# *SEforALL Analysis of SDG7 Progress – 2021*

## SDG7 Data 2010-2019

SUSTAINABLE ENERGY FOR ALL

## *SEforALL Analysis of SDG7 Progress – 2021*

The purpose of this document is to:

- Highlight the progress made towards achieving SDG7
- Highlight specific areas where there are challenges
- Help organizations prioritize where to focus and what to focus on

SUSTAINABLE ENERGY FOR ALL

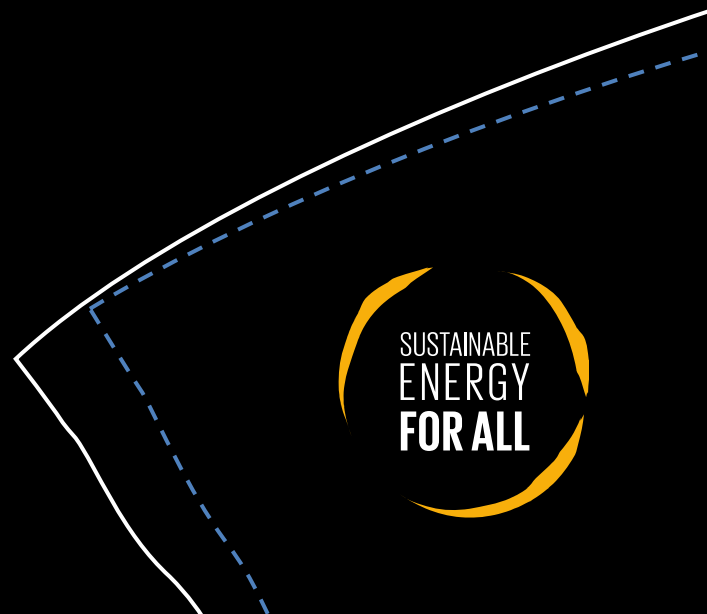
## Executive Summary

SDG 7.1.1: Electricity Access

SDG 7.1.2: Clean Cooking Access

SDG 7.2: Share of Renewable Energy

SDG 7.3: Energy Efficiency



# Snapshot: SDG7 Tracking Report Data 2010 – 2018/2019

| SDG7 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Target 7.1.1: Universal Electricity Access**, millions of people without access | 1,153 | 1,249 | 1,078 | 1,070 | 1,046 | 983 | 909 | 853 | 801 | 759 |
| **Target 7.1.2: Universal Access to Clean Fuels & Technologies for Cooking**, millions of people without access | 2,968 | 2,925 | 2,887 | 2,852 | 2,820 | 2,791 | 2,728 | 2,672 | 2,621 | 2,577 |
| **Target 7.2A: Increase Share of Renewable Energy,** % share energy consumption from renewables | 16.4 | 16.4 | 16.7 | 16.8 | 16.9 | 16.9 | 17.0 | 17.1 | 17.1 | |
| **Target 7.2B: Increase Share of Renewable Energy,** % share energy consumption from modern renewables (Non Biomass) | 8.7 | 8.8 | 9.2 | 9.6 | 9.7 | 10 | 10.3 | 10.4 | 10.7 | |
| **Target 7.3: Double Rate of Energy Efficiency Improvement**, yearly rate of improvement of global primary energy intensity | - | 2.2% | 2.2% | 2.2% | 2.2% | 2.1% | 1.7% | 1.7% | 1.8% | |

1 Estimate.

Source: World Bank/ESMAP Tracking SDG 7 Database, 2020 and Tracking SDG 7 2020 Report, IEA World Economic Outlook 2019.

# SEforALL key messages – Tracking SDG7: The Energy Progress Report 2021

## Delayed recovery from COVID-19 has damaging effects on SDG7

- Delayed recovery from the COVID-19 pandemic will potentially have detrimental effects on the achievement of SDG7. It may increase the unelectrified population by 100 million and those who do not have access to clean cooking by 240 million.

## Electricity access is growing, but not for everyone

- The number of unelectrified people decreased from 1.15 billion in 2010 to 759 million in 2019. Asia led this decline as the deficit shrank from 542 million in 2010 to 153 million in 2019, while Africa saw an increase in its unelectrified population from 518 million to 592 million during the same period, a trend that needs to be reversed.

## We can no longer ignore the crisis: a lack of clean cooking

- In 2019 there remained 2.6 billion people —over a third of the world's population—who were unable to cook cleanly and safely. If current trends persist, 2.3 to 2.6 billion people will still be without access to clean cooking solutions by 2030. Although both Asia and Africa made progress, given population growth, the annual increase in the number of people gaining access to clean cooking needs to be further accelerated, in particular in Sub-Saharan Africa.

## The renewable energy potential is still to be fully realized

- The moderate pace of renewable energy uptake has not been changed, and decentralized, renewable solutions that will be essential for providing energy access to millions are not being deployed fast enough. While we should continue to accelerate renewable electricity, the uptake of modern renewables in the industry, building and transport sectors needs to be strengthened much more. Integrated and comprehensive energy policy and planning across sectors based on data and evidence holds the key to incentivize the level of investment required to do so.

## Energy inefficiency is costing us

- Since the improvement ratio hit 2.2% in 2014, a continuing decline in the pace of progress on energy efficiency has been evident. Progress on energy efficiency in particular has slowed since 2015 and this makes achieving SDG 7.3 very difficult.

# SEforALL key messages – Tracking SDG7: The Energy Progress Report 2021

## Based on current trends, we are not on track to achieve SDG 7.1.1 by 2030

- Projections show that we are not on track to achieve universal electricity access by 2030 with between 660 and 780 million people expected to remain unelectrified in 2030 based on current trends
- To address this, organizations should prioritize working with countries that have large unelectrified populations that have not made significant progress in reducing them over the past few years such as Democratic Republic of Congo, Ethiopia, Nigeria and Pakistan
- In Asia, where electrification has progressed more, Pakistan will represent >70% of the unconnected Asian population in 2030 based on current trends, and should be monitored

## Based on current trends, we are not on track to achieve SDG 7.1.2 by 2030

- Projections show that we are not on track to achieve universal access to clean fuels and technologies for cooking by 2030 with between 2.3 and 2.6 billion people expected to remain without access based on current trends
- To address this, organizations should prioritize working with countries that have large populations without access that have not made significant progress in reducing them over the past few years such as Bangladesh, China, Ethiopia, India, Nigeria and Pakistan

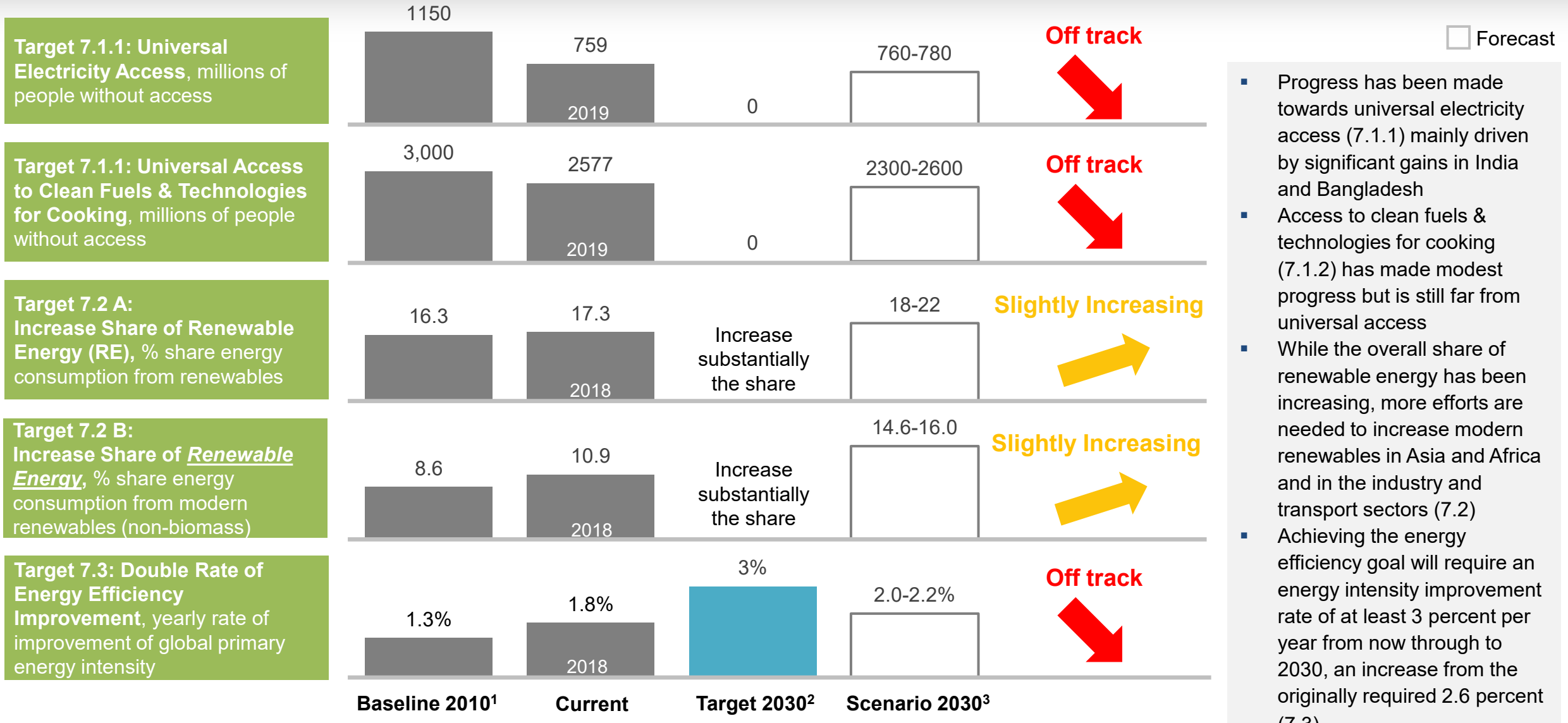
## Based on current trends, we expect to see moderate gains in the share of renewables in the energy mix by 2030 but *modern* renewables need to be accelerated

- Projections show an increase in the share of renewables, including traditional biomass, in the energy mix to between 18.2% and 21.5% by 2030
- Africa has the lowest share of modern renewable energy at 7.8% with 45.8% traditional biomass. To address this, organizations should prioritize working with countries in Africa to ensure unelectrified populations are connected with clean renewable energy

## Based on recent data, an energy intensity improvement rate of at least 3 percent per year from now through to 2030 will be necessary to achieve SDG 7.3

- Data show a slowdown in the rate of improvement of energy intensity, thus reaching SDG 7.3 will require more concerted efforts
- To ensure we get on track, consumers will need to be incentivized to be more energy efficient and we will need to explore ways for industry and transport to increase their energy efficiency

# We are lagging behind in providing access to electricity and clean cooking, and much more needs to be done to increase efficiency and renewable energy consumption




- Progress has been made towards universal electricity access (7.1.1) mainly driven by significant gains in India and Bangladesh
- Access to clean fuels & technologies for cooking (7.1.2) has made modest progress but is still far from universal access
- While the overall share of renewable energy has been increasing, more efforts are needed to increase modern renewables in Asia and Africa and in the industry and transport sectors (7.2)
- Achieving the energy efficiency goal will require an energy intensity improvement rate of at least 3 percent per year from now through to 2030, an increase from the originally required 2.6 percent (7.3)

1. Baseline for Target 7.3: Double Rate of Energy Efficiency Improvement is the value for the years 2006–2010.
2. Yearly rate of energy efficiency improvement required to meet Target 2030. 3. Yearly rate of energy efficiency improvement assumed in Scenario 2030.

Source: World Bank/ESMAP 2021 Tracking SDG 7, IEA 2020 World Energy Outlook, SEforALL analysis.

# SDG 7.1.1 Electricity Access

## There are currently 759 million people worldwide without access to electricity – 78% of them in Africa and 20% in Asia

- 80% of unconnected people live in just 23 countries,18 of which are in Africa and 5 in Asia
- Differences in the rural and urban electrification rates suggest that different approaches will be required to close the gap on each continent
  - The Asian countries that lack access typically have close to 100% urban electrification rates (except DPR Korea) and high rural electrification rates of over 85–90% on average, indicating that efforts should focus on serving the last mile in the rural areas.
  - Meanwhile, Sub-Saharan African countries have 78% urban electrification rates but rural electrification rates of just over 25% on average. This necessitates a combination of the last mile strategy in urban areas and stronger rollout of large-scale rural electrification schemes.

## Significant progress has been made with the number of unelectrified people decreasing from 1,153 million in 2010 to 759 million in 2019

- 99% of this improvement has been driven by significant gains in Asia, particularly in India and Bangladesh
- While the electrification rate in Africa has improved from 49% to 58%, this hasn't been enough to match the population growth resulting in an increased number of the population lacking access to electricity

## Looking forward, based on current trends, we are not on track to achieve SDG 7.1.1 by 2030

- Projections show that we are **not on track** to achieve universal electricity access by 2030 with between 660 and 780 million people expected to remain unelectrified based on current trends
- To address this, in the next few years, organizations should prioritize working with countries that have large unelectrified populations that have not made significant progress to reduce them over the past few years, such as Democratic Republic of Congo, Ethiopia, Nigeria and Pakistan, to accelerate the progress. However, even with the smaller number of unelectrified populations, strong focus should also be on those countries with slower progress and low electrification rates to achieve universal access.

# SDG 7.1.2 Clean Cooking Access

## There are currently 2.6 billion people without access to clean fuels and technologies for cooking – 61% of them in Asia and 36% in Africa

- 80% of the people without access live in just 20 countries – 10 of them in Asia and 10 in Africa
  - The situation is dire in the African countries as only 3 of the 10 countries (Ghana, Kenya and Nigeria) that are part of the top 80% have access rates over 10%
  - The Asian countries in the top 20 mostly have higher access rates than their African counterparts, however, there is still significant room for improvement

## Looking back, we see that the number of people without access has been stagnant with only a slight improvement from 3.0 billion in 2010 to 2.6 billion in 2019

- Moderate improvements have been made in Asia with the number declining from 2.1 billion to 1.5 billion people without access
- However, the number of people without access in Africa has increased from ~760 million to ~917 million people

## Looking forward, based on current trends, we are not on track to achieve SDG 7.1.2 by 2030

- Projections show that we are not on track to achieve universal access to clean fuels and technologies for cooking by 2030 with between 2.3 and 2.6 billion people expected to remain without access based on current trends
- To address this, international organizations/NGOs/the private sector should prioritize working with countries that have large populations without access that have not made significant progress in reducing them over the past few years such as Bangladesh, China, Ethiopia, India, Nigeria and Pakistan
- Much stronger public finance is needed, along with financial/fiscal incentives and strong political will to remove barriers and create the enabling environment needed for faster and larger-scale clean cooking rollouts

# SDG 7.2 Share of Renewable Energy

**The current share of renewables, including the use of traditional biomass, in total energy consumption is 17.1%, while the current share of *modern* renewables in total energy consumption is only 10.7%**

- Africa has the highest share of renewables in its total final energy consumption (TFEC) overall at 53.6%, but this only includes 7.8% of modern renewables.
- North America and Europe have the smallest share of renewables in their TFEC at 12.7% but all of these are from modern renewables

**Looking back, we see that the share of *modern* renewables in the energy mix has only increased slightly from 8.7% in 2010 to 10.7% in 2019**

- The share of all renewables, including traditional biomass, also only increased from 16.4% in 2010 to 17.1% in 2017

**Looking forward, based on current trends, more needs be done to achieve a substantial increase in the share of renewables, in particular modern renewables, in the energy mix by 2030**

- Projections show that the share of renewables in the energy mix will increase to between 18% and 22% by 2030
- To ensure we get on track, we should increase both renewable electricity consumption and direct renewable usage in the transport, industry and building sectors until the unelectrified populations are connected with clean and modern renewable energy
- Modern renewables need to be expanded much more quickly to reach SDG 7.2 and reduce the negative impacts of traditional biomass

Renewables defined here and in the SDG7 Tracking Report include traditional use of biomass.
Modern energy includes solar PV, solar thermal, geothermal, wind, hydropower and modern biofuel.

# SDG 7.3 Energy Efficiency

## It currently takes 4.8 MJ (megajoules) of energy to generate USD 1 of economic activity

- Africa is the least efficient region with 5.6 MJ/USD GDP, while Latin America & the Caribbean is the most efficient region with 3.4 MJ/USD GDP
- Energy intensity varies in the different economic segments with industry being the most energy intensive at ~4.5 x the least energy consuming segment (services)
- 12 of the top 20 energy consuming countries are more efficient than the world average with the United Kingdom, Italy and Turkey leading the way

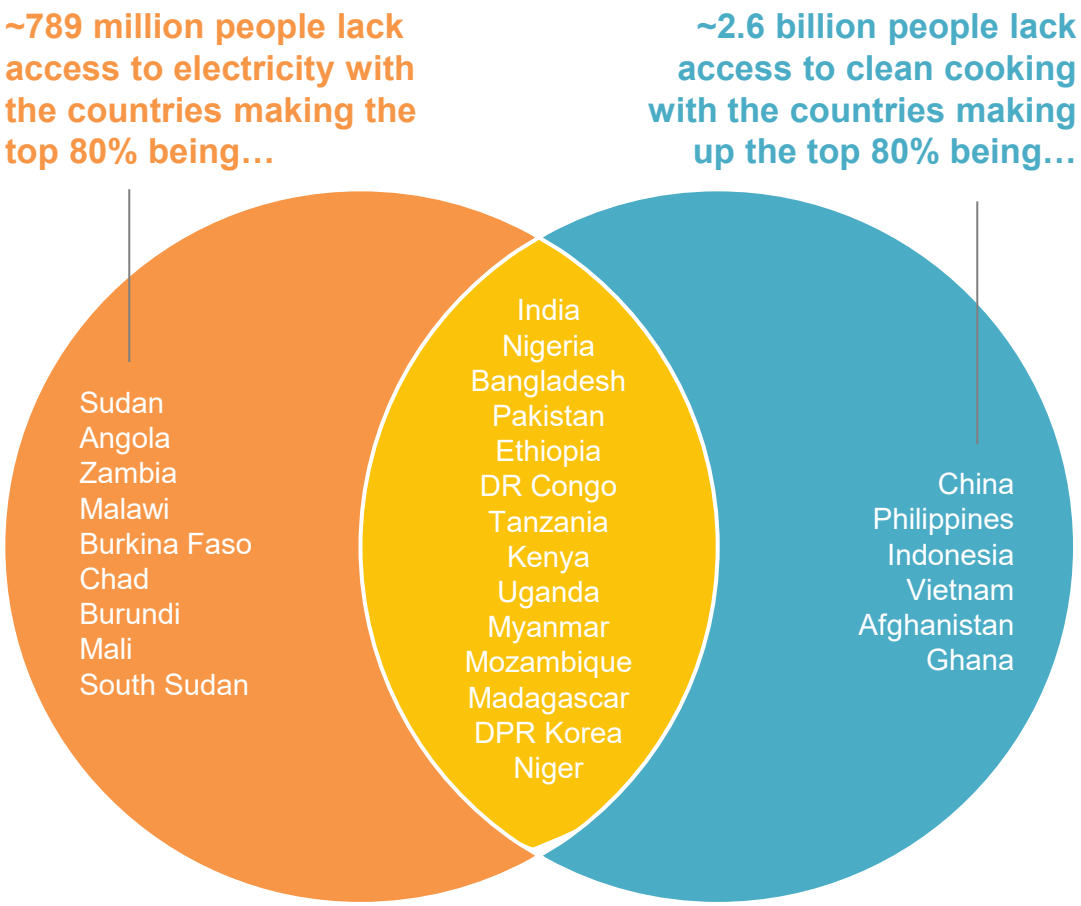
## Looking back, we see that energy efficiency decreased from 5.6 MJ/USD GDP in 2010 to 4.8 MJ/USD GDP in 2018, corresponding to an average rate of improvement of 2.0%

## Looking forward, based on the current data, we will need an energy efficiency improvement rate of at least 3% per year through 2030 to achieve SDG 7.3

- Data show a slowdown in the rate of improvement of energy efficiency since 2015, thus reaching SDG 7.3 will require a higher improvement rate than the original rate of 2.6 percent
- To ensure we get on track, consumers will need to be incentivized to be more energy efficient and we will need to explore ways for industry to increase its energy efficiency

# There are significant overlaps between electrification and clean cooking

## 14 countries contribute to the top 80% of the challenge in both electricity and clean cooking access



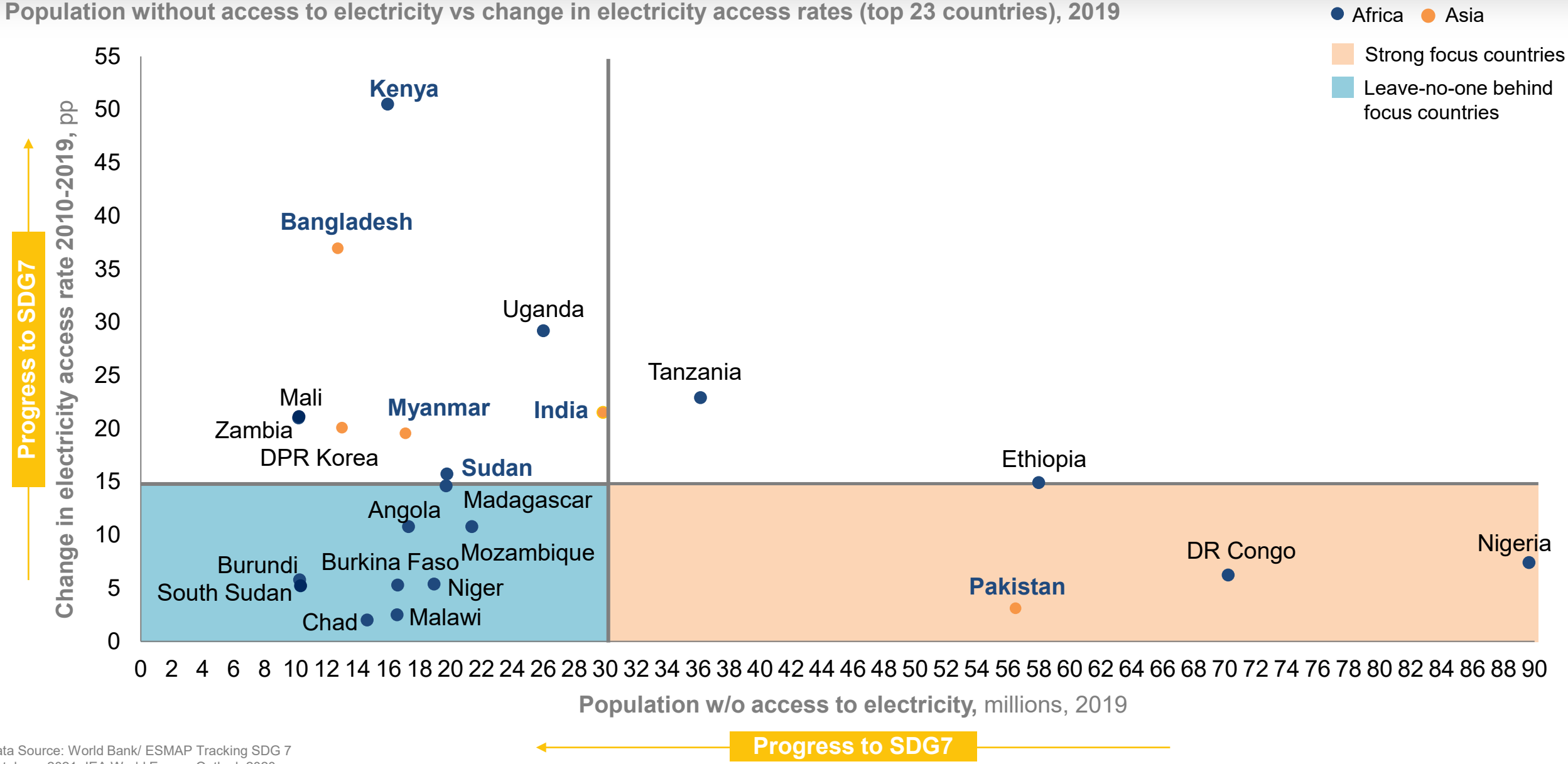

## There is a correlation between electrification and access to clean cooking

- **Focusing on these countries by creating synergy between electrification and clean cooking access, for example e-cooking solutions through policy and regulations and more funding to multi-benefit projects, can support achieving both SDG 7.1.1. and SDG 7.1.2.**
- **Electrification solves some of the clean cooking challenge** as some households switch from traditional fuels to electricity for some of their domestic needs such as lighting and cooking
- It has been shown that electrification of a household can reduce households'
  - $CO_2$ emissions by 32–36kg/year[1]
  - black carbon emissions by 225–455kg $CO_2$ equivalent/year[1]
- Clean cooking technologies (such as solar cookers) are often used as an entry product to unelectrified households
- ~35% of the people in Africa and ~90% of those in Asia without access to clean fuels and technologies for cooking have electricity access[2]

.1 Based on a study of the effects of Tier 2 electrification (low power and ~4 hours of electricity a day) in Kenya, Ethiopia and Bangladesh. 2. Assumes that no one with access to clean cooking lacks access to electricity.
Source: World Bank/ESMAP Tracking SDG 7 Database, 2021.

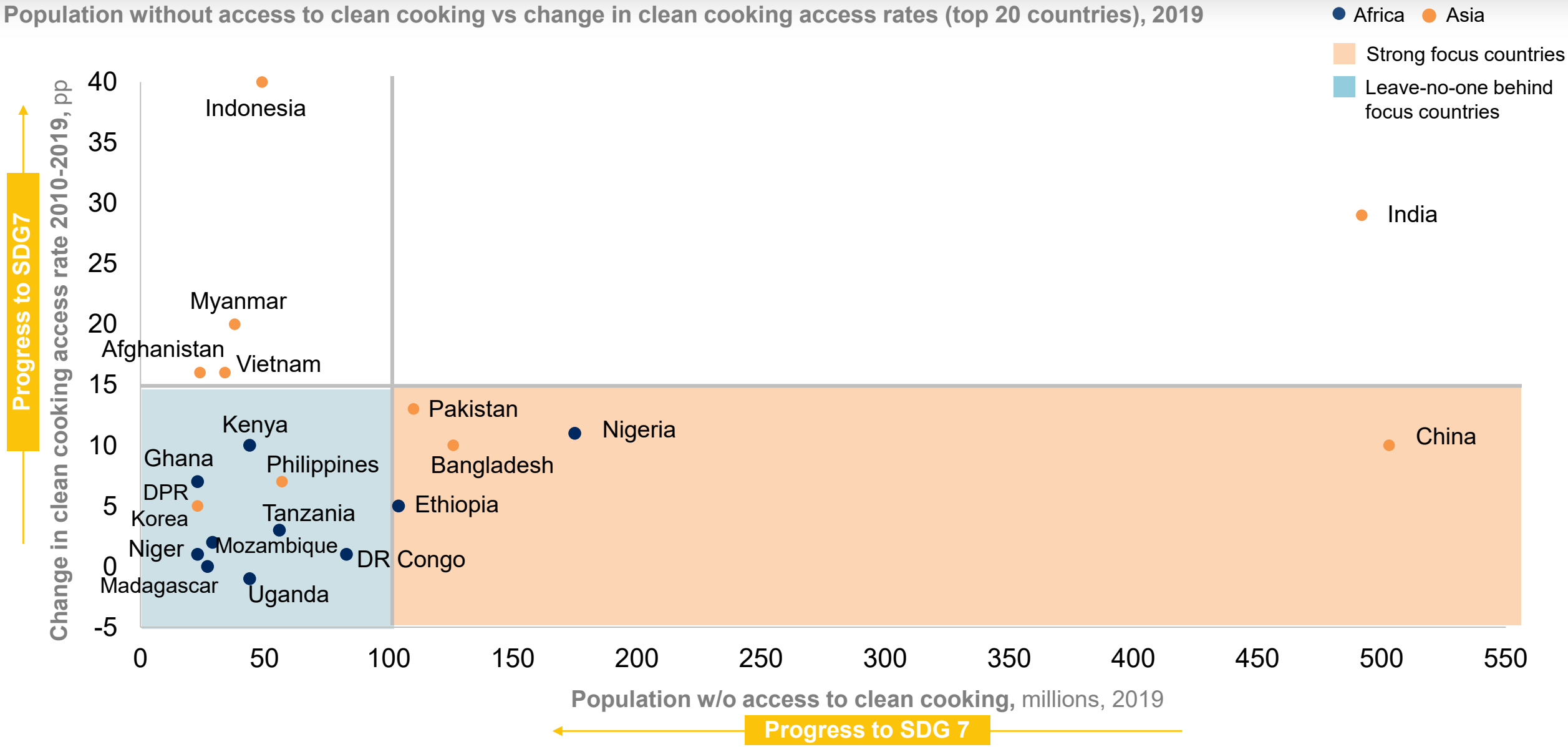
# Organizations should focus on countries with large unelectrified populations and slow progress in the next few years, while not forgetting slow progress countries in general

## Population without access to electricity vs change in electricity access rates (top 23 countries), 2019




Data Source: World Bank/ ESMAP Tracking SDG 7 Database 2021; IEA World Energy Outlook 2020

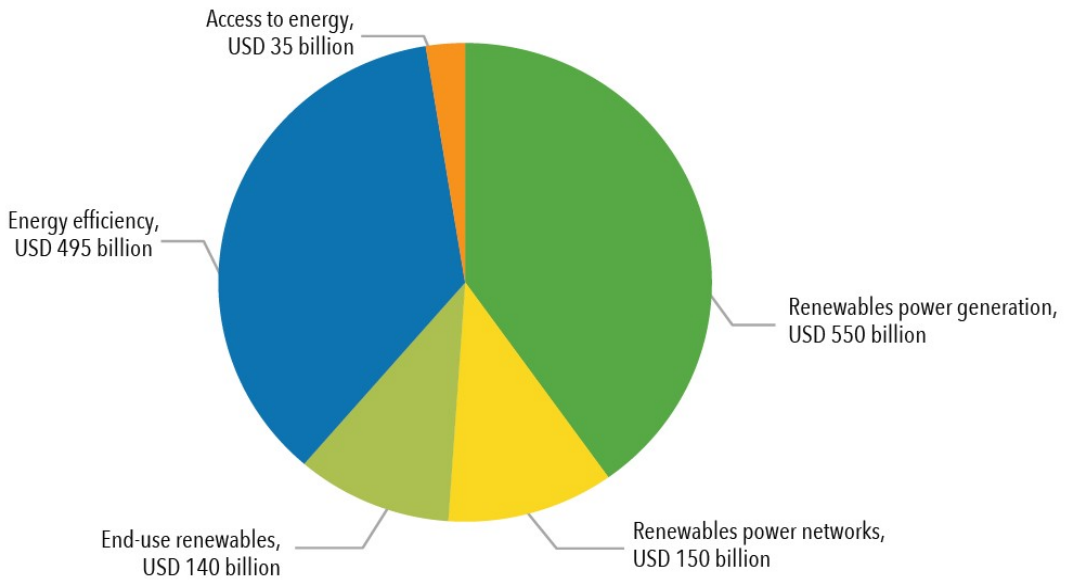
# Organizations should focus on countries with large populations without access to clean cooking and slow progress in next few years, while accelerating slow progress regardless of population size




Data Source: World Bank/ ESMAP Tracking SDG 7

# USD 1.37 trillion additional annual investment needed to meet SDG7 targets, 2019–30

FIGURE 6.8 • Average annual investment in selected technologies, Sustainable Development Scenario, 2020–30




*Source:* IEA 2020b.

