATION GOAL

- **Temperature goal "well below" 2°C, with efforts to limit to 1.5°C**
- **To achieve the temperature goal, Parties aim to reach a peaking of global emissions as soon as possible, and to undertake rapid reductions thereafter so as to achieve a balance between emissions and removals by sinks in the second half of this century (i.e. net-zero emissions but these words were not used).**
- **Parties are encouraged to develop and communicate national long-term low greenhouse gas development strategies.**

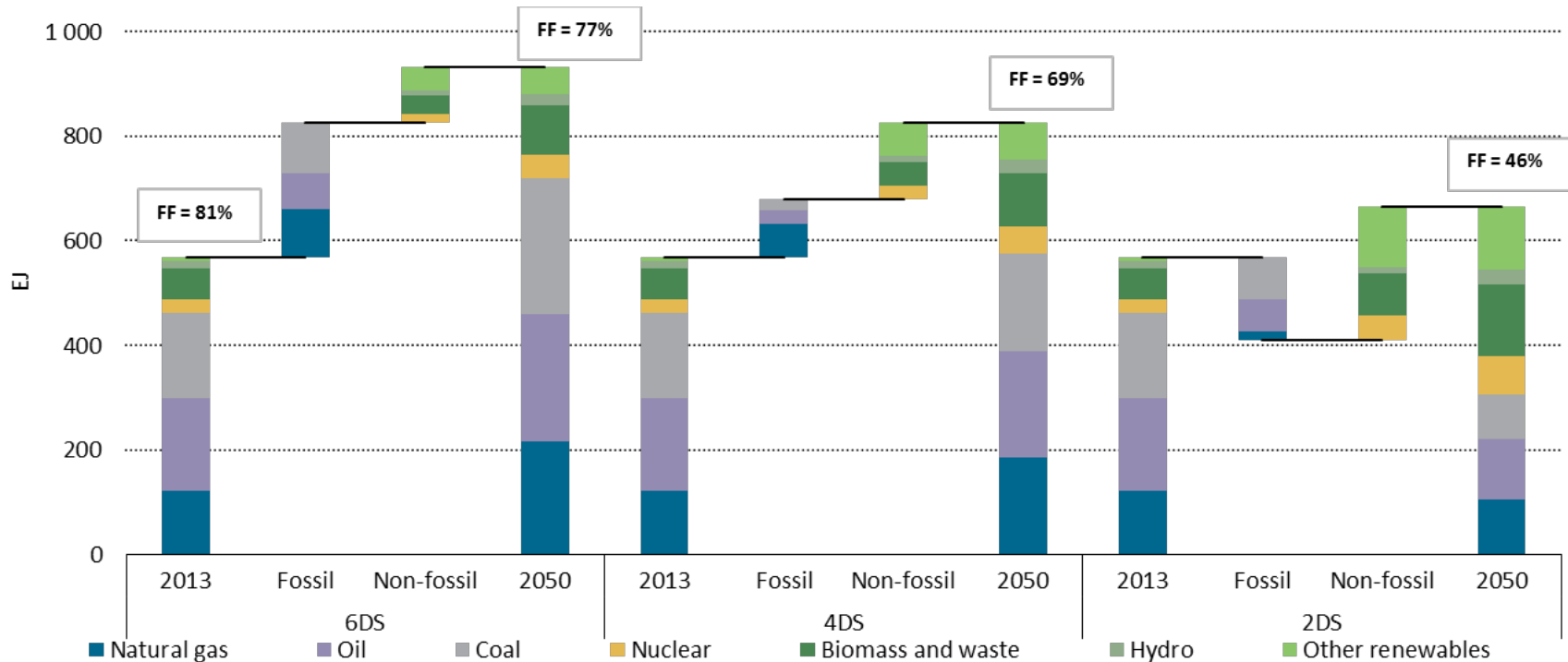
Technologies/Decarbonization Wedges



A portfolio of technologies is needed – but some will need to target specific sectors

