

# CLEAN COOKING



## HIGH-IMPACT COUNTRIES

Countries whose efforts are critical to the achievement of SEforALL objectives globally

Ensure universal access to modern energy services

### QUICK FACTS

- In 2014, 3.04 billion people did not have access to clean fuels and technologies for cooking. Approximately 85 percent of those without access live in just 20 high impact countries.
- The share of the global population with access to clean fuels and technologies for cooking rose over 2012-14 from 56.5 to 57.4 percent. But due to population growth the absolute population lacking access to clean cooking grew from 3.03 billion to 3.04 billion over this period.
- Over 2012-14, Indonesia's access rate rose by more than 8 percent and Angola, Bhutan, the Maldives and Peru saw access rates grow by more than 4 percent. In contrast, access to clean fuels and technologies for cooking declined in Afghanistan and Nigeria by about 1 percent a year in the same period.
- Access rates can be as low as 22 percent in rural areas compared to highs of 78 percent in urban areas. Improved biomass cook stoves are supporting access in rural areas where natural gas distribution infrastructure does not yet exist.

### CONTEXT

- Many countries showing improvements in access were natural gas producers, suggesting that domestic availability of this resource could be an advantage.
- As countries grow in wealth, clean fuels and technologies for cooking become more accessible. Access to clean cooking tends to be much higher as a country moves through the income bracket of \$12,000 per capita. However, some countries in Latin America and the Caribbean, the Middle East and East Asia are close to 90 percent access without being close to \$12,000 per capita GDP.
- Countries that prioritize clean cooking solutions and pursue policies to do so, can and do see rapid progress. For example, Indonesia's access rate rose by more than 8 percent over 2012-14 linked to government interventions and economic growth. This included a government supported Indonesian Kerosene to Liquid Propane Gas (LPG) Conversion program that converted 56 million households and microbusinesses to LPG nationally between 2007 and 2014. A results-based financing framework - the Indonesia Clean Stove Initiative - was also launched. Informed by social and gender work, it focused on cook stove delivery and included an innovative stove-testing method that incorporated local cooking practices and preferences.
- Cooking with polluting fuels is a major global health issue, with the World Health Organization estimating in 2012 that some 4.3 million premature deaths each year are linked to inhaling carbon monoxide and particulate matter from traditional biomass cook stoves, primarily among women and children. Switching to clean fuels, typically LPG, or adopting advanced combustion cook stoves that burn biomass more cleanly and efficiently, can reduce exposure to such risks.
- Under the 2016 World Energy Outlook's New Policy Scenario, around 2.3 billion people across Africa and Asia are projected to continue to rely on traditional uses of biomass for cooking in 2030.

### ADDITIONAL RESOURCES

[Global Tracking Framework 2017](#)

[World Health Organization](#)

[SEforALL Africa Hub](#)

[SEforALL Asia-Pacific Hub](#)

[SEforALL Latin America and the Caribbean Hub](#)

[Global Alliance for Clean Cookstoves](#)

[World LPG Association](#)

[The Global LPG Partnership](#)

[International Energy Agency](#)