- Based on IEA's Sustainable Development Scenario, the annual investment need for universal energy access in the period to 2030 is **USD 30 billion for electrification and USD 5 billion for clean cooking**. IEA's Net Zero Scenario projects that **USD 35 billion** is needed annually for electricity access and USD 7 billion is needed annually for clean cooking access.
  - ✓ Significant scale-up of investment is needed in Sub-Saharan Africa, as it totals two-thirds of the required additional investment in electricity access and clean cooking access.
- Investment for renewable-based power needs to increase annually from USD 300 billion (current flow) to **USD 550–850 billion** throughout 2019–30 (projected needs).
- For energy efficiency, the annual investment need is **USD 545 billion**, the largest share of which will be in the transport and building sectors.

Note: The ESMAP State of Access to MECS estimated that USD 9.8 billion per annum was needed to achieve modern clean cooking access, which corresponds to achieving at least Tier 2 access. In contrast to the above IEA required investment numbers, the ESMAP figure also includes public actors' expenditure such as that for fuel subsidies, which is not tracked by the Tracking SDG 7 report.

Source: World Bank/ESMAP 2021 Tracking SDG 7 Report; IEA 2020 Sustainable Recovery, *World Energy Outlook Special Report*. https://www.iea.org/reports/ sustainable-recovery.

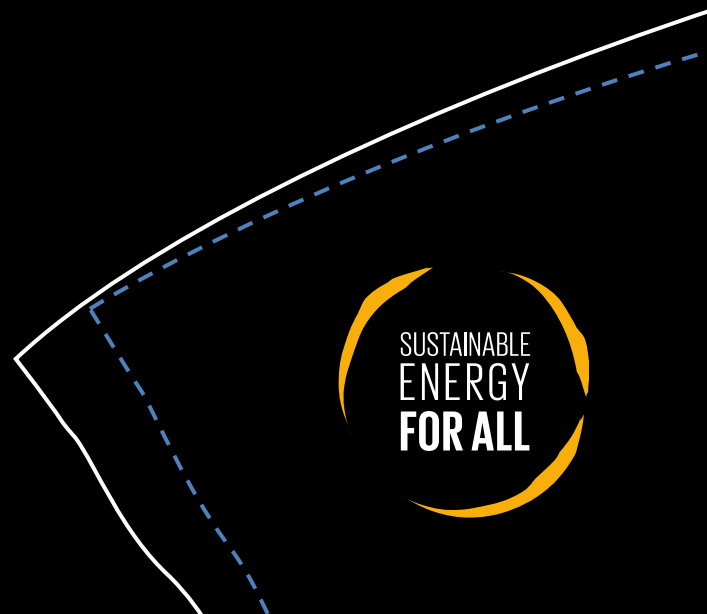
Executive Summary

**SDG 7.1.1: Electricity Access**

SDG 7.1.2: Clean Cooking Access

SDG 7.2: Share of Renewable Energy

SDG 7.3: Energy Efficiency



SUMMARY

# SDG 7.1.1 Electricity Access

## There are currently 759 million people without access to electricity – 78% of them in Africa and 20% in Asia

- 80% of the unconnected people live in just 23 countries,18 of which are in Africa and 5 in Asia
- Differences in the rural and urban electrification rates suggest that different approaches will be required to close the gap on each continent
  - The Asian countries that lack access typically have close to 100% urban electrification rates (except DPR Korea) and high rural electrification rates of over 85–90% on average, indicating that efforts should focus on serving the last mile in the rural areas
  - Meanwhile, Sub-Saharan African countries have 78% urban electrification rates but rural electrification rates of just over 25% on average. This necessitates a combination of the last mile strategy in urban areas and stronger rollout of large-scale rural electrification schemes.

## Significant progress has been made with the number of unelectrified people decreasing from 1,153 million in 2010 to 759 million in 2019

- 99% of this improvement has been driven by significant gains in Asia, particularly in India and Bangladesh
- While the electrification rate in Africa has improved from 49% to 58%, this hasn't been enough to match the population growth, resulting in an increased number of the population lacking access to electricity

## Looking forward, based on current trends, we are not on track to achieve SDG 7.1.1 by 2030

- Projections show that we are **not on track** to achieve universal electricity access by 2030 with between 660 and 780 million people expected to remain unelectrified based on current trends
- To address this, in the next few years, organizations should prioritize working with countries that have large unelectrified populations that have not made significant progress to reduce them over the past few years, such as Democratic Republic of Congo, Ethiopia, Nigeria and Pakistan, to accelerate the progress. However, even with the smaller number of unelectrified populations, strong focus should also be on those countries with slower progress and low electrification rates to achieve universal access.

# Methodology

## Data Source

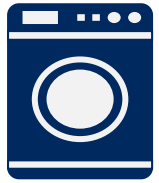
- The following data were gathered from the World Bank/ESMAP Open Data with data available between 1990 and 2019
  - Total electricity access rate and population without access to electricity per country
  - Urban electricity access rate and population in urban areas without access to electricity per country
  - Rural electricity access rate and population in rural areas without access to electricity per country
  - Total population per country
  - Urban population per country
  - Rural population per country

## Projections

- Straight line extrapolation projections were made via the following process
  - The rate of change of the number of people without access to electricity (Compound Annual Growth Rate, (CAGR)) between 2016 and 2019 was calculated for each individual country
  - Each country's 2019 population without access to electricity was projected forwards by 11 eleven years to 2030 by adding the calculated average change to the 2019 population 11 times
  - 0 was set as a minimum to prevent the unconnected population from being negative
  - The projected data were then summed up according to each country's regional classification
- IEA Stated Policies Scenario 2020 was taken from the IEA's World Energy Outlook 2020 report

# Definition of electricity access

## Electricity access is defined as a household being connected to an electricity supply at Tier 1 and above

| | Tier 0 | Tier 1 | Tier 2 | Tier 3 | Tier 4 | Tier 5 |
|---|---|---|---|---|---|---|
| |  |  |  |  |  |  |
| **Minimum hours available per day** | <4 hours | 4 hours | 4 hours | 8 hours | 16 hours | 23 hours |
| **Minimum power** | <3 Watts | 3 Watts | 50 Watts | 200 Watts | 800 Watts | 2,000 Watts |
| **Minimum daily power capacity** | <12 Wh | 12 Wh | 200 Wh | 1,000 Wh | 3,425 Wh | 8,219 Wh |

**Electricity access**

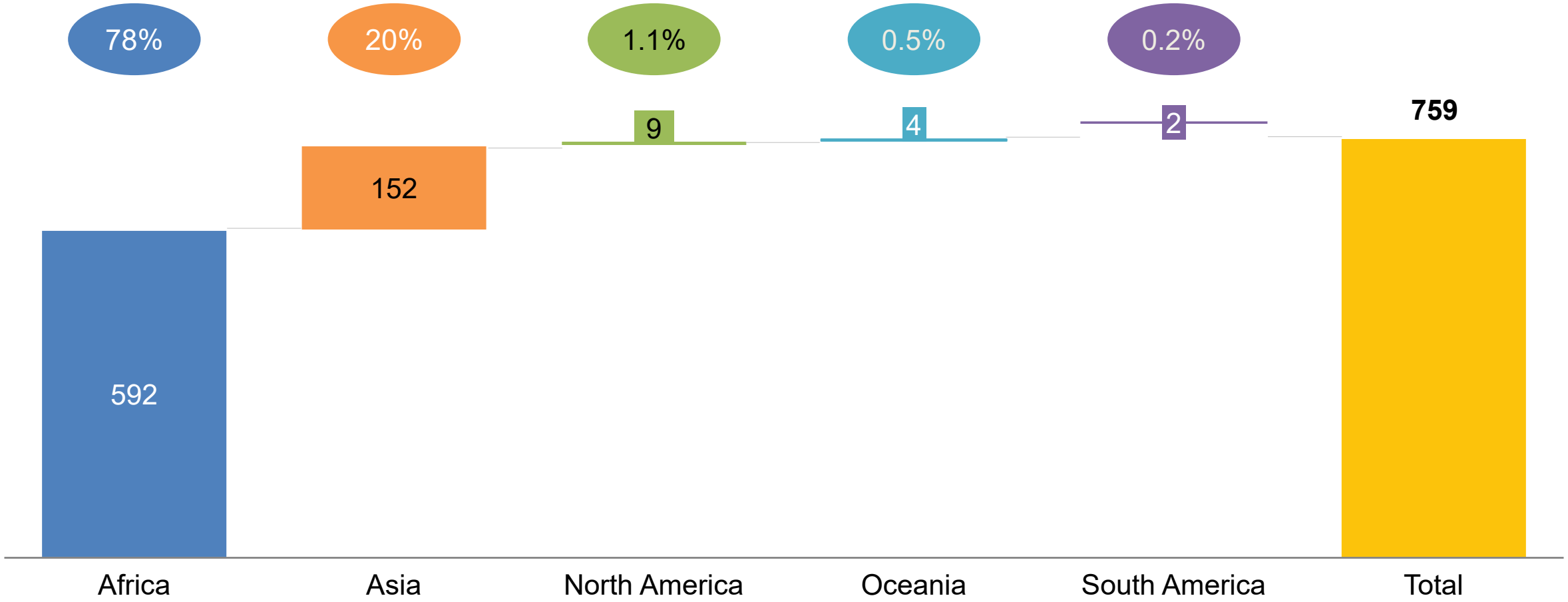
- The numbers presented above are only to supply the absolute minimum of each stage to each household.
- **The Modern Energy Minimum advocates universal electricity consumption of at least 1,000 kWh,** if we aspire for all people to reach an income of at least USD 2,500 per capita per year (or about USD 6.85 per day, midpoint for lower-middle income status), based on historical data.

Source: Beyond Connections: Energy Access Redefined, ESMAP 2015; Energy for Growth Hub (2021) The Modern Energy Minimum: The case for a new global electricity consumption threshold.

SDG 7.1.1: Electricity Access

# There are ~759 million people in the world without access to electricity

## Population without electricity access[1], millions, 2019



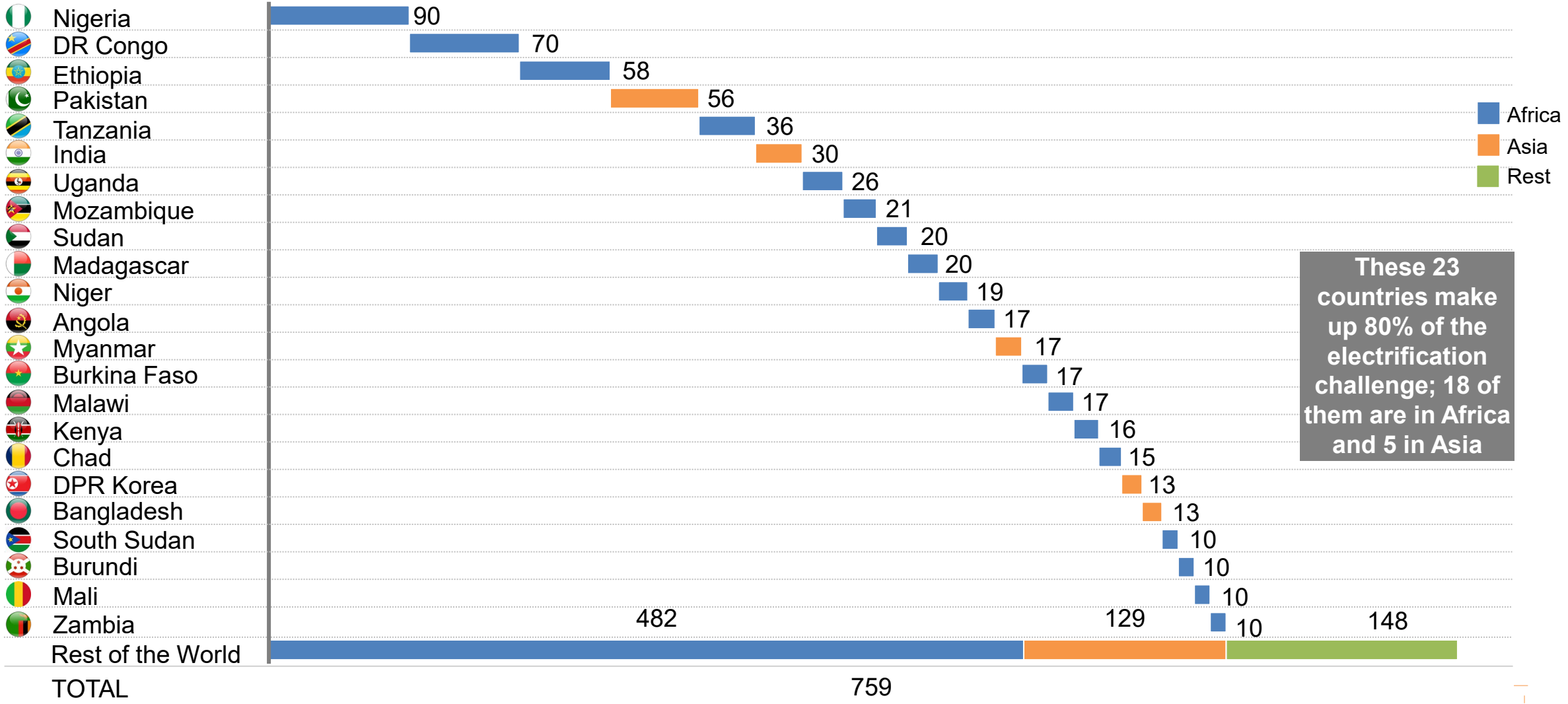

1. Electricity access is defined as a household being connected to an electricity supply at Tier 1 and above.

Data Source: World Bank/ESMAP Tracking SDG 7 Database, 2021.

SDG 7.1.1: Electricity Access

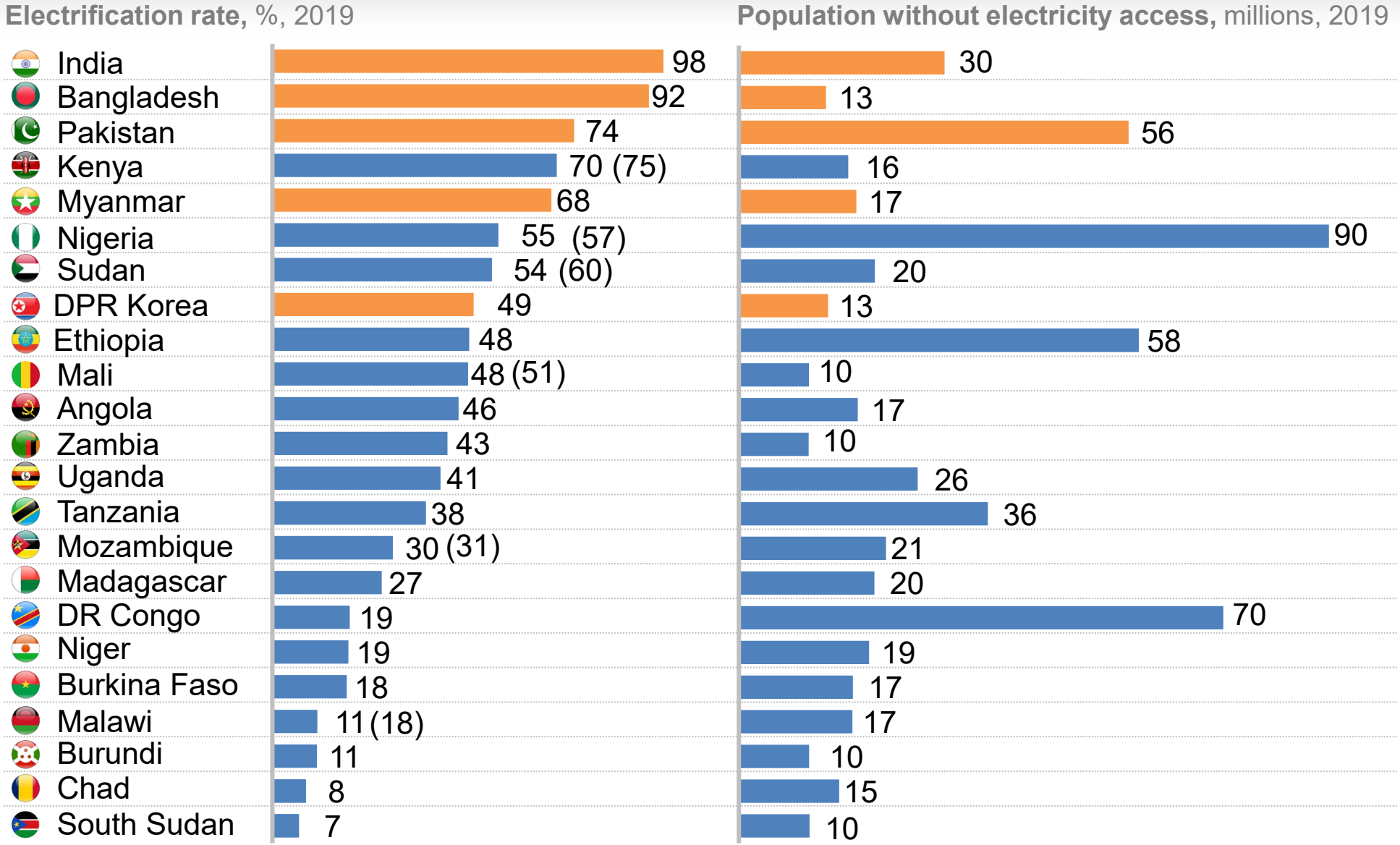
# 23 countries make up 80% of the electrification challenge

**Population without electricity access,** millions, 2019




Data Source: World Bank/ESMAP Tracking SDG 7 Database, 2021.

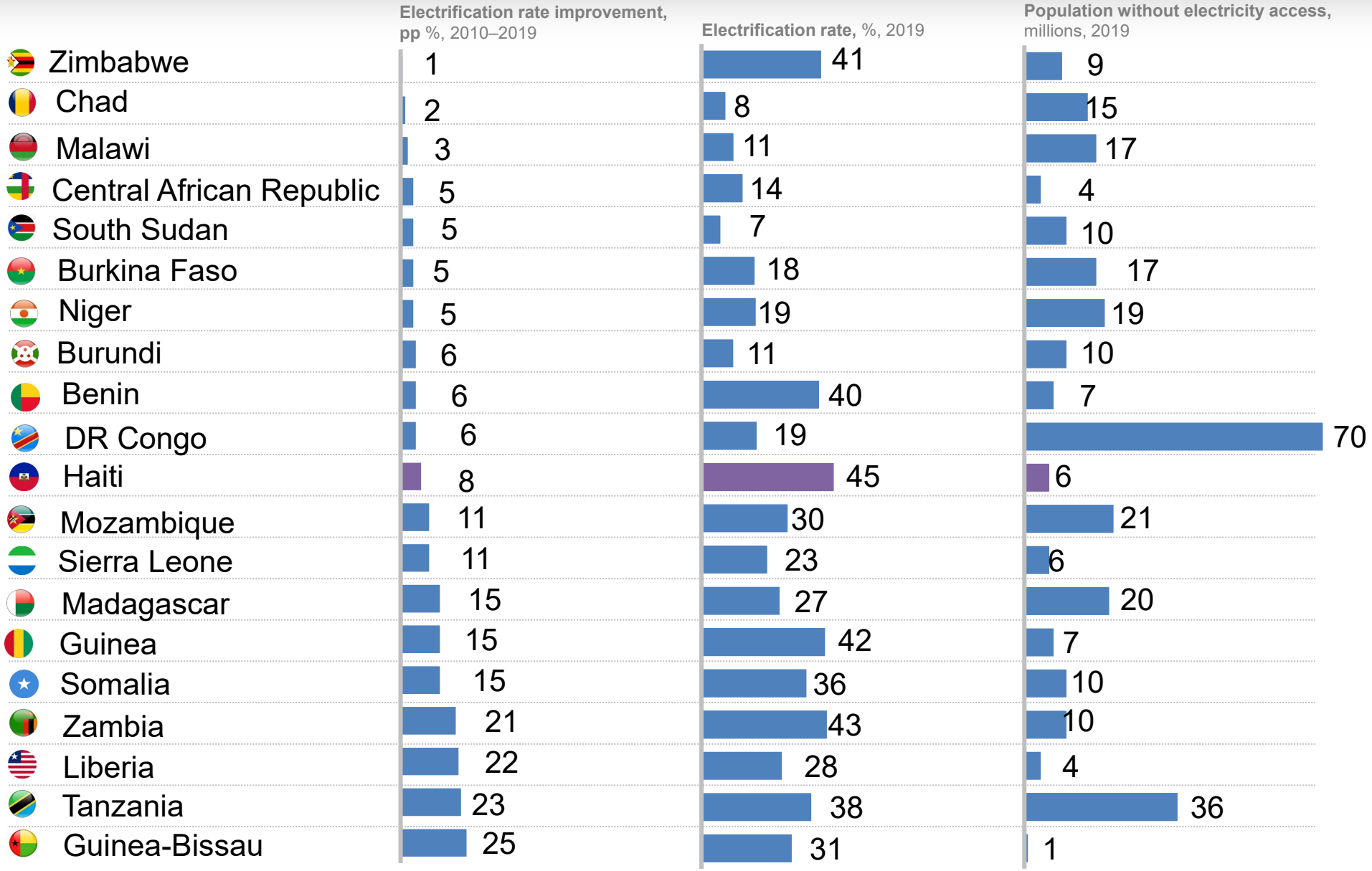
# The Asian countries in the top 23 typically have higher electrification rates than the African ones




- In 15 out of 18 African countries in the top 23, **>50% of the population is unelectrified**. Access rates in 6 countries decreased from 2018.
- The countries in Asia have significantly higher electrification rates, but their population size makes them important targets. The unelectrified population has rapidly decreased, especially in India and Bangladesh, but Pakistan remains the largest target.

1 The numbers in ( ) show the rates in 2018 for countries where the access rates decreased from 2018.
Data Source: World Bank/ESMAP Tracking SDG 7 Database 2021.

# We should not leave countries with slow improvement and low electrification rates behind, even if only a small percentage of the population is without electricity access




- The top 20 countries with the lowest progress rates and less than 45% electrification rates are all in Sub-Saharan Africa, except Haiti.
- We also need to also pay close attention to these countries because progress will not improve with less focus. They require stronger support to accelerate the rates of electrification.

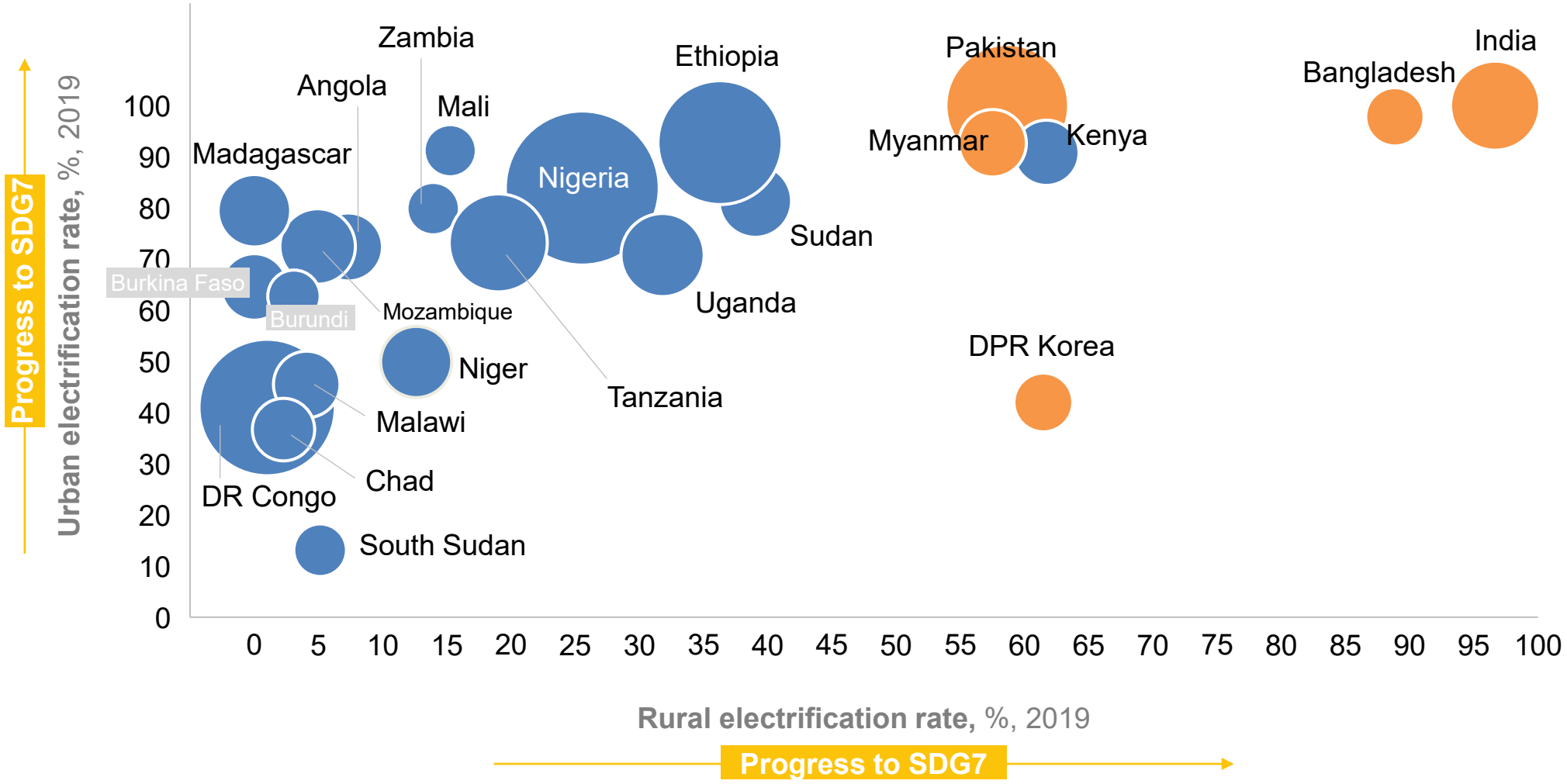
Data Source: World Bank/ESMAP Tracking SDG 7 Database 2021.

# These countries have different types of electrification challenges and thus would require tailored approaches to tackle them

**Rural vs urban electrification rates (top 23 countries),** 2019

**Bubble size** = Total unelectrified population

Asia Africa

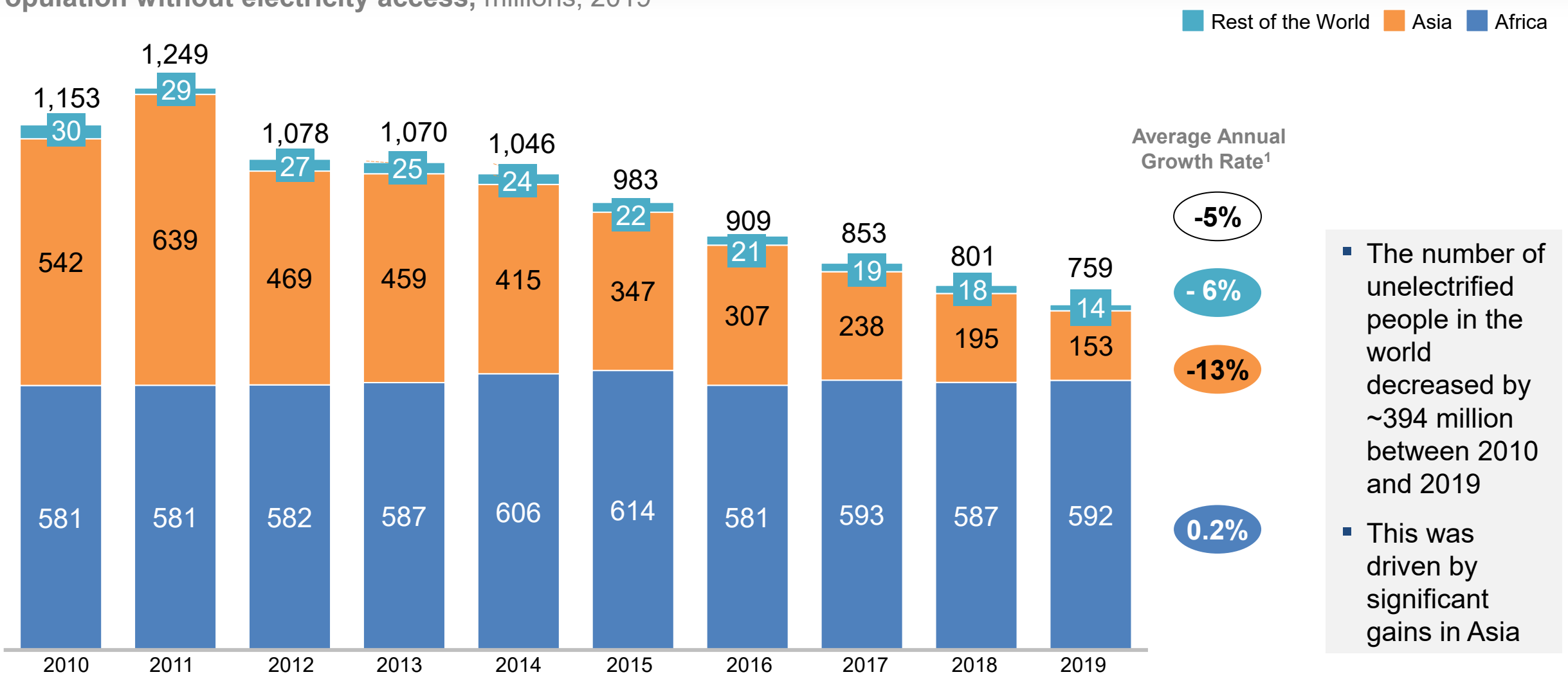



- The Asian countries typically have close to 100% urban electrification rates and high rural electrification rates meaning that they need to serve the last mile in rural areas
- Meanwhile, the African countries typically need to serve the last mile in urban areas while having low rural electrification rates, suggesting the need to roll out large scale rural electrification schemes

Note: Rural access rates of Angola, Burkina Faso, Chad and Madagascar for 2019 were not available from the database. Therefore, the rates used in this figure for these countries are 2018 rural access rates.
Data Source: World Bank/ESMAP Tracking SDG 7 Database 2021.

