REmap
A Renewable Energy Roadmap

IRENA
International Renewable Energy Agency

#REmap

ROADMAP FOR A RENEWABLE ENERGY FUTURE

Washington DC, November 2016

REmap 2016 edition highlights

- **Doubling the share of renewable energy by 2030 is critical** for the achievement of sustainable energy and climate change objectives

- Doubling renewables in the world's energy mix by 2030 will lead to **savings exceeding costs up to 15 times**

- The transition to renewables, with greater energy efficiency, can **limit the global temperature increase to below 2 degrees**

- Doubling the share of renewable energy by 2030 is feasible, but only with **immediate, concerted action in transport, buildings and industry**

2015: a record year for renewables

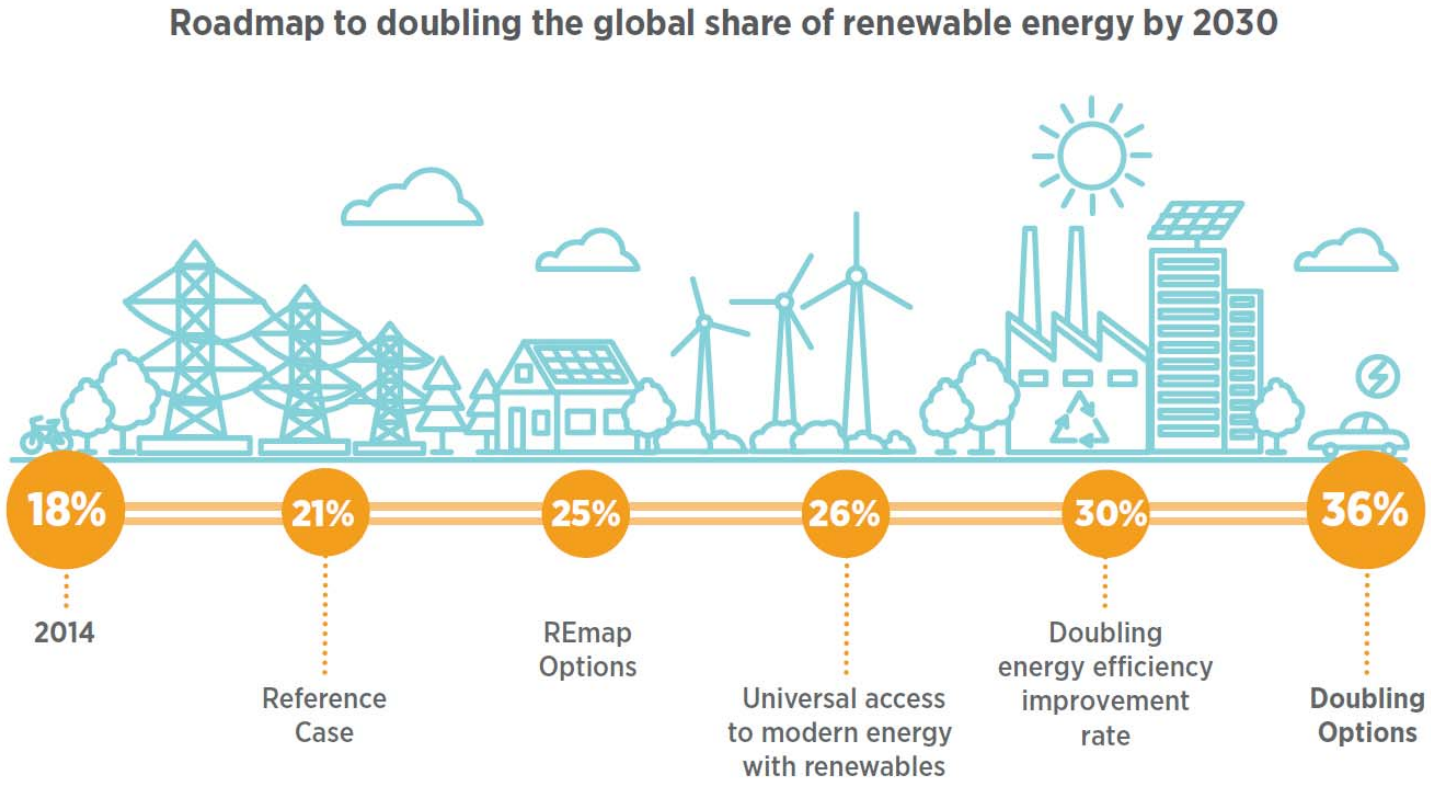
- **51 GW solar PV, 64 GW wind power installed**
  - More than 25% growth from the previous year
  - More than half of all new power generation worldwide is renewable
  - Despite low fossil fuel prices