# CLEAN COOKING

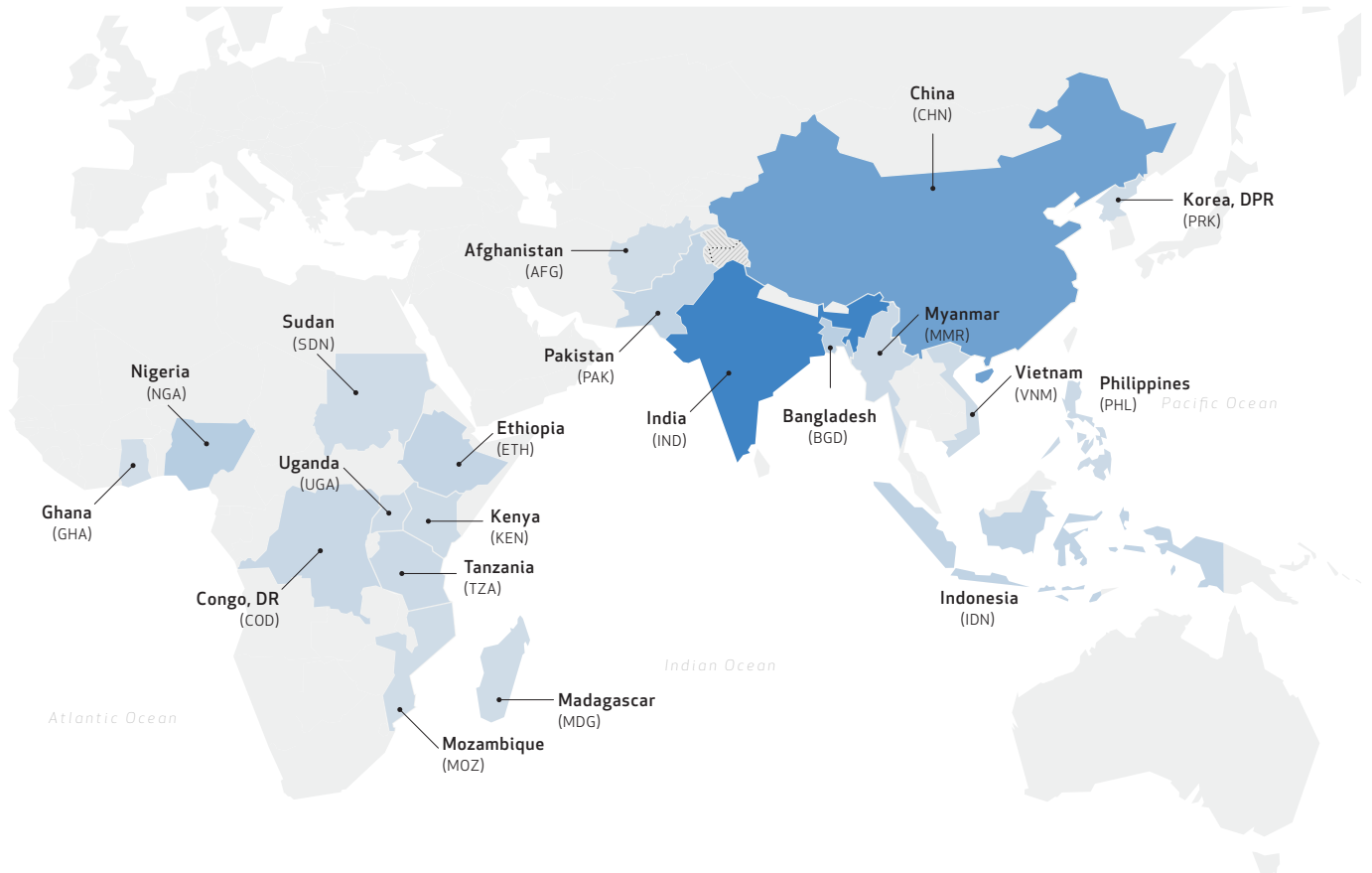
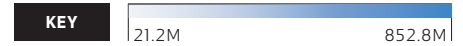


## HIGH-IMPACT COUNTRIES

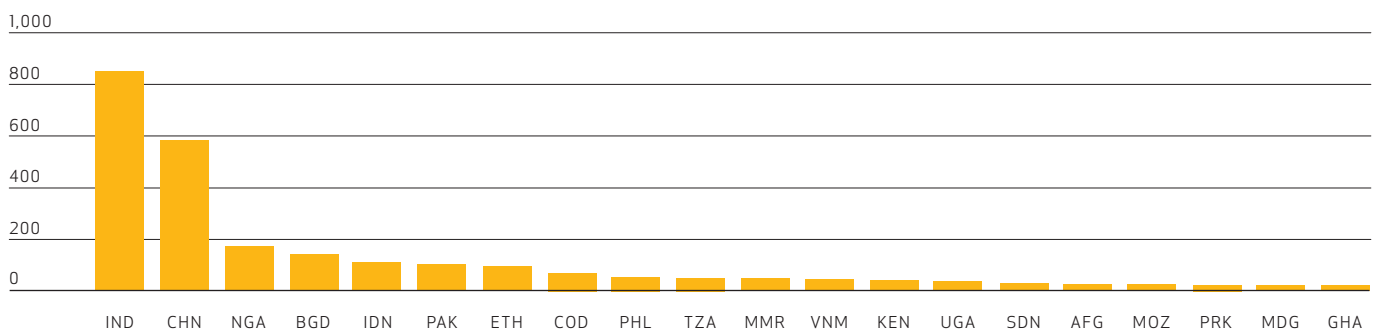
Countries whose efforts are critical to the achievement of SEforALL objectives globally