# Total number of unelectrified people decreased from 1,153 million in 2010 to ~759 million in 2019, however, most of this decrease was from Asia while Africa saw an increase

## Population without electricity access, millions, 2019



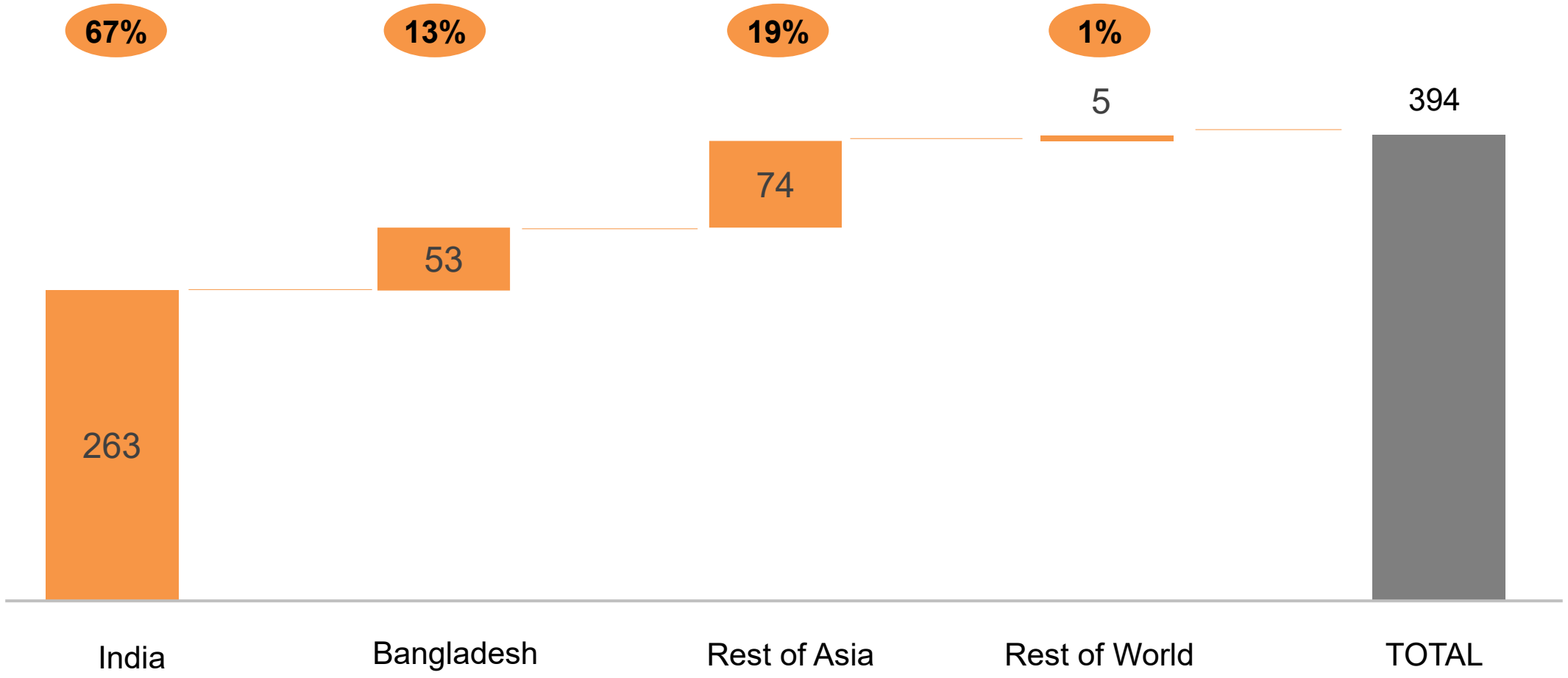

- The number of unelectrified people in the world decreased by ~394 million between 2010 and 2019
- This was driven by significant gains in Asia

1 2010–2019 Compound annual growth rate: the average annual growth rate.
2 The World Bank/ESMAP historical data up to 2018 were also updated with the 2021 dataset. This has created several inconsistencies with the analysis of the previous year.
Data Source: World Bank/ESMAP Tracking SDG 7 Database 2021.

# Most of the improvement in Asia was seen in India and Bangladesh

**Reduction in unelectrified population between 2010 and 2019,** millions

x% Share of total reduction



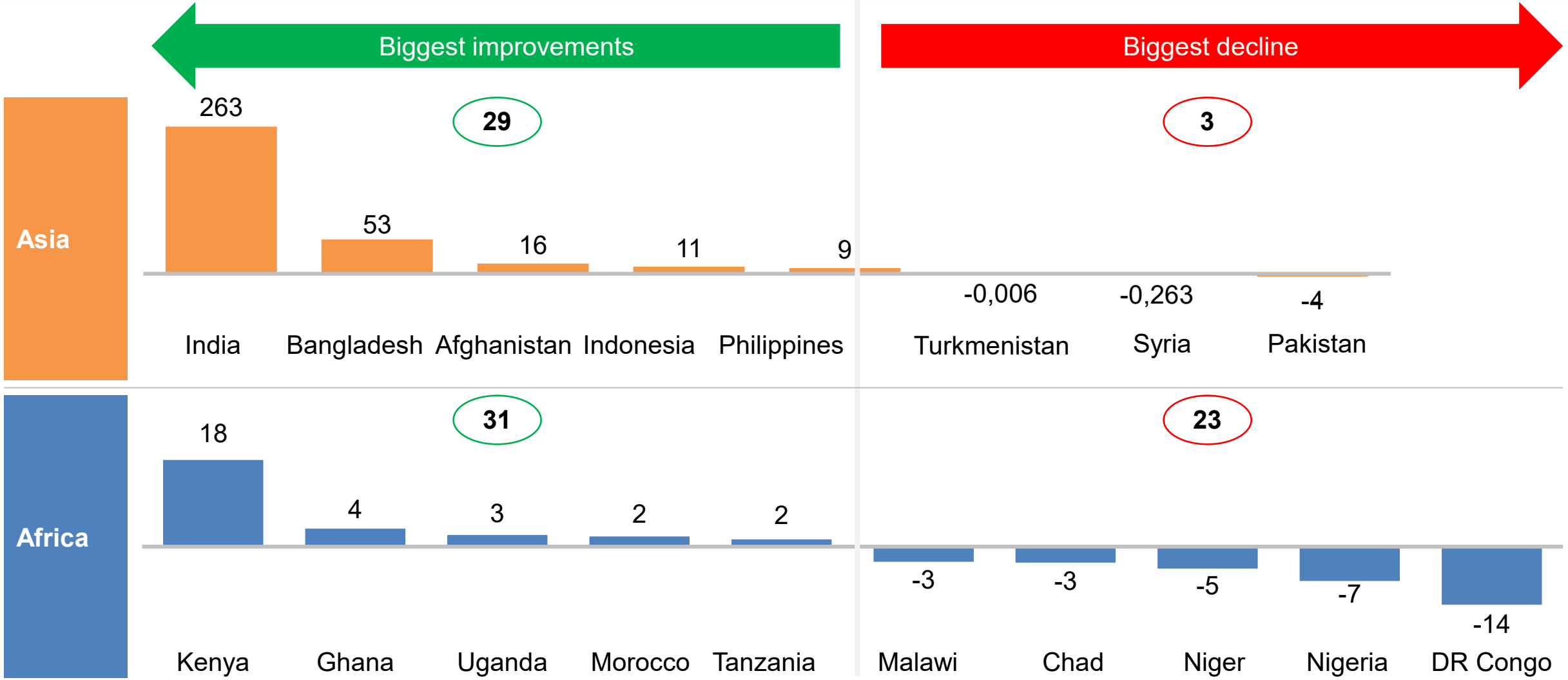

Note:
These figures represent the absolute change in the number of unelectrified people between 2010 and 2019 and do not account for changes in the population due to birth rates, human migration etc.
The World Bank/ESMAP historical data up to 2018 were also updated with the 2021 dataset. This has created several inconsistencies with the analysis of the previous year.
Data Source: World Bank/ESMAP Tracking SDG 7 Database 2021.

# Almost every Asian country has made progress since 2010

x Number of countries with improvements

x Number of countries with decline

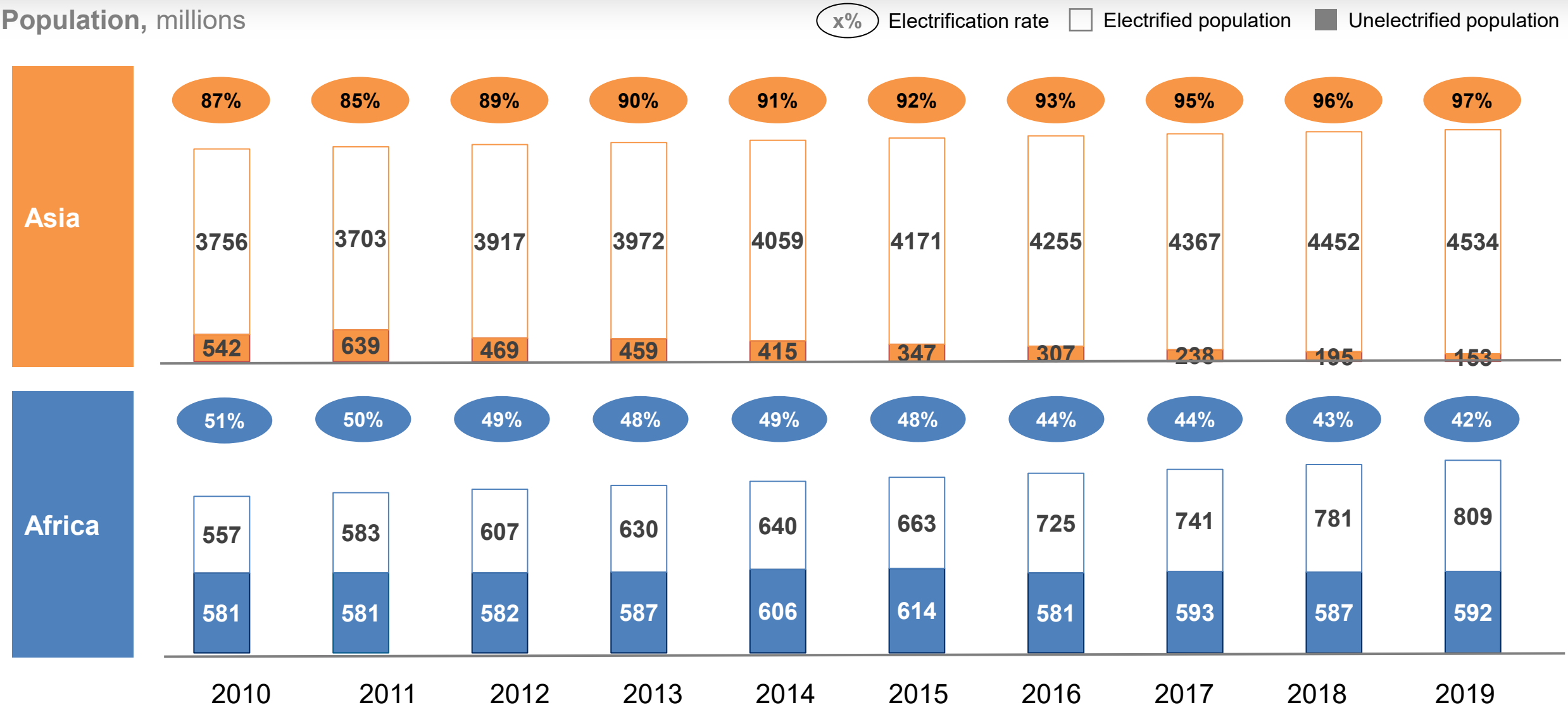
## Reduction in unelectrified population between 2010 and 2019, millions




Note:
These figures represent the absolute change in the number of unelectrified people between 2010 and 2019 and do not account for changes in the population due to birth rates, human migration etc.
The World Bank/ESMAP historical data up to 2018 were also updated with the 2021 dataset. This has created several inconsistencies with the analysis of the previous year.

Data Source: World Bank/ESMAP Tracking SDG 7 Database 2021.

# Despite improvements in Africa's electrification rate, the population growth has resulted in a steady unelectrified population of 550–600 million people and lower access ratio

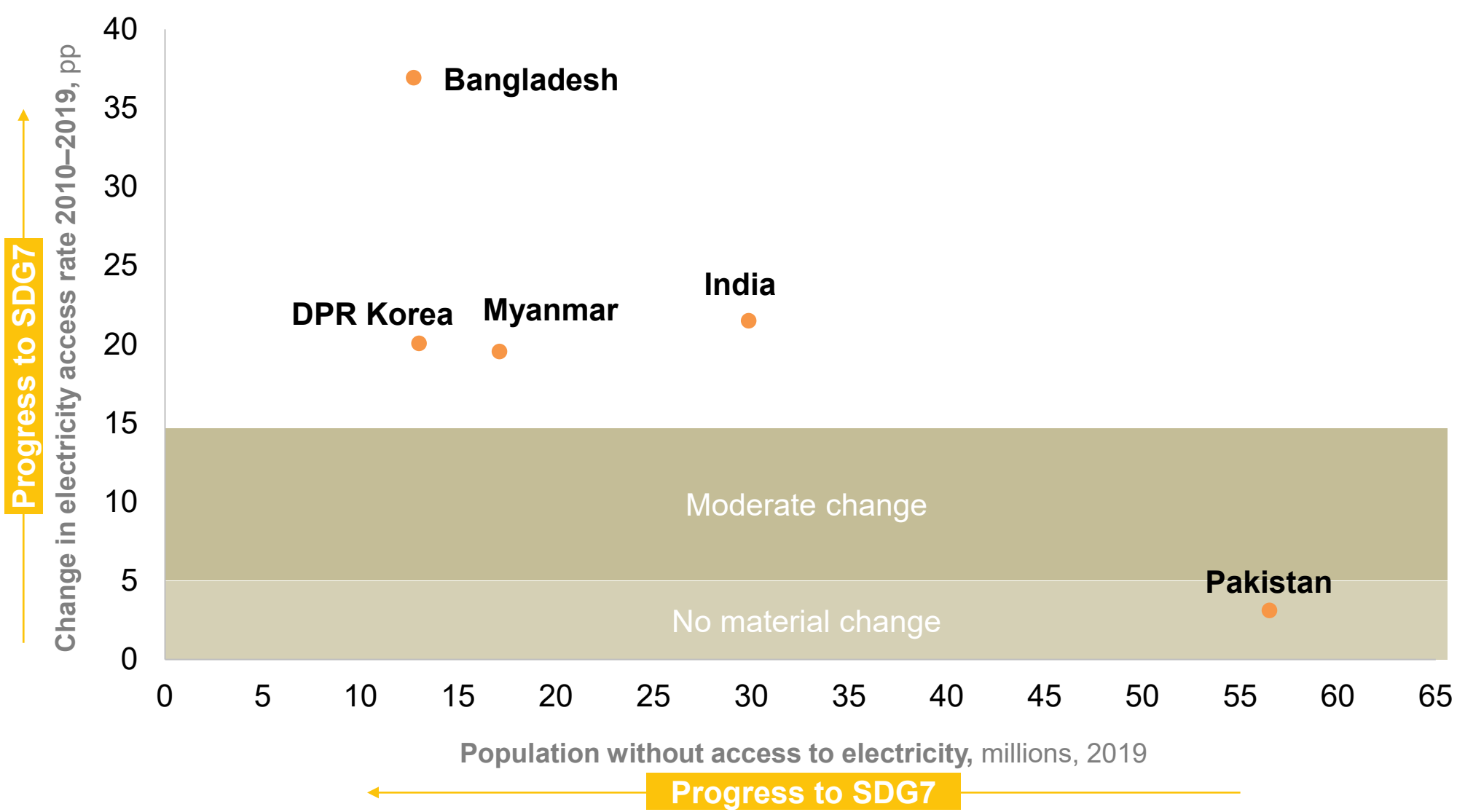



Note: The World Bank/ESMAP historical data up to 2018 were also updated with the 2021 dataset. This has created several inconsistencies with the analysis of the previous year.
Data Source: World Bank/ESMAP Tracking SDG 7 Database 2021; World Bank Open Data 2021.

SDG 7.1.1: Electricity Access

# Deep dive on Asia

## Population without access to electricity vs change in electricity access rates (Asian countries), 2019



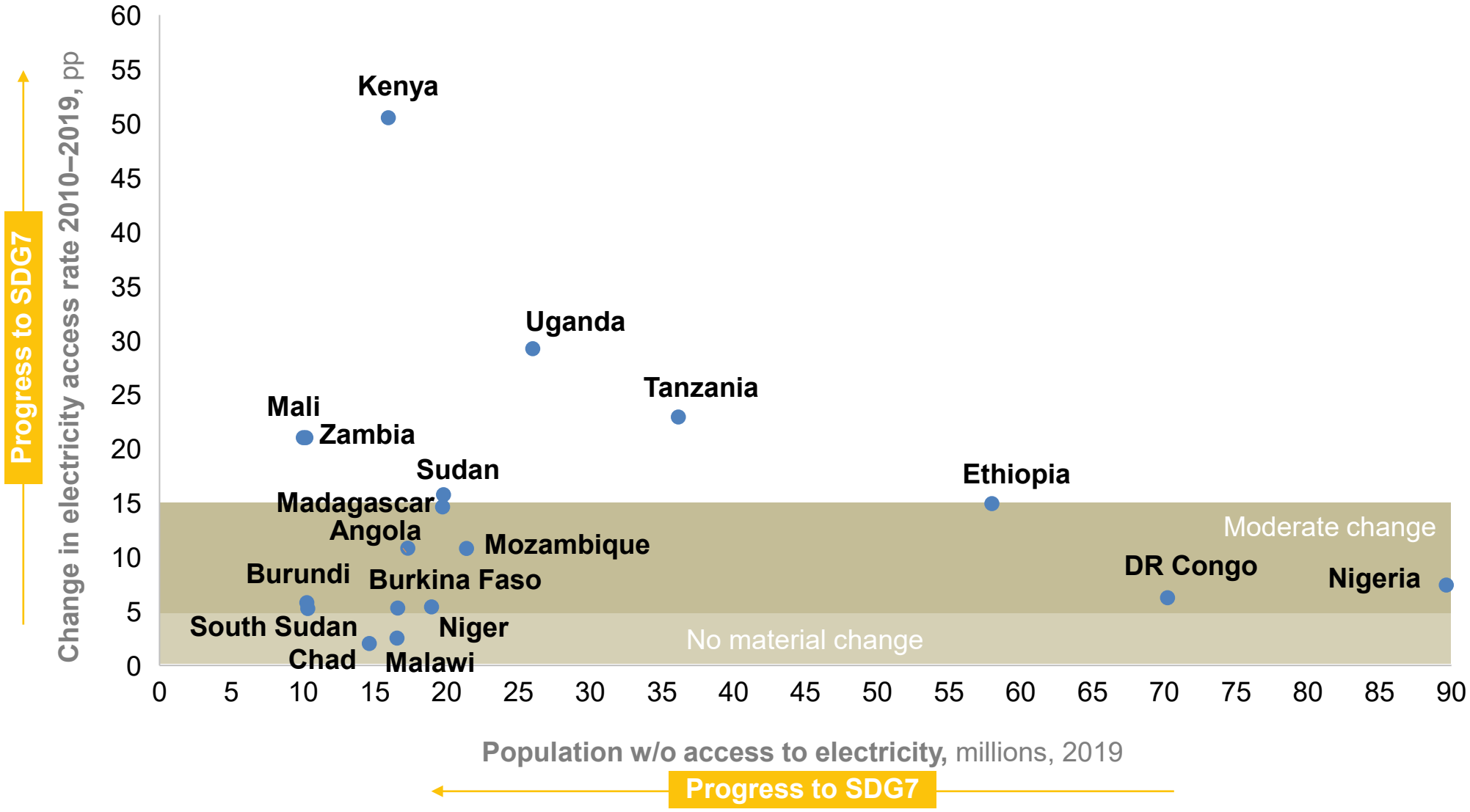

- **Bangladesh, India, DPR Korea, and Myanmar have made significant strides** in increasing the portion of the population with access to electricity.
- **Pakistan remains in the range of no material change with the largest unelectrified population.** Strong focus is needed on this country.

Data Source: World Bank/ESMAP Tracking SDG 7 Database 2021.

SDG 7.1.1: Electricity Access

# Deep dive on Africa

## Population without access to electricity vs change in electricity access rates (African countries), 2019



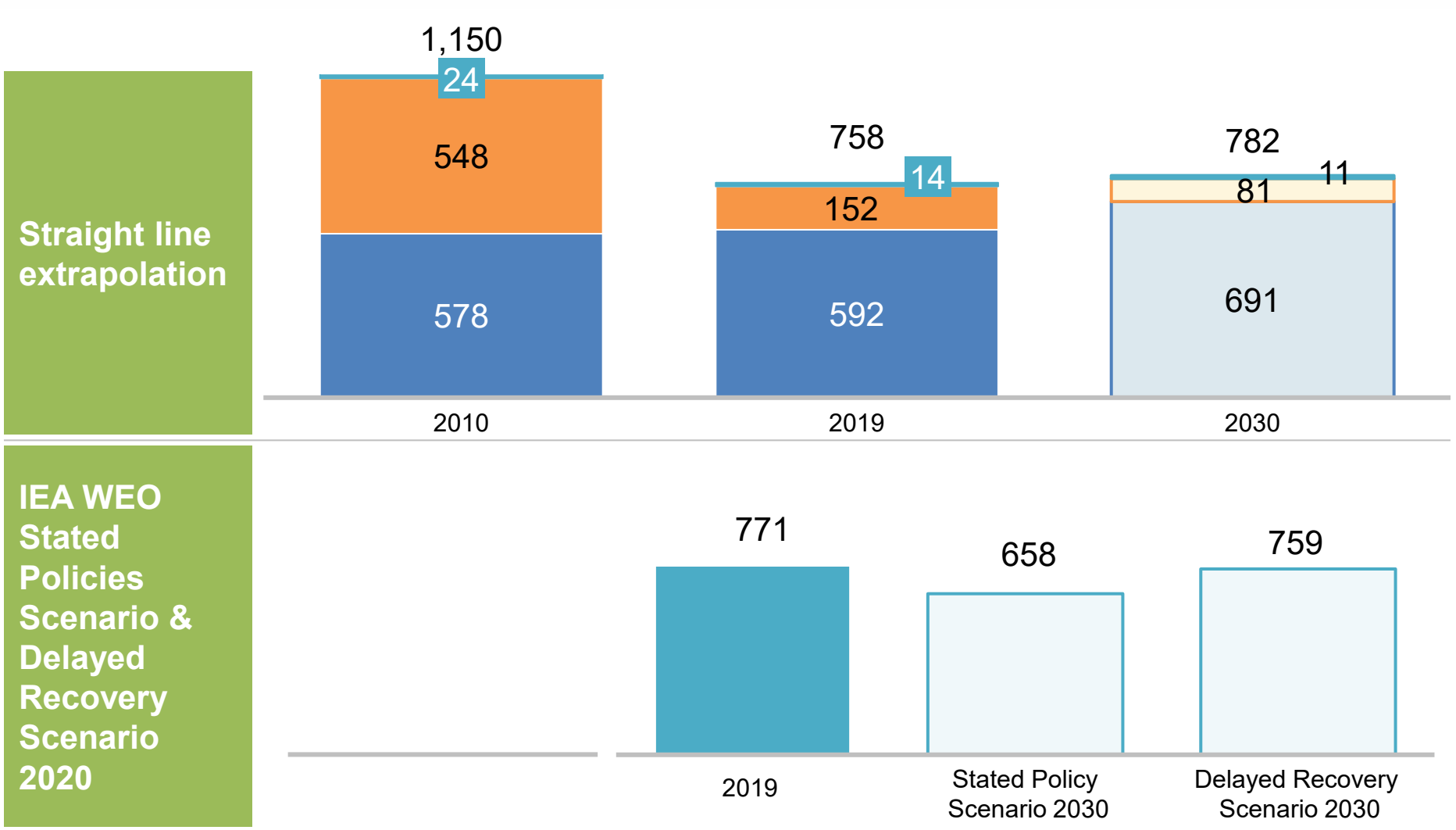

In top 23 countries

- The majority of African countries in the top 23 countries have only shown moderate improvement in their electricity access rates since 2010.
- **Kenya has made significant progress** in increasing the electrification rate, with **Uganda, Tanzania, Zambia** also showing strong progress.

Data Source: World Bank/ESMAP Tracking SDG 7 Database 2021.

# Projections show that we are not on track to reach universal electricity access by 2030

## Projected population without access to electricity, millions

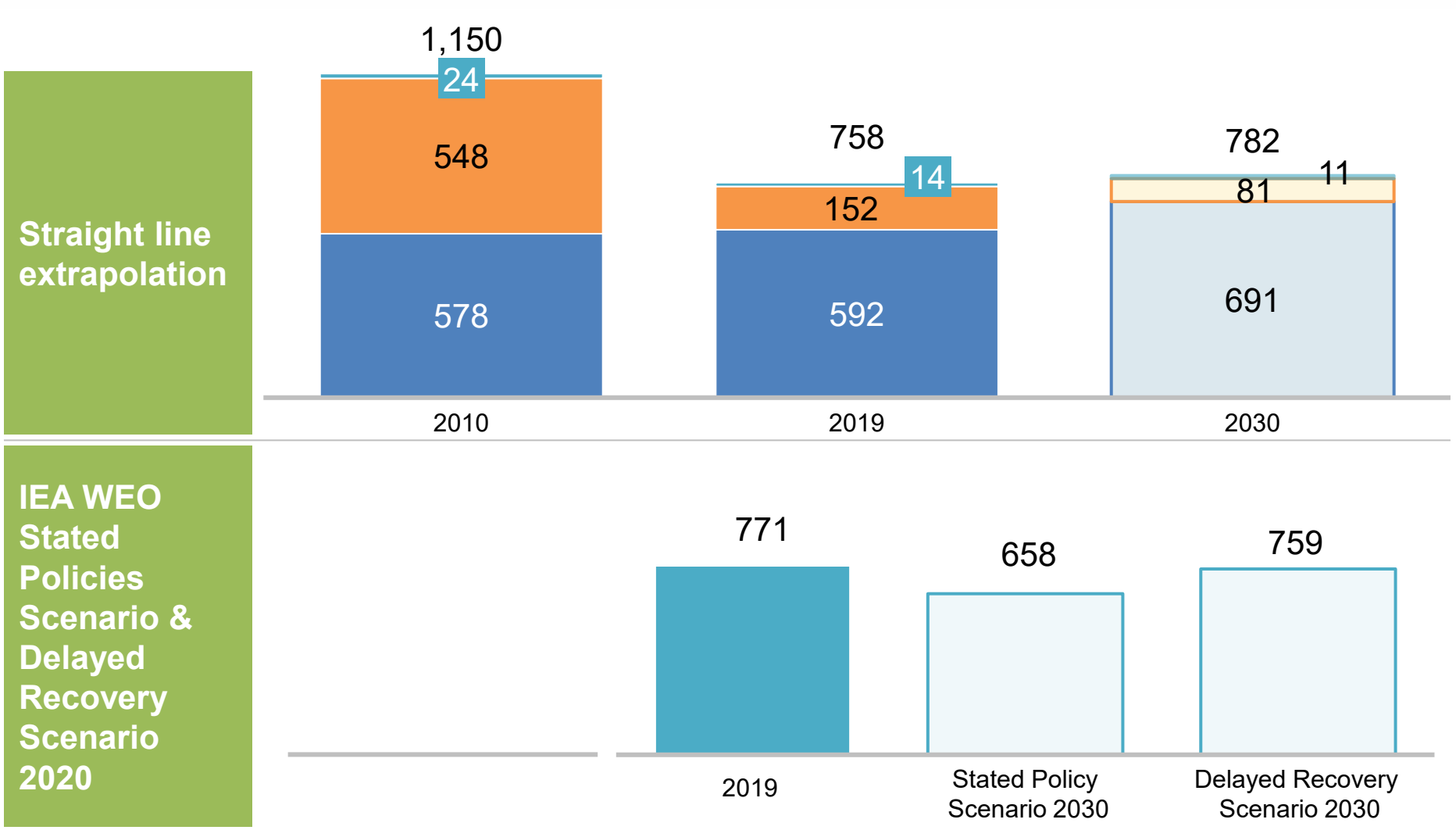



- Without more progressive policy and investment, the projection indicates that many African countries will see an increase in their unelectrified populations by 2030
- The IEA projects that if the economic rebound for COVID-19 pandemic were to be slower, as in the Delayed Recovery Scenario, then an additional 100 million people would not have access to electricity by 2030

Note: The World Bank/ESMAP historical data up to 2018 were also updated with the 2021 dataset. This has created several inconsistencies with the analysis of the previous year.
Data Source: World Bank/ESMAP Tracking SDG 7 Database 2021; IEA World Energy Outlook 2020.

