




TRACKING SDG7: THE ENERGY PROGRESS REPORT

Executive Summary

2018

A joint report of the custodian agencies





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PARTNERS

The development of the *Energy Progress Report* was made possible by the by exceptional collaboration between the five SDG7 custodian agencies, specially constituted in a Steering Group:

- International Energy Agency (IEA)
- International Renewable Energy Agency (IRENA)
- United Nations Statistics Division (UNSD)
- World Bank (WB)
- World Health Organization (WHO)

The Steering Group was supported by an Advisory Group composed as follows.

- Food and Agricultural Organization (FAO)
- Global Alliance for Clean Cookstoves (“the Alliance”)
- Global Water Partnership (GWP)
- International Institute for Applied Systems Analysis (IIASA)
- International Network on Gender and Sustainable Energy (ENERGIA)
- International Partnership for Energy Efficiency Cooperation (IPEEC)
- Practical Action
- Renewable Energy Policy Network for the 21st Century (REN21)
- Stockholm International Water Institute (SIWI)
- Sustainable Energy for All (SEforALL)
- United Nations Department of Economics and Social Affairs (UNDESA)
- United Nations Development Programme (UNDP)
- United Nations Economic Commission for Africa (UNECA)
- United Nations Economic Commission for Europe (UNECE)
- United Nations Economic Commission for Latin America and the Caribbean (ECLAC)
- United Nations Economic and Social Commission for Asia and the Pacific (ESCAP)
- United Nations Economic and Social Commission for Western Asia (ESCWA)
- United Nations Environment Programme (UNEP)
- Copenhagen Centre on Energy Efficiency
- UN Energy
- United Nations Foundation (UNF)
- United Nations Industrial Development Organization (UNIDO)
- World Energy Council (WEC)

The Steering Group’s collaboration was made possible by agreement among the senior management of the member agencies. Fatih Birol (IEA), Adnan Z. Amin (IRENA), Stefan Schweinfest (UNSD), Riccardo Puliti (World Bank), and Soumya Swaminathan (WHO) with Rohit Khanna (ESMAP) oversaw the development of the *Energy Progress Report* in collaboration with Minoru Takada (UNDESA). The technical co-leadership of the project by the Custodian Agencies was the responsibility of Laura Cozzi and Hannah Daly (IEA), Rabia Ferroukhi (IRENA), Ralf Becker (UN Statistics), Vivien Foster (World Bank), and Heather Adair-Rohani (World Health Organization).

Financial support from ESMAP, to fund tasks managed by the World Bank, is gratefully acknowledged.

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EXECUTIVE SUMMARY

OVERALL MESSAGES

The world is not currently on track to meet Sustainable Development Goal 7 (SDG7), which calls for ensuring “access to affordable, reliable, sustainable and modern energy for all” by 2030. Current progress falls short on all four of the SDG7 targets, which encompass universal access to electricity as well as clean fuels and technologies for cooking, and call for a doubling of the rate of improvement of energy efficiency, plus a substantial increase in the share of renewables in the global energy mix.

While overall progress falls short on meeting all targets, real gains are being made in certain areas. Expansion of access to electricity in poorer countries has recently begun to accelerate, with progress overtaking population growth for the first time in sub-Saharan Africa. Energy efficiency continues to improve, driven by advances in the industrial sector. Renewable energy is making impressive gains in the electricity sector, although these are not being matched in transportation and heating – which together account for 80 percent of global energy consumption. Lagging furthest behind is access to clean cooking fuels and technologies – an area that has been typically overlooked by policymakers. Use of traditional cooking fuels and technologies among a large proportion of the world’s population has serious and widespread negative health, environmental, climate and social impacts.

More encouraging than global trends, however, are the strong performances evident within specific countries, across both the developed and developing worlds. These national experiences provide valuable lessons for other countries, and evidence is mounting that with holistic approaches, targeted policies and international support, substantial gains can be made in clean energy and energy access that will improve the lives of millions of people.

BOX E1 • WHAT IS THE ENERGY PROGRESS REPORT?

The Energy Progress Report provides a global dashboard on progress towards Sustainable Development Goal 7 (SDG7). The report is a joint effort of the International Energy Agency (IEA), the International Renewable Energy Agency (IRENA), United Nations Statistics Division (UNSD), the World Bank, and the World Health Organization (WHO), which the United Nations (UN) has named as global custodian agencies, responsible for collecting and reporting on country-by-country energy indicators for reporting on SDG7. This report tracks global, regional and country progress on the four targets of SDG7: energy access (electricity, clean fuels and technologies for cooking), renewable energy and energy efficiency, based on statistical indicators endorsed by the UN. The report updates progress with the latest available data up to 2016 for energy access, and 2015 for clean energy, against a baseline year of 2010. A longer historical period back to 1990 is also provided by way of reference. *The Energy Progress Report* is a successor to the earlier Global Tracking Framework (published in 2013, 2015 and 2017), which was co-led by the IEA and World Bank under the auspices of the UN’s Sustainable Energy for All (SE4All) initiative, and builds on the same methodological foundation.

ELECTRIFICATION: HOPEFUL SIGNS OF ACCELERATION IN LAGGING REGIONS

Roughly 1 billion people – or about 13% of the world’s population – live without electricity. The number of people gaining access to power has been accelerating since 2010 to around 118 million each year, but progress has been uneven, and needs to become more widespread and ramp up further if the SDG7 goal of universal access to electricity is to be met by 2030. Otherwise, if current policies and population trends continue, as many as 674 million people will continue to live without electricity in 2030.¹

FIGURE E1 • Percentage of population with access to electricity (%)



Source: World Bank

The regions of sub-Saharan Africa and South Asia continue to have the largest access-deficit. The number of people without access in sub-Saharan Africa has recently begun to fall in absolute terms for the first time, driven by strong performers in East Africa. Electrification also outpaced population growth in South Asia.

About 80 percent of those without electricity live in top 20 largest access deficit countries whose progress has a major influence on global outcomes. While this group made progress overall, access gains were uneven. Some of the strongest gains were Bangladesh, Ethiopia, Kenya and Tanzania, which expanded access by at least 3 percent of their population annually between 2010 and 2016. Over the same period, India continued to make major efforts, providing electricity to 30 million people each year, more than any other country.

The urban-rural chasm in access remains wide, with almost 87% of the world’s population without electricity living in rural areas. However, off-grid solar solutions ranging from solar home systems to solar mini-grids are emerging as an important driver of rural energy access, complementing grid electrification in some countries. Emerging evidence suggests that tens of millions of people now have access to electricity through solar home systems. However, these remain concentrated in about a handful of pioneering countries where off-grid solar electricity already reaches as much as 5-15% of the population; even more in some cases. Identifying the barriers to implementation of low-cost, off-grid solar solutions is a crucial priority for policymakers.

SDG7 calls for access to affordable, reliable, sustainable and modern energy for all. Affordability is an added challenge for countries that are still working to reach universal access to electricity, with the burden of households spending on electricity on average twice as high in these countries.

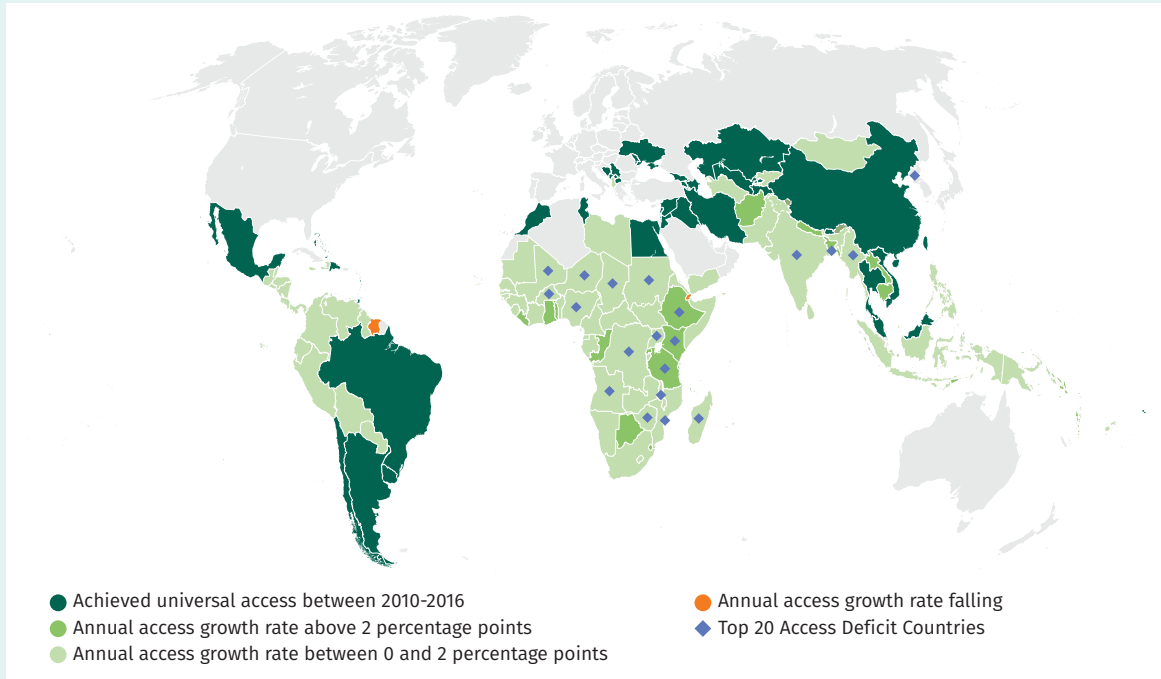
The experience of countries that have already reached universal access, suggests that this takes strong leadership commitment, backed up by sustained public financing for grid extension. The private sector can increasingly play a role in catalyzing uptake of off-grid solar solutions, underscoring the importance of a suitable enabling environment for new technologies, as well as strategic planning that clearly delineates the role for grid and off-grid approaches.²

¹ IEA 2017 *Energy Access Outlook: from Poverty to Prosperity*, A World Energy Outlook-2017 special report. OECD/IEA, Paris.

² Draws upon Policy Brief No. 1 on Electrification from “Accelerating SDG7 Achievement: Policy Briefs in Support of the First SDG7 Review at the UN High Level Political Forum 2018, UN Department of Economic and Social Affairs, New York, April 2018.