Ensure universal access to modern energy services

### MILLION PEOPLE WITHOUT ACCESS TO CLEAN FUELS AND TECHNOLOGIES FOR COOKING, 2014



### SEE THE NUMBERS



Notes: 1. The dotted line represents approximately the Line of Control in Jammu and Kashmir by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties. 2. This map was produced by SEforALL. It is based on the UN Map of the World, which can be found here: <http://www.un.org/Depts/Cartographic/map/profile/world.pdf>. The boundaries, colors, denominations and any other information shown on this map do not imply, on the part of SEforALL, any judgment on the legal status of any territory or any endorsement or acceptance of such boundaries.

Sources: International Energy Agency (IEA) and the World Bank. 2017. "Progress Towards Sustainable Energy: Global Tracking Framework 2017" (April), World Bank, Washington, DC. Data extracted from <http://gtf.esmap.org/> on 06/20/2017.

# ELECTRIFICATION



## HIGH-IMPACT COUNTRIES

Countries whose efforts are critical to the achievement of SEforALL objectives globally

Ensure universal access to modern energy services

### QUICK FACTS

- In 2014, 1.06 billion people lacked access to electricity – about three times the population of the United States. This is only a very slight improvement from 2012, when 1.1 billion people lacked access to electricity.
- Of the 20 high impact countries for electrification, Kenya, Malawi, Sudan and Uganda, made rapid progress from 2012-14, increasing electrification rates by 2-3 percent annually. Angola and the Democratic Republic of Congo saw electrification rates fall by 1 percent annually during the same period.
- In 2000, Afghanistan's electrification rate was close to zero percent. By 2010, this had risen to 43 percent and by 2014 to about 90 percent. Progress has been primarily driven by the rollout of off-grid renewable energy solutions.
- Progress in electrification needs to advance four times faster if the world is to meet 2030 objectives. The global access rate needs to rise from the 2012-14 rate of 0.19 percent to 0.92 percent a year from 2015-30.

### CONTEXT

- In 2014, 80 percent of people without access to electricity were living in just 20 high impact countries, all of them in Sub-Saharan Africa and Asia. Most of those living without access reside in rural areas across the world, with urban areas already having close to universal access at 96 percent.
- In Sub-Saharan Africa, progress in closing the electricity access gap is not keeping pace with population growth in urban and rural areas. Under the 2016 World Energy Outlook's New Policy Scenario around 780 million people are projected to remain without electricity in 2030, increasingly concentrated in Sub-Saharan Africa (80 percent).
- Electrification rates rise very steeply as countries move through the income bracket of \$500-\$1,000 per capita GDP.
- By embracing new integrated approaches to electricity access, swift progress can be achieved in reducing energy poverty and closing the energy access gap cleanly and resiliently. Advancements in technologies, business models and new pools of finance mean countries can access decentralized renewable energy solutions that are cleaner and more affordable than ever before.
- Reaching universal energy access at tier 5 (full grid power, all day, every day) by 2030 would require a five-fold increase in finance, to approximately \$50 billion annually.

### ADDITIONAL RESOURCES

[Global Tracking Framework 2017](#)

[State of Electricity Access Report 2017](#)

[Regulatory Indicators for Sustainable Energy 2017](#)

[SEforALL Africa Hub](#)

[SEforALL Asia-Pacific Hub](#)

[SEforALL Latin America and the Caribbean Hub](#)

[Clean Energy Mini-Grids HIO](#)

[International Energy Agency](#)

[The OPEC Fund for International Development](#)

[Regional Economic Commissions](#)

[GOGLA](#)

[ARE](#)

