



WORLD ENERGY OUTLOOK 2017

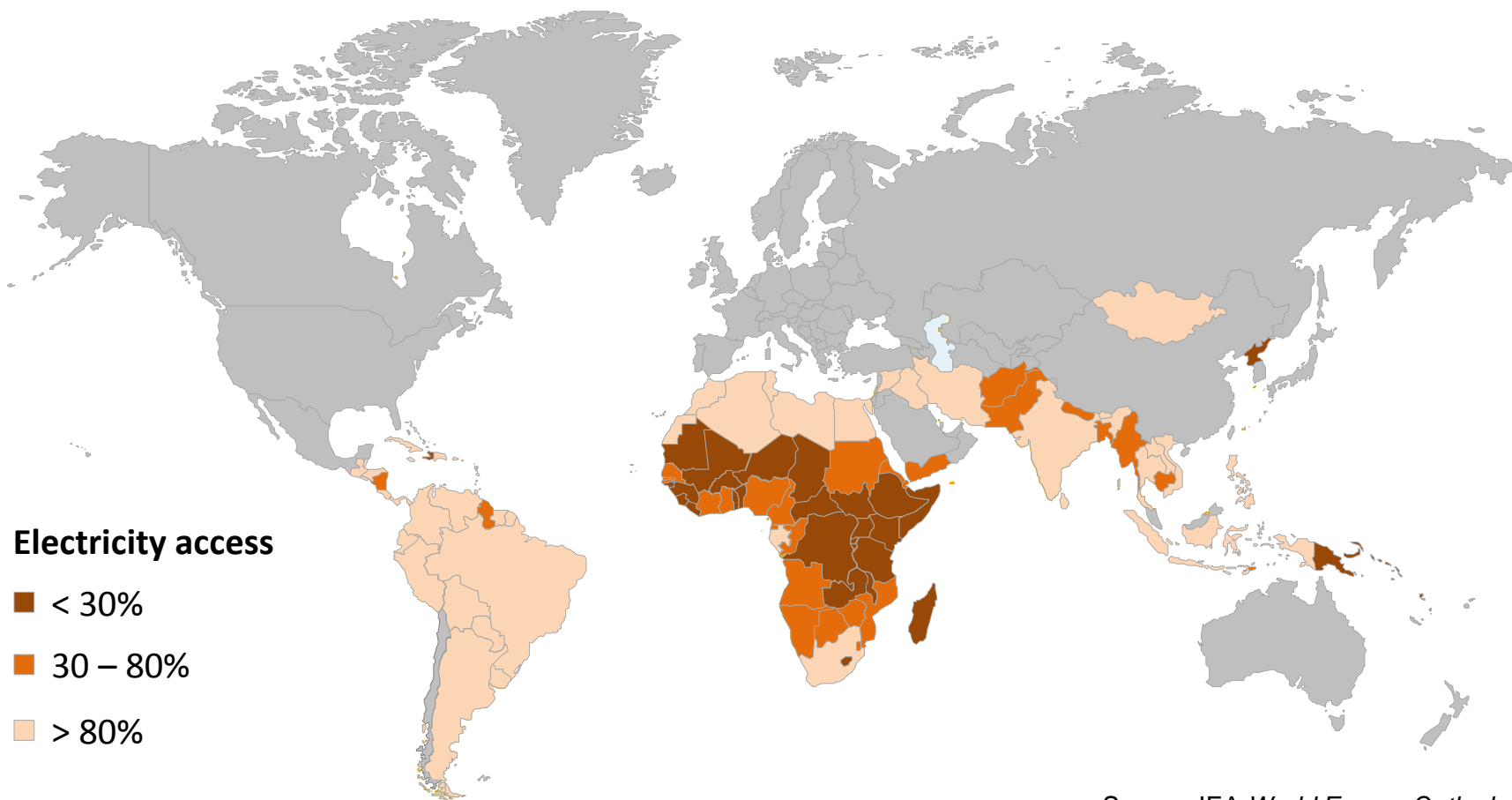
**Energy access and low carbon
development**