# Projections show that we are not on track to reach universal electricity access by 2030

## Projected population without access to electricity, millions

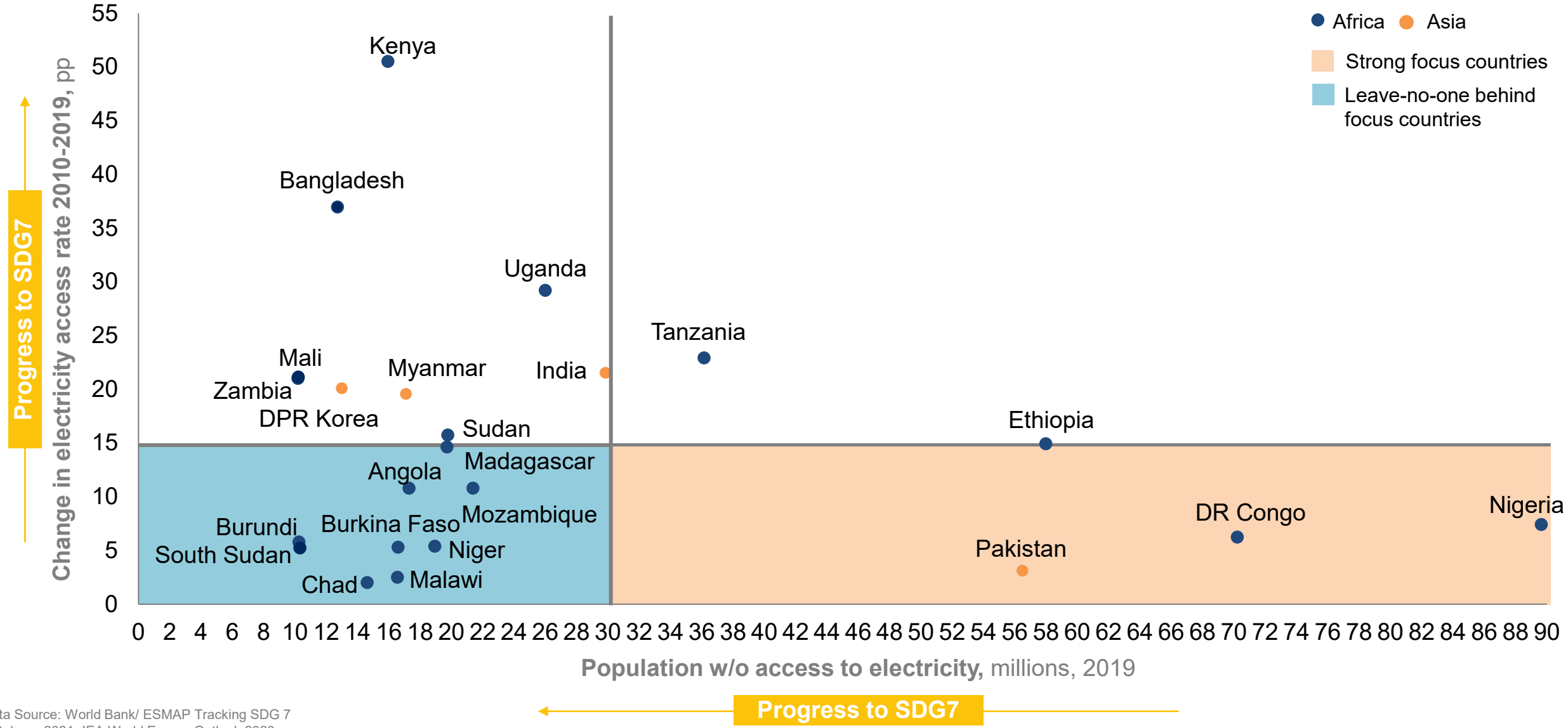



- **8 additional countries globally will achieve universal access** if they continue to deliver at current levels, including one Asian country (lists in appendix)
- 17 Asian countries would still have unelectrified populations (list in appendix)
- 16 African countries would still have significant unelectrified populations of ~10 million or more (list in appendix)

Note: The World Bank/ESMAP historical data up to 2018 were also updated with the 2021 dataset. This has created several inconsistencies with the analysis of the previous year.
Data Source: World Bank/ESMAP Tracking SDG 7 Database 2021; IEA World Energy Outlook 2020.

# Organizations should focus on countries with large unelectrified populations and slow progress in the next few years, while not forgetting slow progress countries in general

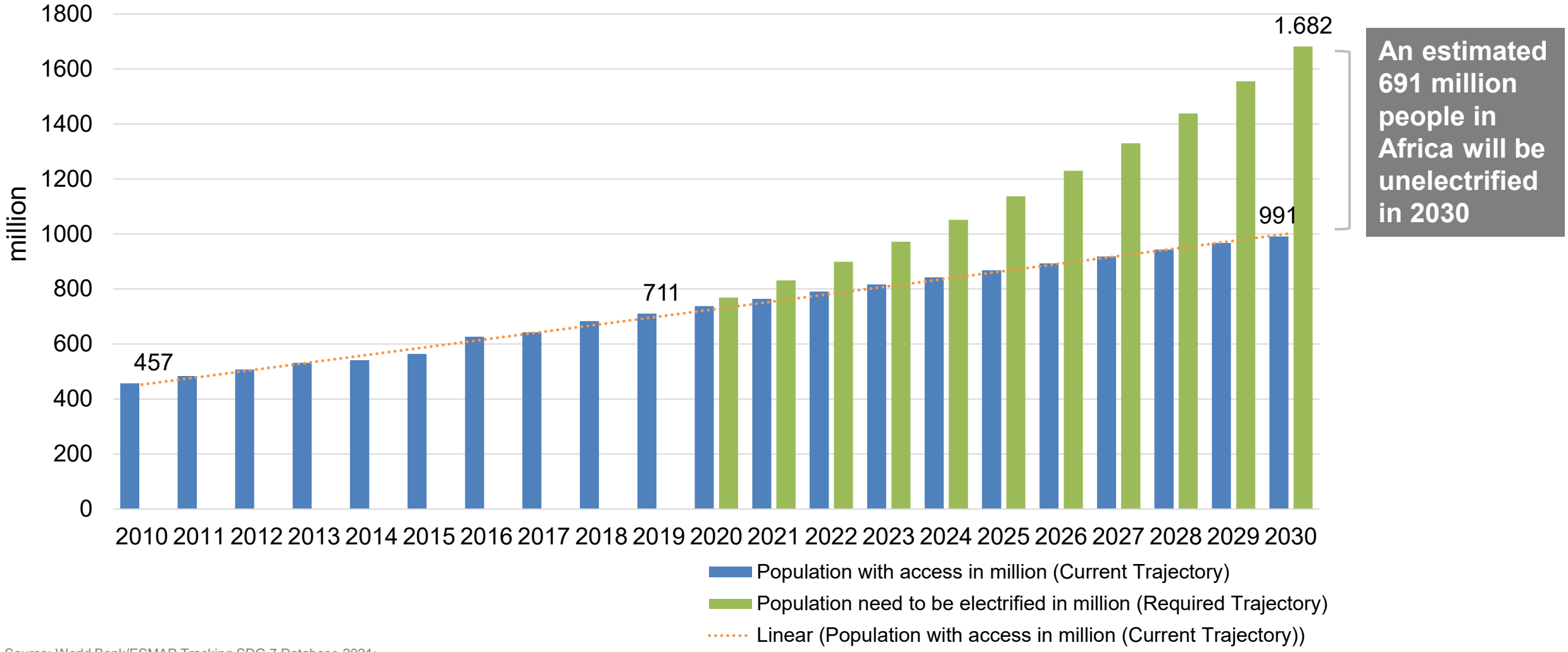
## Population without access to electricity vs change in electricity access rates (top 23 countries), 2019




Data Source: World Bank/ ESMAP Tracking SDG 7 Database 2021; IEA World Energy Outlook 2020

# Rate of electricity access in Africa

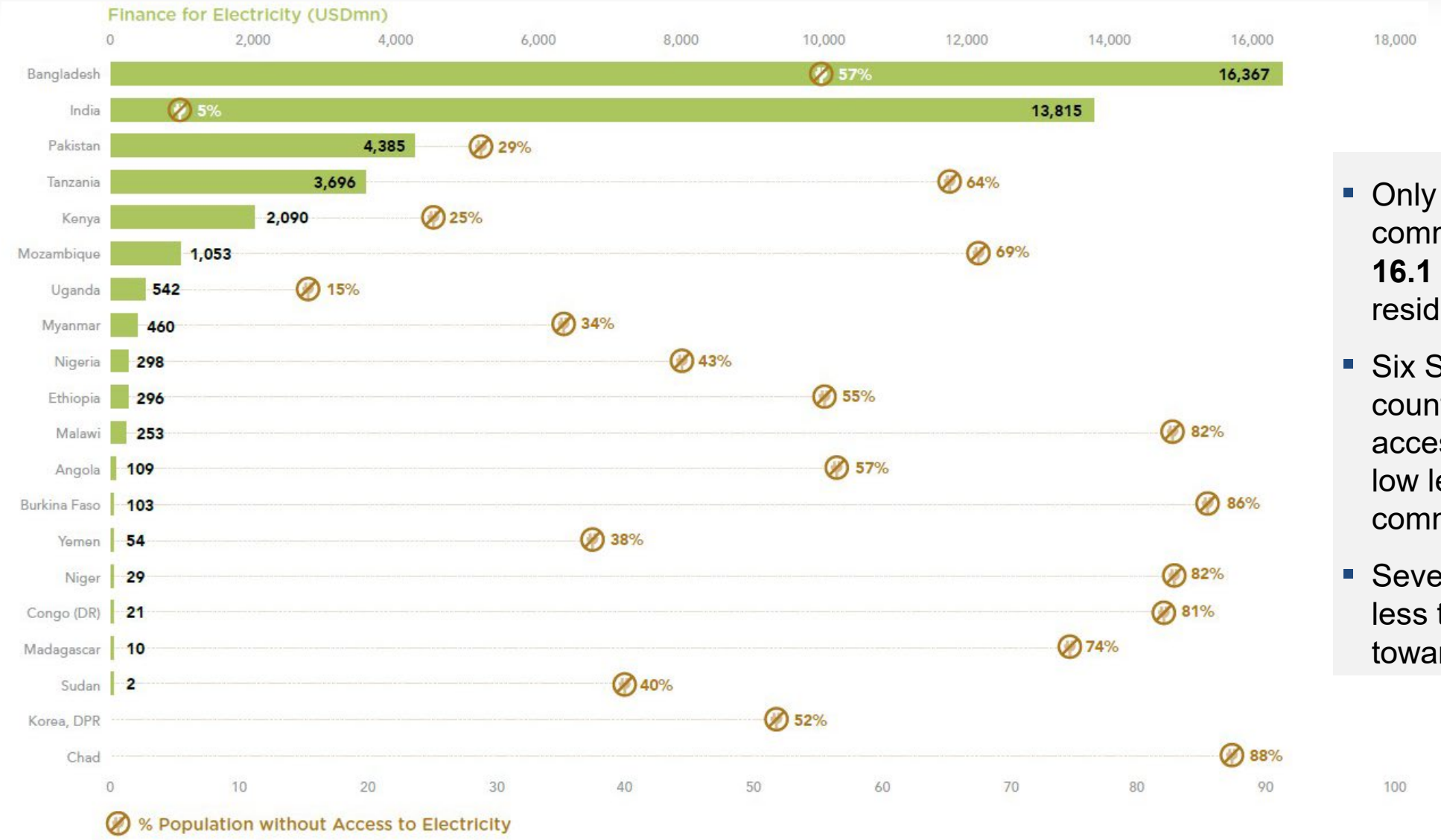
## Current trend trajectory vs required trajectory to achieve electricity access




**An estimated 691 million people in Africa will be unelectrified in 2030**

Data Source: World Bank/ESMAP Tracking SDG 7 Database 2021;
World Bank Population estimate; SEforALL analysis.

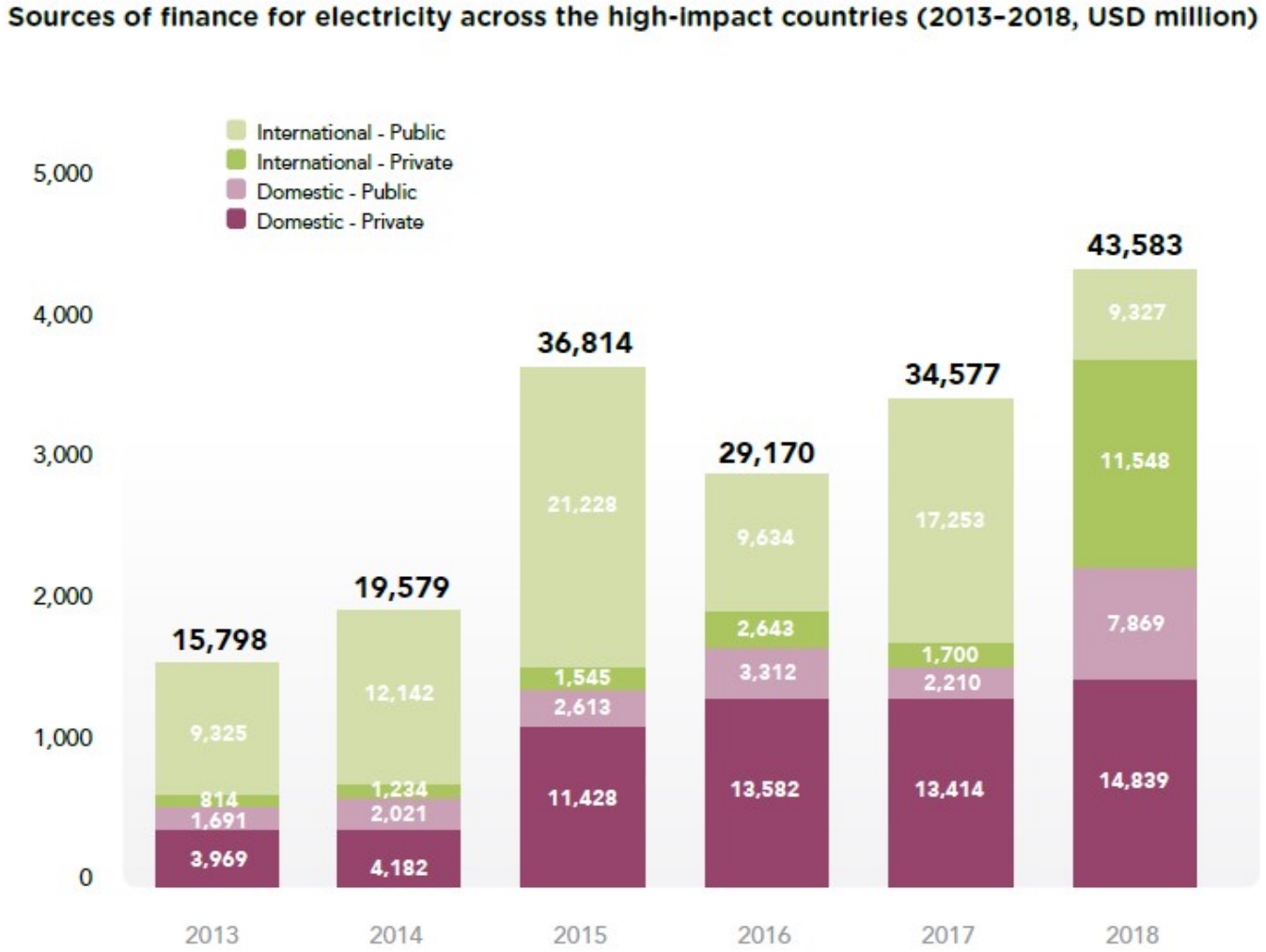
# USD 43.6 billion committed in 2018 for access to electricity in 20 high-impact countries

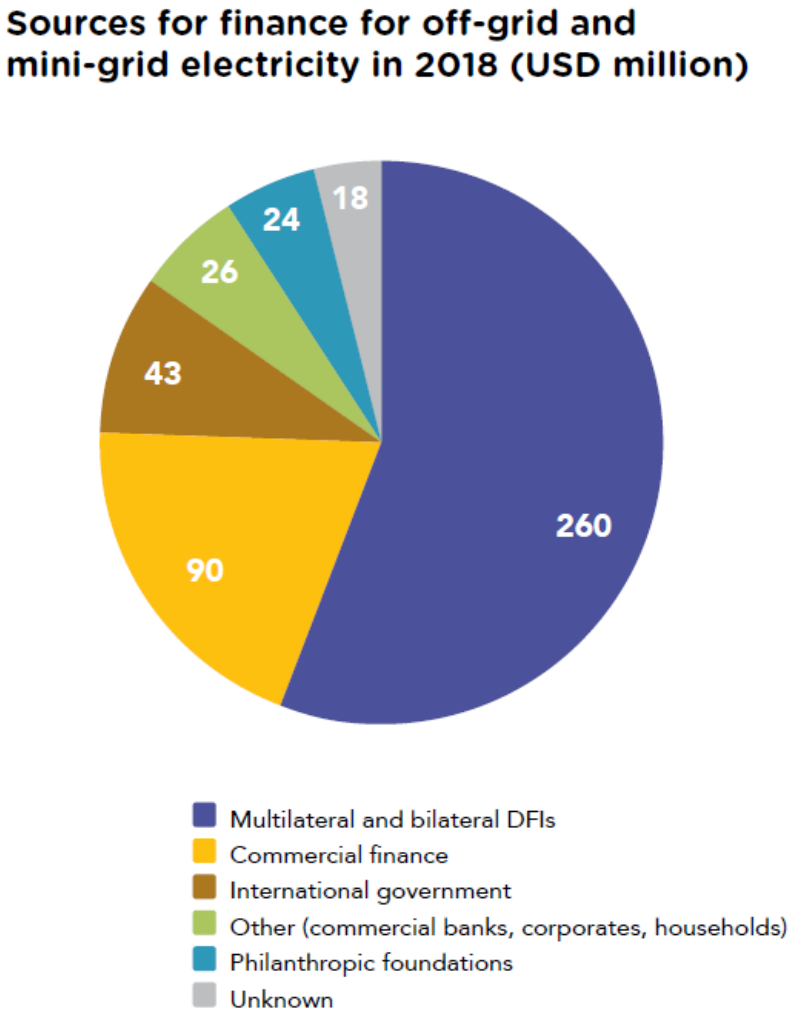



- Only one third of finance commitments, or **USD 16.1 billion**, were for residential access
- Six Sub-Saharan African countries with the highest access deficits received low levels of finance commitments
- Seven countries received less than USD 100 million towards electricity access

Source: *Energizing Finance: Understanding the Landscape 2020.*

# International finance from public and private sources represented about 48% of all finance tracked in 2018




Source: *Energizing Finance: Understanding the Landscape 2020.*

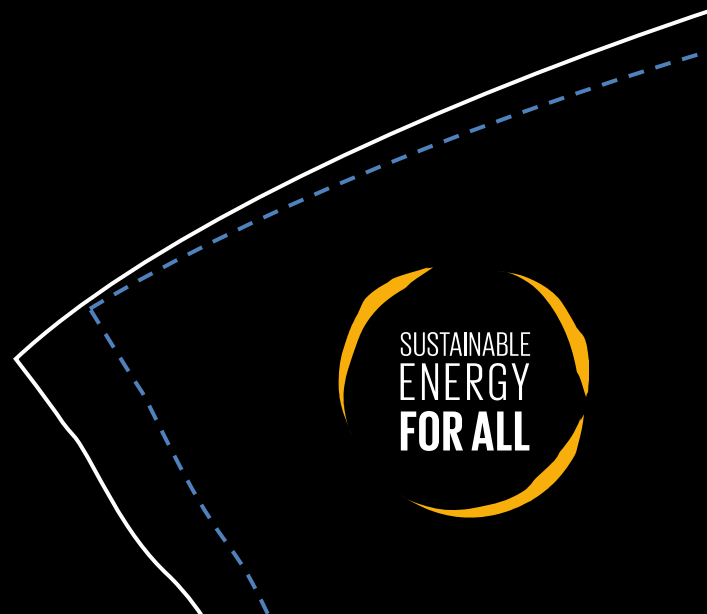
Executive Summary

SDG 7.1.1: Electricity Access

**SDG 7.1.2: Clean Cooking Access**

SDG 7.2: Share of Renewable Energy

SDG 7.3: Energy Efficiency



SUMMARY

# SDG 7.1.2 Clean Cooking Access

## There are currently 2.6 billion people without access to clean fuels and technologies for cooking – 61% of them in Asia and 36% in Africa

- 80% of the people without access live in just 20 countries – 10 of them in Asia and10 in Africa
  - The situation is dire in the African countries as only 3 of the 10 countries (Ghana, Kenya and Nigeria) that are part of the top 80% have access rates over 10%
  - The Asian countries in the top 20 mostly have higher access rates than their African counterparts, however, there is still significant room for improvement

## Looking back, we see that the number of people without access has been stagnant with only a slight improvement from 3.0 billion in 2010 to 2.6 billion in 2019

- Moderate improvements have been made in Asia with the number declining from 2.1 billion to 1.5 billion people without access
- However, the number of people without access in Africa has increased from ~760 million to ~917 million people

## Looking forward, based on current trends, we are not on track to achieve SDG 7.1.2 by 2030

- Projections show that we are not on track to achieve universal access to clean fuels and technologies for cooking by 2030 with between 2.3 and 2.6 billion people expected to remain without access based on current trends
- To address this, international organizations/NGOs/the private sector should prioritize working with countries that have large populations without access that have not made significant progress in reducing them over the past few years such as Bangladesh, China, Ethiopia, India, Nigeria and Pakistan
- Much stronger public finance is needed, along with financial/fiscal incentives and strong political will to remove barriers and create the enabling environment for faster and larger-scale clean cooking rollouts

# Methodology

## Data Source

- The following data were gathered from the World Bank/ESMAP's Tracking SDG 7 database (download link) with data available for 2000, 2010, 2015 and 2019
  - Number of people without access to clean fuels and technologies for cooking per country
  - Total access rate to clean cooking per country

## Projections

- Interpolation calculations were made via the following process
  - The rate of change of the number of people without access to clean cooking (Compound Annual Growth Rate, (CAGR)) between 2010 and 2015 and between 2015 and 2019 was calculated for each individual country
  - Each country's number of people without access to clean cooking in 2010 was projected forward for each year between 2010 and 2015 using the 2010–2015 calculated CAGR as the growth rate, and the same method was used for between 2015 and 2019 using the 2015–2019 CAGR and the number of people without access to clean cooking in 2019
  - The projected data were then summed up according to each country's regional classification
- Straight line extrapolation projections were made via the following process
  - The average change made between 2015 and 2019 was calculated for each individual country
  - Each country's 2019 population without access to clean cooking was projected forwards by eleven years to 2030 by adding the calculated average change to the 2019 population 11 times
  - 0 was set as a minimum to prevent the unconnected population from being negative
  - The projected data were then summed up according to each country's regional classification
- IEA Stated Policies Scenario 2020 was taken from the IEA's World Energy Outlook 2020 report

# Definition of clean cooking access

## Clean cooking access is defined as a household using clean fuels or improved technologies for cooking as defined by WHO[1]

### Clean fuels for cooking


Clean fuels recommended by WHO[1] are

- LPG
- Ethanol
- Biogas
- Solar cookers
- Electricity

### Improved technologies for cooking

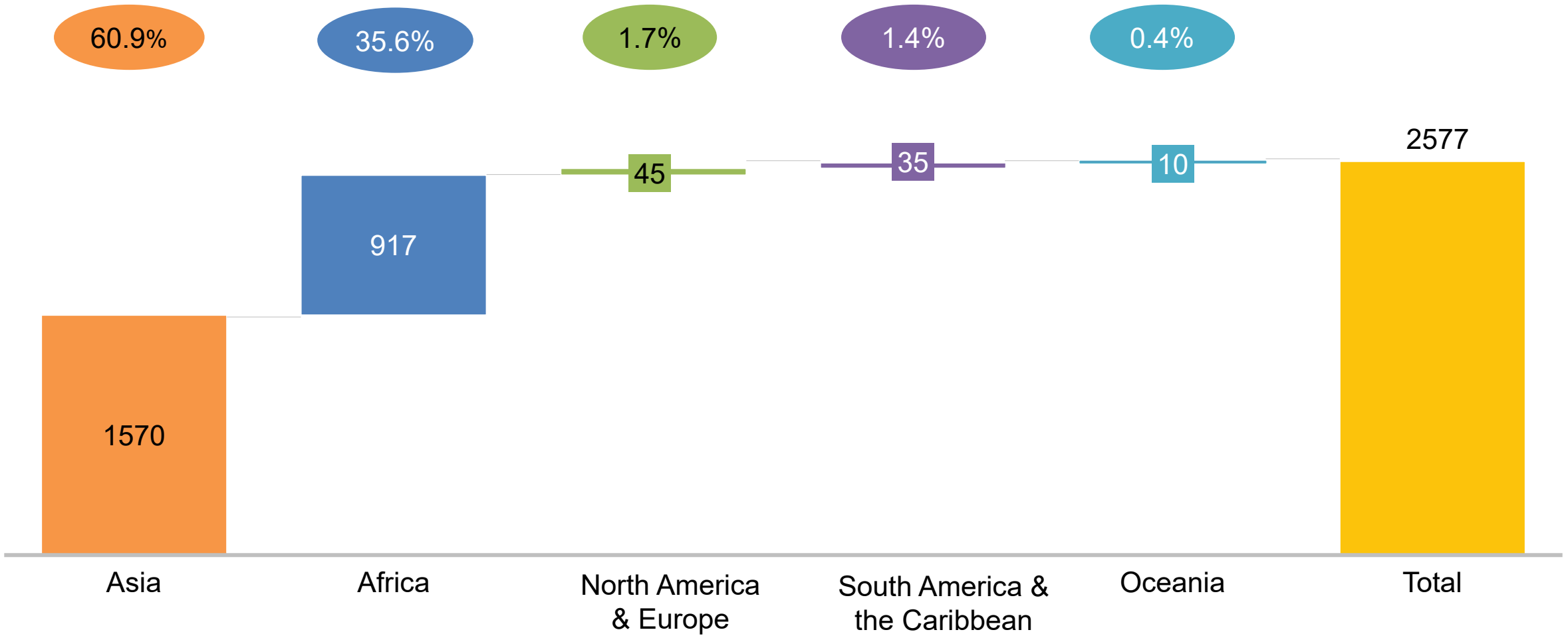
Emissions rates for improved technologies are defined by WHO[1] and should be less than

- 0.23mg/min (unvented) and 0.8mg/min (vented) of $PM_{2.5}$[2]
- 0.16g/min (unvented) and 0.59g.min (vented) of CO

1 In the Normative Guidance World Health Organization guidelines for indoor air quality: household fuel combustion.
2 Atmospheric Particulate Matter with diameter less than 2.5 micrometers.
Source: Beyond Connections: Energy Access Redefined, ESMAP 2015; WHO Guidelines for Indoor Air Quality 2014

# There are ~2.6 billion people in the world without access to clean fuels and technologies for cooking

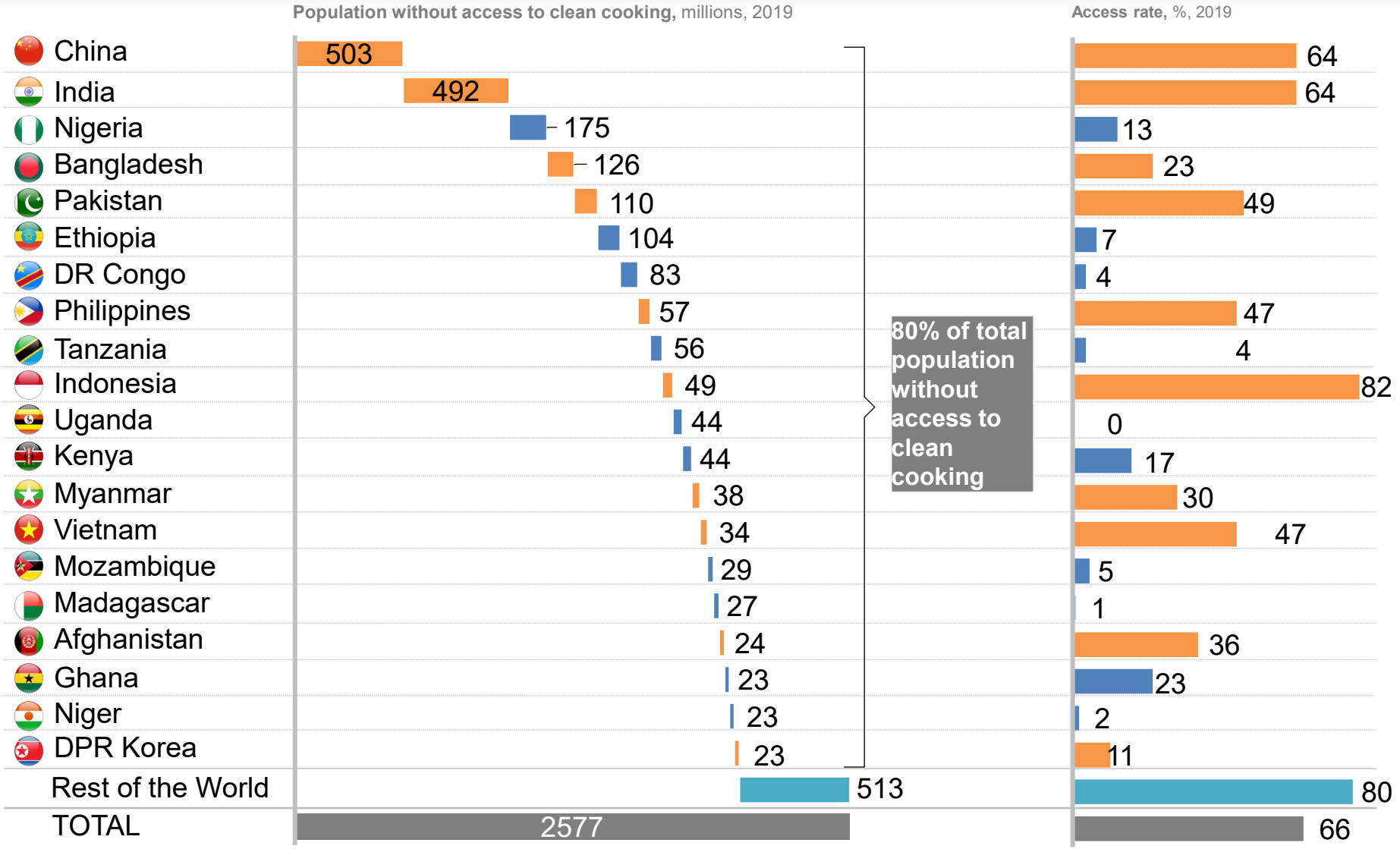
## Population without access to clean fuels and technologies for cooking[1], millions, 2019




1 Clean cooking access is defined as a household using clean fuels or improved technologies for cooking as defined by WHO.
Data Source: World Bank/ESMAP Tracking SDG 7 Database 2021.