Some 40 countries achieved universal access to electricity since 2010

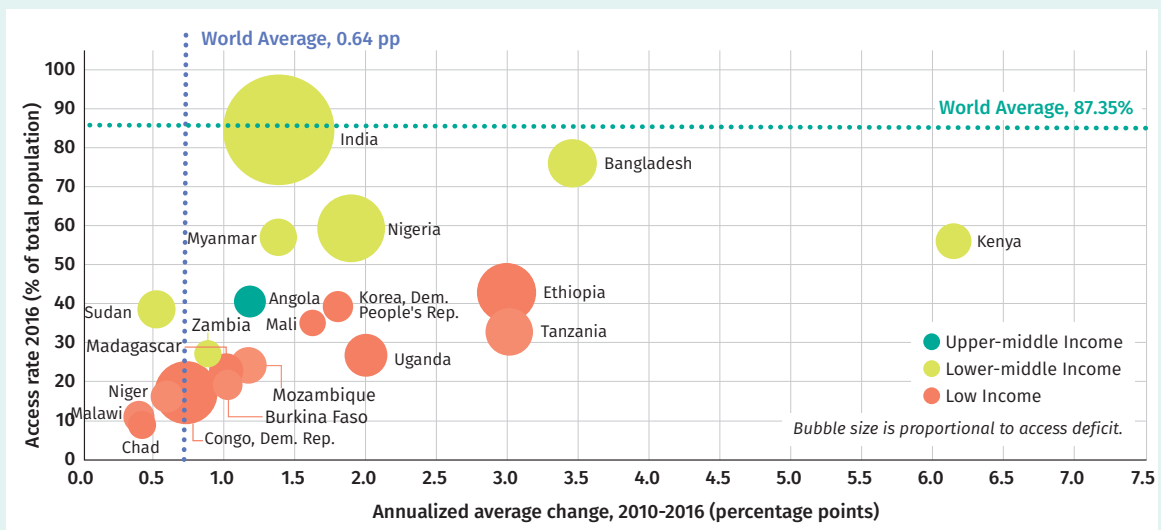
FIGURE E2 • Annual increase in electricity access rate in 2010-2016 (pp) in access deficit countries



Source: World Bank

Bangladesh, together with Ethiopia, Kenya and Tanzania, are moving faster on electrification than other countries with large unserved populations

FIGURE E3 • The 20 countries with the largest access-deficit over the 2010-2016 period



Source: World Bank

CLEAN COOKING: SUCCESS STORIES ARE FEW AND FAR BETWEEN

Three billion people – or more than 40 percent of the world’s population – do not have access to clean fuels and technologies for cooking. Household air pollution from the use of inefficient stoves paired biomass, coal and kerosene for cooking is responsible for some 4 million deaths a year, with women and children at most risk. Progress in access to clean cooking fuels and technologies has barely kept pace with population growth.

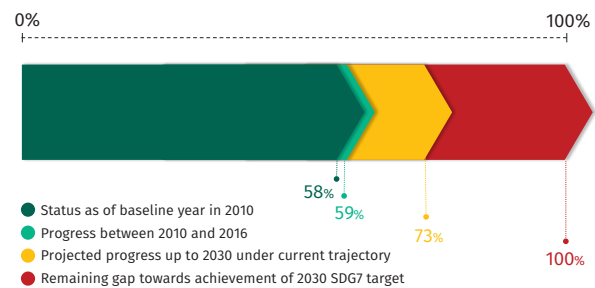
To meet the goal of universal access by 2030, access expansion will need to accelerate dramatically from 0.5 percentage points of population currently each year to an average of 3 percentage points each year between 2017-2030. If the current trajectory continues, 2.3 billion people will continue to use traditional cooking solutions in 2030, perpetuating much of the current negative health, environmental, climate and development impacts.³

While parts of Asia have seen access to clean cooking outpace growth in population, in Sub-Saharan Africa, gains have only been marginal, with the region’s overall population growing four times faster than the population that gained access to clean cooking technologies between 2014-2016.

Of the 20 countries with the largest deficit in access to clean cooking, only nine were able to expand access faster than population growth between 2014 and 2016. These positive outcomes were driven largely by widespread dissemination of LPG or piped natural gas cooking solutions in India, Pakistan, Indonesia and Vietnam.

The need for rapid deployment of clean cooking fuels and technologies has not received the attention it deserves from policy-makers, and lags well behind the rate of electrification in almost every country, even in spite of the smaller costs needed to ensure clean cooking solutions for all compared to electrification. High entry costs for many clean cooking solutions, a lack of consumer awareness of their benefits, financing gaps for producers seeking to enter the market, slow progress in the innovation of clean cookstoves, and lack of infrastructure for fuel production and distribution have together kept widespread solutions to this challenge out of reach.⁴

FIGURE E4 • Percentage of population with access to clean cooking (%)



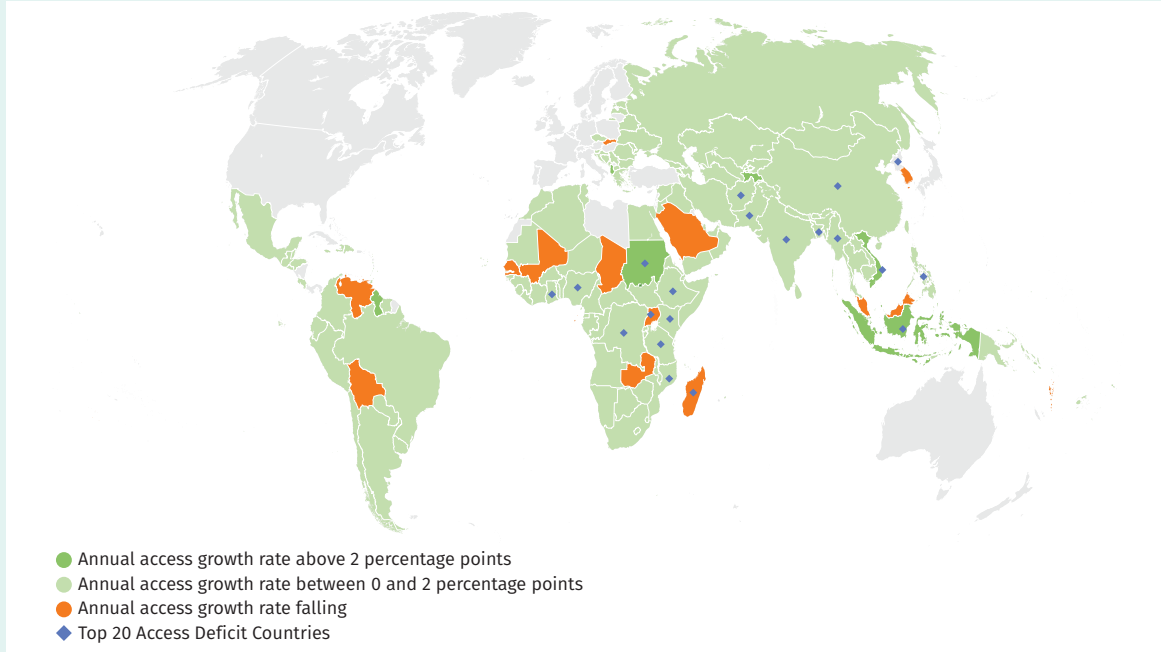
Source: World Health Organization, UN Population data

³ IEA, 2017. *Energy Access Outlook: from Poverty to Prosperity*, A World Energy Outlook-2017 special report. OECD/IEA, Paris.

⁴ Draws upon Policy Brief No. 2 on Clean Cooking from “Accelerating SDG7 Achievement: Policy Briefs in Support of the First SDG7 Review at the UN High Level Political Forum 2018, UN Department of Economic and Social Affairs, New York, April 2018.

In contrast to electrification, access to clean cooking is actually falling in some countries

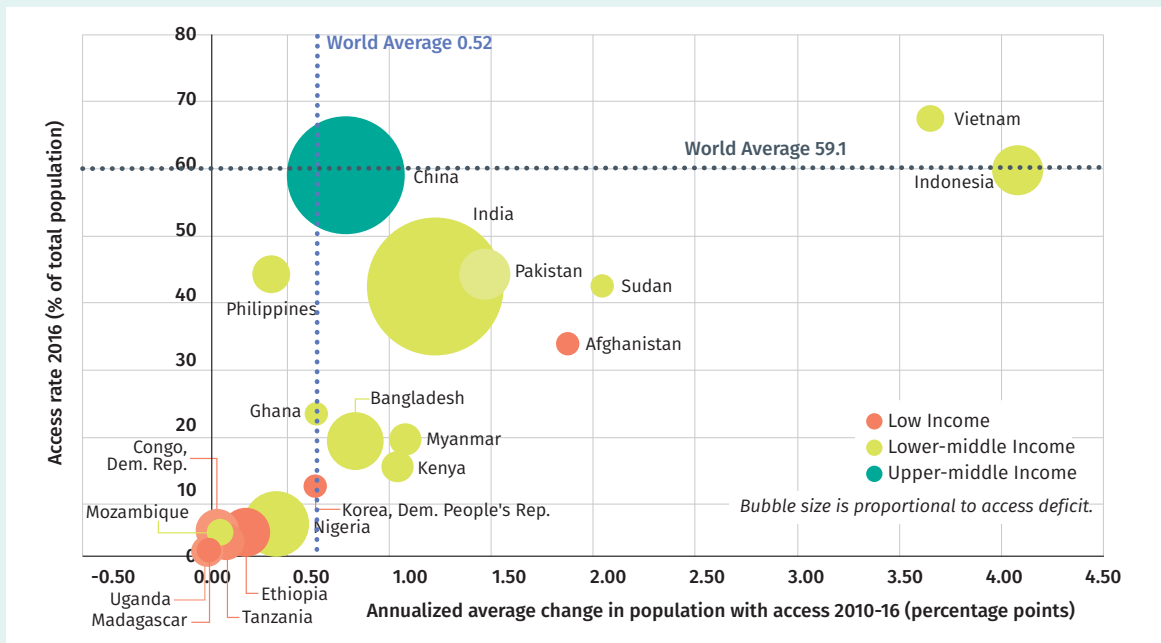
FIGURE E5 • Annual increase in clean cooking access rate in 2010-2016 (pp) in access deficit countries