Hannah Daly

LCS-Rnet meeting , 13 September 2017

Electricity access for all remains elusive

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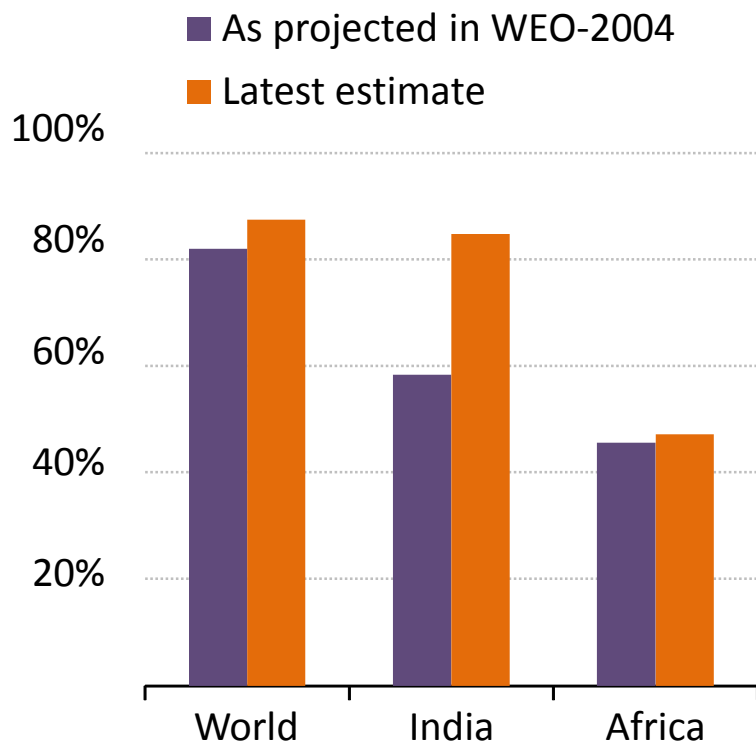


Source: IEA *World Energy Outlook* analysis

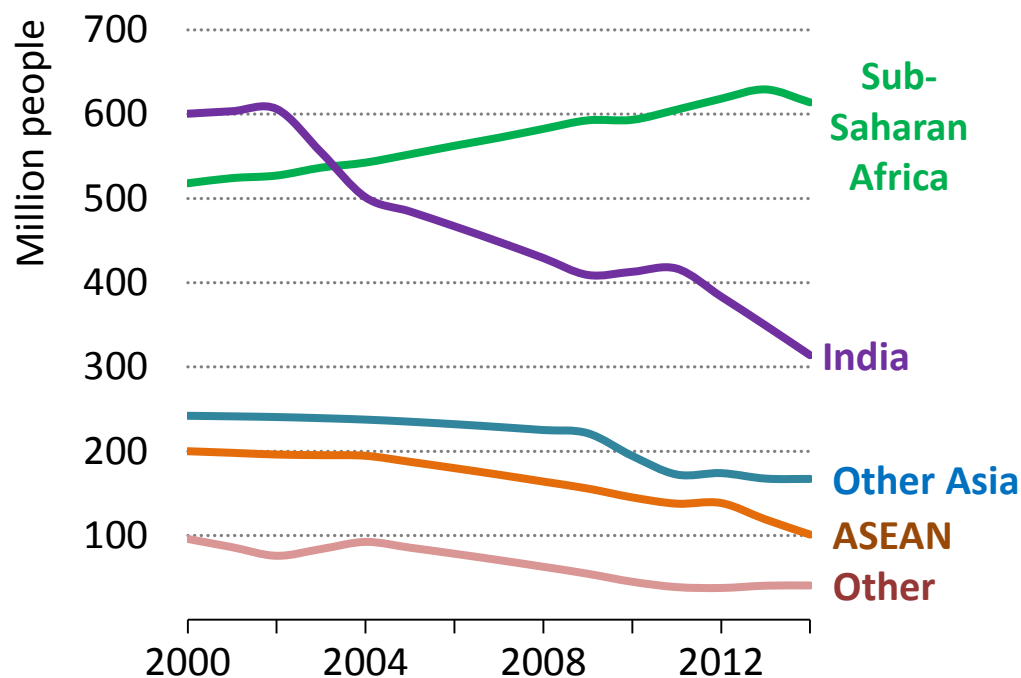
Latest WEO estimates show that 1.2 billion people still don't have access to electricity, putting a major break on efforts to achieve the Sustainable Development Goals