SDG 7.1.2: Clean Cooking Access

# 20 countries make up 80% of the access to clean cooking challenge

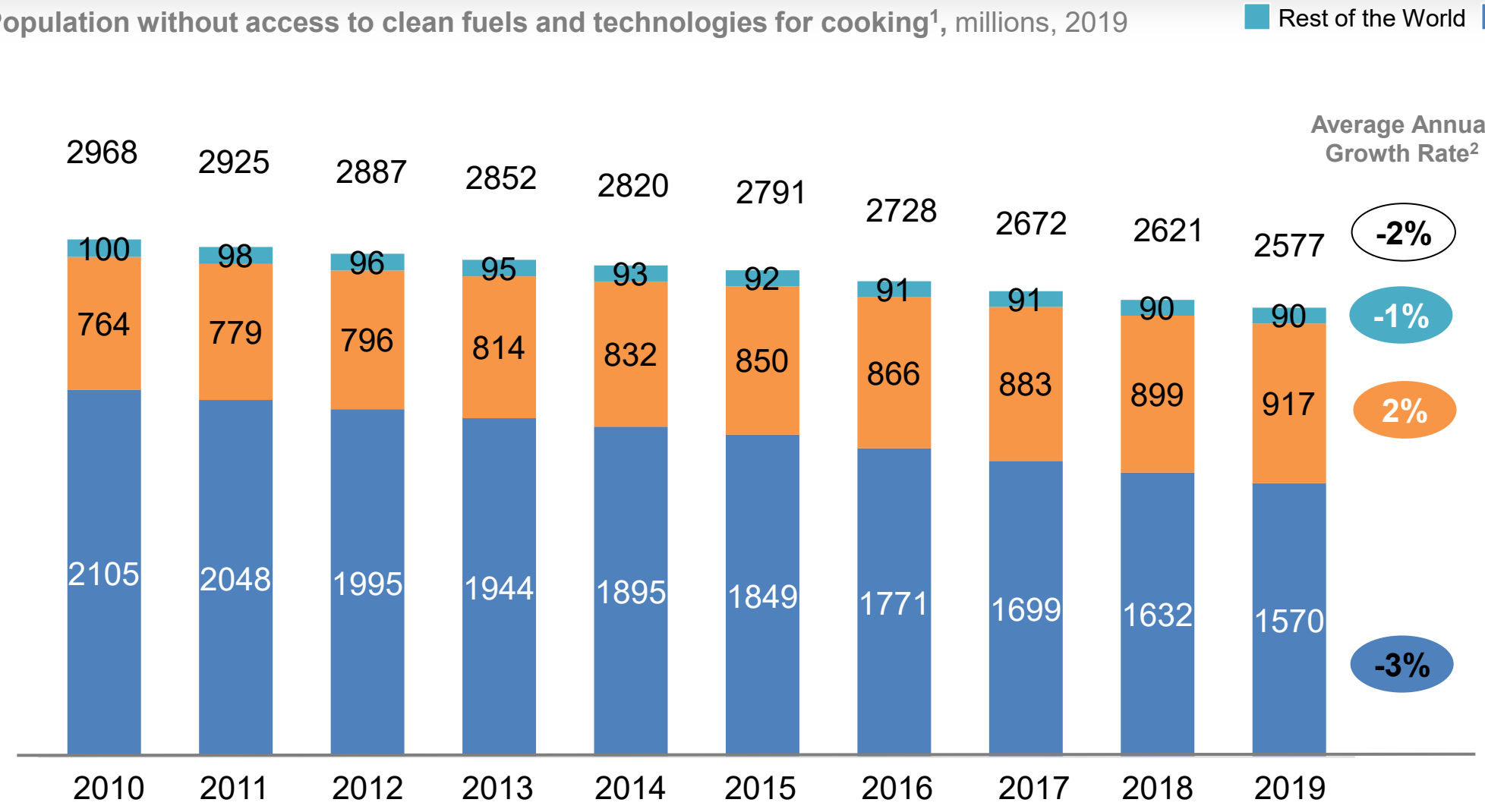



- 20 countries account for 80% of the clean cooking challenge; 10. of them in Asia and 10 in Africa
  - The situation is dire in the African countries as only 3 of the 10 countries that are part of the top 80% have access rates over 10%
  - The Asian countries in the top 20 mostly have higher access rates than their African counterparts, however, there is still significant room for improvement

Data Source: World Bank/ESMAP Tracking SDG 7 Database, 2021.

# The number of people without access to clean fuels and technologies for cooking declined slightly from 3.0 billion in 2010 to 2.6 billion in 2019

**Population without access to clean fuels and technologies for cooking[1],** millions, 2019




- **Access to clean fuels & technologies for cooking has been stagnant** over the past few years
- While **Asia has made some gains**, the number of people **without access in Africa has increased**

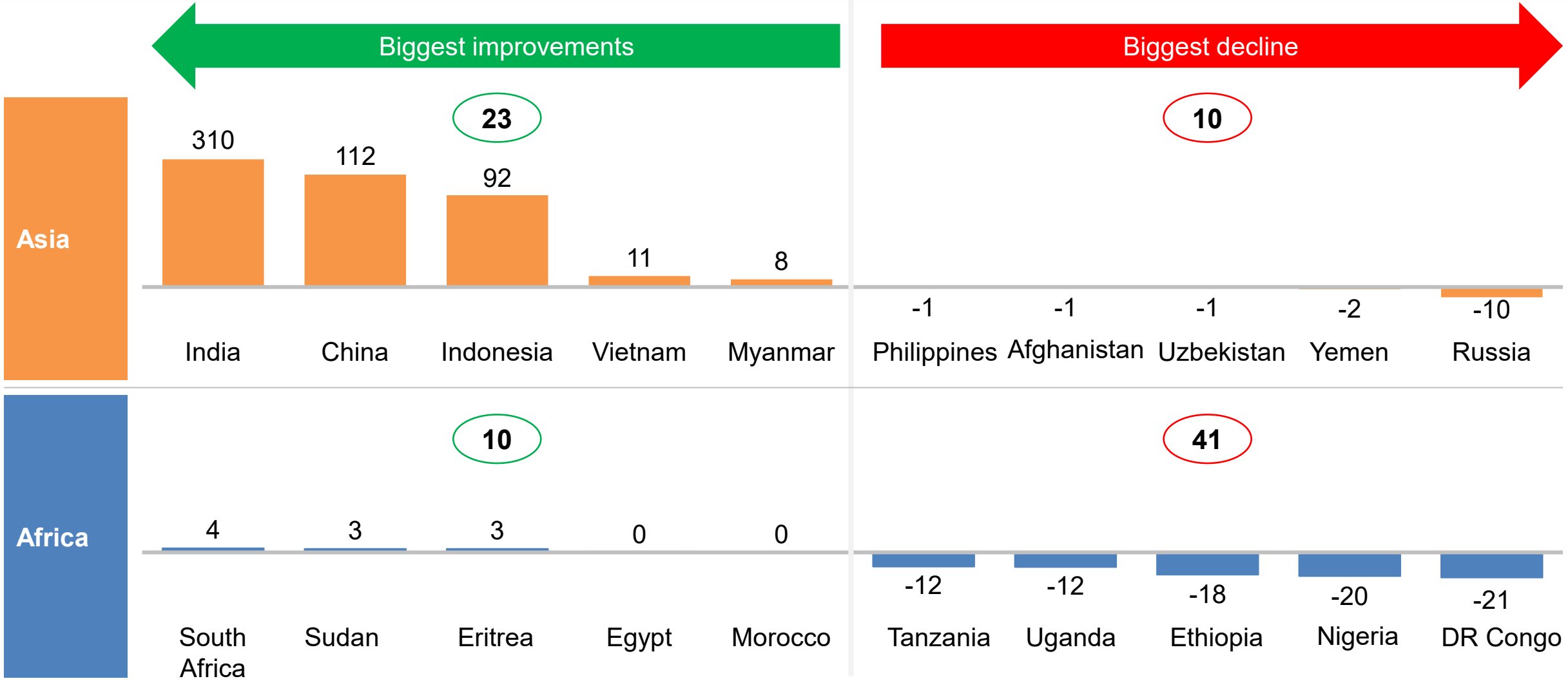
Note: The World Bank/ESMAP historical data up to 2018 were also updated with the 2021 dataset. This has created several inconsistencies with the analysis of the previous year.
1 Data unavailable for 2011 to 2014 and from 2016 to 2018 and so were interpolated. 2 Compound annual growth rate: The average annual growth rate.
Data Source: World Bank/ESMAP Tracking SDG 7 Database 2021

# Most Asian and African countries suffered declines in population without access to clean cooking between 2010 and 2019

x Number of countries with improvements

x Number of countries with decline

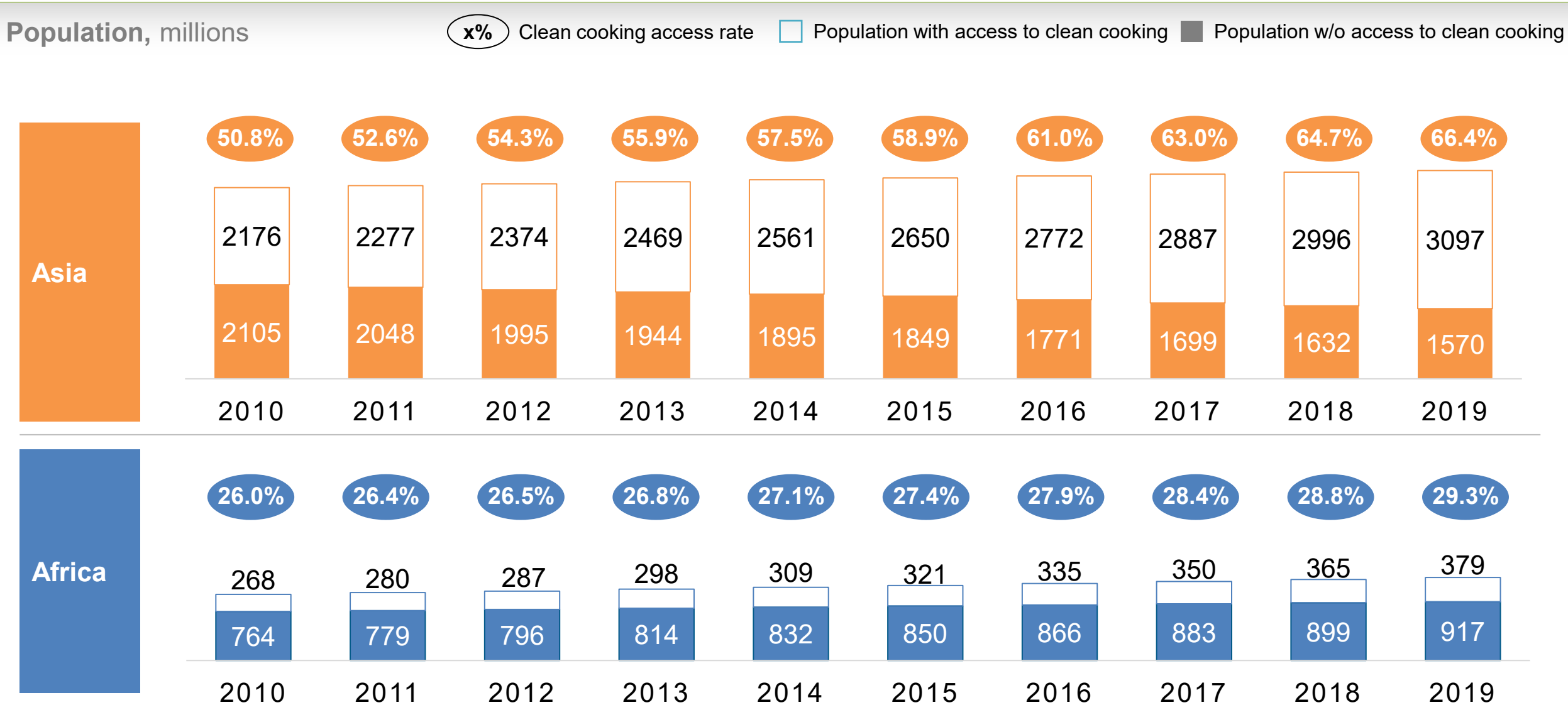
## Reduction in population without access to clean cooking between 2010 and 2019, millions




Note: These figures represent the absolute change in the number of people without access to clean cooking solutions between 2010 and 2018 and do not account for changes in the population due to birth rates, human migration etc.

Data Source: World Bank/ESMAP Tracking SDG 7 Database 2021.

# Population growth in Africa has outmatched gains in the population with access to clean cooking more than in Asia



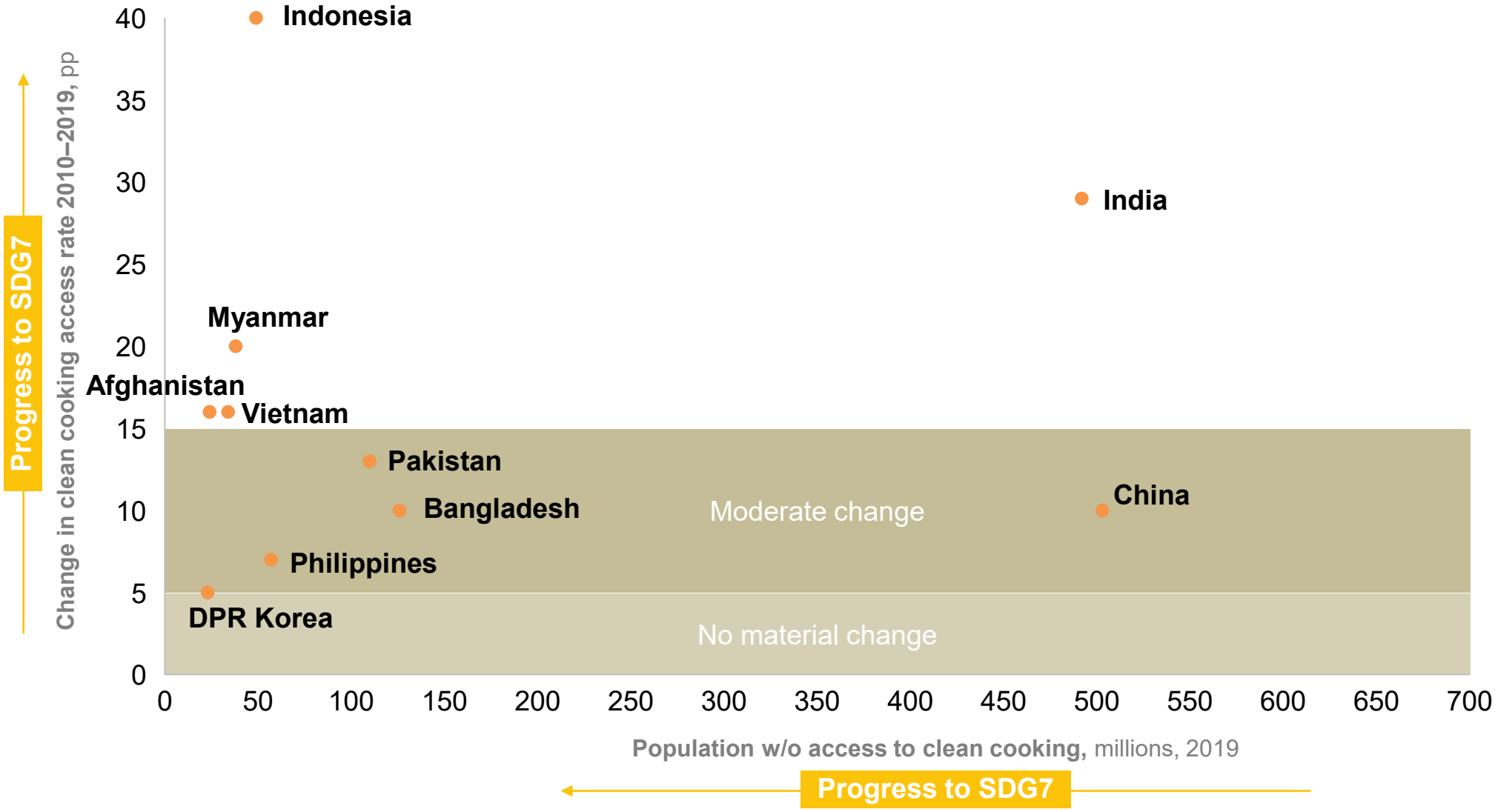

Note: The World Bank/ESMAP historical data up to 2018 were also updated with the 2021 dataset. This has created several inconsistencies with the analysis of the previous year.

Data Source: World Bank/ESMAP Tracking SDG 7 Database 2021.

SDG 7.1.2: Clean Cooking Access

# Deep dive on Asia

## Population without access to clean cooking vs change in clean cooking access rates (Asian countries), 2019




In top 20 countries

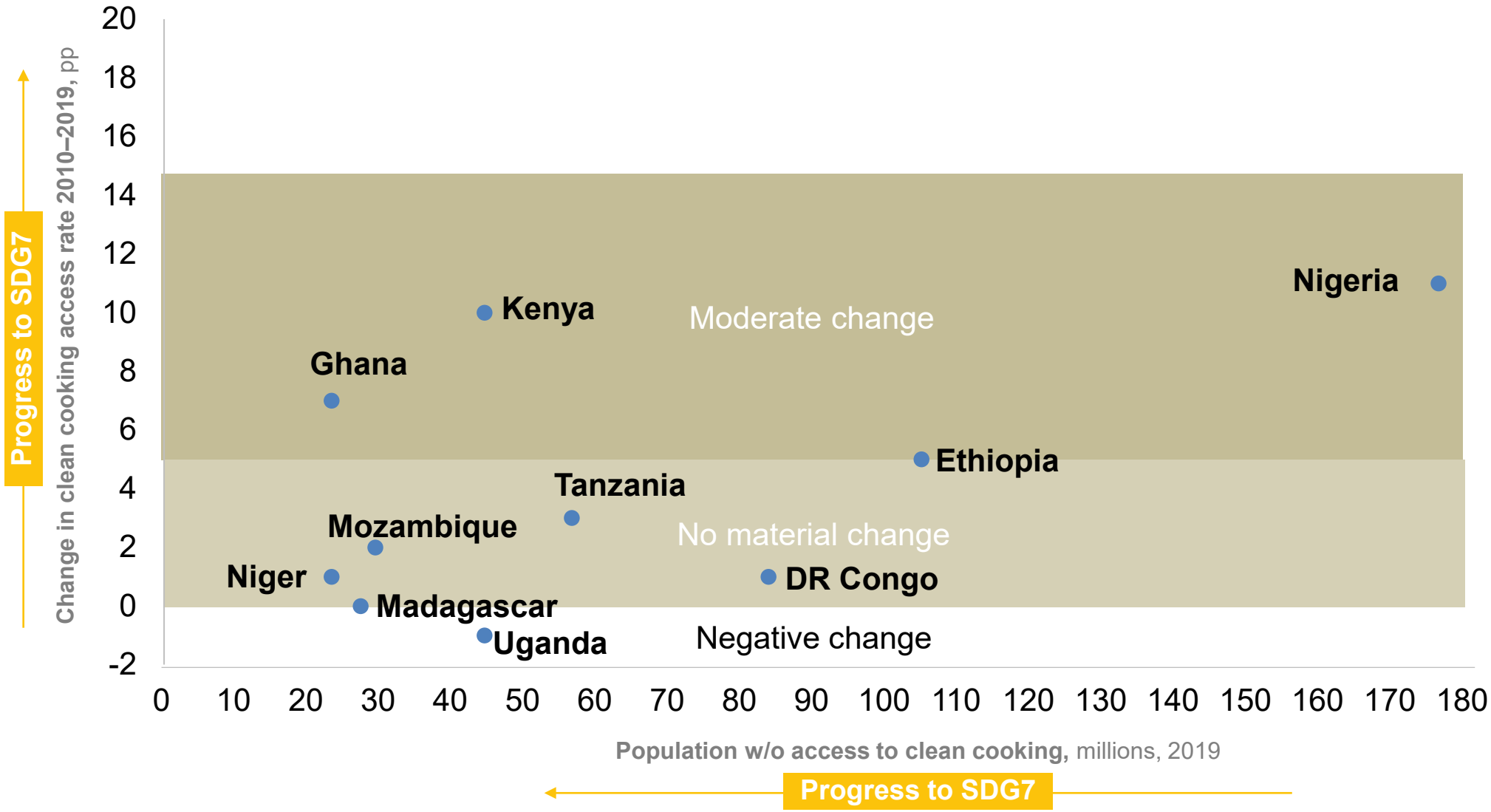
- Five Asian countries significantly improved their clean cooking access rates (>15p.p.) between 2010 and 2019; **Indonesia, India, Myanmar, Afghanistan and Vietnam**
- Four countries still have significant populations (>100 million) without access to clean cooking; **China, India, Bangladesh and Pakistan**

Data Source: World Bank/ESMAP Tracking SDG 7 Database 2021.

SDG 7.1.2: Clean Cooking Access

# Deep dive on Africa

## Population without access to clean cooking vs change in clean cooking access rates (African countries), 2019



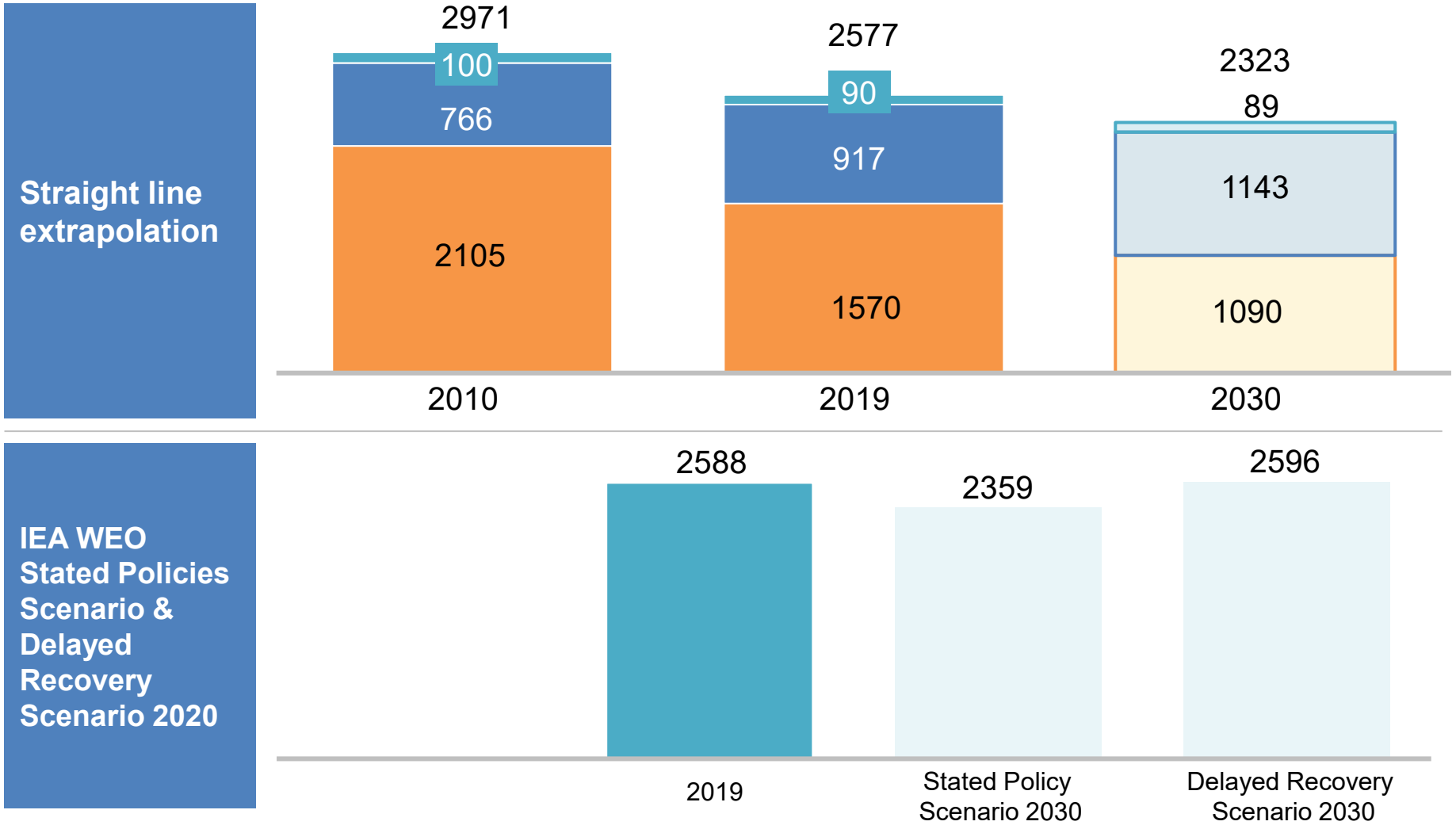

In top 20 countries

- No top 20 African countries significantly improved their clean cooking access rate (>15p.p.) between 2010 and 2019
- One country recorded a negative access rate change: **Uganda**
- Two others still have significant populations (>100 million) without access to clean cooking; **Nigeria and Ethiopia**

Data Source: World Bank/ESMAP Tracking SDG 7 Database 2021

# Projections show that we are not on track to achieve universal access to clean cooking by 2030

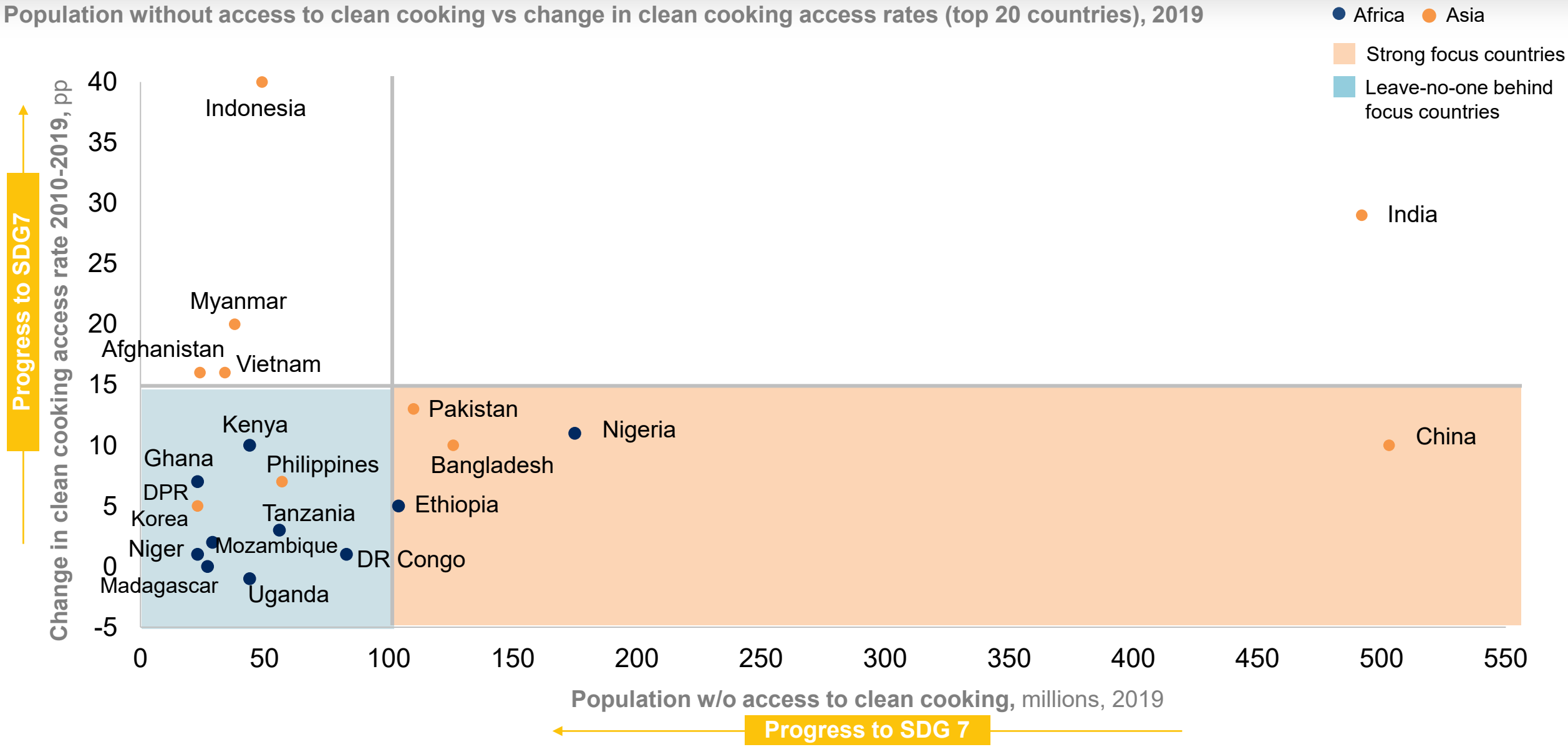
**Number of people without access to clean cooking,** millions, 2019




- We are **not on track to achieve universal access to clean fuels and technologies for cooking** at the current pace
  - It is expected that the population without access to clean cooking in Asia will decrease by 2030
  - However, Africa is expected to increase its population without access to clean cooking
  - **The magnitude of the challenge will remain large** and should be a priority going forward

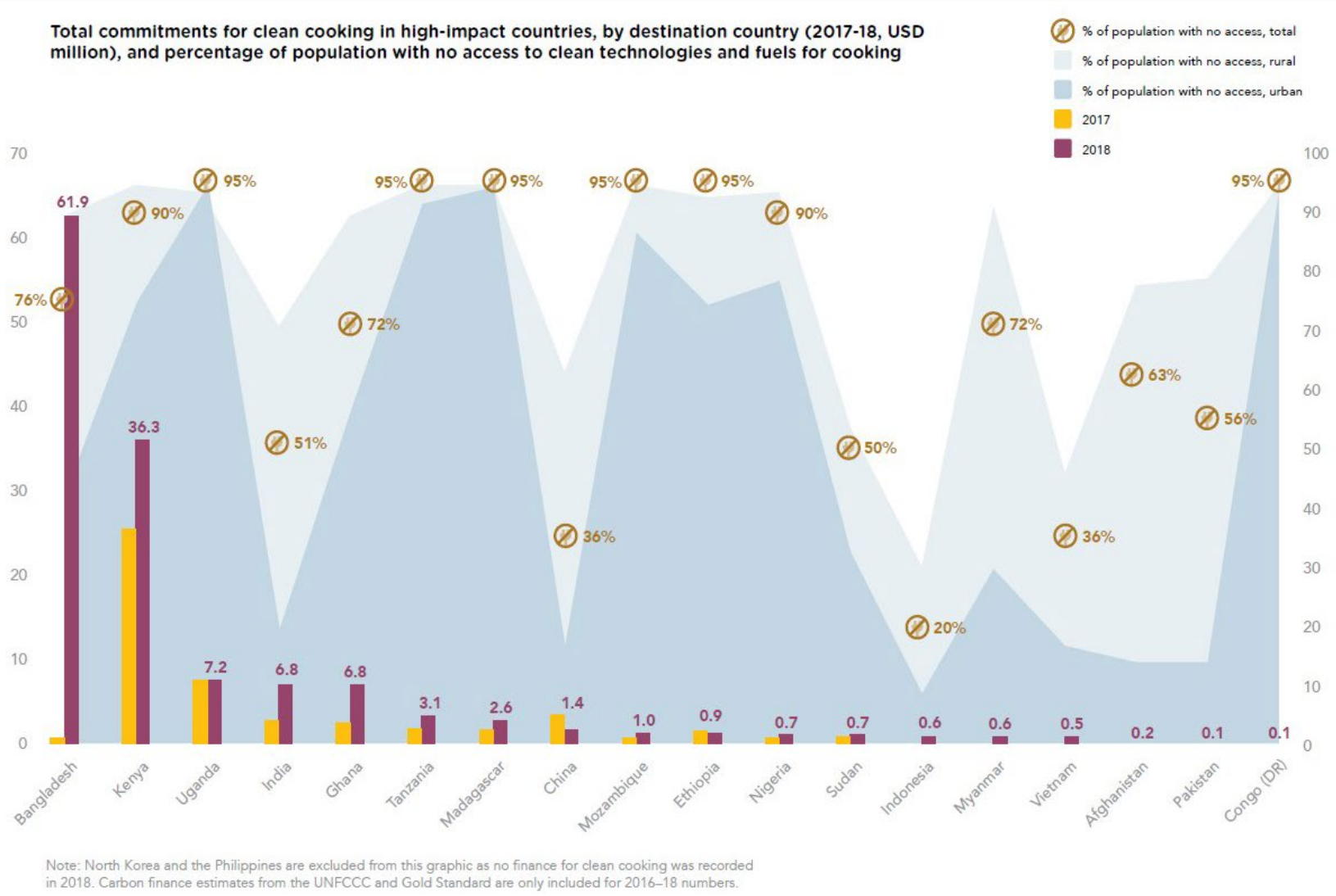
Note: The World Bank/ESMAP historical data up to 2018 were also updated with the 2021 dataset. This has created several inconsistencies with the analysis of the previous year.
Data Source: World Bank/ESMAP Tracking SDG 7 Database 2021; IEA World Energy Outlook 2020.

