IRENA
International Renewable Energy Agency

UNFCCC: ADP 2.9
Technical Expert Meeting
Renewable Energy

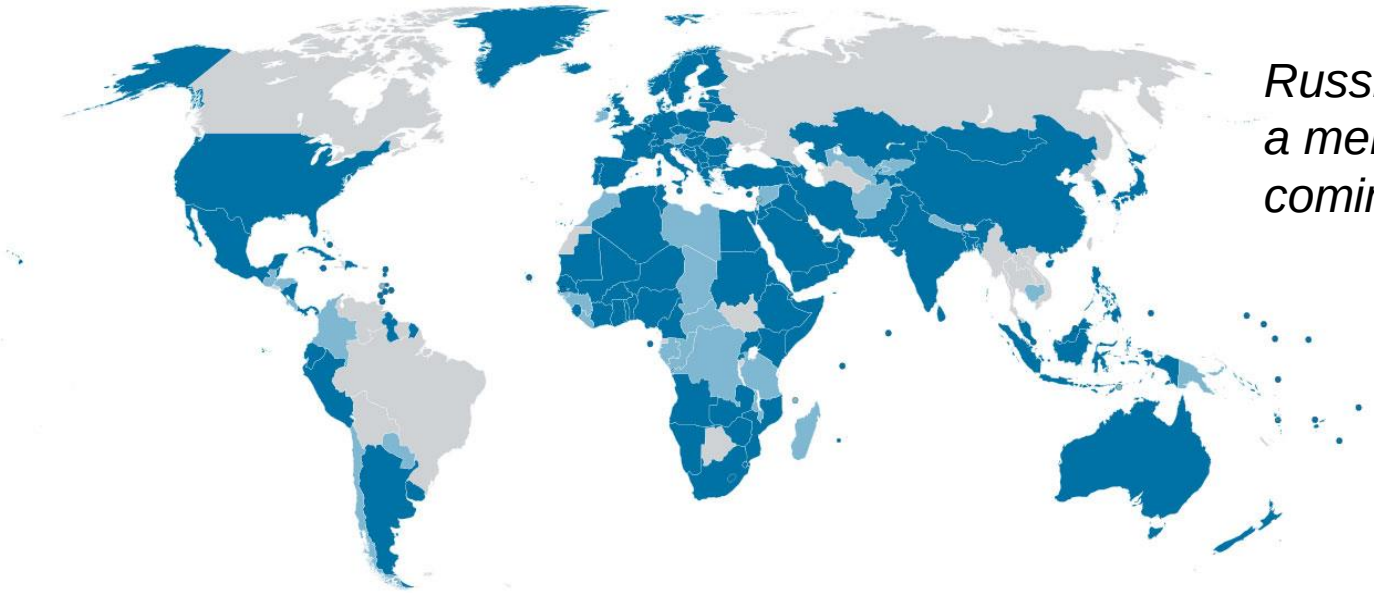
3 June, 2015

2015

About the International Renewable Energy Agency (IRENA)

The International Renewable Energy Agency

The Voice, Advisory Resource and Knowledge Hub for 172 Governments



Russia will become a member in the coming weeks

Renewable energy can:

- Meet our goals for **secure**, **reliable** and **sustainable** energy
- Provide **electricity access** to 1.3 billion people
- Promote **economic development**
- At an **affordable cost**

IRENA Structure and Mandate

Headquarters: **Abu Dhabi, United Arab Emirates**

Three Programmes:

- Innovation and Technology Centre (IITC) in Bonn, Germany
- Knowledge, Policy, and Finance Centre (KPFC) in Abu Dhabi
- Country Support and Partnerships (CSP) in Abu Dhabi

Foundation. January 2009 in Bonn. IRENA, since April 2011.

Mandate. To promote the widespread and sustainable use of all renewable energy sources worldwide.

Objective. To serve as a network hub, an advisory resource and an authoritative, unified, global voice for renewable energy.

Key Facts. Newest and fastest growing IGO and only international RE agency.