but progress is seen in all world regions

Access to electricity, 2014



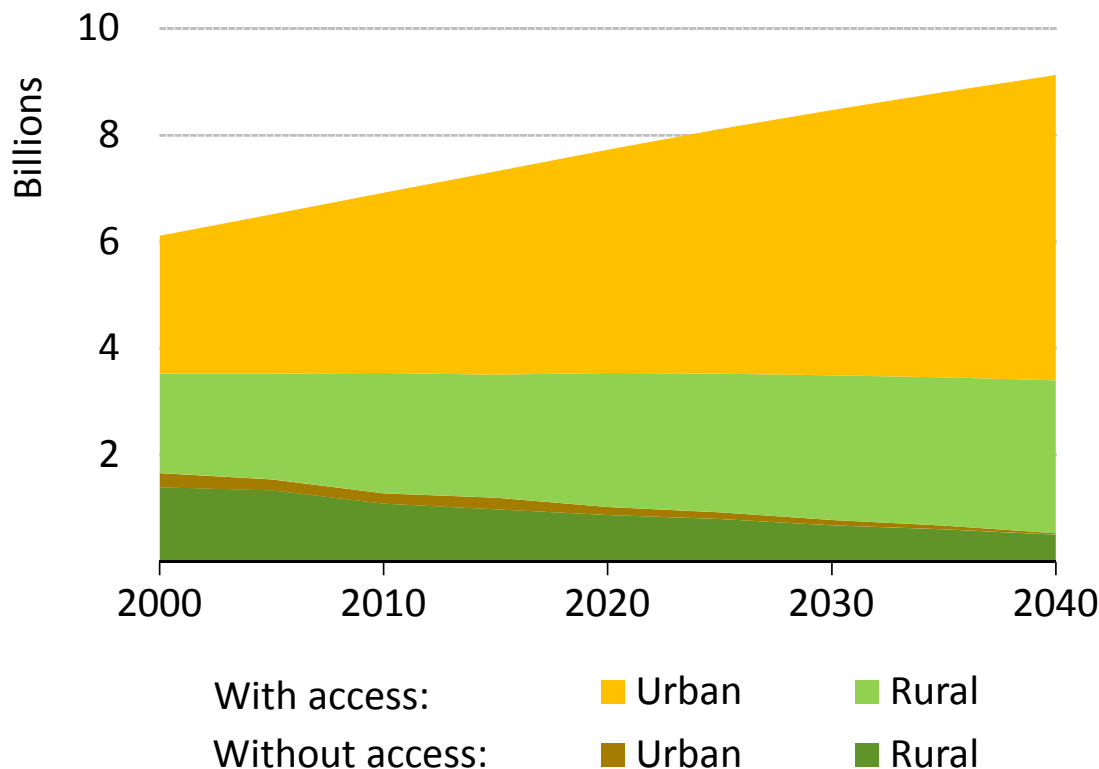
Population without electricity access, 2000-2014



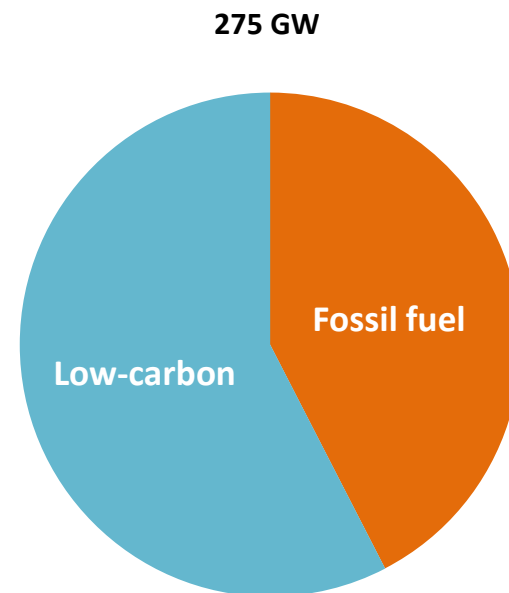
Renewed policy commitment, new business models and improving technology costs for decentralized renewables are coming together to improve progress