# Organizations should focus on countries with large populations without access to clean cooking and slow progress in the next few years, while accelerating slow progress regardless of population

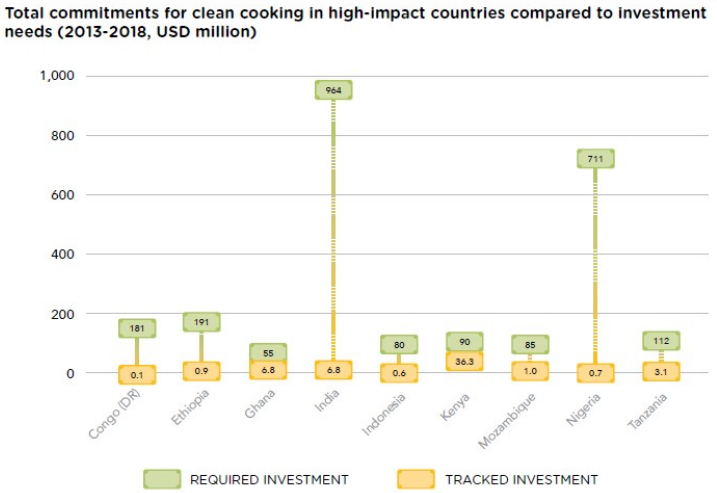



Data Source: World Bank/ ESMAP Tracking SDG 7

# USD 131.5 million committed in 2018 for access to clean cooking in 20 high-impact countries. However, the investment need amounts to USD 5 billion




Note: North Korea and the Philippines are excluded from this graphic as no finance for clean cooking was recorded in 2018. Carbon finance estimates from the UNFCCC and Gold Standard are only included for 2016–18 numbers.

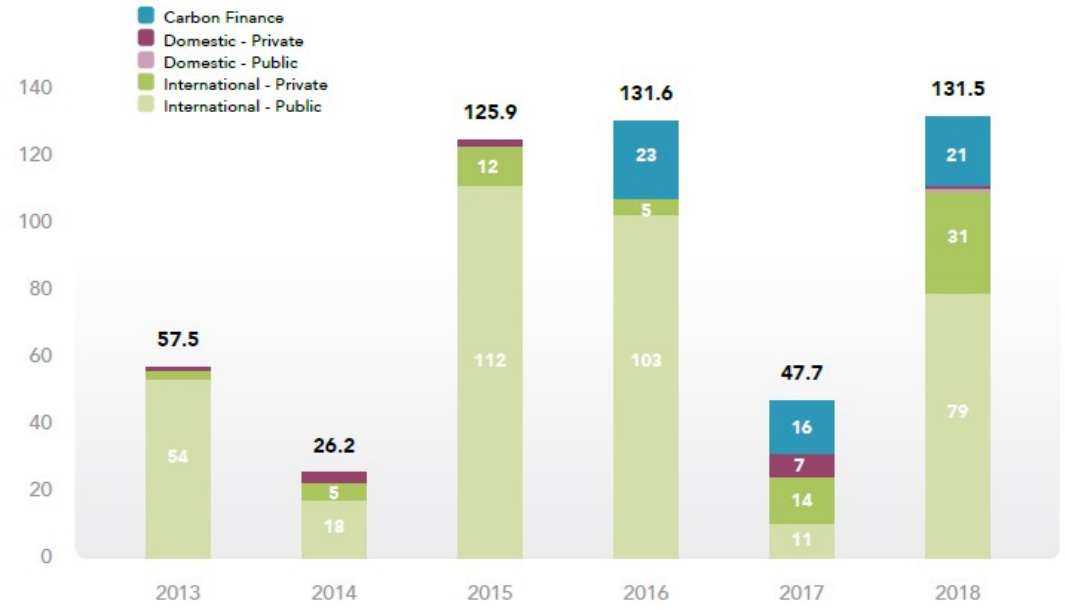



- The investment commitment of 2018 falls critically short of the required levels of investment and is far below the USD 4.5 billion required each year through 2030 to close clean cooking access gaps in Sub-Saharan Africa (SSA) and South and Southeast Asia
- HICs in SSA attracted finance at levels dramatically below those needed to achieve universal access by 2030
- 18 of the 20 HICs that are home to over 2.2 billion people without access to clean cooking solutions attracted only 25 percent of the total investment tracked
- Distribution of finance commitments is highly concentrated in a few countries. Bangladesh and Kenya attracted 75 percent of the total finance tracked in 2018 with USD 62 million and USD 36 million respectively.

Source: Energizing Finance: Understanding the Landscape 2020.

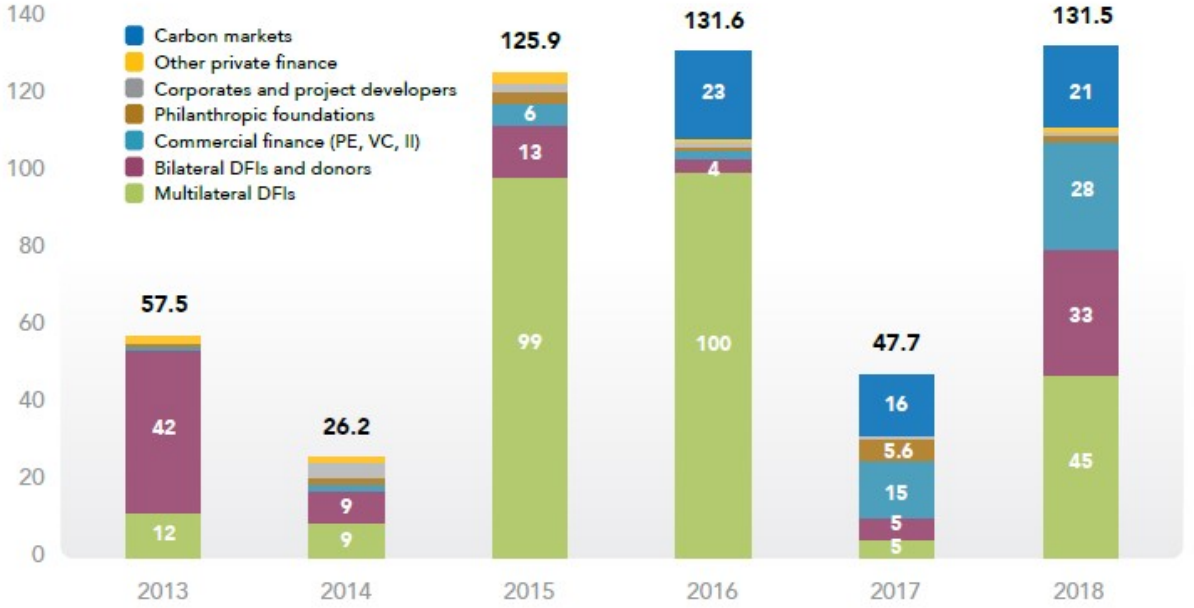
# Marked increase in international public finance for clean cooking in 2018, after significant decline in 2017. But the total only reached the similar, but lower level of 2016.

**Total commitments for clean cooking in high-impact countries, by source (2013-18, USD million)**




Note: Carbon finance estimates from the UNFCCC and Gold Standard are only included for 2016-18 numbers and were categorized separately from the private/public and domestic/international classifications.

**Total commitments for clean cooking in the high-impact countries, by provider (2013-18, USD million)**




**Note:** Domestic government contributions are excluded from this graphic as the level of investment tracked was lower than USD 1 million each year (see Appendix I). Bilateral DFIs and donors includes bilateral DFIs and international donor governments; Commercial finance includes institutional investors, impact investors, venture capital and private equity; Other private finance includes commercial banks (including MFIs), angel investors and entrepreneurs.

- Bilateral DFIs and donors increased their clean cooking support from an annual average of USD 7 million during 2015–17 to USD 33 million in 2018.
- Private finance commitments increased 48 percent to USD 32 million in 2018, from USD 21 million in 2017.
- The critical state of investment in clean cooking rests on the shoulders of a few large projects from a small number of funding institutions, channeled to a handful of countries.

Source: Energizing Finance: Understanding the Landscape 2020.

Executive Summary

SDG 7.1.1: Electricity Access

SDG 7.1.2: Clean Cooking Access

**SDG 7.2: Share of Renewable Energy**

SDG 7.3: Energy Efficiency

SUSTAINABLE ENERGY FOR ALL

SUMMARY

# SDG 7.2 Share of Renewable Energy

**The current share of renewables, including the use of traditional biomass, in total energy consumption is 17.1%, while the current share of *modern* renewables in total energy consumption is only 10.7%**

- Africa has the highest share of renewables in its total final energy consumption (TFEC) overall at 53.6%, but this only includes 7.8% of modern renewables.
- North America and Europe have the smallest share of renewables in their TFEC at 12.7% but all of these are from modern renewables

**Looking back, we see that the share of *modern* renewables in the energy mix has only increased slightly from 8.7% in 2010 to 10.7% in 2019**

- The share of all renewables, including traditional biomass, also only increased from 16.4% in 2010 to 17.1% in 2017

**Looking forward, based on current trends, more needs be done to achieve a substantial increase in the share of renewables, in particular modern renewables, in the energy mix by 2030**

- Projections show that the share of renewables in the energy mix will increase to between 18% and 22% by 2030
- To ensure we get on track, we should increase both renewable electricity consumption and direct renewable usage in the transport, industry and building sectors until the unelectrified populations are connected with clean and modern renewable energy
- Modern renewables need to be expanded much more quickly to reach SDG 7.2 and reduce the negative impacts of traditional biomass

Renewables defined here and in the SDG 7 Tracking Report include traditional use of biomass.
Modern energy includes solar PV, solar thermal, geothermal, wind, hydropower and modern biofuel.

# Methodology

**Data Source**

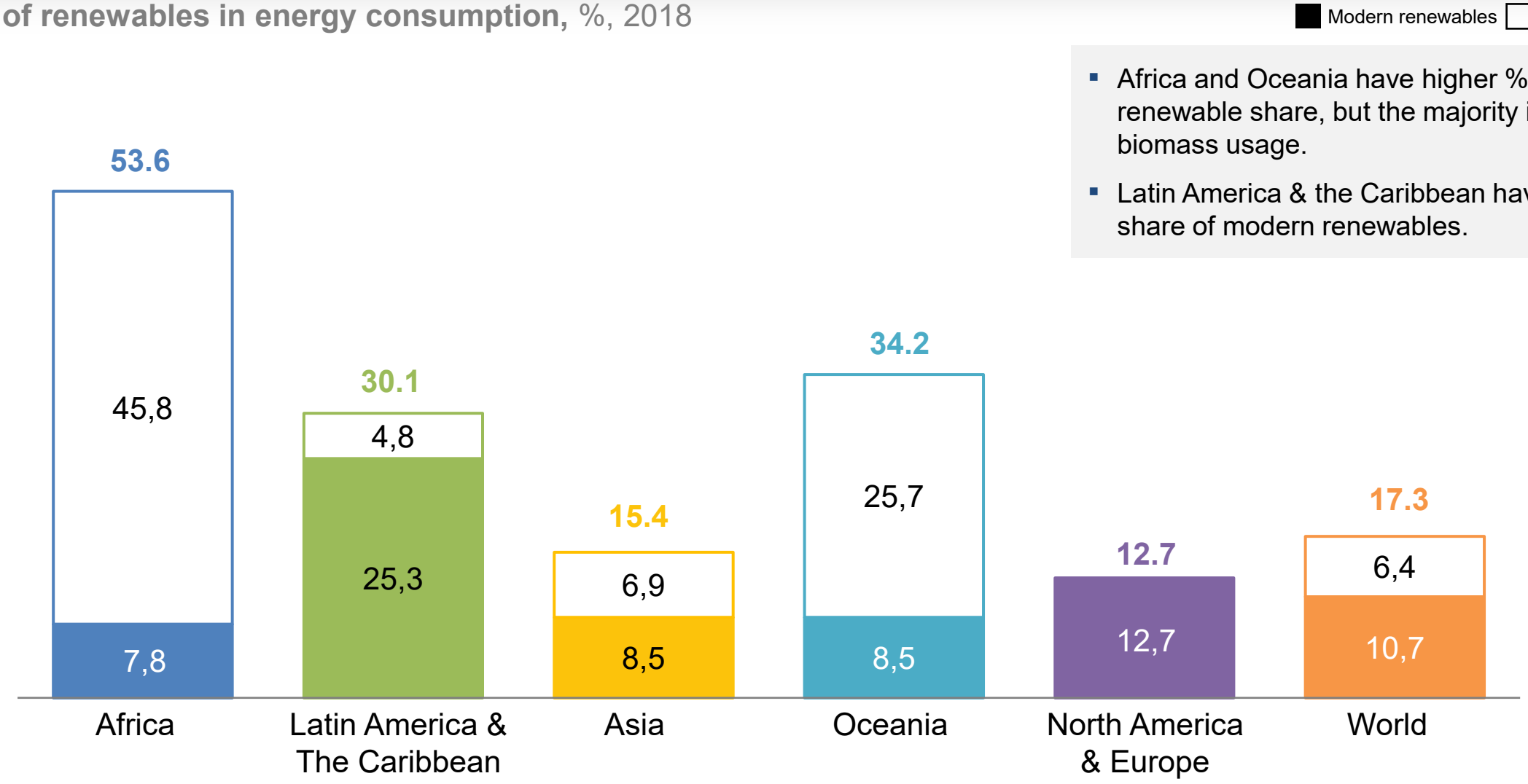
- The following data were gathered from the World Bank/ESMAP's Tracking SDG 7 database (download link) with data available between 2000 and 2018
  - The total share of renewables in the energy mix in the world between 2010 and 2018
  - The total share of renewables in the energy mix per country and per region between 2010 and 2018
  - The share of modern renewables in the energy mix per country and per region between 2010 and 2018
  - The total energy consumption per country in 2010 and 2018

**Projections**

- Straight line extrapolation projections were made via the following process
  - The rate of change of the share of renewables in final energy consumption (Compound Annual Growth Rate, (CAGR)) between 2010 and 2018 was calculated at a global level
  - The share of renewables in energy mix was projected forward to 2030 (by 12 years) using the calculated CAGR as the growth rate
- IEA Stated Policies Scenario 2020 was taken from the IEA's World Energy Outlook 2020 report

# Today, the share of renewables in the energy consumption is 17.1%, 10.7% of which is modern renewables

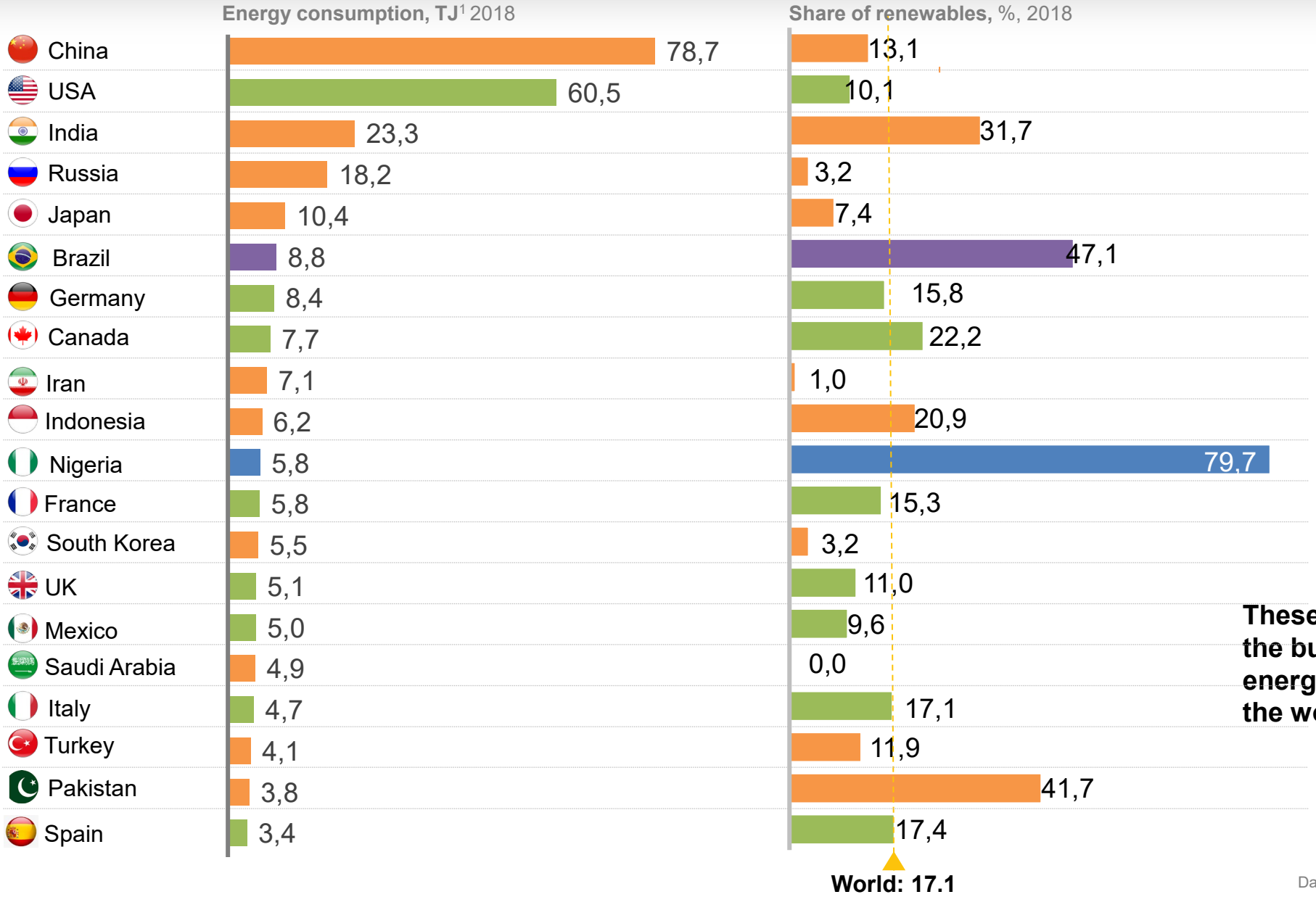
## Share of renewables in energy consumption, %, 2018




- Africa and Oceania have higher % of renewable share, but the majority is traditional biomass usage.
- Latin America & the Caribbean have high share of modern renewables.

Note: "Traditional uses of biomass" refers to the residential consumption of primary solid biofuels and charcoal in non-OECD countries.
Data Source: World Bank/ESMAP Tracking SDG 7 Database, 2021.

# Only 16% of energy consumption of the top 20 energy consuming countries is from renewables




Africa
Asia
Oceania
North America & Europe
Latin America & The Caribbean

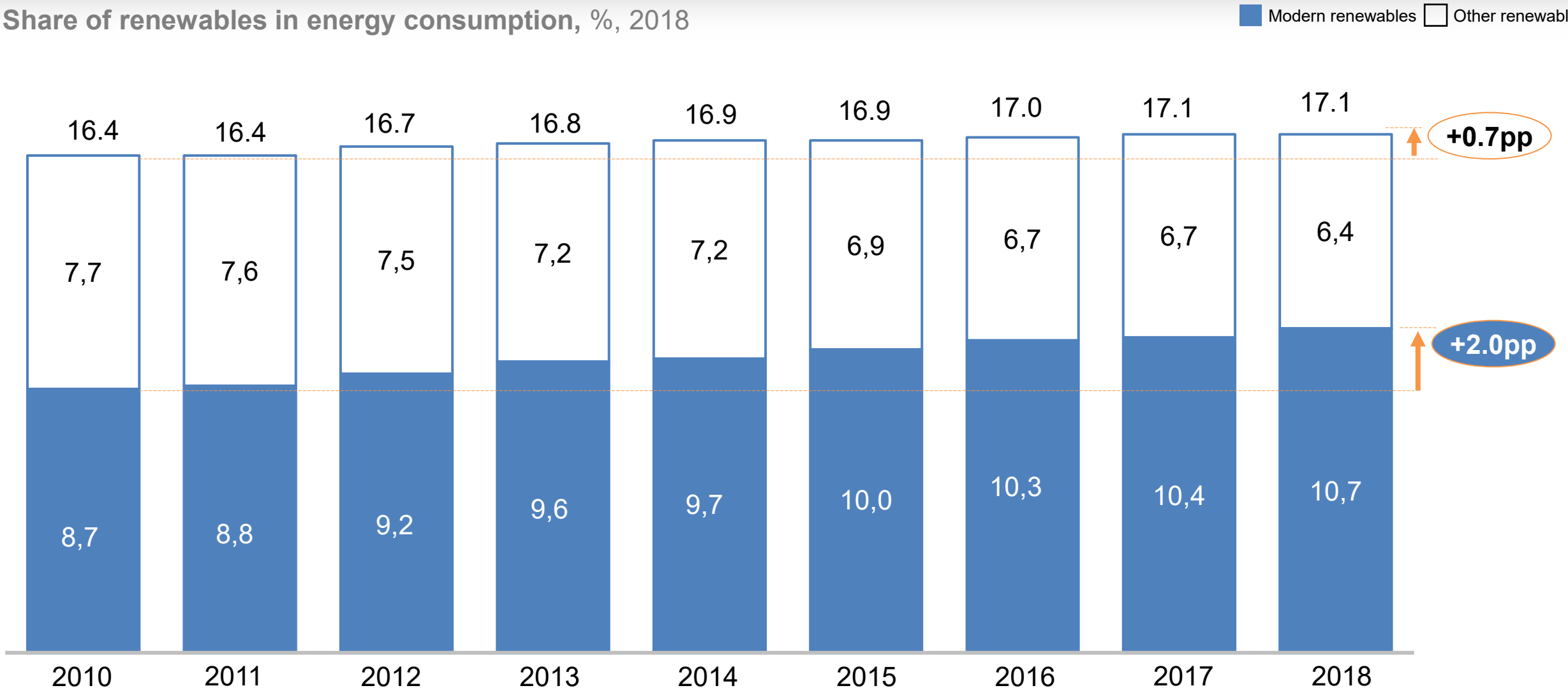
- Only 7 countries out of the top 20 energy consuming countries have higher share of renewables in their energy TFEC than the world average
- Total 43.8TJ of 276.7TJ TFEC of top 20 countries come from renewables

**These 20 countries form the bulk (approx. 75%) of energy consumption in the world**

Data Source: World Bank/ESMAP Tracking SDG 7 Database 2021.

# There has been a ~0.7 pp improvement in the share of renewables of total energy consumed since 2010 and a 2.0 pp improvement in the share of modern renewables since 2010

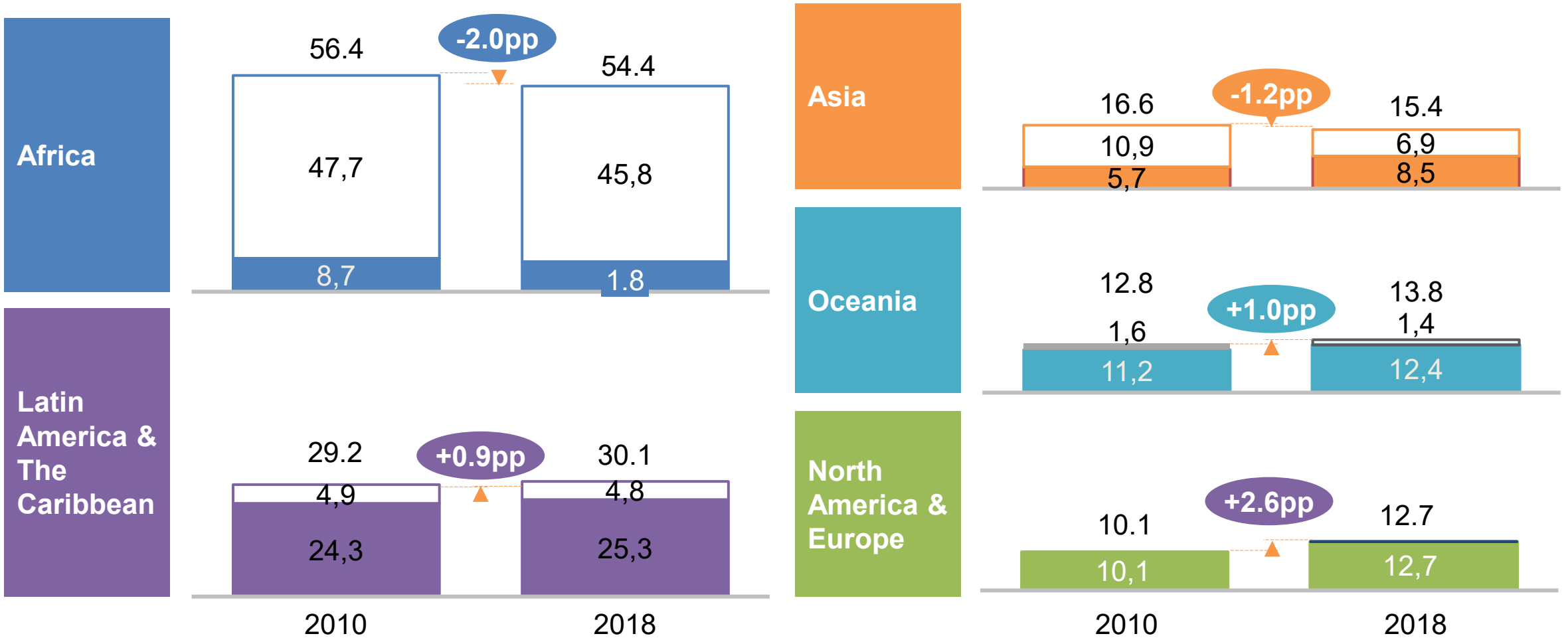
## Share of renewables in energy consumption, %, 2018




Note:
"traditional uses of biomass" refers to the residential consumption of primary solid biofuels and charcoal in non-OECD countries.
The World Bank/ESMAP historical data up to 2017 were also updated with the 2021 dataset. This has created several inconsistencies with the analysis in the previous year.
Data Source: World Bank/ESMAP Tracking SDG 7 Database 2020 and Tracking SDG 7 Report 2020.