- **Costs continue to fall:**
  - Solar PV: USD 48/MWh in Peru
  - Wind: USD 40/MWh in Egypt

- **164 countries with RE policies in place**

- **The global energy transition is ongoing**

Doubling the share of renewables



Doubling the world's renewable energy share requires concerted action, reinforcing growth in renewables with energy efficiency and universal access – the three pillars of SDG 7

Benefits of a doubling

Limit average global temperature rise to **2 °C** or below (when coupled with energy efficiency)

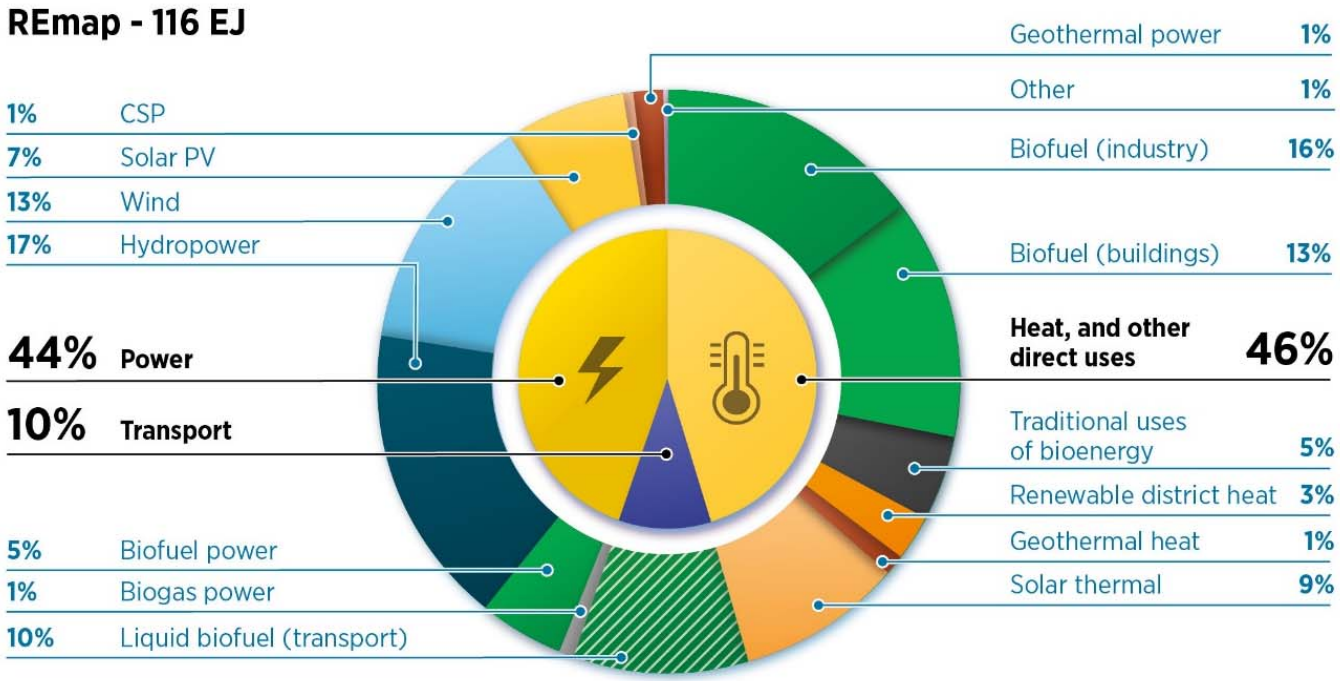
Avoid up to **12 gigatonnes** of energy-related CO_2 emissions in 2030