Access for all is within reach, and renewables are key

Global population with and without electricity access, 2000-2040



Global capacity additions for electricity access 2015-2040

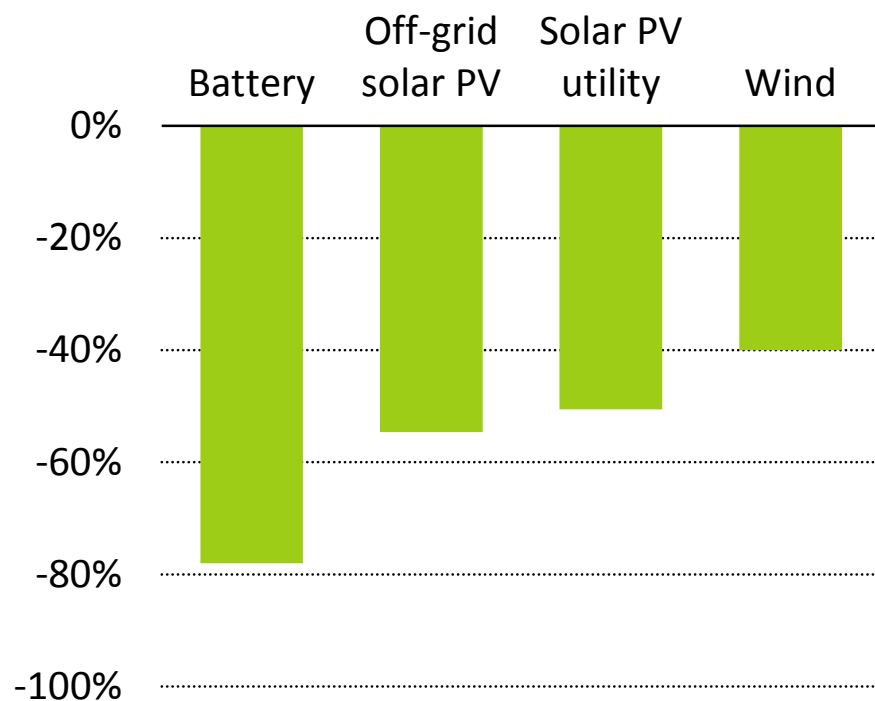


**Currently planned policies fall short of meeting universal access to electricity,
but 2 billion gain access through 2040 with a variety of sources**

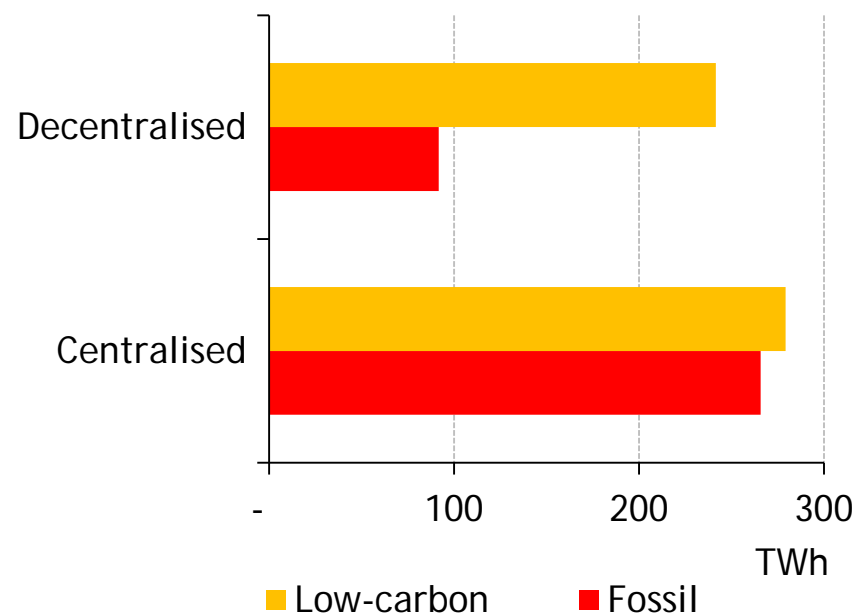
Climate policies can also help unlock energy access

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Cost reductions for low-carbon technologies in 2030 2°C scenario



Sources of generation for achieving universal access to electricity



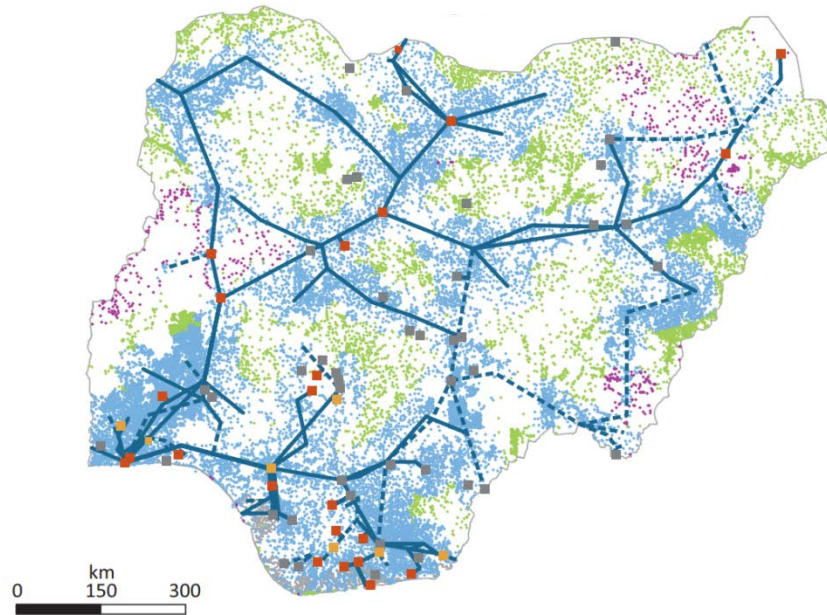
Bringing the world on track to 2°C enables cost reductions in low-carbon technologies which can unlock greater energy access, especially with decentralised solutions