The transition requires an exceptional effort

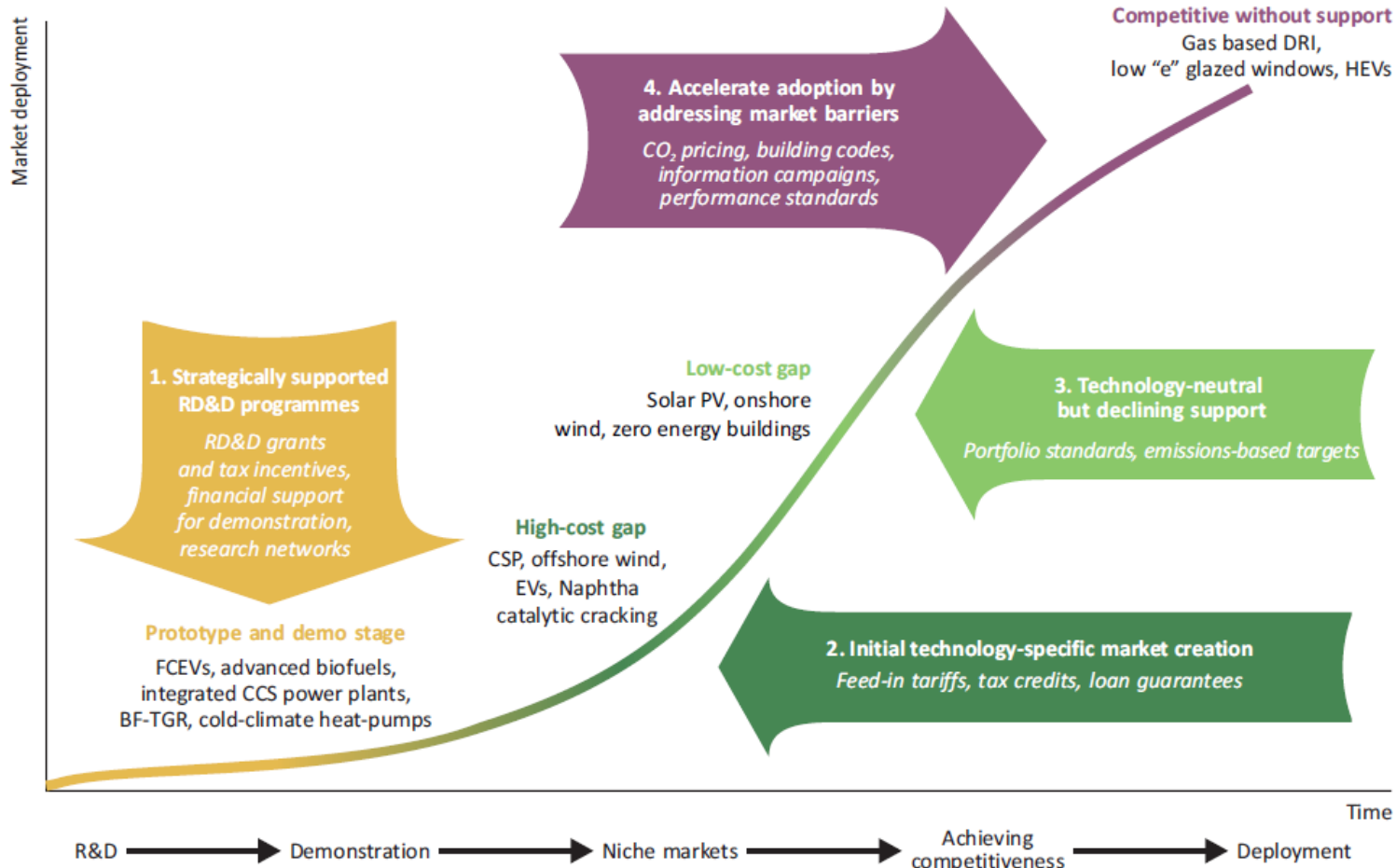
Global primary energy use by fuel, 2013-2050



Source: ETP2016 – Preliminary analysis

Meeting the 2DS requires significant changes in energy intensity and in the fuel mix over the next three decades