# While North America and Europe lead the improvements, other regions show VERY slow progress or declines

## Share of renewables in energy consumption, %, 2010, 2018

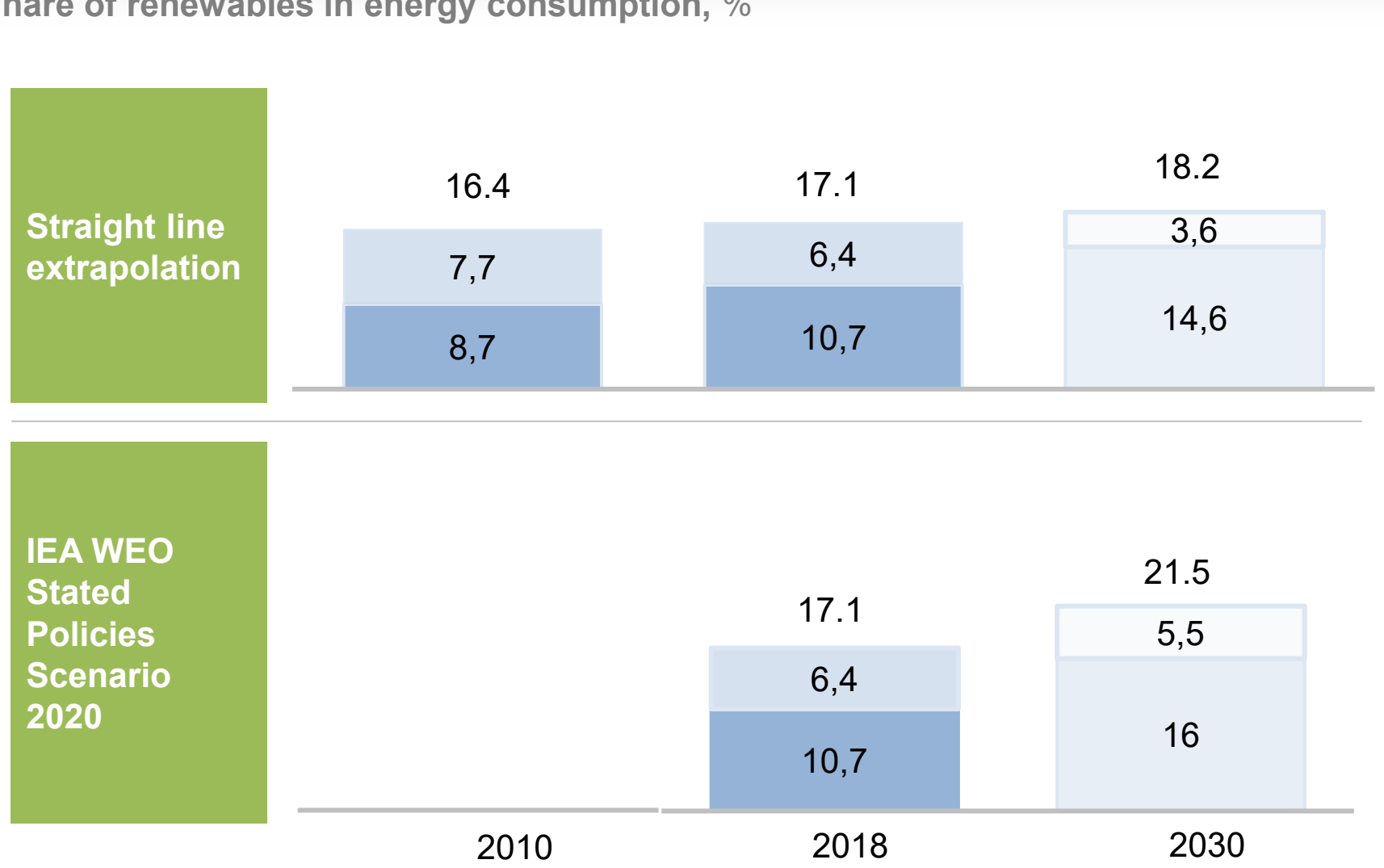



Note: The World Bank/ESMAP historical data up to 2018 were also updated with the 2021 dataset. This has created several inconsistencies with the analysis in the previous year.

Data Source: World Bank/ESMAP Tracking SDG 7 Database 2021.

# Projections show that we could see moderate gains to 2030

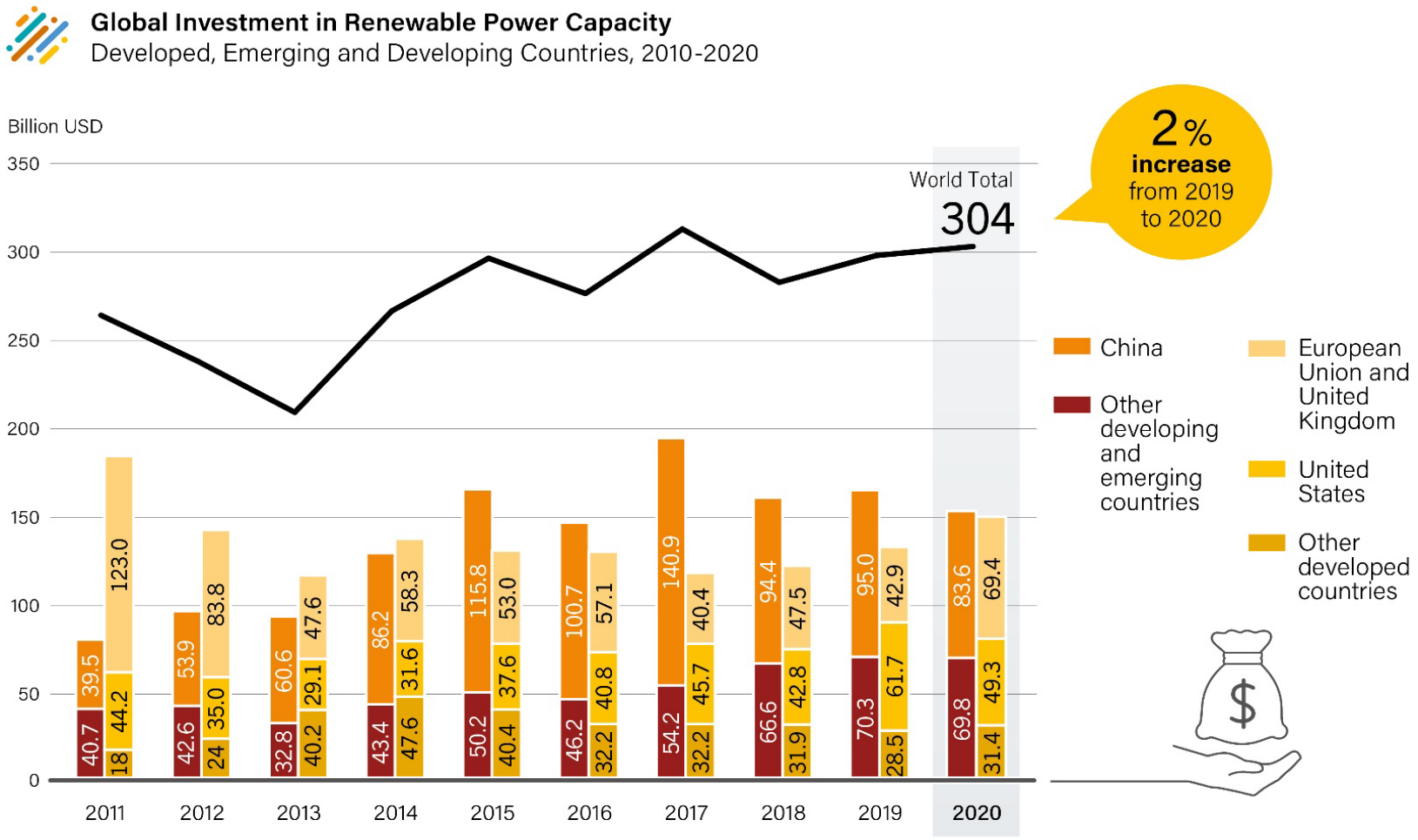
## Share of renewables in energy consumption, %




- There is no quantitative target for SDG 7.2.
- Progress has been made towards improved share in renewables in energy consumption between 2010 and 2018 as **renewables have become more economically competitive, in particular, in the electricity sector.**
- To ensure progress is sustained and increased, most of the **unconnected population needs to be connected to electricity via clean renewable energy,** and **both direct renewable and renewable electricity use in the industry, building and transport sectors should be expanded.**

Note: The World Bank/ESMAP historical data up to 2018 were also updated with the 2021 dataset. This has created several inconsistencies with the analysis of the previous year.
Source: World Bank/ESMAP Tracking SDG 7 Database 2021, IEA World Energy Outlook 2020; Tracking SDG7 2021 report.

# Global investment in renewable power and fuels reached USD 298.4 billion in 2018 and surpassed USD 300 billion in 2020.



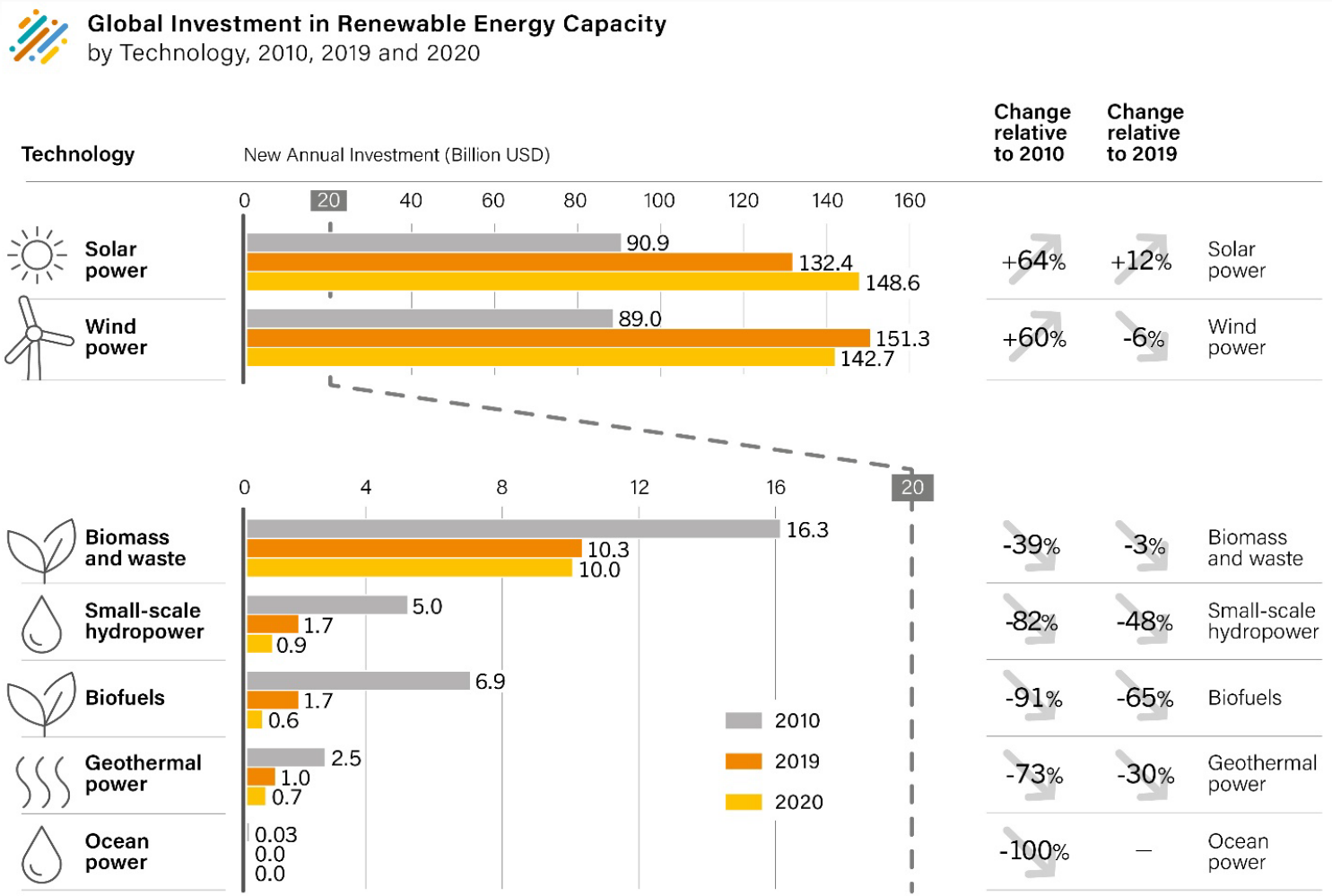

Note: Figure includes utility-scale renewable energy and small-scale solar projects and excludes large hydropower projects of more than 50 MW.

Source: BloombergNEF.

- 2019 was the seventh and 2020 was the eighth successive year in which investment in renewables exceeded USD 250 billion.
- Investments in China have fallen sharply from their record high in 2017 for three consecutive years. However, the country has still held the top renewable investment position (27.5% of global investment in 2020). The next-largest investments were made in the EU and the United Kingdom, followed by the United States, in 2018, 2019 and 2020. These three countries/regions had two-thirds of the global investment in the three years from 2018 to 2020.
- Renewable energy investment in other developing and emerging countries increased 6% in 2019 to USD 70.3 billion from 2018 but fell 1% to USD 69.8 billion from 2019 to 2020.

Source: REN21 Renewables Global Status Report 2021

# Wind and solar technologies continued to lead the way in renewable energy investments in 2019 and 2020




Note: Figure includes utility-scale renewable energy and small-scale solar projects and excludes large hydropower projects of more than 50 MW.

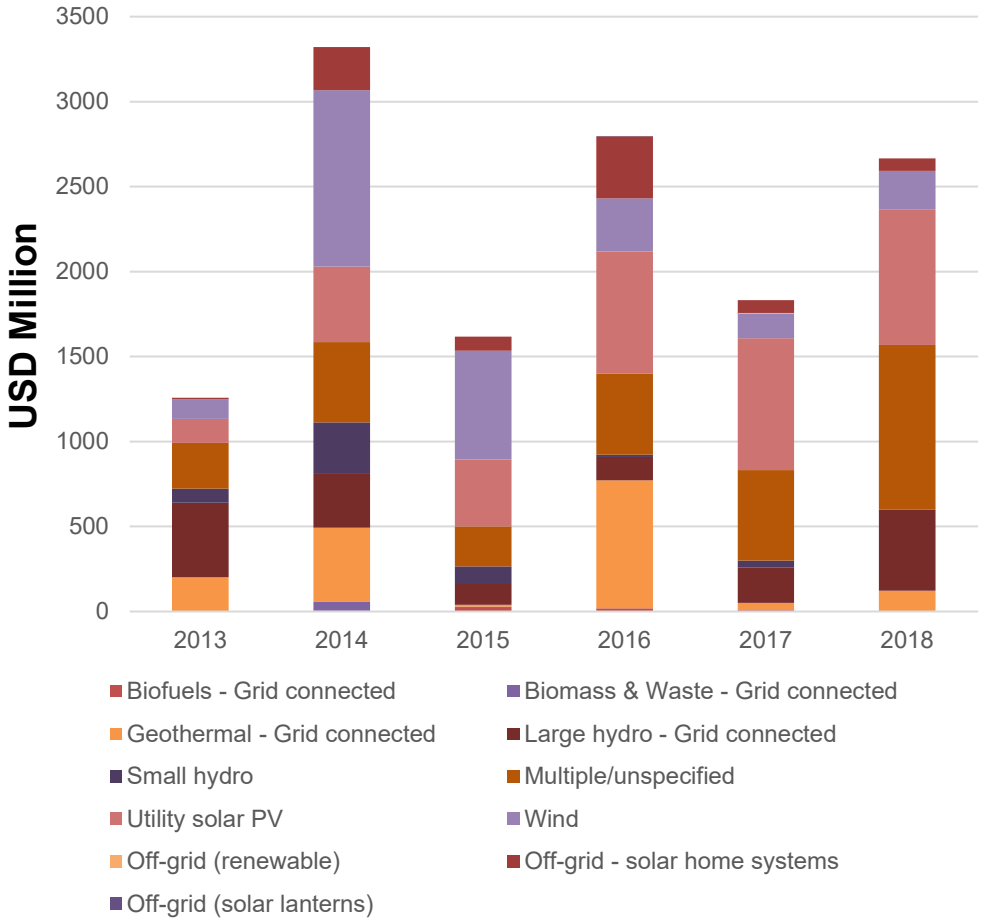
Source: BloombergNEF.

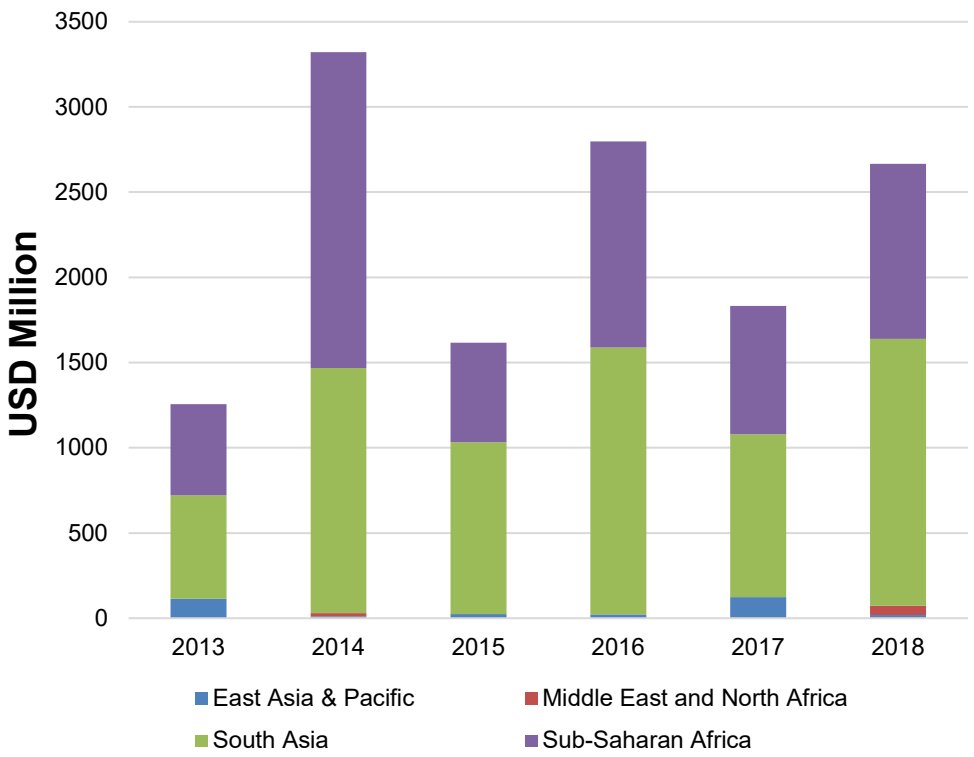
- While wind and solar saw more than a 60% increase in investment since 2010, investments in all other renewable technologies decreased dramatically.
- Although it is important to capitalize on the falling cost of wind and solar and continue to invest in them, it is critical to diversify energy sources with other renewables. Investments in these other technologies and their cost reduction have significant implications on future energy security and clean energy transition.

Source: REN21 Renewables Global Status Report 2021

# Electricity Access and Renewable Energy: USD 2.7 billion international public financial flows to 20 HICs to support renewable electricity projects in 2018

## International Public Investment in Renewable Electricity Projects to 20 Electricity Access HICs, 2013–2018




- International public financial flows to 20 High Impact Countries (HICs) in support of renewable electricity projects grew to around USD 2.7 billion in 2018, but did not reach the peak amount of USD 3.3 billion in 2014.
- Utility-scale solar projects have received consistent support since 2015.
- South Asia and Sub-Saharan Africa are the largest recipients of renewable electricity project public investments in HICs.

Data Source: SEforALL & CPI, including OECD, BNEF and other private data sources.

Executive Summary

SDG 7.1.1: Electricity Access

SDG 7.1.2: Clean Cooking Access

SDG 7.2: Share of Renewable Energy

**SDG 7.3: Energy Efficiency**

SUSTAINABLE ENERGY FOR ALL

SUMMARY

# SDG 7.3 Energy Efficiency

## It currently takes 4.8 MJ (megajoules) of energy to generate USD 1 of economic activity

- Africa is the least efficient region with 5.6 MJ/USD GDP, while Latin America & the Caribbean is the most efficient region with 3.4 MJ/USD GDP
- Energy intensity varies in the different economic segments with industry being the most energy intensive at ~4.5 x the least energy consuming segment (services)
- 12 of the top 20 energy consuming countries are more efficient than the world average with the United Kingdom, Italy and Turkey leading the way

## Looking back, we see that energy efficiency decreased from 5.6 MJ/USD GDP in 2010 to 4.8 MJ/USD GDP in 2018, corresponding to an average rate of improvement of 2.0%

## Looking forward, based on the current data, we will need an energy efficiency improvement rate of at least 3% per year through 2030 to achieve SDG 7.3

- Data show a slowdown in the rate of improvement of energy efficiency since 2015, thus reaching SDG 7.3 will require a higher improvement rate than the original rate of 2.6 percent.
- To ensure we get on track, consumers will need to be incentivized to be more energy efficient and we will need to explore ways for industry to increase its energy efficiency

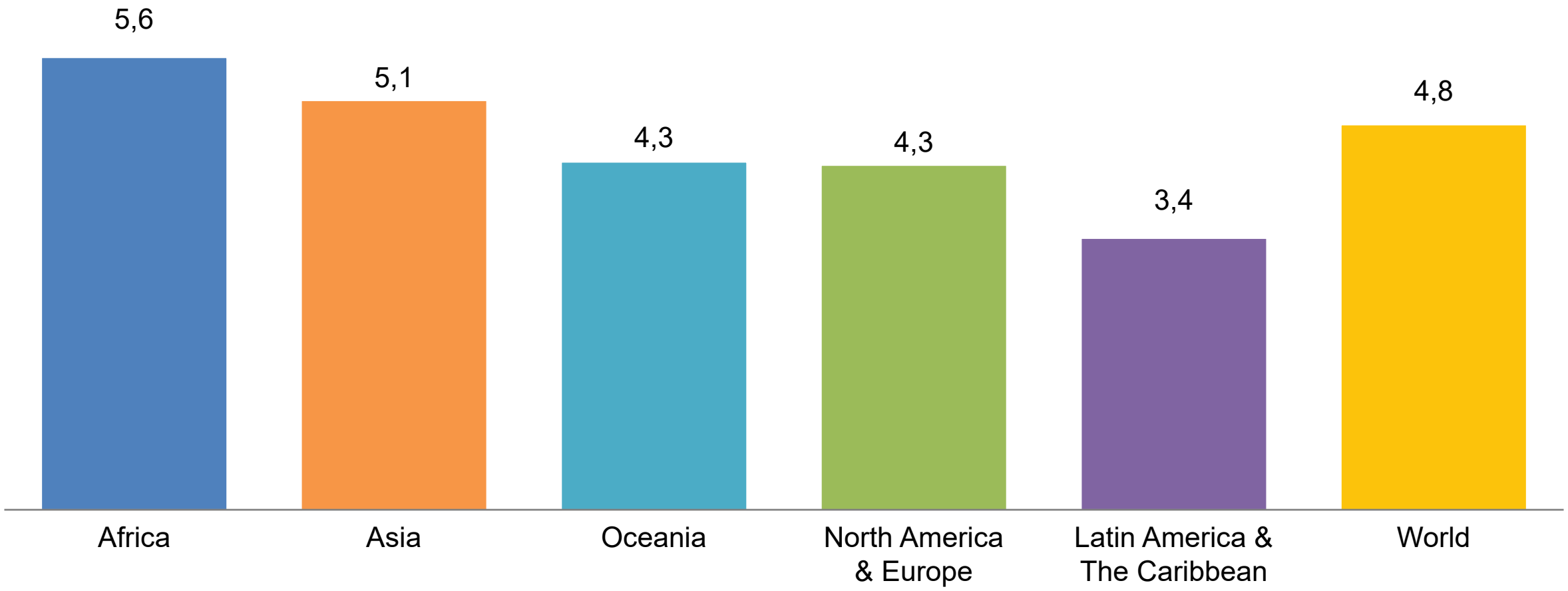
# Methodology

| | |
|---|---|
| **Data Source** | ▪ The following data were gathered from the World Bank/ESMAP's Tracking SDG 7 database (download link) with data available between 1990 and 2018<br>– Energy intensity of GDP per country<br>– Total Final Energy Consumption per country<br>▪ The following data were gathered from Enerdata's Global Statistical Yearbook (link) with data between 1990 and 2018<br>– Energy intensity of each segment in Europe<br>– Share of total energy consumption by segment in Europe<br>▪ The following data were gathered from the IEA's World Energy Outlook 2020 report and the IEA World Energy Balance Overview 2020 with data for 2010 and 2018 |
| **Derived values** | ▪ The total energy intensity per region was calculated as follows:<br>– A weighted average of the energy intensities of all the countries in the region was calculated using the energy consumption of the country as the weight |
| **Projections** | ▪ The straight-line extrapolation projection was made via the following process:<br>– The rate of change of the energy intensity of GDP (Compound Annual Growth Rate, (CAGR)) between 2010 and 2018 was calculated at a global level<br>– The energy intensity of GDP was projected forward to 2030 (by 12 years) using the calculated CAGR as the growth rate<br>▪ IEA Stated Policies Scenario 2020 was taken from the IEA's World Energy Outlook 2020 report |

SDG 7.3: Energy Efficiency

# Today, it takes 4.8 MJ of energy to generate USD 1 of economic activity

**Energy intensity,** MJ/USD 2017 ppp[1], 2018

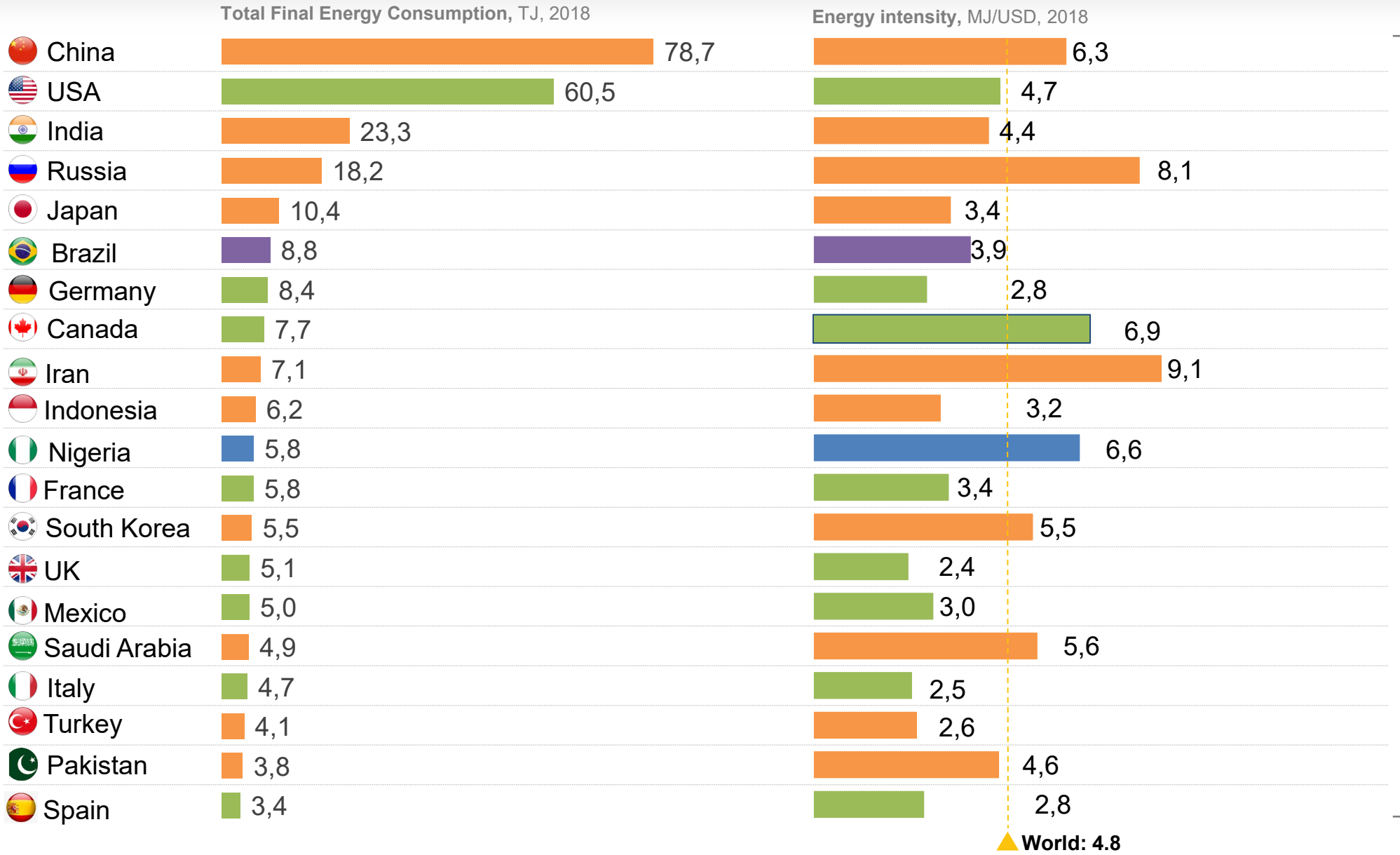



1. Unit is in megajoules per US dollar of GDP at 2017 purchasing power parity.

Data Source: World Bank/ESMAP Tracking SDG 7 Database 2021.