Different pathways to energy for all: Mapping universal access

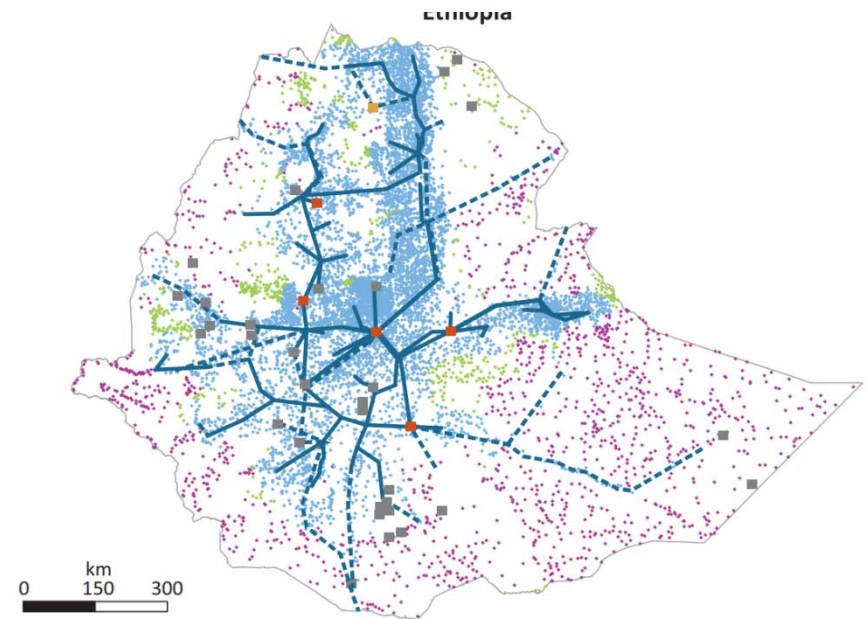
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Optimum split by grid type, based on anticipated expansion of main transmission lines

Nigeria



Ethiopia



Access type: ◆ On-grid ◆ Mini-grid ◆ Off-grid

Transmission lines (133 kV): — Existing - - - Planned

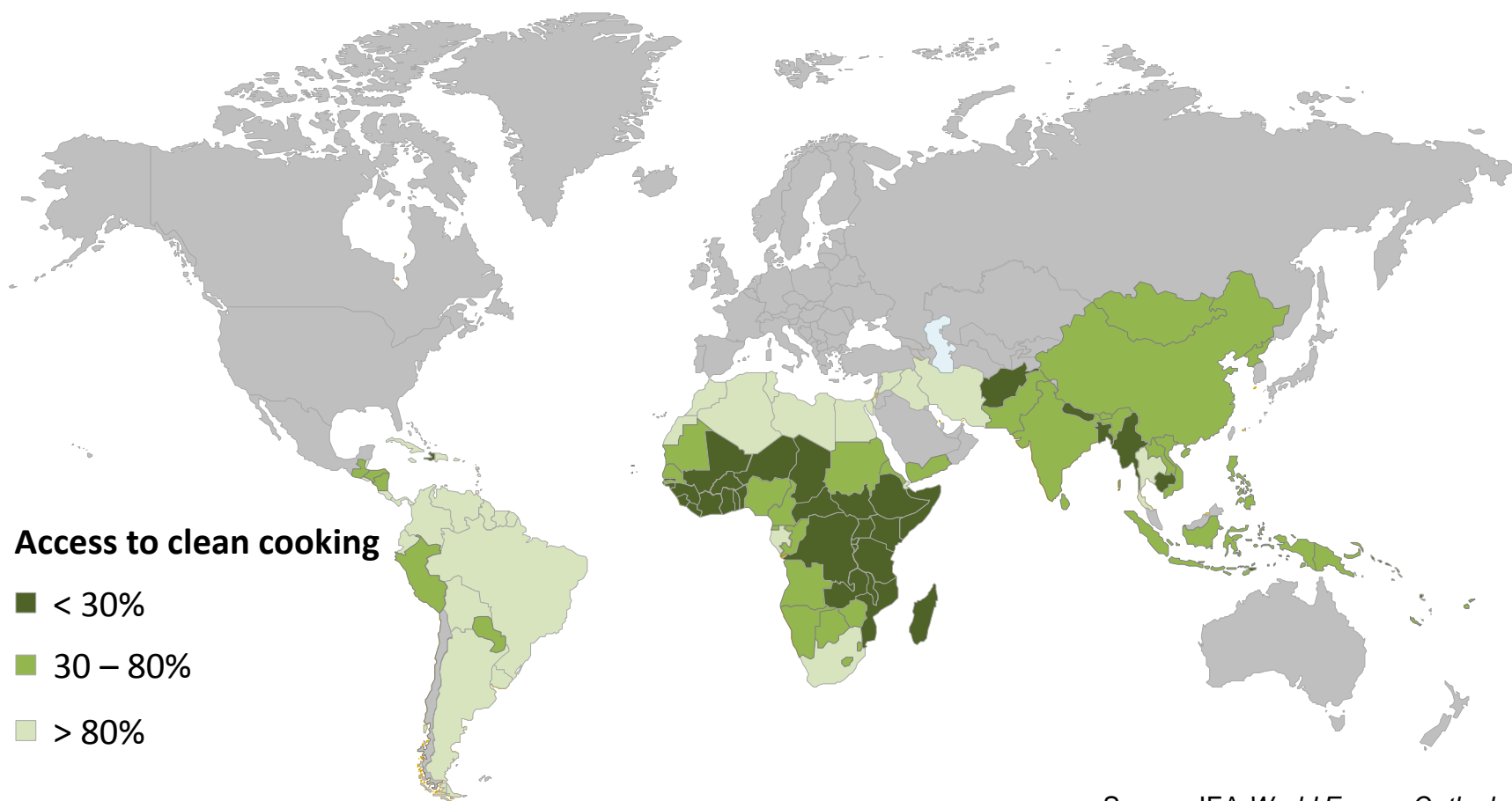
Power Plants: ■ Operating ■ Under construction ■ Planned or under construction