# ELECTRIFICATION

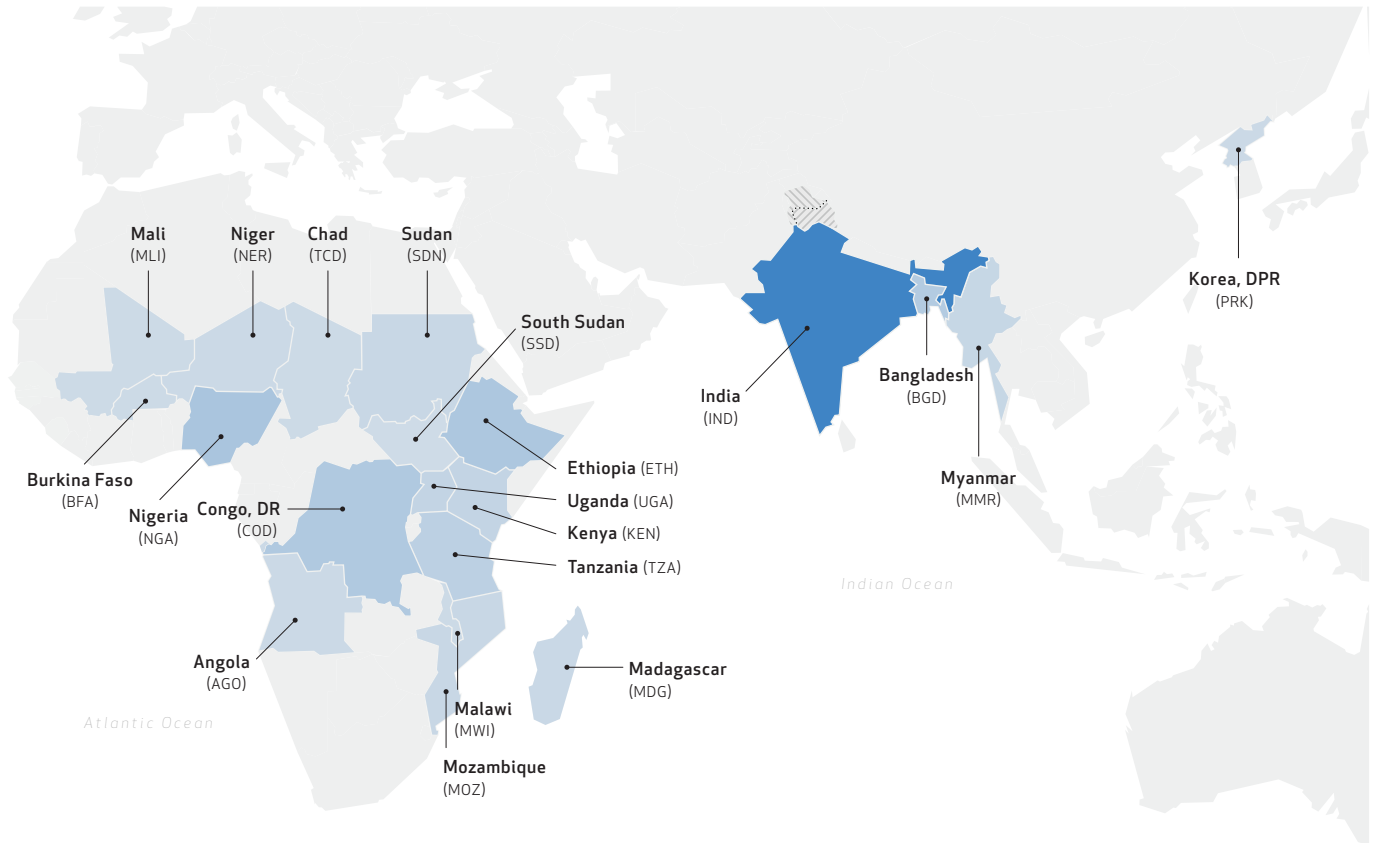


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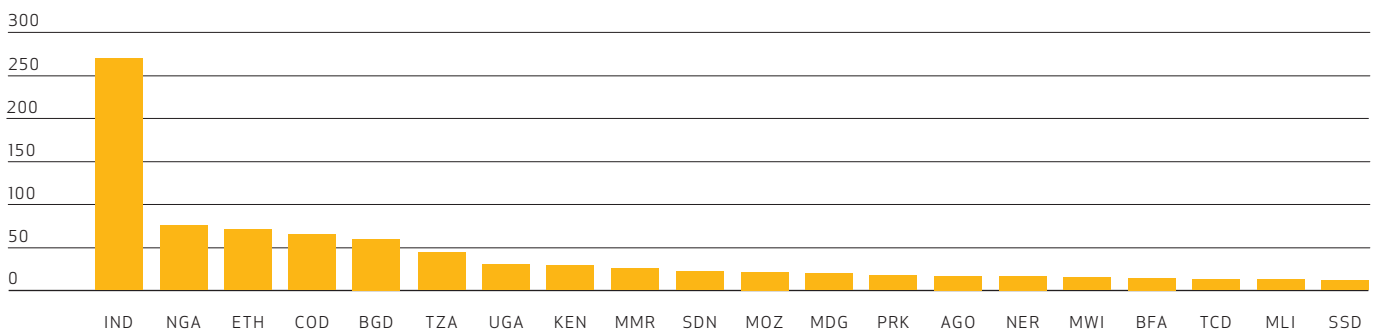
Countries whose efforts are critical to the achievement of SEforALL objectives globally

Ensure universal access to modern energy services

### MILLION PEOPLE WITHOUT ACCESS TO ELECTRICITY, 2014



### SEE THE NUMBERS



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# ENERGY EFFICIENCY



## HIGH-IMPACT COUNTRIES

Countries whose efforts are critical to the achievement of SEforALL objectives globally

Double the global rate of improvement in energy efficiency

### QUICK FACTS

- Energy efficiency is the only area that came moderately close to the pace of improvement to meet 2030 objectives but progress remains short of what is needed. Global primary energy intensity improved at 2.1 percent a year in 2012–14, still short of the SEforALL objective of a 2.6 percent compound annual growth rate (CAGR) over 2010–30. Given the underperformance in energy intensity improvement since 2010, the effective target rate for 2014–30 is now higher, at 2.8 percent a year.
- The top 20 energy consuming economies globally –or high impact countries –accounted for more than 75 percent of global Total Primary Energy Supply (TPES). Four countries, China, the United States, India and Russia, accounted for nearly 50 percent of global TPES, with 22 percent attributed to China alone.
- 15 out of 20 high impact countries reduced their intensity over 2012–14. The United Kingdom, Nigeria, China, Italy, Australia, Russia and Mexico reduced their energy intensity by more than 2 percent annually.
- Low Income Countries in Sub-Saharan Africa have the highest energy intensity in the world at 10.3 MJ/2011 PPP\$ in 2014 due to their strong reliance on inefficient traditional biomass. This is compared to the SEforALL objective for global energy intensity of 5.5 MJ/2011 PPP\$.