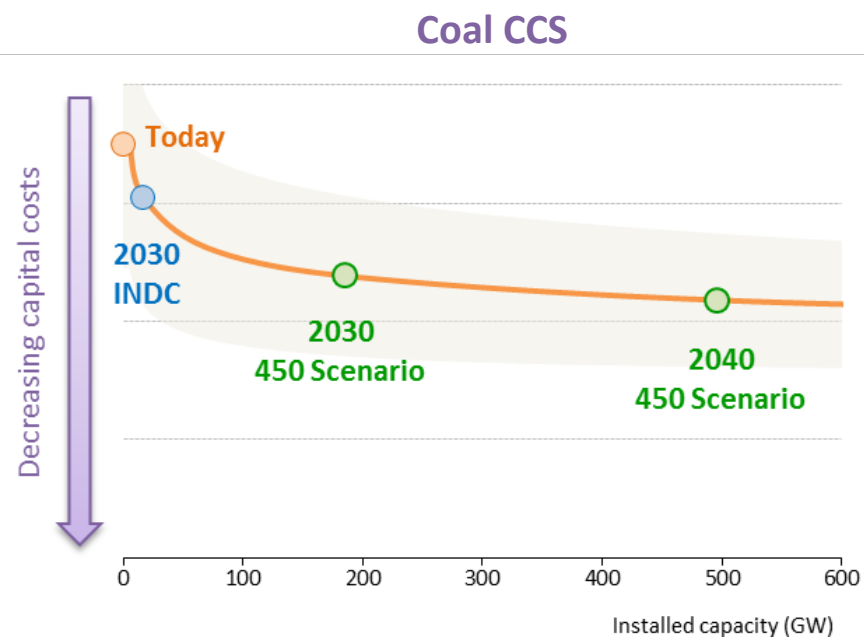
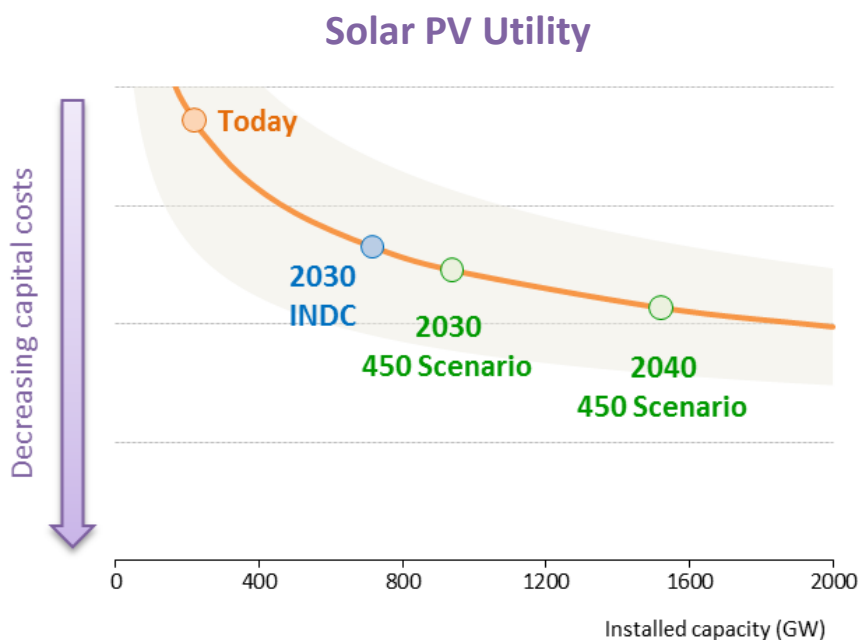
Supporting Energy Innovation: The right policy at the right time



The right support depends on the maturity of the technology and the degree of market uptake

INDC policies could catalyse an even more ambitious transformation

Global average capital costs as installed capacity increases



The INDCs help continue to drive down commercially available clean energy technology costs, but greater emphasis on earlier stage developments is also needed to help meet climate goals

Concluding Remarks

- The groundbreaking Paris Agreement makes the sustainability of the global energy system more plausible
- 2014-2015 could be the start of a major new energy trend towards decarbonization, but an exceptional effort is required
- Focus on rapid and widespread deployment of new energy technologies as well as innovation from public and private sectors



International
Energy Agency

Secure • Sustainable • Together

An IEA's Perspective on Global Energy Challenges

IEEJ 50th / APERC 20th Anniversary Joint Symposium
May 26th, 2016

Kamel Ben-Naceur
Director, Sustainability, Technology and Outlooks
International Energy Agency

www.iea.org