Source: *Africa Energy Outlook*, 2014; IEA in collaboration with the KTH Royal Institute of Technology, division of Energy Systems Analysis.

Path to modern energy not one-size-fits-all: energy resources are widespread, but human, financial & regulatory resources are not

The use of solid fuels for cooking remains widespread

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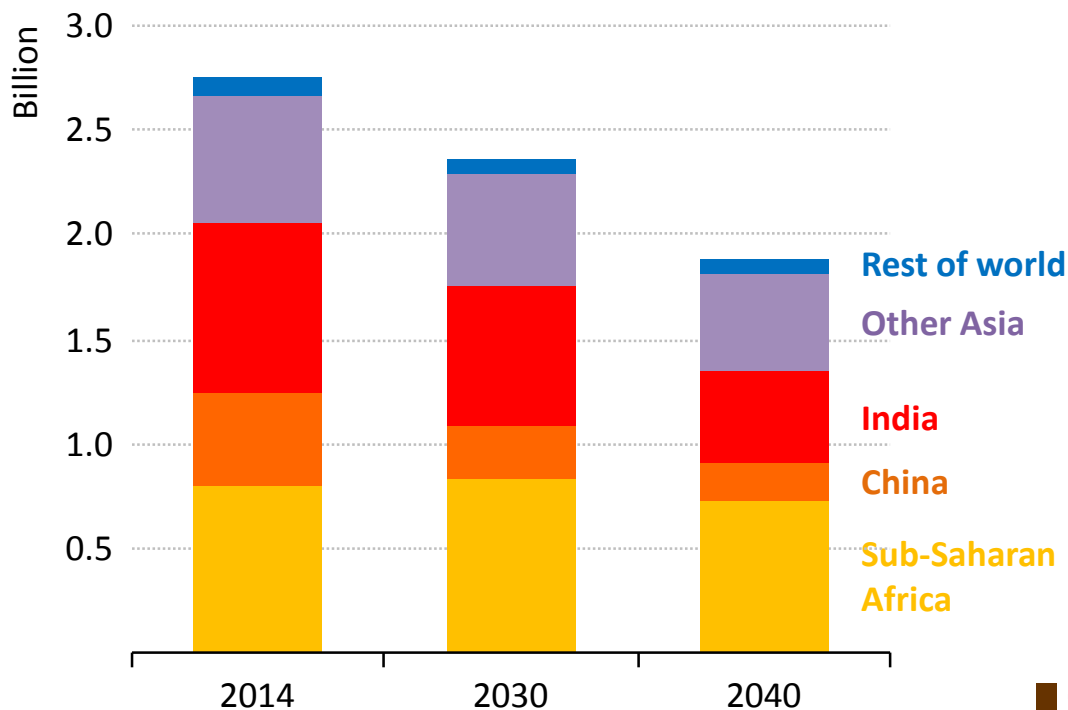