IRENA:
Promoting Deployment of Renewable Energy

IRENA provides a range of products and services, including

- **Renewables Readiness Assessment**;
- **The Global Renewable Energy Atlas**;
- **The IRENA Renewable Energy Learning Partnership** (IRELP);
- **Handbooks** for renewable energy policy development;
- **Technology Briefs and Case Studies**;
- **Facilitation of renewable energy planning** at regional levels;
- **Project Navigator** and **Project Facilitation Platform;**
- **RESOURCE,** online renewable energy search-engine;
- **Clean Energy Corridors**
- **Guidelines for RE Integration into Electricity Grids**;
- **Advisory Services on RE Quality Assurance and Standardisation.**

Renewable Energy and Transformation to Low Carbon Energy System

Quick Facts

- Global anthropogenic GHG emissions* at their highest level in over 800 years, which need to fall by **40% to 70% by 2050 compared to 2010 levels** to meet the 2 degree objective (IPCC, AR5)

- Energy supply* accounts for **over 2/3 of global GHG emissions,** with **80% of global energy consumption from fossil fuels** (IEA)

- Direct global CO_2 emissions (combustion related) from energy supply **projected to double or triple by 2050** compared to 2010 levels (IPCC, AR5)

Renewable Energy:
The Low-Carbon Advantage

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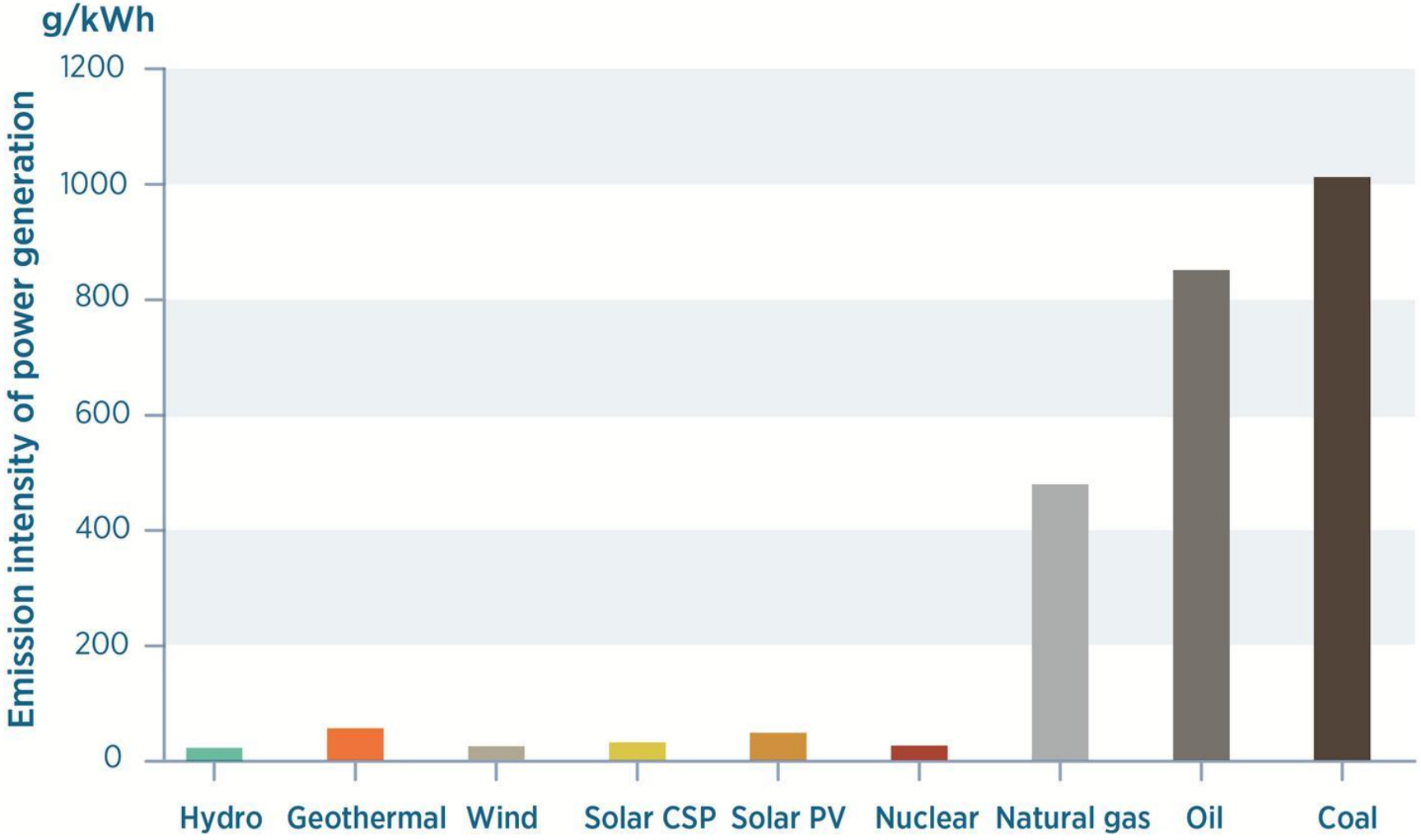
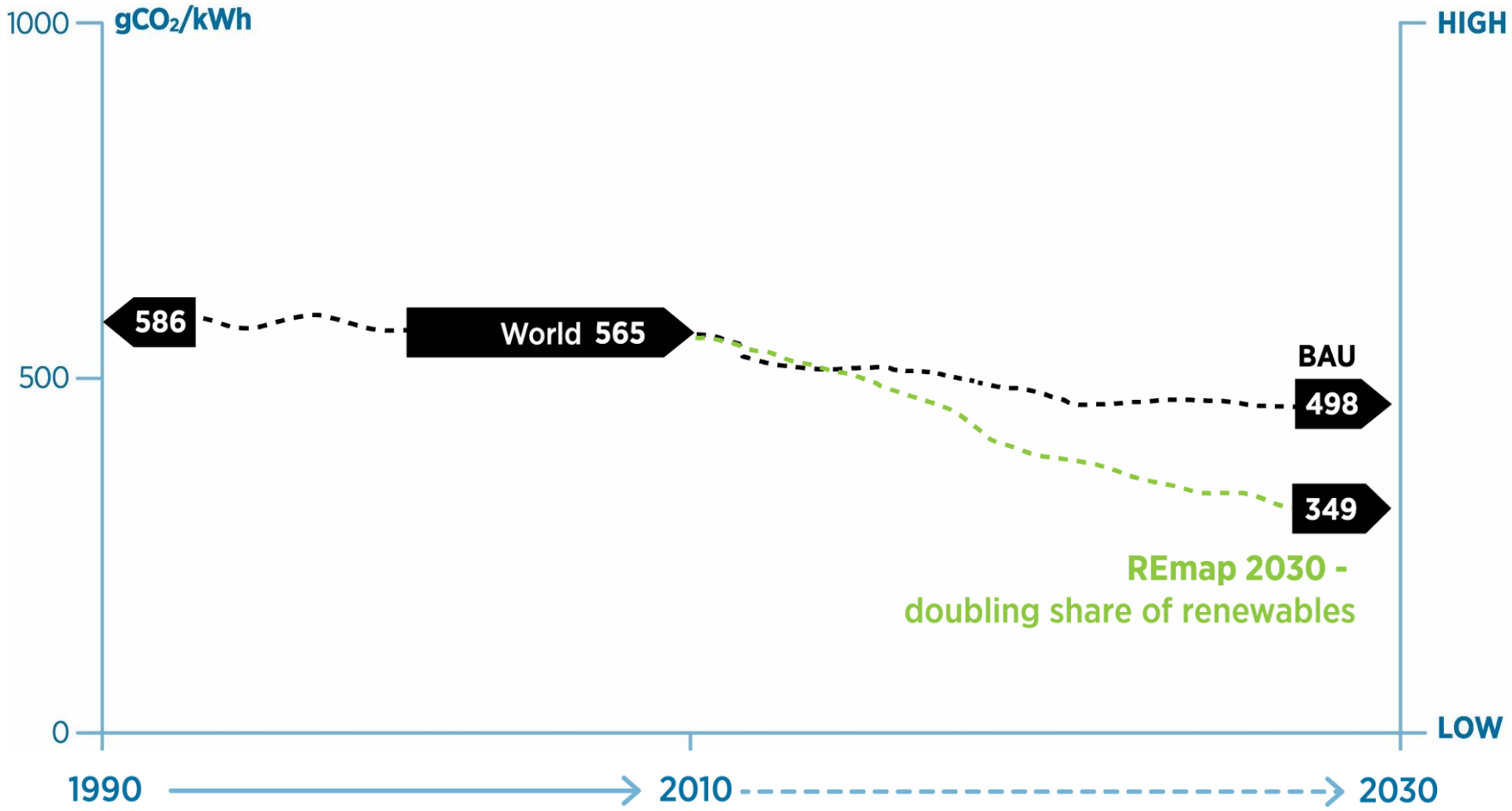