- Estimates suggest that energy efficiency investment would need to increase by a factor of 3–6 from current levels of \$250 billion a year to reach the 2030 objective.

### CONTEXT

- Energy efficiency offers a huge and growing opportunity for the world to reduce emissions of greenhouse gases. The International Energy Agency estimates that global investment in energy efficiency was \$221 billion in 2015, an increase of 6 percent from 2014 and 60 percent greater than investment in conventional power generation.
- Investing in energy conservation measures has the potential to cut fuel import bills, boost the economy and create numerous jobs, and is also essential to address climate change. Energy efficiency measures in International Energy Agency member countries generated energy savings of 450 million tonnes of oil equivalent in 2015 and reduced total energy expenditure by \$540 billion. Even for the least developed countries increasing energy productivity now is a smart concept, as emphasized by multiple Nationally Determined Contributions including Bangladesh, Burkina Faso or Uganda.
- There has been some decoupling of growth and energy demand over 2012–14. In North America, GDP continued to grow while energy demand was falling, notably because of fuel switching from coal to more efficient natural gas in the US power sector. This decoupling effect was evident in the European Union as well as much of the developing world, except for Latin American and the Arab region.
- The intensity of final energy consumption in industry, agriculture, services, and transport are on a long-term downward trend with energy savings seen across the board. The residential sector on the other hand is a large and fast growing segment of energy consumption and is becoming more energy intensive. Improvements in the efficiency of thermal power generation and power networks have been relatively slow.