Source: IEA World Energy Outlook analysis

Latest WEO estimates show that 2.7 billion people still rely on the traditional use of biomass for cooking

and has major health consequences

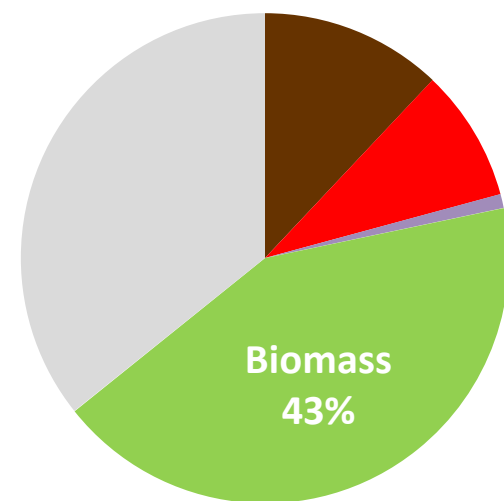
Population relying on the traditional use of biomass for cooking



Energy-related pollutant emissions, 2015

Fine particulate matter (PM_{2.5})

41 Mt

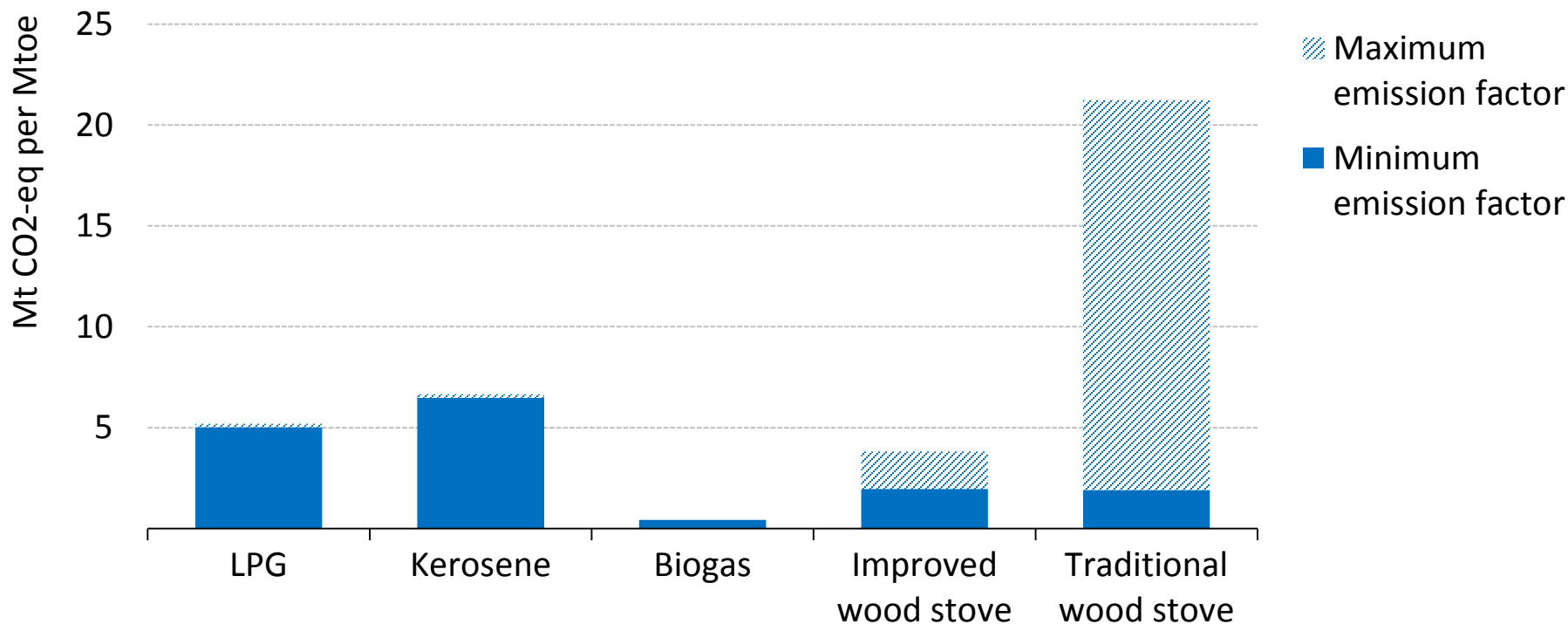


■ Coal ■ Oil ■ Gas ■ Bioenergy ■ Other

Access to clean cooking continues to lag behind electrification, continuing to create a major health problem in developing countries