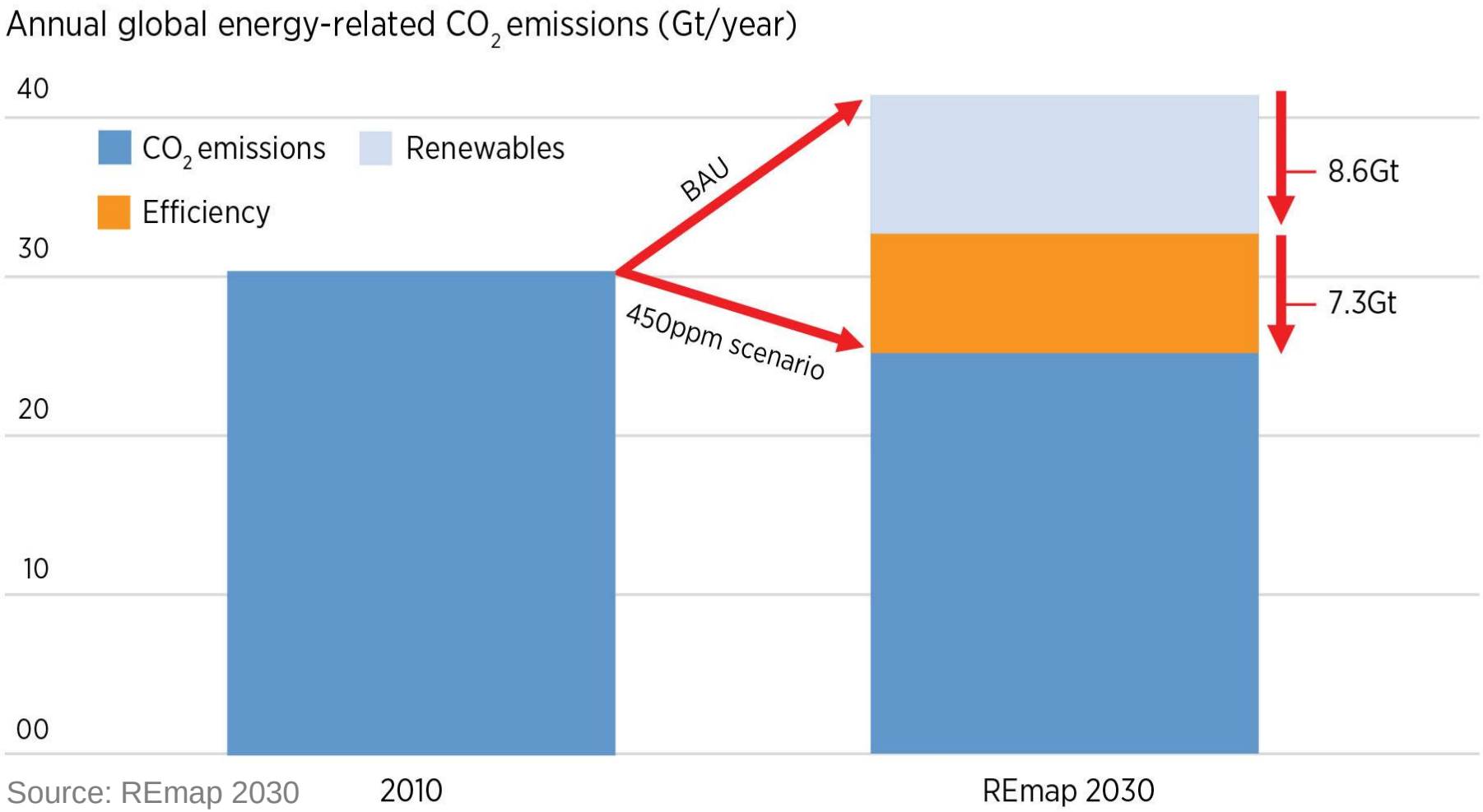
Source: IPCC (2011)

Keeping Global Warming to 2DC



Source: REmap 2030

With Renewables & Efficiency on a 450 ppm Path



Source: REmap 2030

» Fossil fuel substitution yields 8.6 Gt CO_2 emissions reduction – on par with the role of efficiency

Action around Renewable Energy is Already Happening Today

Trends and Potentials in Renewable Energy

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- Rapid technological progress
- Falling costs
- Improved understanding of financial risk
- Wider socioeconomic benefits

7.7 million jobs in 2014 (Jobs Report 2015). 16 million by 2030 (REmap 2030).