SDG 7.3: Energy Efficiency

# The countries driving this are those that form the bulk of energy consumption

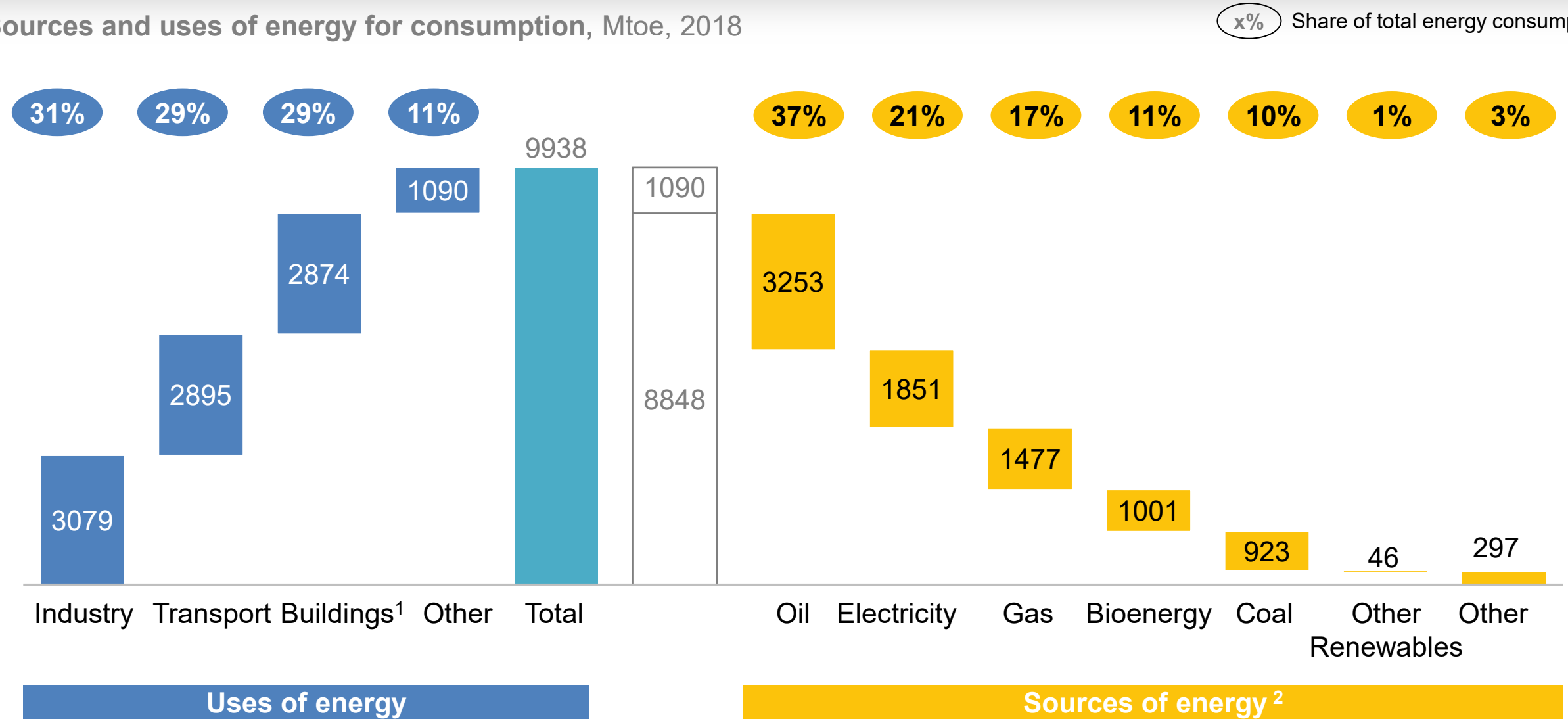



1: TJ = = 1000000 MJ

Data Source: World Bank/ ESMAP Tracking SDG 7 Database 2021.

# Energy is mainly used in the industry, transport and buildings sectors with oil as the dominant source

## Sources and uses of energy for consumption, Mtoe, 2018



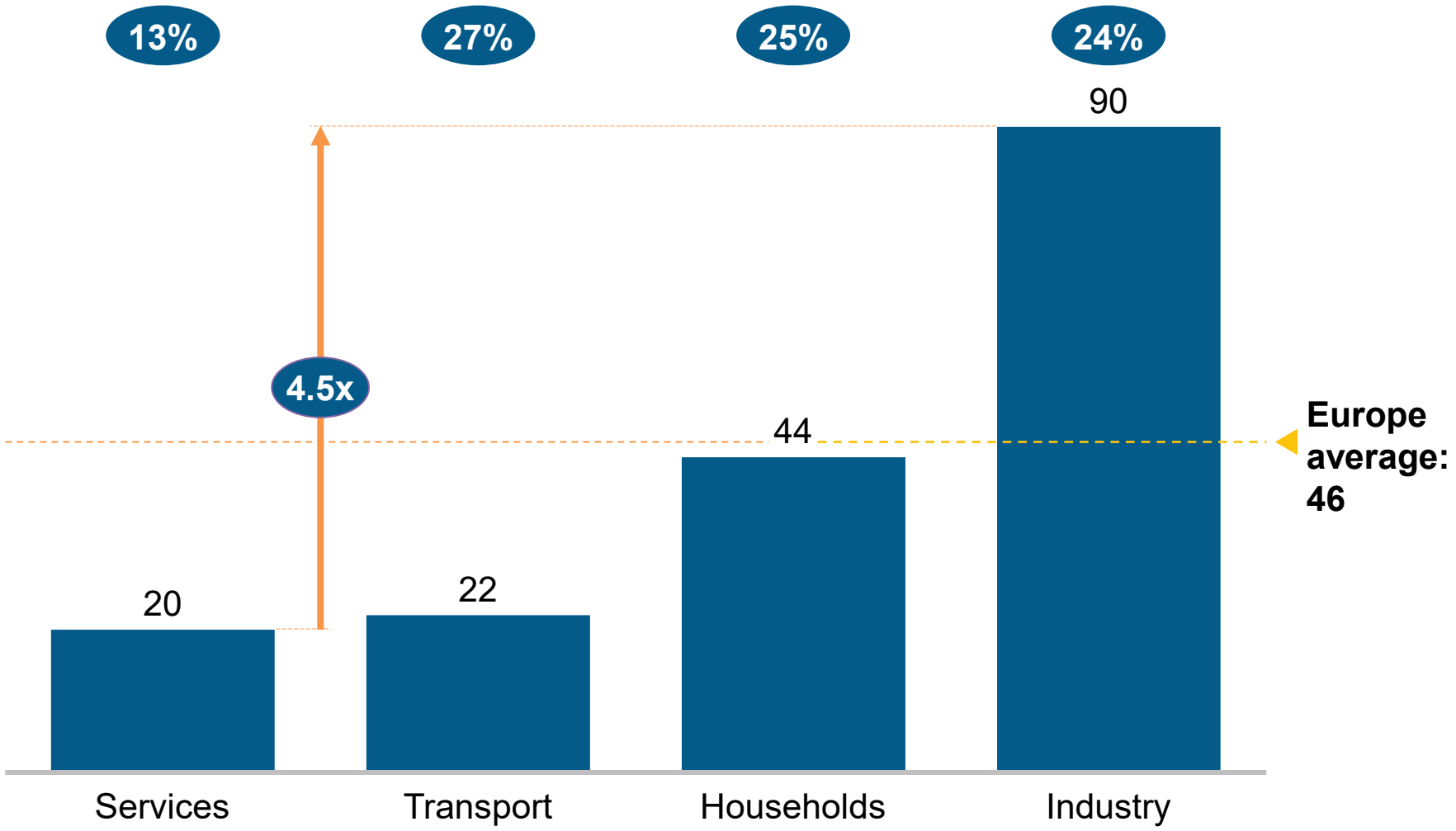

1. Both residential and services. 2. Percentages are usages among the total energy consumption of industry, transport and building sectors.
Source: IEA World Energy Outlook 2020, IEA World Energy Balance Overview 2020.

EUROPE CASE STUDY

# Energy intensity can be reduced through improved energy efficiency, particularly in industry and among households

## Energy intensity of different economic segments in Europe[1], per million USD 2005, 2013

x% Share of total energy consumption



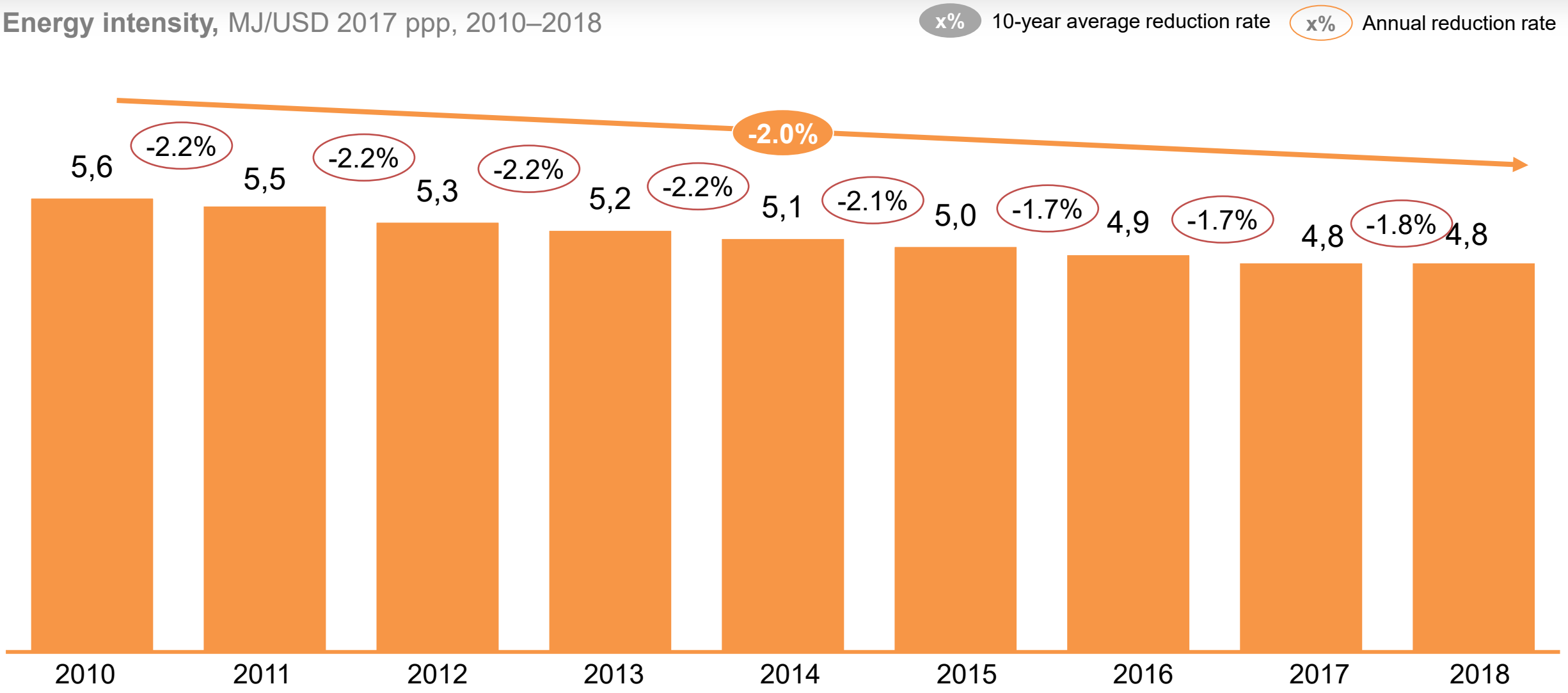

- Energy intensity can be reduced by
  - **Transitioning from an industry-based economy to a service-based economy** which is ~4.5x more energy efficient
  - **Technological advancements** especially in industrial and household segments
  - **Incentivizing users to be more energy efficient** with targeted measures including incentives, mandates and improved information on energy efficiency savings

1 Weighted average of 30 European countries.

Source: Enerdata; Eurostat; McKinsey Global Institute.

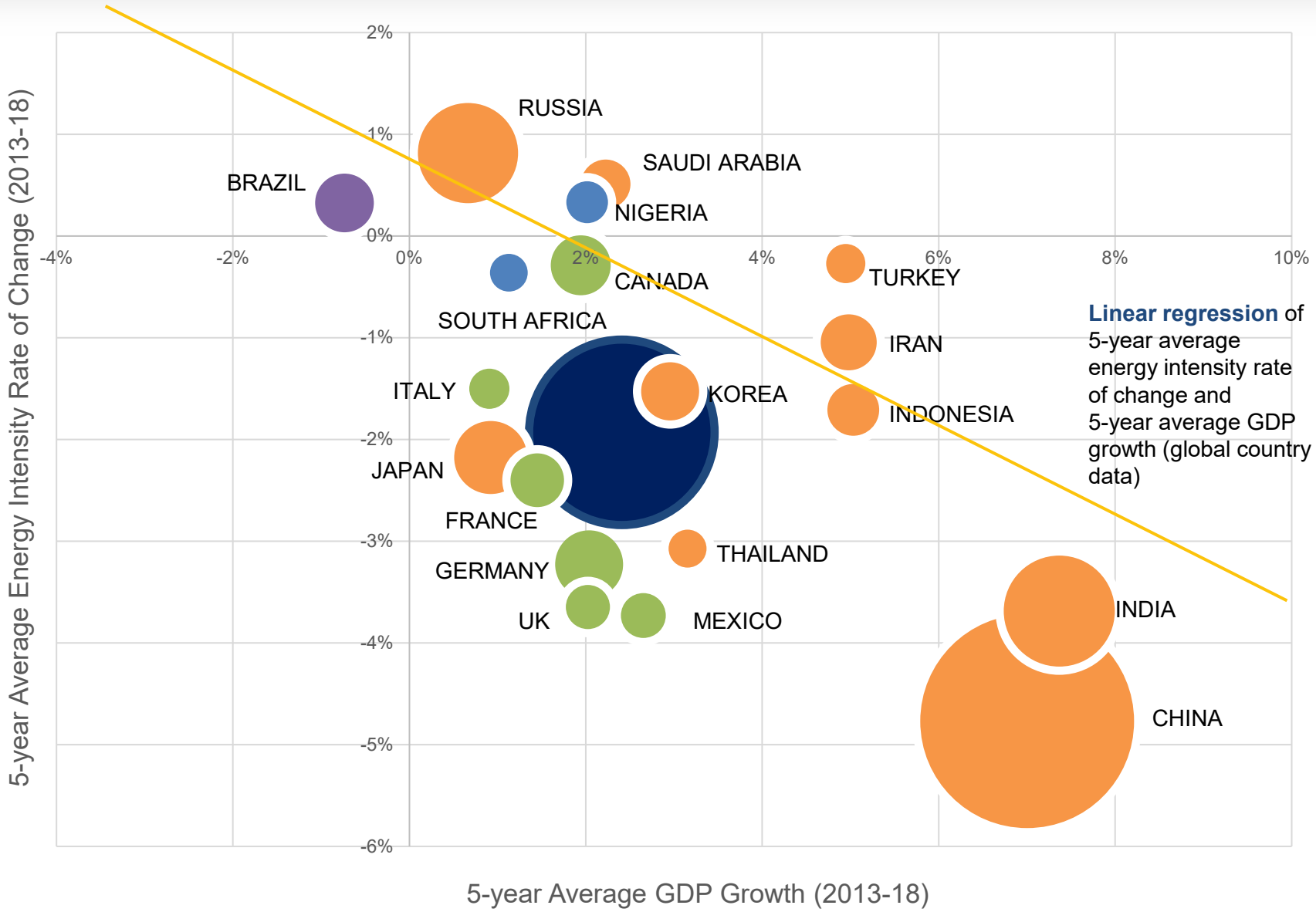
# There has been a ~0.8 MJ/USD improvement in energy efficiency over the past 8 years

**Energy intensity,** MJ/USD 2017 ppp, 2010–2018




Note: The World Bank/ESMAP historical data up to 2018 were also updated with the 2021 dataset. This has created several inconsistencies with the analysis of the previous year.
Data Source: World Bank/ESMAP Tracking SDG 7 Database 2021.

# Most of the 20 highest energy consumers have been driving the improvement in energy intensity



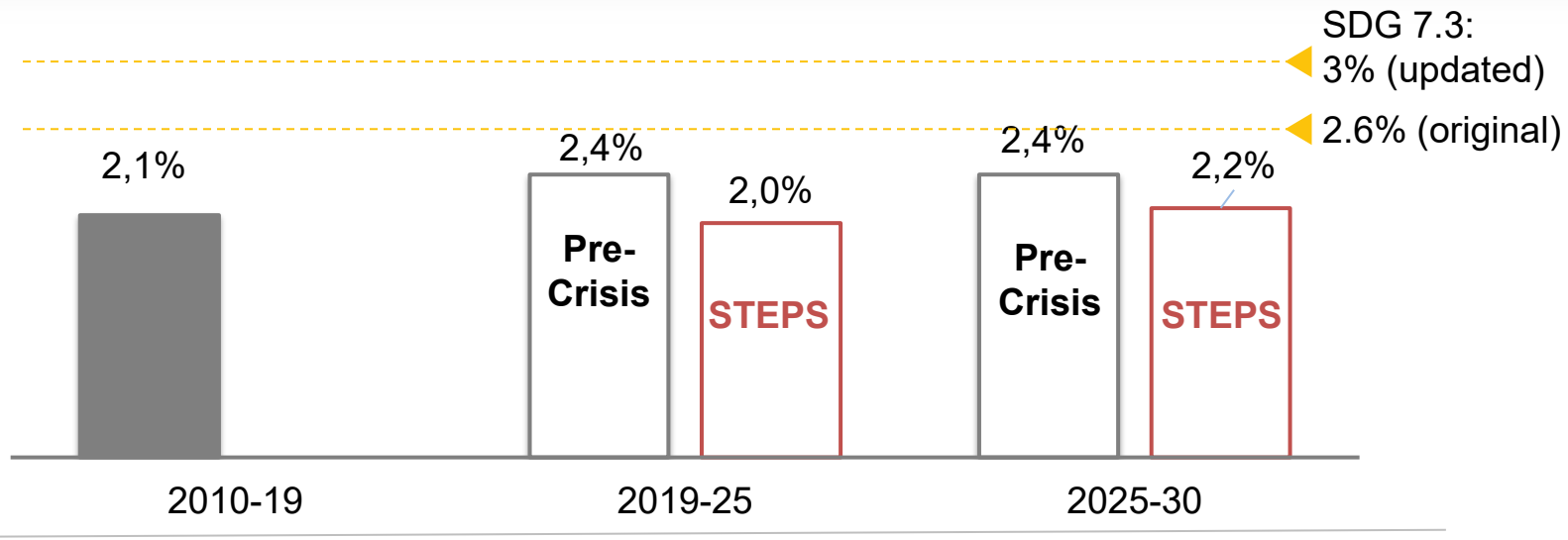

Africa
Asia
Oceania
North America & Europe
Total Energy Supply
Latin America & The Caribbean

- **Most of the top energy consuming countries have improved their energy efficiency** over the last few years and have been performing better than the global average based on their 5-year Average Energy Intensity Rate of Improvement and considering their 5-year Average GDP growth.
- Among the top 20 energy consumers:
  - Taking into account their GDP growth, **China, UK, Germany, Mexico Japan and France** have been improving their energy intensity the most.
  - Taking into account their GDP growth, **Turkey, Saudi Arabia, Russia, Nigeria and Iran** have been improving their energy intensity the least.

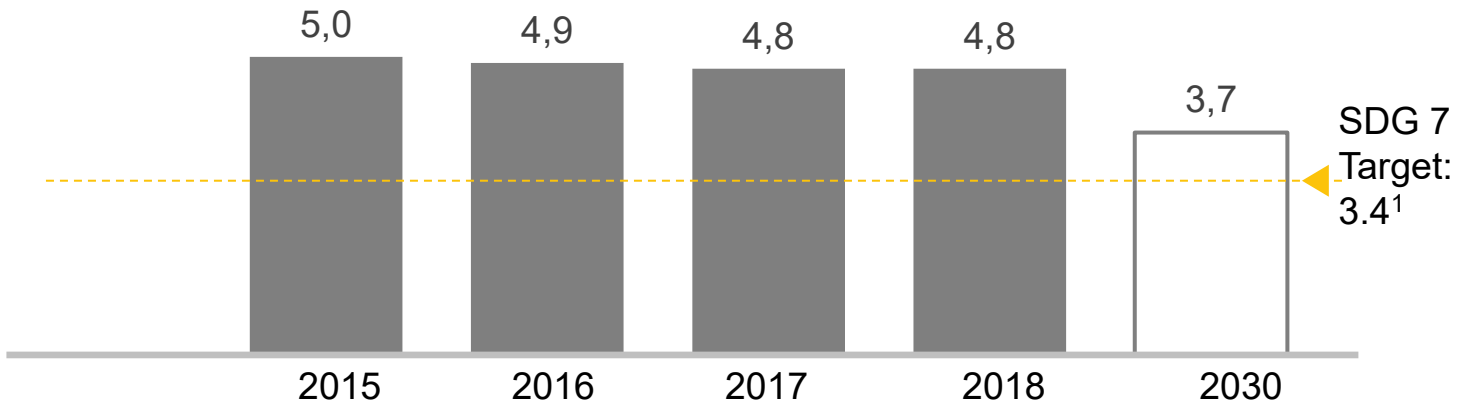
Energy intensity is defined as total energy supply divided by gross domestic product (GDP).

# An energy intensity improvement rate of at least 3 percent per year through 2030 will be needed to achieve SDG 7.3

**IEA WEO Stated Policies Scenario 2020**
Annual Primary Energy Intensity Improvement Rates




**Energy Intensity**
MJ/USD 2017 ppp

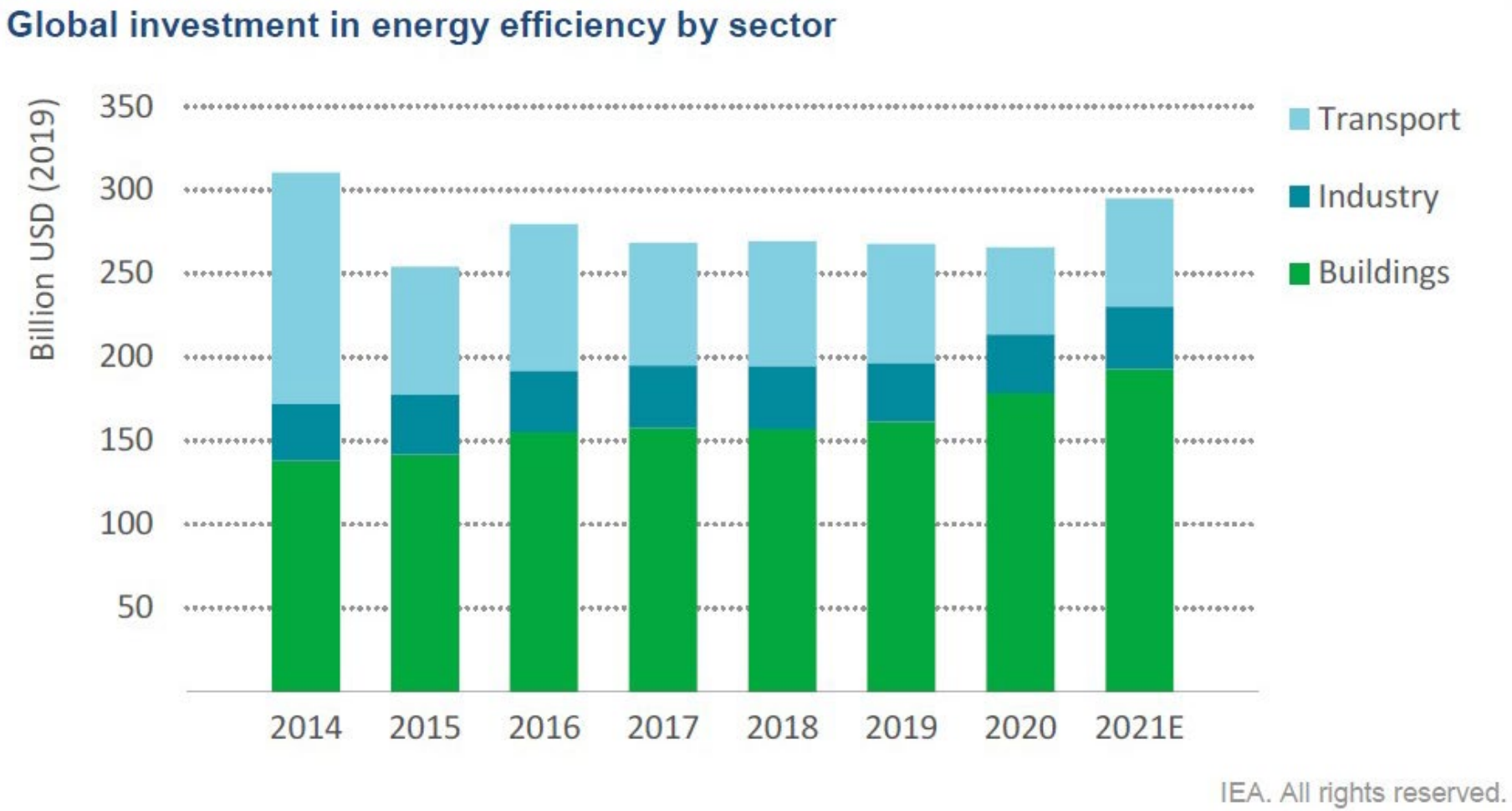



- The pandemic-related efficiency setbacks will lead to a slower rate of improvement
- Without more aggressive policy, it will be difficult to achieve the required improvement rate by 2030
- We should incentivize manufacturing, industry and households in developed economies to **reduce energy intensity**

1: The target with 2.6% of improvement rate after 2015
Note: The World Bank/ESMAP historical data up to 2018 were also updated with the 2021 dataset. This has created several inconsistencies with the analysis of the previous year.

Source: World Bank/ESMAP Tracking SDG 7 Database 2021, IEA World Energy Outlook 2020

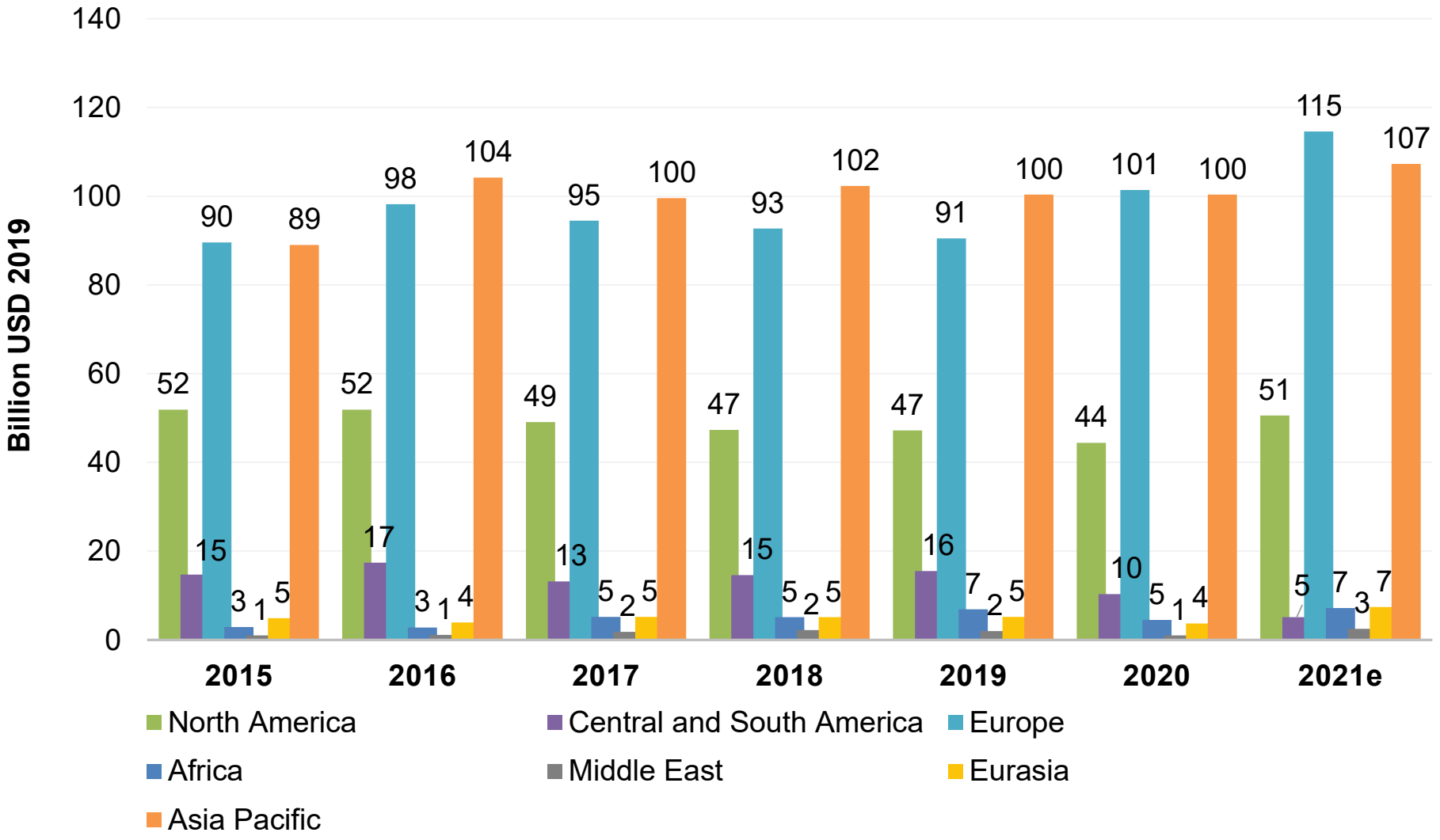
# Global investment in energy efficiency remained largely unchanged at USD 266 billion in 2020




- Incremental efficiency investments across the buildings, transport and industry sectors were about 0.8% lower in 2020 than in 2019, showing stagnation in recent years
- This is still well below the levels required to capture the cost-effective opportunities available
- Trends for efficiency spending in 2021 remain highly uncertain and will depend on the pace of economic recovery

Source: IEA (2021), World Energy Investment.

# Europe and Asia Pacific are leading energy efficiency investments




- There is a strong regional discrepancy in energy efficiency investment, which is weaker in Central and South America, Africa, Middle East and Eurasia
- Outside Europe, spending on efficiency has fallen or grown more slowly, due to a downturn of construction activity

Data Source: IEA (2021), World Energy Investment Datafile 2021, IEA (2020) Energy Efficiency 2020.

# 7 non-Africa/Asia countries will achieve universal access by 2030 if they continue to deliver at current levels

**Countries currently projected to achieve universal access by 2030**

- Saint Lucia
- Tonga
- Marshall Islands
- Colombia
- Jamaica
- Cuba
- Uruguay

Data Source: World Bank/ESMAP Tracking SDG 7 Database 2021.

# 1 Asian country will achieve universal access by 2030 if it continues to deliver at current levels while 17 Asian countries will still have unelectrified populations

**Countries expected to achieve universal access by 2030**

- Mongolia

**Countries expected to have unelectrified populations by 2030**

- Afghanistan
- Pakistan
- Yemen
- Bangladesh
- Myanmar
- Cambodia
- Kyrgyz Republic
- India
- Indonesia
- DR Korea
- Nepal
- Philippines
- Syria
- Tajikistan
- Thailand
- Vietnam
- Timor-Leste

Data Source: World Bank/ESMAP Tracking SDG 7 Database 2021.

# 16 African countries will still have significant unelectrified populations

**Countries expected to have an unelectrified population of ~10 million or more by 2030**

- Angola
- Burkina Faso
- Burundi
- Chad
- DR Congo
- Ethiopia
- Madagascar
- Malawi
- Mozambique
- Niger
- Nigeria
- Samaria
- Sudan
- South Sudan
- Tanzania
- Uganda

Data Source: World Bank/ESMAP Tracking SDG 7 Database 2021.