Climate implications of energy access

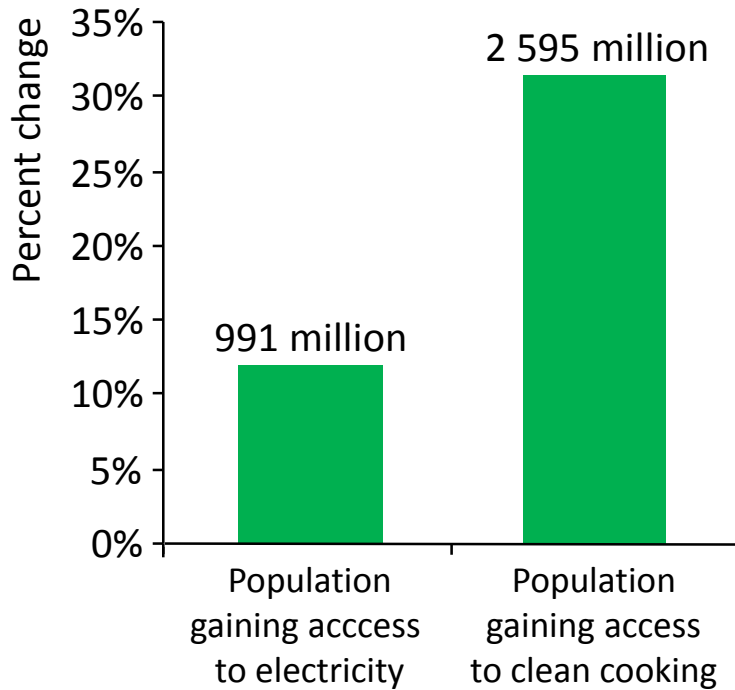
Ranges of GHG emissions from different combinations of cookstoves and fuels



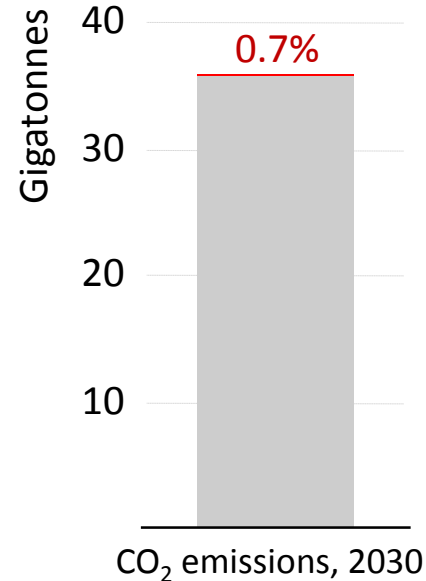
Ensuring universal energy access can have a net-positive climate impact by reducing GHGs from inefficient sources and biomass

Universal access: what more needs to be done and what is the impact?

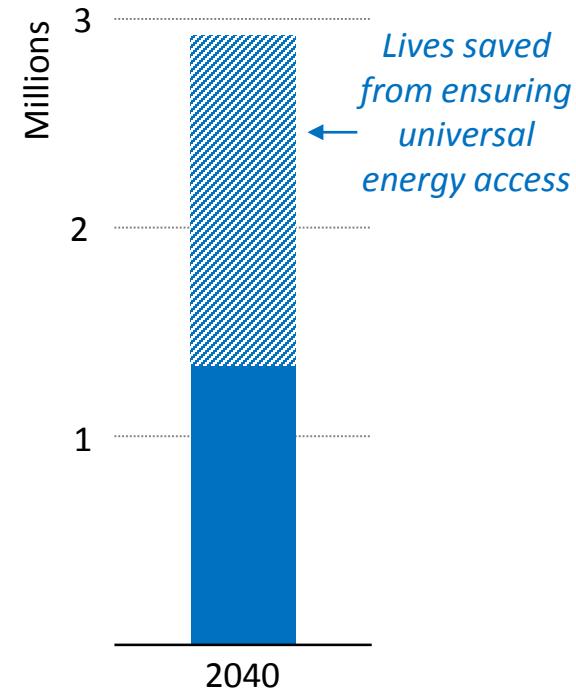
Increased pace of connections to achieve universal access



Additional CO₂ emissions from ensuring Energy for All



Premature deaths from indoor air pollution



Modern energy for the world need not cost the earth

WEO-2017 Energy Access Outlook – key areas of focus

- *IEA has a long history in this area; including connecting across agendas (renewables, digitalisation, capacity building etc.)*
- *Energy Access Outlook will:*
 - *Include updated country-by-country energy access estimates and outlook*
 - *Present a strategy on how to achieve modern energy access for all by 2030 (by region, technology, fuel, levels of investment etc.)*
 - *Examine how energy development can unleash productive economic activity, serving to accelerate economic growth*
 - *Analyse the intersection between energy access and other critical issues, such as health, the environment & gender*
- *Launch of the report: **19 October 2017***

A stylized world map in yellow and orange, centered on the Atlantic Ocean, set against a red background with a bokeh effect of yellow and orange circles.

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