Source: World Health Organization, UN Population data

Among the top 20 countries with largest unserved populations, Indonesia and Vietnam stand as having made the most rapid progress

FIGURE E6 • The 20 countries with the largest clean cooking access deficit over the 2010-2016 period

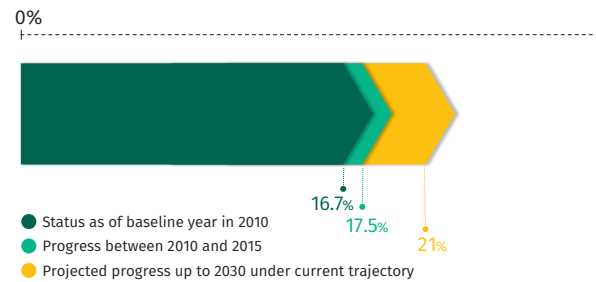


Source: World Health Organization, UN Population data

RENEWABLE ENERGY: PROGRESS ON ELECTRICITY NOT YET MATCHED BY HEATING AND TRANSPORT

As of 2015, the world obtained 17.5% of its total final energy consumption from renewable sources, of which 9.6% came from modern forms of renewable energy such as bioenergy, geothermal, hydropower, solar and wind. The remaining renewable energy is derived from traditional uses of biomass (such as fuelwood and charcoal), of which a significant proportion is used by around 3 billion people in polluting cookstoves. Based on current policies, the renewable share is expected to reach just 21% by 2030, with modern renewables growing to 15% of total final energy consumption, falling short of the substantial increase demanded by the SDG 7 target.⁵ The continued rapid growth of total final energy consumption in the developing world, has made it particularly challenging to increase the renewable energy share; even when substantial investment in renewable energy is taking place.

FIGURE E7 • Renewable energy share in total final energy consumption (%)



Source: International Energy Agency (IEA) and United Nations Statistics Division (UNSD) data

Rapidly falling costs and enabling policy frameworks have allowed solar and wind to compete with conventional power generation sources in multiple geographies, enabling the share of renewables in electricity to rise relatively rapidly reaching 22.8% in 2015. Nevertheless, electricity accounted for only 20% of total final energy consumption that year, highlighting the need to accelerate progress in use of renewables for transport and heating/cooling, sectors of vital importance to reaching the global target. The share of renewable energy in transport is rising quite rapidly, but from a very low base, amounting to only 2.8% in 2015, while the use of renewable energy for heating purposes has barely increased in recent years and stood at 24.8% in 2015, of which only one third was from modern renewables.

Looking at the overall global picture, several countries stand out for salient performances, with China alone accounting for nearly 30% of absolute growth in renewable energy consumption globally in 2015. Brazil was the only country among the top 20 largest energy consumers to substantially exceed the global average renewable share in all end uses: electricity, transport and heating. The UK's share of renewable energy in total final energy consumption grew by 1 percentage point annually on average since 2010 – more than five times the global average over the same period.

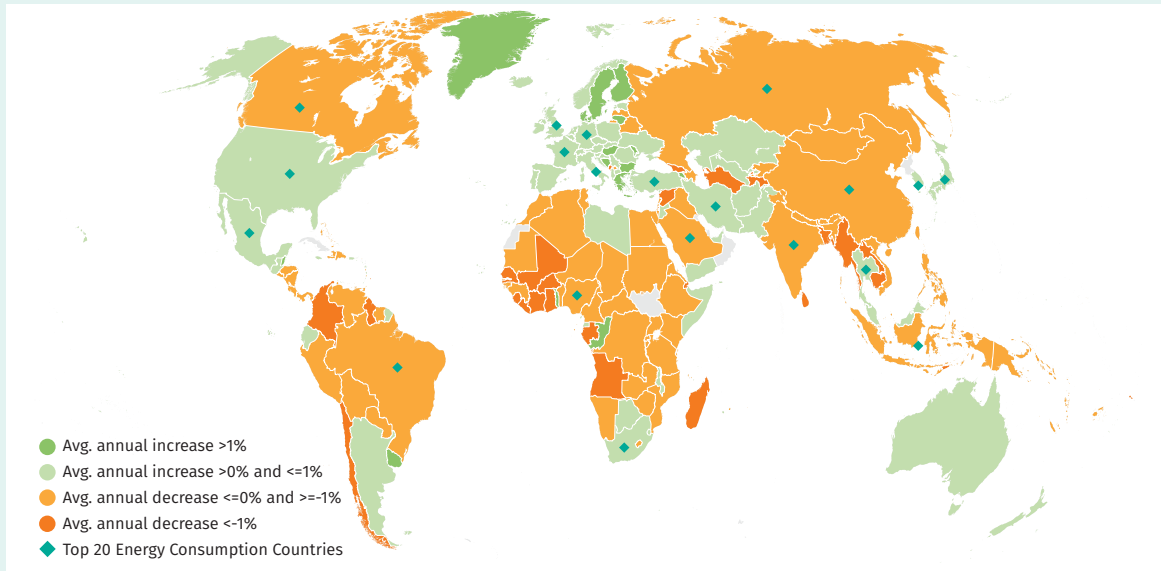
Looking ahead, much greater efforts will be required in end-uses, such as heating/cooling and transport, where renewable penetration remains low yet unexploited potential exists. One avenue would be greater adoption of district energy systems (for heating or cooling) based on biomass, geothermal or solar thermal energy. As the electricity sector decarbonizes, other energy uses can increasingly switch into electricity, such as electric vehicles for instance. A phase out of fossil fuel subsidies would help to encourage such shifts. Sustaining the growth of renewable electricity will further require additional attention to grid integration issues, including the incorporation of battery storage and smart grid technology to support management of variable generation resources. Finally, the more rapid global progress on energy efficiency, the larger will be the impact of renewable energy investments on the overall global energy mix.⁶

⁵ IEA, 2017. World Energy Outlook-2017. OECD/IEA, Paris.

⁶ Draws upon Policy Brief No. 3 on Renewable Energy from "Accelerating SDG7 Achievement: Policy Briefs in Support of the First SDG7 Review at the UN High Level Political Forum 2018, UN Department of Economic and Social Affairs, New York, April 2018.

A significant number of countries have seen their renewable energy share decline

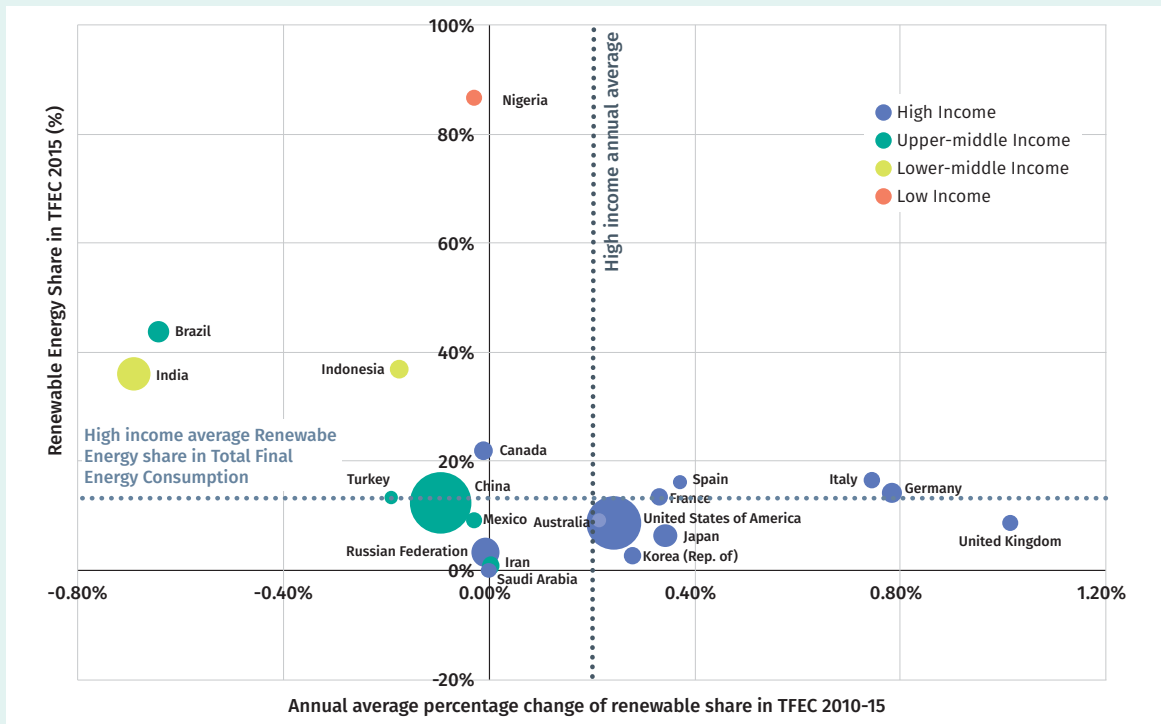
FIGURE E8 • Annual increase in renewable energy share of total final energy consumption (TFEC) in 2010-2015 (pp)



Source: International Energy Agency (IEA) and United Nations Statistics Division (UNSD) data

Among larger energy consumers, developed countries tend to have lower renewable energy shares than developing countries, but their shares are increasing more rapidly

FIGURE E9 • Top 20 energy consumption countries plotting renewable energy share in TFEC (2015) against annual average percentage change in renewable energy share in TFEC (2010-2015), with bubbles scaled according to TFEC size



Source: International Energy Agency (IEA) and United Nations Statistics Division (UNSD) data

ENERGY EFFICIENCY: ECONOMIC GROWTH OUTSTRIPS ENERGY DEMAND

Globally, energy intensity – the ratio of energy used per unit of GDP – continued to fall at an accelerated pace of 2.8 percent in 2015, the fastest decline since 2010. This improved the average annual decline in energy intensity to 2.2 percent for the period 2010-2015. However, progress still falls short of the 2.6 percent yearly decline needed to meet the SDG7 target of doubling the global rate of improvement in energy efficiency by 2030.⁷ Without intensifying efforts, the pace of improvement is not expected to exceed 2.4 percent during 2016-2030.⁸

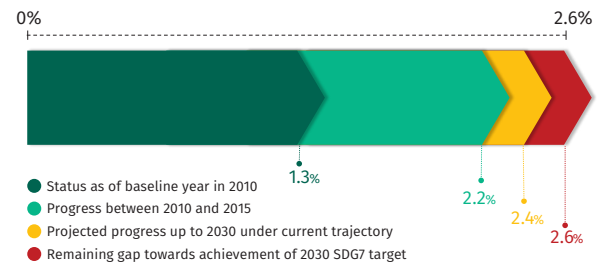
There is mounting evidence of the uncoupling of growth and energy use. Global gross domestic product (GDP) grew nearly twice as fast as primary energy supply in 2010-15. In fact, economic growth outpaced growth in energy use in all regions, except for Western Asia, and in all income groups.