### ADDITIONAL RESOURCES

[Global Tracking Framework 2017](#)

[Regulatory Indicators for Sustainable Energy 2017](#)

[SEforALL Africa Hub](#)

[SEforALL Asia-Pacific Hub](#)

[SEforALL Latin America and the Caribbean Hub](#)

[Copenhagen Centre on Energy Efficiency](#)

[Appliances and Equipment Accelerator](#)

[Building Efficiency Accelerator](#)

[District Energy Accelerator](#)

[Lighting Accelerator](#)

[Transport and Motor Vehicle Fuel Efficiency Accelerator](#)

[Industrial Energy Efficiency Accelerator](#)

[International Energy Agency](#)

# ENERGY EFFICIENCY

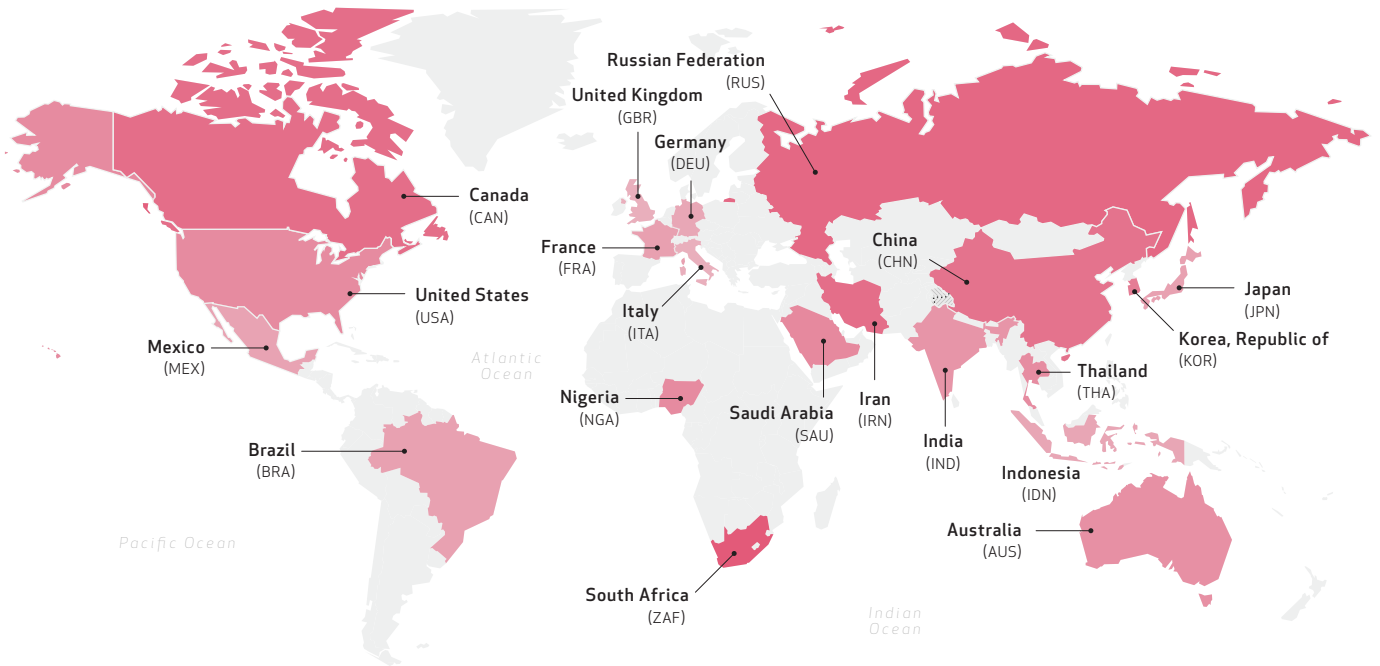


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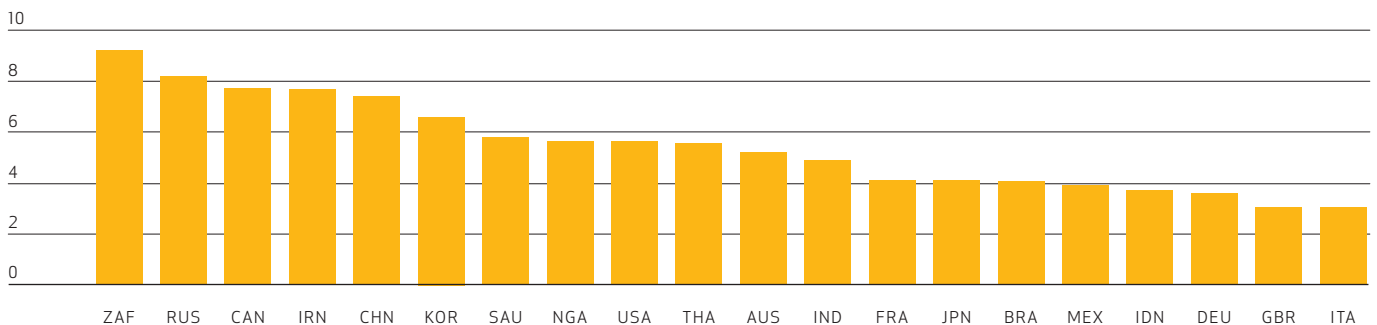
Countries whose efforts are critical to the achievement of SEforALL objectives globally

Double the global rate of improvement in energy efficiency

### PRIMARY ENERGY INTENSITY (MJ/PPP \$), 2014



### SEE THE NUMBERS



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# RENEWABLE ENERGY



## HIGH-IMPACT COUNTRIES

Countries whose efforts are critical to the achievement of SEforALL objectives globally

## Double the share of renewable energy in the global energy mix

### QUICK FACTS

- To meet the SEforALL objective to double the share of renewable energy in the global energy mix requires the share of renewables to rise from 18.3 percent of Total Final Energy Consumption (TFEC) in 2014 to 36 percent by 2030.
- Almost half of the current share of renewable energy in TFEC or 8.4 percent is linked to the traditional use of biomass. Discrepancies in data collection suggest that traditional biomass use may be up to 50 percent lower than what was reported in the Global Tracking Framework 2017.