RE investment rise from USD 45 billion in 2004 to USD 270 billion in 2013

Solar PV leading the cost decline by 75%; electricity for USD 0.08/kWh

Trends and Potentials in Renewable Energy

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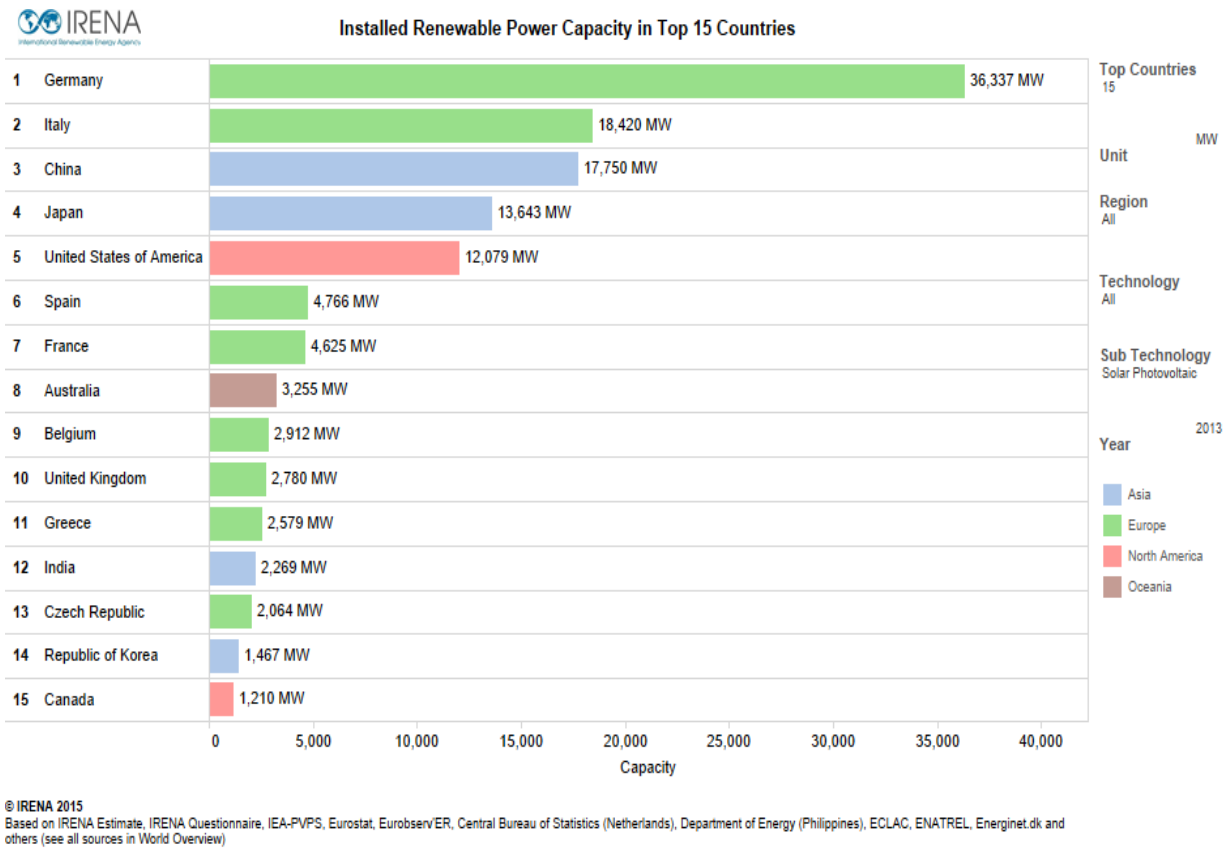
- RE have accounted for **more than half of capacity additions in the global power sector** since 2011
- Investment in new RE capacity **outpaced** investment in new fossil based power generation **in the past 3 years**
- **164** countries have national RE targets



Pathway for a Transition towards Renewable Energy

Accelerating the Energy Transition

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- **Long-term commitment** to create a **diverse**, **resilient**, **environmentally sustainable** system based on the best **emerging technological and economic innovations**;
- **Increased RE annual investment**: **USD 650 billion** (2012-2030) needed to double global RE share as RET become more **mature** and more **cost-competitive** (REmap 2030);
- **Strong policy framework enabling growth** in a dynamic and **adaptive** market setting, in addition to **investments**, **innovation**, and **multi-stakeholder engagement;**
- **Forward-looking approach** to electricity systems **planning**, market **design**, innovative **funding**, adequate **education** and training and new **business models**.

Accelerating the Energy Transition

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Remaining challenges

- ❑ RE investment costs decreasing, despite high capital costs
- ❑ Lack of knowledge and experience in RE
- ❑ Balancing investment allocations
- ❑ Policy uncertainty
- ❑ Adaptation to changing market conditions
- ❑ Grid integration

IRENA's **Activities** in Support of Increased RE Deployment Worldwide

International Cooperation and Partnerships

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AFRICA
CLEAN ENERGY CORRIDOR

SIDS
LIGHTHOUSES

GCA
GLOBAL GEOTHERMAL ALLIANCE

IRENA
PROJECT
NAVIGATOR

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