Improvement in industrial energy intensity, which is the largest energy consuming sector, was particularly encouraging, at 2.7 percent per annum since 2010. However, progress was more modest elsewhere. In high income countries, transportation is the largest energy consuming sector, where there is a need to accelerate efficiency gains, especially for road freight services. In low and middle-income countries, residential energy consumption is high and intensity has been increasing since 2010. Improving efficiency of electricity supply also poses a challenge with thermal power generation presenting unmet potential for efficiency gains, as average fuel conversion efficiency lingered below 39 percent worldwide. In addition, transmission and distribution losses remained high at close to 16 percent in low-income and lower-middle income countries.

The performance of the world's top twenty countries in terms of primary energy supply is critical to achieving the SDG7 target. In 2015, these countries accounted for nearly 80 percent of total primary energy supply. Encouragingly, six of them, including two of the world's top five (Japan and the US), seem to have reached a peak in energy use, reducing their annual primary energy supply in 2010-15 while continuing to grow GDP. Among the large energy-intensive developing economies, China and Indonesia stood out with annual improvement exceeding 3 percent; even as others, notably Brazil and Iran, saw their energy intensity increase.

While progress is encouraging, a host of proven energy efficiency policies remain to be systematically adopted in many countries. Building codes for residential and commercial facilities should include energy performance standards for new construction and major renovation. Increasingly, it would be desirable to adopt ambitious cross-sectoral integrated policy approaches that promote stretch improvements through targets or fiscal incentives, as have been applied with some success in China and Europe.⁹

FIGURE E10 • Compared annual growth rate of improvement in energy intensity (percentage points per year)



Source: International Energy Agency (IEA), United Nations Statistics Division (UNSD), and World Development Indicators (WDI) data

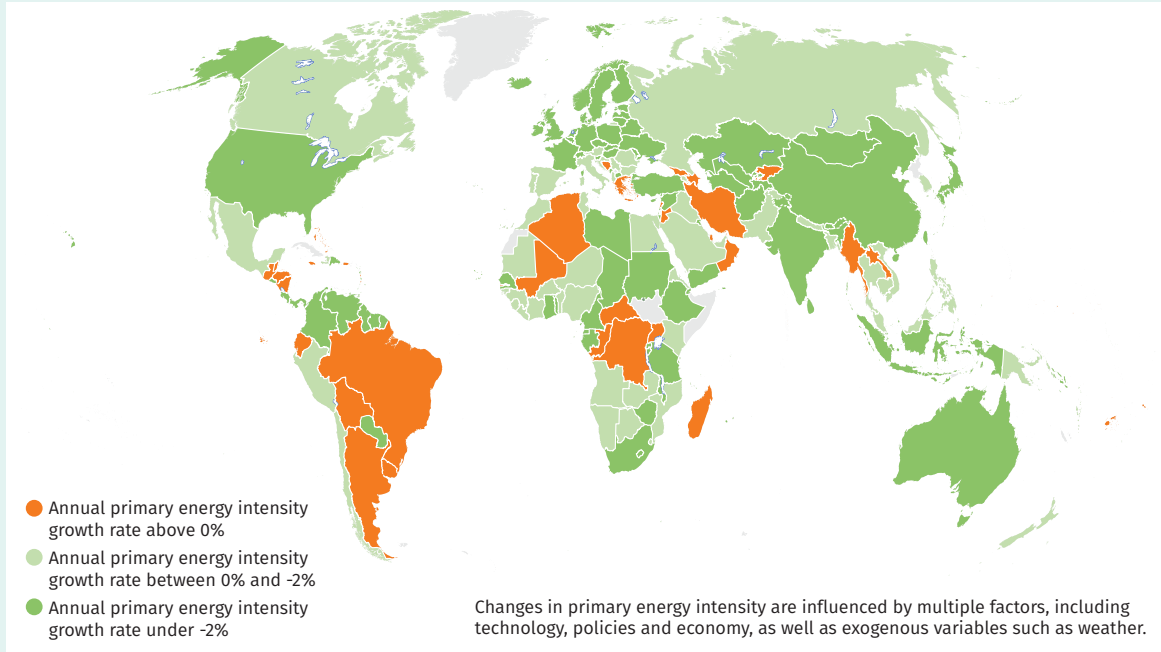
⁷ Improvements in global energy efficiency slowed down dramatically in 2016 and 2017, with the rate of improvement in 2017 at 1.7% (IEA, 2018 *Global Energy & CO₂ Status Report*, IEA/OECD, 2018; www.iea.org/geco).

⁸ IEA, 2017b. *World Energy Outlook-2017*. OECD/IEA, Paris.

⁹ Draws upon Policy Brief No. 4 on Energy Efficiency from "Accelerating SDG7 Achievement: Policy Briefs in Support of the First SDG7 Review at the UN High Level Political Forum 2018, UN Department of Economic and Social Affairs, New York, April 2018.

Many countries are showing relatively rapid improvement in energy intensity, but others are moving in the opposite direction

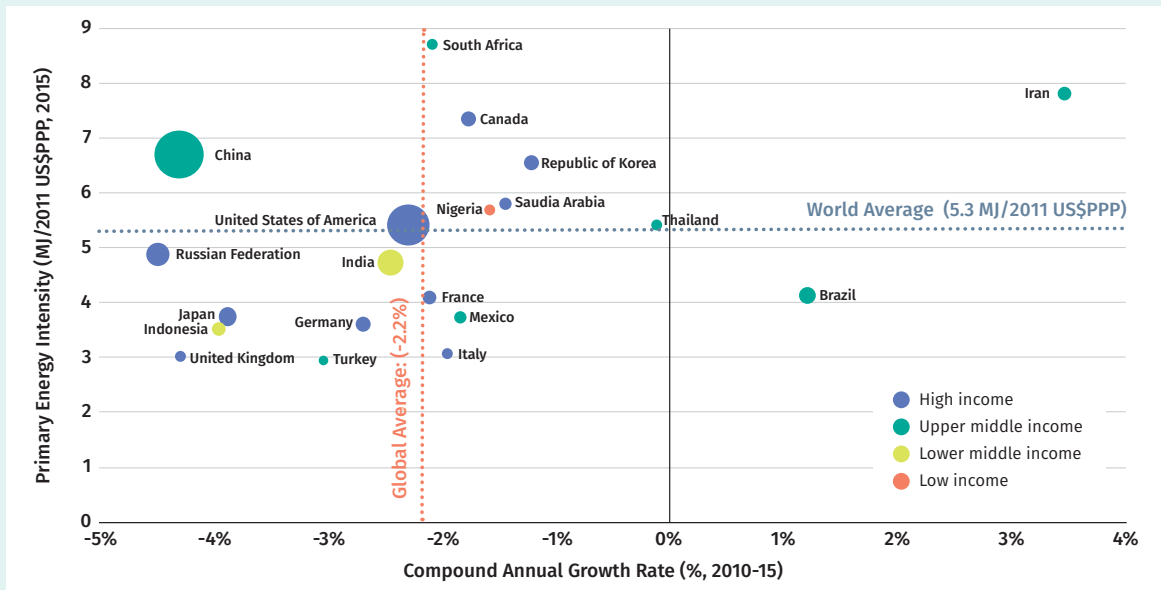
FIGURE E11 • Annualized change in energy intensity in 2010-2015 (pp)



Source: International Energy Agency (IEA), United Nations Statistics Division (UNSD), and World Development Indicators (WDI) data

Strong improvements in energy intensity are evident both among large emerging economies, like China and Indonesia, as well as among developed economies like Japan and the United Kingdom

FIGURE E12 • Top 20 countries' compound annual growth rate of energy intensity, 2010-2015, and energy intensity, 2015



Source: International Energy Agency (IEA), United Nations Statistics Division (UNSD), and World Development Indicators (WDI) data

CONCLUSIONS

Looking at each of the dimensions of sustainable energy more closely helps us understand why the world still falls short of its goal and what kinds of targeted efforts are needed – across different countries and sectors – to accelerate global progress towards the goal in the coming years. Further improvements on the steady levels of progress so far will require greater policy commitment and increased funding, as well as a willingness to embrace new technologies on a much wider scale. This report helps identify where good policies have been adopted and points to approaches that may deserve greater attention from policy-makers going forward.

BOX E2 • HOW CAN DATA FOR SDG7 TRACKING BE FURTHER IMPROVED?

Many challenges remain in providing a comprehensive picture of the global energy situation, and sustained efforts are needed to improve data quality and availability.

One key area of focus is to improve the coverage and precision of household survey questionnaires to more accurately reflect the nature and quality of service for electricity and clean cooking. Current indicators do not make it possible to capture the affordability and reliability dimensions emphasized by SDG7. While the off-grid solar revolution is making it increasingly challenging to accurately reflect trends in rural electrification.

Equally important is to strengthen statistical capacity to produce accurate energy balances, particularly in the developing countries, where many challenges remain in capturing, for instance, the traditional uses of biomass. Furthermore, there is still relatively little information on the energy efficiency of major consuming sectors outside of the major economies that is critical to inform policy interventions.