- Over 2012-14, 13 out of 20 high impact countries improved their share of renewable energy in TFEC, primarily by accelerating modern renewables. Italy and the United Kingdom added over 1 percent to their renewable energy share annually.
- The share of renewable energy in TFEC exceeded 30 percent in four of the 20 high impact countries - Nigeria, Brazil, Indonesia and India. With the exception of Brazil, this is largely linked to traditional uses of biomass.
- Meeting the SEforALL objective by 2030 will require the widespread adoption of more ambitious policies, such as a large-scale shift toward the electrification of transport.

### CONTEXT

- Despite rapid growth in renewable energy consumption, the overall share of renewable energy has been moving more slowly due to continued rapid growth in TFEC.
- Recent growth in the share of renewables in TFEC globally has been concentrated in the power sector. It has proved harder to increase the share of renewables for heat and transport applications that represent 50 percent and 30 percent of TFEC respectively.
- Policy developments that address the heating and transport sectors continue to be slow and have been primarily focused on solar thermal heating systems and further support to biofuels. Policy measures have not yet caught up with rapid deployment of electric vehicles and their possible role as an enabler for better integration of variable renewable energy sources.

### ADDITIONAL RESOURCES

[The Global Tracking Framework 2017](#)

[Regulatory Indicators for Sustainable Energy 2017](#)

[SEforALL Africa Hub](#)

[SEforALL Asia-Pacific Hub](#)

[SEforALL Latin America and the Caribbean Hub](#)

[International Renewable Energy Agency](#)

[International Energy Agency](#)

[REN21](#)

[Bloomberg New Energy Finance](#)