24.4 million jobs in the RE sector by 2030, compared to 9.2 million in 2014

Reduce air pollution enough to save up to **4 million lives** per year

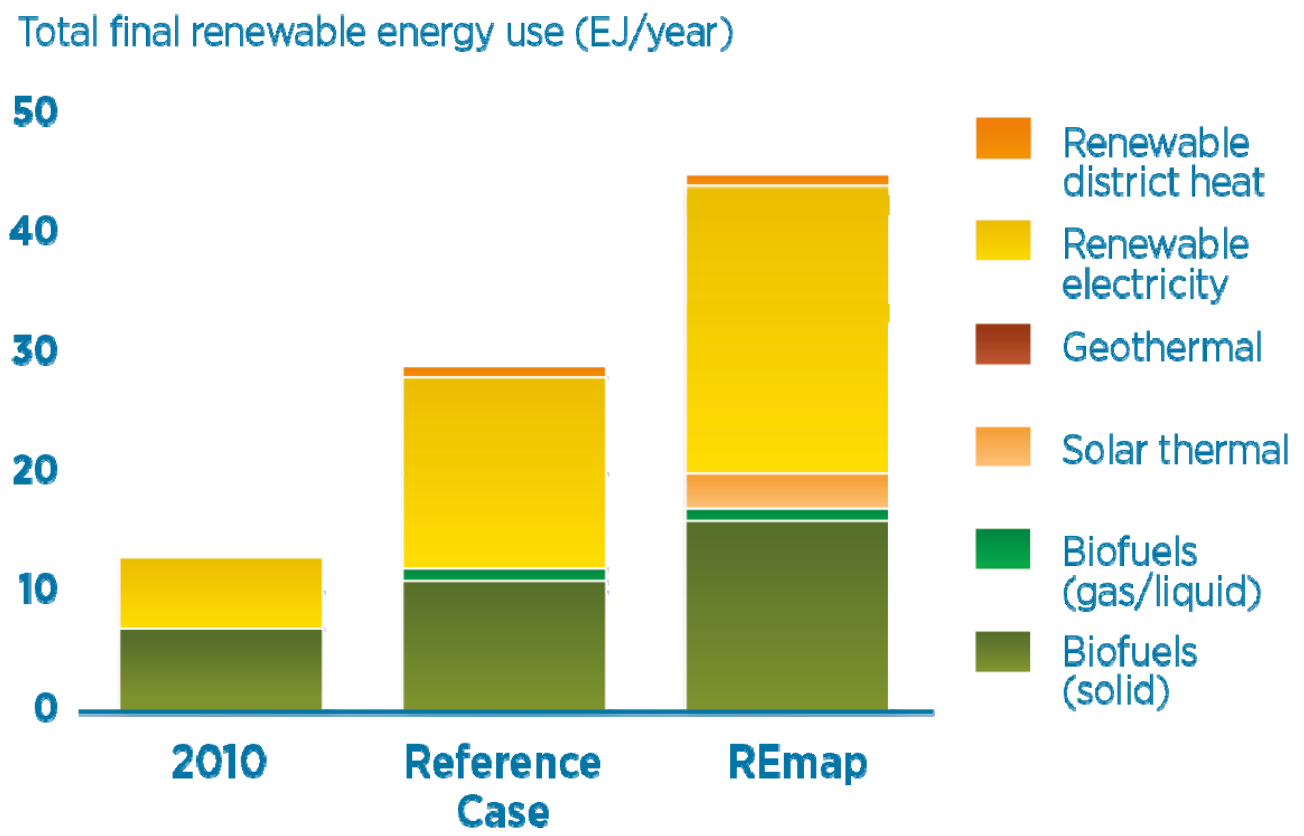
Boost global GDP by up to **$ 1.3 trillion**