DATA ANNEX

DATA ANNEX

ENERGY ACCESS

Country	Access to electricity (% of population ^a)										Access to Clean Cooking (% of population)				
	Total					Urban ^b					Rural ^b				
	1990	2000	2010	2014	2016	2016	2016	2016	2016	2016	2000	2010	2014	2016	
Afghanistan			43	^d	90	^g	84		98		9	21	28	32	
Albania	100	100	100	^r	100	^r	100	^r	100	^r	40	65	74	77	
Algeria			99		99		99		100		86	92	93	93	
American Samoa															
Andorra	100	100	100	^r	100	^r	100	^r	100	^r	100	100	100	100	
Angola			34		32	^e	41		71		37	44	47	48	
Anguilla		96	100		100		100								
Antigua and Barbuda			94		96		97		100		97	98	99	99	
Argentina			99	^e	100		100				95	98	98	98	
Armenia		99	100	^d	100		100		100		82	94	96	97	
Aruba		92	^e	95		96		100							
Australia	100	100	100	^r	100	^r	100	^r	100	^r	100	100	100	100	
Austria	100	100	100	^r	100	^r	100	^r	100	^r	100	100	100	100	
Azerbaijan		99	^c	100		100		100			73	91	94	96	
Bahamas		100	100		100		100		100		100	100	100	100	
Bahrain		100	100	^r	100	^r	100	^r	100	^r	100	100	100	100	
Bangladesh		32	^d	55	^g	62	^d	76	^g	94	^g	13	16	18	
Barbados		100	100	^r	100	^r	100	^r	100	^r	97	99	99	99	
Belarus	100	100	100	^r	100	^r	100	^r	100	^r	94	97	98	98	
Belgium	100	100	100	^r	100	^r	100	^r	100	^r	100	100	100	100	
Belize			90	^e	92		92		97		78	83	85	85	
Benin		21	34	^g	34		41	^c	71		2	5	6	6	
Bermuda	100	100	100	^r	100	^r	100	^r	100	^r					
Bhutan			73	^c	97		100		100		32	46	51	53	
Bolivia (Plurinational State of)		70	^h	84		90	^h	93	99		65	77	80	64	
Bosnia and Herzegovina			100		100		100		100		38	54	60	63	
Botswana		27	48		56		61		78		45	58	62	64	
Brazil		87	^h	94		100	^h	100	100		87	94	95	96	
British Virgin Islands															
Brunei Darussalam	100	100	100	^r	100	^r	100	^r	100	^r	100	100	100	100	
Bulgaria	100	100	100	^r	100	^r	100	^r	100	^r	65	86	88	89	
Burkina Faso		9	13	^d	19	^d	19	^d	61		3	6	8	9	
Burundi		3	5	^d	7	^g	8		50		1	1	1	1	
Cambodia		17	^d	31	^d	56	^d	50	100		5	11	15	18	
Cameroon		41	^c	53		57	^c	60	92		10	18	21	23	

Country	Access to electricity (% of population ^a)										Access to Clean Cooking (% of population)				
	Total					Urban					Rural ^b				
	1990	2000	2010	2014	2016	2000	2010	2014	2016	2016	2000	2010	2014	2016	Total
Canada	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Cabo Verde	100	100	81	e	88	93	93	93	93	92	57	67	70	71	71
Cayman Islands	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0
Central African Republic	100	6	c	10	c	13	14	14	34	0	1	1	1	1	1
Chad	100	3	c	6	c	8	8	9	31	2	3	3	3	3	3
Channel Islands	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Chile	92	h	98	h	99	100	100	100	100	100	86	91	92	92	92
China	100	100	100	g	100	100	100	100	100	100	47	55	58	59	59
Colombia	90	d	95	d	97	h	98	h	99	96	80	88	91	92	92
Comoros	100	40	63	c	73	73	78	78	92	72	1	4	7	9	9
Democratic Republic of the Congo	100	7	c	13	c	14	d	17	47	0	4	4	4	4	4
Congo	100	43	43	52	57	74	74	74	74	23	10	18	22	24	24
Cook Islands	100	99	99	h	100	100	100	100	100	100	83	85	85	84	84
Costa Rica	100	99	99	h	100	100	100	100	100	100	88	92	93	93	93
Cote d'Ivoire	100	49	59	e	62	e	64	c	92	c	18	18	18	18	18
Croatia	100	100	100	100	100	100	100	100	100	100	80	90	92	93	93
Cuba	100	97	g	100	100	100	100	100	100	100	68	77	79	79	79
Curapao	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Cyprus	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Czech Republic	100	100	100	100	100	100	100	100	100	100	93	97	97	97	97
Denmark	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Djibouti	100	57	53	53	52	52	52	67	67	0	5	8	10	12	12
Dominica	100	81	95	h	100	100	100	100	100	100	78	87	90	91	91
Dominican Republic	100	89	h	98	h	98	h	100	100	100	80	87	90	90	90
Ecuador	100	93	97	h	99	h	99	h	100	100	87	94	95	96	96
Egypt	100	98	d	100	d	100	d	100	100	100	83	96	97	98	98
El Salvador	100	85	h	92	h	95	h	99	99	99	57	78	84	86	86
Equatorial Guinea	100	75	75	67	67	67	68	68	91	53	23	31	34	34	34
Eritrea	100	29	40	44	44	47	47	47	75	39	6	12	15	16	16
Estonia	100	100	100	100	100	100	100	100	100	100	79	90	92	93	93
Ethiopia	100	13	d	25	d	27	f	43	f	27	1	3	3	4	4
Faeroe Islands	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Fiji	100	75	90	90	96	96	99	99	99	98	31	37	39	40	40
Finland	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
France incl. Monaco	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
French Polynesia	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Gabon	100	74	d	85	d	89	89	91	97	55	59	74	77	79	79
Gambia	100	34	c	40	c	45	48	48	69	16	3	3	3	3	3
Georgia	100	99	99	100	100	100	100	100	100	100	41	66	74	78	78
Germany	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Ghana	100	45	65	78	d	79	d	79	d	67	6	14	19	22	22
Gibraltar	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Greece	100	100	100	100	100	100	100	100	100	100	88	94	94	94	94

Country	Access to electricity (% of population ^a)						Access to Clean Cooking (% of population)					
	Total			Urban ^b			Rural ^b			Total		
	1990	2000	2010	2014	2016	2016	2010	2014	2016	2010	2014	2016 ⁱ
Greenland	100	100	100	100	100	100	100	100	100	100	100	100
Grenada	86	90	91	92	92	92	96	96	96	96	96	97
Guam	100	100	100	100	100	100	100	100	100	100	100	100
Guatemala	73	84	85	85	85	86	97	97	43	45	45	45
Guinea	17	26	30	34	34	7	82	82	1	1	1	1
Guinea-Bissau	6	6	17	15	15	0	30	30	1	1	2	2
Guyana	75	80	87	84	84	82	90	90	36	62	71	74
Haiti	34	36	38	39	39	0	65	65	3	4	4	4
Honduras	68	81	89	88	88	72	100	100	30	46	51	53
Hong Kong (SAR, China)	100	100	100	100	100	100	100	100	100	100	100	100
Hungary	100	100	100	100	100	100	100	100	100	100	100	100
Iceland	100	100	100	100	100	100	100	100	100	100	100	100
India	59	76	81	85	85	78	98	98	22	34	39	41
Indonesia	86	94	97	97	98	95	100	100	5	40	54	58
Iran (Islamic Republic of)	98	99	100	100	100	100	100	100	86	97	98	98
Iraq	98	100	100	100	100	100	100	100	75	95	97	98
Ireland	100	100	100	100	100	100	100	100	100	100	100	100
Isle of Man	100	100	100	100	100	100	100	100	100	100	100	100
Israel	100	100	100	100	100	100	100	100	100	100	100	100
Italy and San Marino	100	100	100	100	100	100	100	100	100	100	100	100
Jamaica	70	85	93	96	98	96	100	100	73	86	89	91
Japan	100	100	100	100	100	100	100	100	100	100	100	100
Jordan	97	99	100	100	100	100	100	100	97	99	99	99
Kazakhstan	99	100	100	100	100	100	100	100	83	93	95	95
Kenya	16	19	36	36	56	39	78	78	2	8	12	13
Kiribati	63	63	81	85	85	82	88	88	2	3	4	6
Democratic People's Republic of Korea	29	29	36	39	39	82	88	88	3	7	10	11
Republic of Korea	100	100	100	100	100	100	100	100	96	97	97	97
Kosovo	99	100	100	100	100	100	100	100	100	100	100	100
Kuwait	100	100	100	100	100	100	100	100	100	100	100	100
Kyrgyzstan	100	100	100	100	100	100	100	100	52	72	78	81
Lao People's Democratic Republic	43	70	81	87	87	80	97	97	4	5	5	6
Latvia	100	100	100	100	100	100	100	100	86	93	95	95
Lebanon	100	100	100	100	100	100	100	100	100	100	100	100
Lesotho	4	19	28	30	30	16	66	66	18	30	34	36
Liberia	5	5	9	20	20	1	34	34	1	1	1	1
Libya	99	99	99	99	99	96	99	99	100	100	100	100
Liechtenstein	100	100	100	100	100	100	100	100	100	100	100	100
Lithuania	100	100	100	100	100	100	100	100	100	100	100	100
Luxembourg	100	100	100	100	100	100	100	100	100	100	100	100
China, Macao Special Administrative Region	100	100	100	100	100	100	100	100	100	100	100	100
The former Yugoslav Republic of Macedonia	14	17	19	23	23	17	67	67	1	1	1	1
Madagascar	5	9	12	12	11	4	42	42	2	2	2	3
Malawi	5	9	12	12	11	4	42	42	2	2	2	3