# RENEWABLE ENERGY

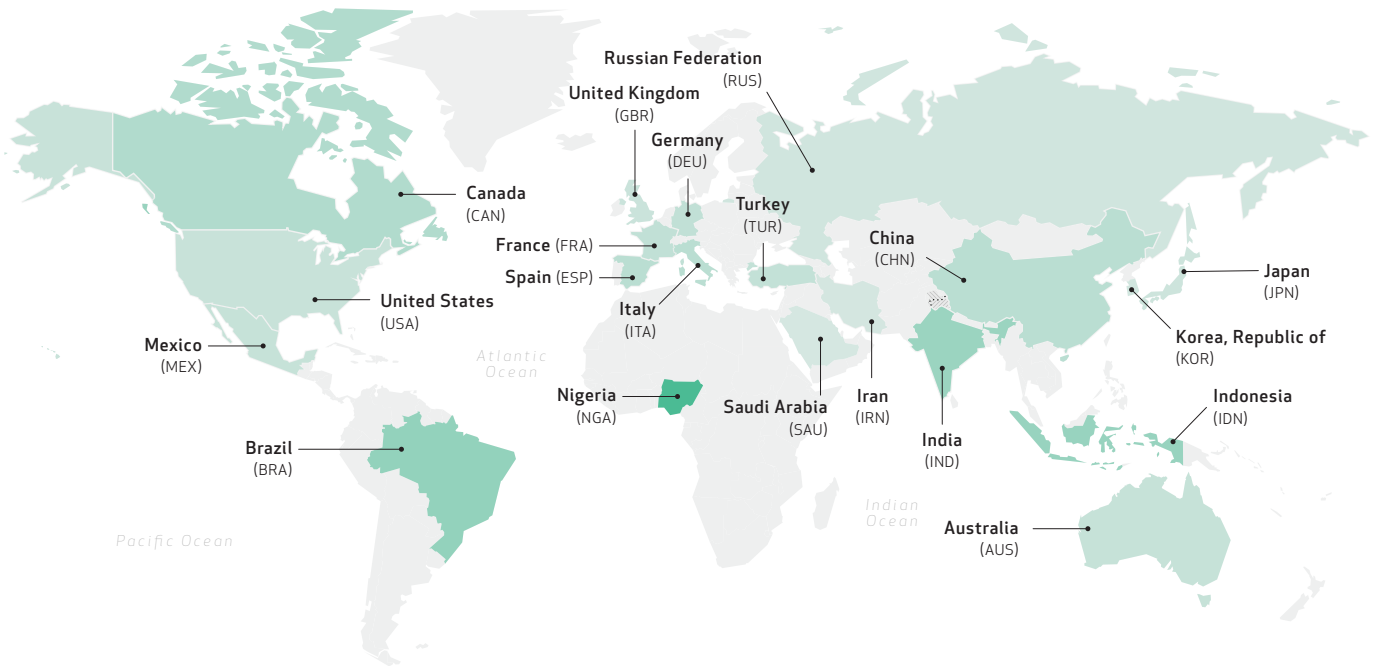


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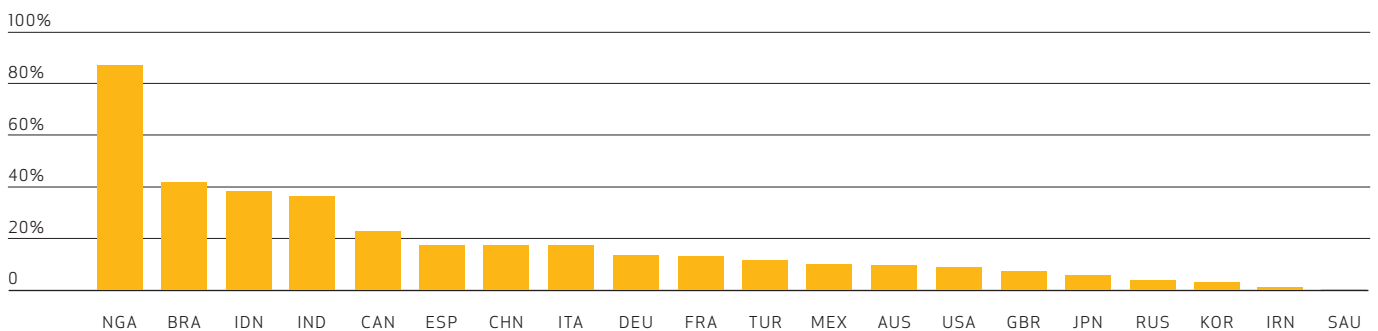
Countries whose efforts are critical to the achievement of SEforALL objectives globally

Double the share of renewable energy in the global energy mix

### PERCENTAGE OF RENEWABLE ENERGY IN TOTAL FINAL ENERGY CONSUMPTION, 2014



### SEE THE NUMBERS



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