Renewable Energy use in 2030 with REmap options, including modern energy access with renewables



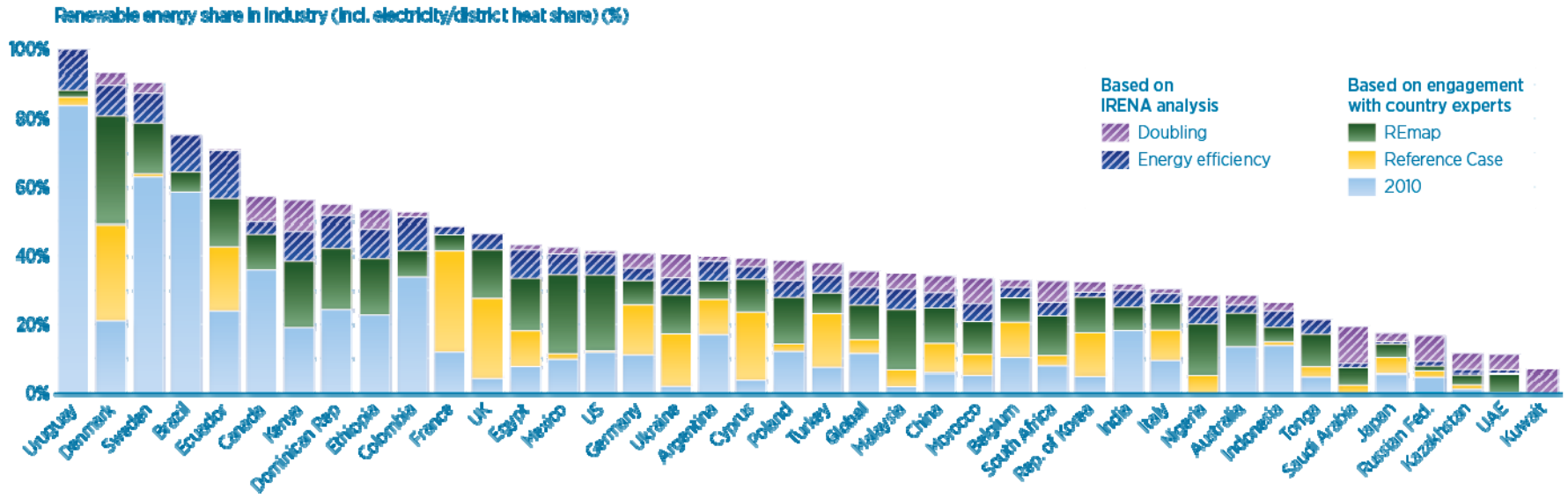
In REmap, renewables use in buildings, industry and transport as well as renewables-based district heating, would account for nearly 60% of modern renewable energy use in 2030.

FIGURE 30 Total final renewable energy use in industry, 2010-2030



In the industry sector's total energy demand, renewable electricity is as important as renewable heat.

FIGURE 29 Renewable energy share in industrial energy use in REmap countries, 2010-2030



Few countries fully recognize the renewable energy potential in the industry sector in their national plans.

Key Action Areas

Correct
for market distortions to create a level playing field and reform power markets

Introduce
greater flexibility into energy systems and accommodate the variability of key renewable energy sources and increase sector coupling

Develop and deploy
renewable heating and cooling solutions for urban development projects and industry

Promote
transport based on renewable power and biofuels

Ensure
the sustainable, affordable and reliable supply of bioenergy feedstock

Prioritisation areas
(manufacturing sector)

- **Energy intensive sectors:** largest potential
- **Small and medium enterprises:** >90% of all industrial plants, low absolute energy demand per plant
- **Biomass:** >75% of the potential for different applications, but many issues remain to be resolved
- **Solar thermal systems:** potentials exist, but more deployment needed
- **Electrification:** fuel switching and increased RE share in the power sector
- **Regional aspects:** energy pricing and climate policies, growth of industry versus availability of resources

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Thank you!!!