Country	Access to electricity (% of population ^a)										Access to Clean Cooking (% of population)								
	Total					Urban					Rural ^b								
	1990	2000	2010	2014	2016	2000	2010	2014	2016	2016	2000	2010	2014	2016	Total				
Malaysia																			
Maldives		84	e	97	100	e	100	100	100	100	100	100	100	100	32	84	92	94	
Mali		10		25	32		35	84	2		1	1	1	1	1	1	1	1	
Malta	100	k	100	r	100	r	100	r	100	r	100	r	100	r	100	100	100	100	100
Marshall Islands		68		83	90		93	95	89		13	55	64	65	13	55	64	65	
Mauritania				33	39	g	42	81	0		29	40	44	47	29	40	44	47	
Mauritius		99	e	99	99	h	99	92	100	100	87	92	93	93	87	92	93	93	
Mexico		98	h	99	99	h	100	100	100	100	81	84	85	85	81	84	85	85	
Micronesia, Federated States of		46	e	65	e	72	75	92	71		11	12	12	12	11	12	12	12	
Republic of Moldova				100	100		100	100	100	100	68	87	91	92	68	87	91	92	
Monaco	100	k	100	r	100	r	100	r	100	r	100	100	100	100	100	100	100	100	100
Mongolia		67	e	79	c	81	82	96	44		22	34	40	43	22	34	40	43	
Montenegro				100	100		100	100	100	100	55	65	68	69	55	65	68	69	
Morocco		70		91	92	e	100	100	100	100	90	96	96	97	90	96	96	97	
Mozambique		7		17	22		24	64	5		3	3	4	4	3	3	4	4	
Myanmar				49	g	52	e	57	40		5	11	15	18	5	11	15	18	
Namibia		37	d	45	50		52	77	29		33	39	41	42	33	39	41	42	
Nauru				99	99		99	99	99		74	89	91	91	74	89	91	91	
Nepal		28		67	85	c	91	d	85	d	15	22	26	28	15	22	26	28	
Netherlands	100	k	100	r	100	r	100	r	100	r	100	100	100	100	100	100	100	100	100
New Caledonia				100	100		100	100	100	100	100	100	100	100	100	100	100	100	100
New Zealand	100	k	100	r	100	r	100	r	100	r	100	100	100	100	100	100	100	100	100
Nicaragua		73		78	82		82	h	57		34	46	50	52	34	46	50	52	
Niger		6	c	13	15		16	65	5		1	2	2	2	1	2	2	2	
Nigeria	27	d	43	48	d	56	59	g	41	g	1	2	4	5	1	2	4	5	
Niue				100	100		100	100	100	100	100	100	100	100	100	100	100	100	100
Northern Mariana Islands		100	r	100	r	100	r	100	r	100	100	100	100	100	100	100	100	100	100
Norway including Svalbard and Jan Mayen Islands	100	k	100	r	100	r	100	r	100	r	100	100	100	100	100	100	100	100	100
Oman				100	100		100	100	100	100	85	94	95	95	85	94	95	95	
Pakistan		75		90	96		99	100	99		23	36	41	43	23	36	41	43	
Palau				99	100	g	99	100	97		64	83	86	87	64	83	86	87	
Panama	70	e	81	e	87	e	92	93	81		79	86	88	89	79	86	88	89	
Papua New Guinea		12		20	g	21	23	73	15		7	11	12	13	7	11	12	13	
Paraguay		89		97	h	99	h	98	c		44	58	64	66	44	58	64	66	
Peru		72	h	88	h	93	h	95	76		35	66	72	75	35	66	72	75	
Philippines		73		84	89		91	97	86		36	42	43	43	36	42	43	43	
Poland	100	k	100	r	100	r	100	r	100	r	100	100	100	100	100	100	100	100	100
Portugal	100	k	100	r	100	r	100	r	100	r	100	100	100	100	100	100	100	100	100
Puerto Rico				100	100		100	100	100	100	100	100	100	100	100	100	100	100	100
Qatar	100	k	100	r	100	r	100	r	100	r	92	98	98	98	92	98	98	98	
Romania	100	k	100	r	100	r	100	r	100	r	65	81	85	86	65	81	85	86	
Russian Federation	100	k	100	r	100	r	100	r	100	r	93	97	98	98	93	97	98	98	
Rwanda		6	d	10	d	20	g	29	j	18	j	0	1	1	0	0	1	1	
Samoa		88		97	98	d	100	100	100	100	20	29	32	32	20	29	32	32	

Country	Access to electricity (% of population ^a)						Access to Clean Cooking (% of population)					
	Total			Urban ^b			Rural ^b			Total		
	1990	2000	2010	2014	2016	2016	2000	2010	2014	2016	2016	
San Marino	100	100	100	100	100	100	100	100	100	100	100	
Sao Tome and Principe		53	60	69	65	73	18	22	19	17	17	
Saudi Arabia		100	100	100	100	100	95	96	96	96	96	
Senegal		38	54	61	65	88	32	32	32	32	32	
Serbia		100	100	100	100	100	52	69	74	76	76	
Seychelles		94	97	99	100	99	77	88	90	90	90	
Sierra Leone			11	16	20	47	0	1	1	1	1	
Singapore	100	100	100	100	100	100	100	100	100	100	100	
Sint Maarten (Dutch part)	100	100	100	100	100	100	100	100	100	100	100	
Slovak Republic	100	100	100	100	100	100	94	97	97	97	97	
Slovenia	100	100	100	100	100	100	89	95	96	96	96	
Solomon Islands		7	32	43	48	70	6	8	8	8	8	
Somalia		20	20	27	30	57	1	1	2	2	2	
South Africa		71	83	86	84	93	56	77	82	85	85	
South Sudan			2	7	9	22	1	1	1	1	1	
Spain	100	100	100	100	100	100	100	100	100	100	100	
Sri Lanka			85	92	96	100	16	22	25	26	26	
Saint Kitts and Nevis			94	97	98	95	86	95	97	97	97	
Saint Lucia			64	70	72	90						
Sint Maarten (French part)		80	93	99	100	97	95	96	96	96	96	
Saint Vincent and the Grenadines		23	35	45	39	70	14	29	37	41	41	
Sudan	33	97	91	88	87	96	80	87	89	90	90	
Suriname			46	65	66	83	27	42	47	50	50	
Swaziland			100	100	100	100	100	100	100	100	100	
Sweden	100	100	100	100	100	100	100	100	100	100	100	
Switzerland-Liechtenstein	100	100	100	100	100	100	100	100	100	100	100	
Syrian Arab Republic			93	99	100	100	97	99	99	99	99	
Tajikistan		98	99	100	100	100	39	67	77	80	80	
Tanzania		10	15	19	33	65	1	2	2	2	2	
Thailand		82	100	100	100	100	68	72	74	74	74	
Timor-Leste			38	58	63	92	2	5	6	7	7	
Togo		17	31	46	47	87	0	4	6	7	7	
Tonga		85	92	95	97	99	48	56	58	59	59	
Trinidad and Tobago		91	99	100	100	100	99	99	99	99	99	
Tunisia		95	100	100	100	100	93	98	99	99	99	
Turkey			100	100	100	100						
Turkmenistan		100	100	100	100	100	96	99	99	99	99	
Turks and Caicos Islands	89	96	94	95	96	100	43					
Tuvalu			97	99	99	100	19	38	47	50	50	
Uganda		8	15	20	27	58	1	1	1	1	1	
Ukraine			100	100	100	100	88	94	95	96	96	
United Arab Emirates	100	100	100	100	100	100	97	98	99	99	99	
United Kingdom	100	100	100	100	100	100	100	100	100	100	100	
United States	100	100	100	100	100	100	100	100	100	100	100	

Country	Access to electricity (% of population ^a)						Access to Clean Cooking (% of population)					
	Total		Urban		Rural ^b		Total		Urban		Rural	
	1990	2000	2010	2014	2016	2016	2000	2010	2014	2016	2016	2016
Uruguay			99	100	100	100	96	98	98	98	98	98
Uzbekistan		100	100	100	100	100	80	89	91	92	92	92
Vanuatu		22	37	43	58	58	12	13	13	13	13	13
Venezuela (Bolivarian Republic of)		98	99	99	100	100	96	97	97	97	96	96
Viet Nam		86	98	99	99	100	14	47	61	67	67	67
United States Virgin Islands	100	100	100	100	100	100	100	100	100	100	100	100
Palestine (State of)		100	100	100	100	100						
Yemen		50	63	66	72	72	52	61	64	65	65	65
Zambia	14	17	22	28	27	27	14	15	16	16	16	16
Zimbabwe		34	36	32	38	38	32	30	30	29	29	29
World	70	77	80	84	87	87	50	56	58	59	59	59
High income	93	97	100	100	100	100	97	98	99	99	99	99
Low income	4	13	16	23	35	35	4	5	6	7	7	7
Lower middle income	48	63	69	76	84	84	33	38	42	47	47	47
Upper middle income	91	95	96	98	99	99	67	73	78	81	81	81
Central Asia and Southern Asia	45	60	68	77	87	87	26	37	41	43	43	43
Eastern Asia and South-eastern Asia	82	91	93	96	97	97	45	55	59	60	60	60
Latin America and the Caribbean	85	91	94	96	98	98	78	85	87	87	87	87
Northern America and Europe	100	100	100	100	100	100	96	98	98	99	99	99
Oceania	80	81	82	82	83	83	78	78	78	78	78	78
Sub-Saharan Africa	15	26	29	33	43	43	9	11	13	13	13	13
Western Asia and Northern Africa	76	80	89	92	93	93	77	87	88	89	89	89

Note: Unless otherwise noted, data are World Bank estimates based on the statistical model described in chapter 2 in the main report.

a. Most surveys report data on the percentage of households with access to electricity rather than on the percentage of the population with access.

b. Data are calculated based on the urban and total population with access and are not based on a statistical model.

c. Based on Multi-Indicator Cluster Survey (MICS)

d. Based on Demographic and Health Survey (DHS)

e. Based on Census

f. Based on Living Standards Measurement Survey (LSMS)

g. Based on other National Surveys conducted by national statistical agencies

h. Based on Socio-Economic Database for Latin America and the Caribbean (SEDLAC)

i. Based on Europe and Central Asia Poverty Database (ECAPOV)

j. Based on Multi-Tier Framework (MTF)

k. Based on assumption for countries considered "developed" by the UN or which are classified as High Income Countries (HIC)

l. Based on the World Health Organization Global Health Observatory

ENERGY EFFICIENCY

Country	Energy Intensity (MJ/USD 2011 PPP)					Compound annual growth rate of Energy Intensity (%)				
	1990	2000	2010	2014	2015	1990-2000	2000-2010	2010-2014	2014-2015	
Afghanistan	1.9	1.7	2.9	2.3	2.5	-11%	5.7%	-5.8%	6.1%	a
Albania	7.5	4.4	3.1	3.2	2.9	-51%	-3.6%	0.7%	-8.6%	b
Algeria	3.5	3.5	3.6	4.1	4.1	0.1%	0.2%	3.2%	0.7%	b
Andorra										
Angola	4.6	5.2	3.7	3.6	3.6	1.3%	-3.4%	-0.4%	-1.1%	b
Antigua										
Antigua and Barbuda	3.8	3.2	4.1	4.0	3.9	-1.8%	2.6%	-1.2%	-1.6%	a
Argentina	5.4	4.7	4.3	4.3	4.3	-1.5%	-0.9%	0.4%	-0.1%	b
Armenia	24.4	9.4	5.4	5.3	5.4	-9.1%	-5.4%	-0.2%	0.7%	b
Aruba	2.4	7.6	7.6	3.3	3.3	12.4%	0.0%	-19.1%	1.4%	a
Australia	7.4	6.4	5.9	5.2	5.0	-1.5%	-0.9%	-3.2%	-2.3%	b
Austria	4.3	3.9	3.9	3.6	3.6	-1.2%	0.2%	-2.4%	1.5%	b
Azerbaijan	15.6	13.2	3.4	3.8	3.7	-1.7%	-12.8%	2.9%	-0.9%	b
Bahamas	4.1	3.5	4.2	4.0	4.0	-1.5%	1.8%	-1.2%	1.3%	a
Bahrain	12.4	11.0	10.4	9.9	9.8	-1.2%	-0.6%	-1.3%	-1.4%	b
Bangladesh	3.9	3.5	3.4	3.1	3.1	-1.0%	-0.3%	-2.3%	0.3%	b
Barbados	4.6	4.2	4.7	3.8	3.8	-1.0%	1.1%	-5.0%	-0.6%	a
Belarus	22.4	13.6	7.5	6.8	6.5	-4.8%	-5.8%	-2.2%	-5.3%	b
Belgium	6.6	6.4	5.6	4.8	4.7	-0.3%	-1.2%	-4.0%	-0.9%	b
Belize	8.5	6.4	5.1	4.6	5.1	-2.9%	-2.3%	-2.5%	11.5%	a
Benin	9.6	7.3	9.3	8.6	9.1	-2.7%	2.5%	-1.8%	5.3%	b
Bermuda	2.9	2.3	2.4	2.4	2.0	-2.5%	0.5%	-0.3%	-14.9%	a
Bhutan	30.0	21.8	12.6	11.2	10.4	-3.1%	-5.4%	-2.7%	-7.4%	a
Bolivia	4.3	5.6	4.9	5.2	4.9	2.6%	-1.3%	1.2%	-4.2%	b
Bosnia and Herzegovina	39.1	7.6	7.5	8.8	8.7	-15.1%	-0.2%	3.9%	-0.3%	b
Botswana	4.6	4.2	3.4	3.3	3.4	-0.9%	-2.2%	-0.5%	1.7%	b
Brazil	3.8	3.9	3.9	4.0	4.1	0.4%	-0.1%	1.0%	2.1%	b
Brunei Darussalam	3.3	3.7	4.3	4.7	3.7	1.0%	1.7%	2.3%	-23.1%	b
Bulgaria	14.6	10.6	6.6	6.4	6.4	-3.1%	-4.6%	-1.0%	0.4%	b
Burkina Faso	12.9	6.8	6.5	6.1	6.0	-6.2%	-0.4%	-1.7%	-1.1%	a
Burundi	9.8	11.3	13.3	7.5	7.7	1.5%	1.6%	-13.4%	3.0%	a
Cambodia	8.5	6.2	6.2	5.6	5.8	-3.2%	-3.2%	-2.5%	3.3%	b
Cameroon	6.2	6.9	5.5	4.9	4.8	1.0%	-2.2%	-3.1%	-1.7%	b
Canada	10.2	9.2	8.0	7.6	7.3	-1.0%	-1.4%	-1.2%	-4.0%	b
Cabo Verde	4.0	2.7	3.2	2.8	2.8	-4.0%	1.7%	-3.3%	0.4%	a
Cayman Islands										
Central African Republic	11.3	7.3	5.7	8.5	8.1	-4.3%	-2.4%	10.4%	-4.4%	a
Chad	6.8	6.9	3.2	2.8	2.8	0.2%	-7.5%	-3.2%	-0.2%	a
Channel Islands										
Chile	4.9	4.8	3.9	3.8	3.8	-0.2%	-2.1%	-0.9%	0.2%	b
China	21.0	10.1	8.3	7.1	6.7	-7.1%	-1.9%	-3.9%	-5.8%	b
Colombia	3.9	3.2	2.6	2.3	2.3	-2.0%	-2.1%	-2.7%	-3.6%	b
Comoros	3.2	4.0	4.8	4.5	4.7	2.3%	1.7%	-1.4%	4.2%	a

Country	Energy Intensity (MJ/USD 2011 PPP)					Compound annual growth rate of Energy Intensity (%)				
	1990	2000	2010	2014	2015	1990-2000	2000-2010	2010-2014	2014-2015	
Democratic Republic of the Congo	111	234	211	22.6	20.9	7.7%	-1.0%	1.7%	-7.3%	b
Congo	2.6	21	31	4.1	4.0	-2.4%	4.1%	7.2%	-1.5%	b
Cook Islands										
Costa Rica	2.9	31	3.3	3.0	2.9	0.6%	0.6%	-2.2%	-4.4%	b
Côte d'Ivoire	4.6	5.8	7.8	8.4	7.2	2.2%	3.0%	2.1%	-14.3%	b
Croatia	6.8	5.0	4.4	3.9	4.1	-2.9%	-1.3%	-2.8%	2.7%	b
Cuba	5.0	4.2	2.5	2.1	2.1	-1.7%	-5.2%	-3.7%	-1.2%	b
Curacao										
Cyprus	4.2	4.3	3.6	3.3	3.3	0.1%	-1.6%	-2.7%	0.4%	b
Czechia	101	8.0	6.4	5.7	5.5	-2.4%	-2.2%	-2.6%	-3.9%	b
Denmark	4.2	3.5	3.3	2.7	2.6	-1.9%	-0.3%	-5.6%	-1.7%	b
Djibouti	3.5	5.2	4.8	4.1	3.4	4.0%	-0.9%	-3.5%	-17.4%	a
Dominica	2.0	2.9	3.4	3.3	3.6	3.6%	1.5%	-0.5%	9.3%	a
Dominican Republic	4.4	4.4	2.8	2.4	2.5	0.0%	-4.5%	-3.7%	1.3%	b
Ecuador	3.5	4.0	3.5	3.4	3.6	1.3%	-1.1%	-0.8%	6.0%	b
Egypt	4.0	3.3	3.7	3.7	3.5	-1.9%	1.2%	0.1%	-5.5%	b
El Salvador	4.3	4.4	4.1	3.5	3.6	0.2%	-0.9%	-3.5%	3.8%	b
Equatorial Guinea	11.8	1.4	2.1	2.1	2.2	-19.3%	4.4%	-0.8%	7.2%	a
Eritrea	5.2	5.0	5.0	4.7	4.8	-0.4%	-0.4%	-1.3%	1.8%	b
Estonia	31.3	9.0	7.8	7.1	6.3	-11.7%	-1.5%	-2.3%	-10.7%	b
Ethiopia	30.6	32.3	19.0	14.7	13.7	0.5%	-5.2%	-6.2%	-6.8%	b
Faroe Islands										
Fiji	4.8	4.0	3.5	4.0	4.9	-1.8%	-1.5%	3.9%	20.3%	a
Finland	8.2	7.5	7.2	6.7	6.4	-0.9%	-0.5%	-1.7%	-5.0%	b
France	5.4	5.0	4.6	4.1	4.1	-0.9%	-0.8%	-2.7%	0.5%	b
French Polynesia										
Gabon	2.7	2.8	8.4	6.7	6.5	0.5%	11.6%	-5.6%	-2.4%	b
Gambia	5.0	4.9	4.4	4.6	4.5	-0.2%	-1.0%	1.2%	-2.6%	a
Georgia	13.5	8.3	4.9	5.6	5.8	-4.7%	-5.1%	3.3%	2.5%	b
Germany	5.9	4.7	4.1	3.6	3.6	-2.4%	-1.2%	-3.1%	-1.0%	b
Ghana	7.9	6.1	4.2	3.6	3.7	-2.5%	-3.7%	-4.2%	5.0%	b
Gibraltar										
Greece	4.3	4.2	3.6	3.7	3.7	-0.1%	-1.5%	0.6%	0.5%	b
Greenland										
Grenada	2.3	3.0	3.4	2.9	3.0	2.5%	1.4%	-3.8%	0.9%	a
Guam										
Guatemala	3.9	4.2	4.3	4.9	4.5	0.6%	0.4%	2.9%	-7.8%	b
Guinea	15.5	12.8	11.4	10.2	10.6	-1.9%	-1.2%	-2.8%	4.1%	a
Guinea-Bissau	12.6	13.7	12.9	12.4	12.0	0.8%	-0.6%	-1.0%	-2.9%	a
Guyana	11.6	9.3	7.4	6.6	6.4	-2.2%	-2.3%	-2.6%	-3.8%	a
Haiti	5.2	5.7	10.6	9.9	10.1	0.8%	6.5%	-1.5%	1.6%	b
Honduras	6.3	5.8	5.9	6.0	6.2	-0.9%	0.2%	0.6%	2.3%	b
Hong Kong (SAR, China)	2.3	2.5	1.7	1.6	1.5	0.7%	-3.9%	-2.1%	-4.2%	b
Hungary	8.4	5.7	5.0	4.2	4.3	-3.8%	-1.4%	-4.1%	2.6%	b
Iceland	12.8	13.6	18.4	18.1	16.6	0.6%	3.0%	-0.4%	-8.6%	b
India	8.4	7.0	5.4	5.0	4.7	-1.8%	-2.7%	-1.9%	-4.6%	b
Indonesia	4.9	5.3	4.3	3.7	3.5	0.8%	-2.1%	-3.9%	-4.3%	b
Iran (Islamic Republic of)	5.1	6.6	6.6	7.7	7.8	2.6%	0.0%	4.0%	1.3%	b
Iraq	4.2	3.8	4.0	4.0	3.7	-1.0%	0.6%	0.1%	-7.7%	b

Country	Energy Intensity (MJ/USD 2011 PPP)					Compound annual growth rate of Energy Intensity (%)				
	1990	2000	2010	2014	2015	1990-2000	2000-2010	2010-2014	2014-2015	
Ireland	5.3	3.7	2.9	2.4	1.9	-3.5%	-2.5%	-4.9%	-17.6%	b
Isle of Man										
Israel	5.2	4.7	4.3	3.4	3.6	-1.1%	-0.8%	-5.5%	4.4%	b
Italy	3.5	3.5	3.4	3.0	3.1	-0.1%	-0.2%	0.7%	3.2%	b
Jamaica	6.6	7.6	5.0	5.1	5.2	1.4%	-4.1%	0.1%	2.0%	b
Japan	4.9	5.0	4.6	3.9	3.7	0.3%	-1.0%	-4.0%	-3.3%	b
Jordan	6.1	5.5	4.4	4.5	4.6	-1.0%	-2.3%	0.8%	3.0%	b
Kazakhstan	14.4	10.1	8.8	7.9	7.9	-3.5%	-1.3%	-2.8%	0.7%	b
Kenya	8.1	8.7	8.0	7.8	7.8	0.8%	-0.9%	-0.5%	0.3%	b
Kiribati	3.3	2.8	4.8	4.0	4.1	-1.7%	5.7%	-4.4%	2.6%	a
Democratic People's Republic of Korea										
Republic of Korea	7.8	8.1	7.0	6.6	6.5	0.3%	-1.5%	-1.2%	-1.2%	b
Kosovo										
Kuwait	4.9	5.5	6.0	5.0	5.3	1.1%	0.9%	-4.4%	7.0%	b
Kyrgyzstan	20.5	9.6	7.6	9.2	8.6	-7.4%	-2.3%	5.0%	-6.2%	b
Lao People's Democratic Republic	8.7	5.6	4.8	3.9	5.2	-4.3%	-1.6%	-4.7%	31.3%	a
Latvia	21.4	6.1	4.9	4.1	3.9	-11.8%	-2.1%	-4.5%	-4.4%	b
Lebanon	3.9	5.1	3.8	4.2	4.2	2.8%	-2.9%	2.4%	0.6%	b
Lesotho	16.4	14.4	10.8	10.3	9.7	-1.3%	-2.8%	-1.2%	-5.7%	a
Liberia	20.7	20.2	27.0	25.4	26.0	-0.2%	3.0%	-1.6%	2.4%	a
Libya	5.2	5.6	4.8	4.4	4.2	0.9%	-1.7%	-1.7%	-5.3%	b
Liechtenstein										
Lithuania	28.9	7.0	4.5	3.8	3.9	-13.2%	-4.3%	-4.2%	1.4%	b
Luxembourg	6.4	3.9	3.8	3.1	2.9	-4.8%	-0.3%	-5.2%	-6.3%	b
Macao (SAR, China)	1.0	1.3	0.6	0.4	0.7	2.2%	-7.8%	-6.9%	50.5%	a
Macedonia, FYR	5.4	6.4	5.1	4.4	4.2	1.7%	-2.2%	-3.6%	-4.1%	b
Madagascar	4.4	5.2	5.1	5.3	5.4	1.6%	-0.1%	0.7%	1.8%	a
Malawi	9.1	6.6	4.9	4.3	4.1	-3.2%	-2.9%	-3.2%	-5.6%	a
Malaysia	4.8	5.4	5.2	5.1	4.7	1.2%	-0.4%	-0.2%	-8.8%	b
Maldives	17.2	3.6	3.5	4.0	3.8	-14.5%	-0.3%	3.3%	-2.9%	a
Mali	4.0	3.5	2.8	2.9	2.8	-1.3%	-2.4%	0.9%	-1.6%	a
Malta	5.1	2.9	3.0	2.3	1.8	-5.3%	0.1%	-5.9%	-22.9%	b
Marshall Islands	10.6	11.8	11.8	10.9	11.3	1.1%	1.1%	-1.9%	3.7%	a
Mauritania	4.0	3.9	3.7	3.6	3.6	-0.4%	-0.3%	-0.6%	-1.6%	a
Mauritius	3.6	3.2	2.8	2.5	2.6	-1.0%	-1.5%	-2.0%	0.1%	b
Mexico	4.8	4.1	4.1	3.9	3.7	-1.5%	-0.1%	-1.5%	-3.0%	b
Micronesia (Federated States of)										
Moldova	81.2	14.3	10.5	8.2	8.4	-16.0%	-3.0%	-6.2%	2.8%	b
Monaco										
Mongolia	12.8	9.0	7.9	6.7	6.1	-3.4%	-1.3%	-4.1%	-8.5%	b
Montenegro										
Morocco	3.2	3.5	3.4	3.2	3.2	0.8%	-0.4%	-1.1%	-2.6%	b
Mozambique	49.4	29.6	18.8	16.6	17.3	-5.0%	-4.5%	-3.0%	4.4%	b
Myanmar	14.8	8.9	3.0	3.1	3.1	-4.9%	-10.2%	0.8%	-0.2%	b
Namibia										
Nauru	3.7	3.5	3.5	3.3	3.3	-0.5%	-0.5%	-1.4%	-1.5%	b
Nepal	10.8	9.3	8.0	7.6	7.4	-1.5%	-1.5%	-1.2%	-2.4%	b
Netherlands	5.9	4.8	4.6	4.0	3.9	-2.1%	-0.3%	-3.8%	-0.7%	b

Country	Energy Intensity (MJ/USD 2011 PPP)					Compound annual growth rate of Energy Intensity (%)				
	1990	2000	2010	2014	2015	1990-2000	2000-2010	2010-2014	2014-2015	2015
New Caledonia	6.7	6.6	5.5	5.5	5.4	-0.2%	-1.8%	0.2%	-1.7%	b
New Zealand	6.8	6.1	5.4	5.2	5.4	-1.1%	-1.2%	-0.5%	3.5%	b
Nicaragua	7.2	7.0	7.1	7.1	6.9	0.3%	-0.3%	0.3%	-1.8%	b
Niger	9.6	10.3	6.1	5.6	5.7	0.7%	-5.1%	-2.2%	0.9%	b
Nigeria										
Niue										
Northern Mariana Islands										
Norway	4.9	4.2	4.7	3.6	3.8	-1.4%	1.0%	-6.4%	4.8%	b
Oman	2.8	3.2	5.7	6.4	6.3	1.3%	6.0%	2.9%	-1.3%	b
Pakistan	5.5	5.5	4.8	4.5	4.4	0.1%	-1.3%	-1.6%	-2.5%	b
Palau	11.1	11.4	11.4	11.7	10.2	0.2%	0.2%	0.6%	-12.2%	a
Panama	3.2	3.4	2.7	2.3	2.2	0.4%	-2.2%	-4.1%	-4.4%	a
Papua New Guinea	13.2	9.9	9.5	7.7	9.3	-2.9%	-0.4%	-5.0%	20.1%	a
Paraguay	5.1	5.0	4.4	3.9	4.0	-0.1%	-1.2%	-3.3%	1.8%	b
Peru	3.5	3.0	2.8	2.8	2.8	-1.5%	-0.7%	-0.1%	0.3%	b
Philippines	4.8	5.1	3.2	3.0	3.1	0.5%	-4.4%	-1.5%	2.9%	b
Poland	11.0	6.6	5.1	4.3	4.1	-5.0%	-2.6%	-4.3%	-2.8%	b
Portugal	3.5	3.8	3.4	3.3	3.3	1.0%	-1.2%	-1.1%	2.1%	b
Puerto Rico	0.0	0.1	0.2	0.4	0.4	24.5%	7.8%	15.9%	5.2%	a
Qatar	9.3	7.1	5.2	6.5	6.4	-2.7%	-3.1%	5.7%	-1.1%	b
Romania	47093.5	6.4	3.4	3.4	3.3	-58.9%	-4.5%	-4.5%	-2.5%	b
Russian Federation	12.0	5.0	8.7	8.3	8.4	-8.5%	5.8%	-1.1%	0.8%	b
Rwanda	5.6	8.5	6.1	5.2	4.9	4.2%	-3.3%	-3.6%	-6.6%	a
Samoa	4.3	4.4	4.5	4.3	5.2	0.2%	0.2%	-1.4%	21.6%	a
San Marino										
Sao Tome and Principe	32.4	5.9	5.2	4.7	4.7	-15.6%	-1.3%	-2.5%	-1.1%	a
Saudi Arabia	3.5	4.6	6.2	5.8	5.8	2.7%	3.1%	-1.7%	-0.2%	b
Senegal	5.1	5.3	5.7	5.1	5.0	0.5%	0.7%	-2.9%	-1.6%	b
Serbia	18.9	9.6	7.1	5.9	6.6	-6.6%	-3.0%	-4.3%	10.5%	b
Seychelles	2.2	5.4	3.3	2.6	2.6	9.2%	-4.6%	-6.4%	2.9%	a
Sierra Leone	9.3	13.1	7.6	5.8	7.0	3.5%	-5.3%	-6.7%	20.8%	a
Singapore	4.6	3.8	2.9	2.5	2.4	-2.0%	-2.5%	-3.8%	-3.6%	b
Sint Maarten (Dutch part)										
Slovak Republic	18.6	8.8	5.5	4.5	4.5	-7.2%	-4.6%	-4.8%	-1.0%	b
Slovenia	7.1	5.9	5.2	4.7	4.6	-1.8%	-1.3%	-2.4%	-3.4%	b
Solomon Islands	9.4	7.7	6.3	5.2	5.0	-2.0%	-2.0%	-4.5%	-3.7%	a
Somalia										
South Africa	10.5	10.5	9.7	9.0	8.7	0.0%	-0.8%	-1.7%	-3.7%	b
South Sudan										
Spain	4.1	4.2	3.5	3.3	3.3	0.3%	-1.7%	-1.6%	0.6%	b
Sri Lanka	3.7	3.3	2.4	2.0	2.1	-1.0%	-3.4%	-3.7%	1.5%	b
Saint Kitts and Nevis	3.7					-100.0%				
Saint Lucia	2.0	3.1	3.1	3.2	3.2	4.7%	0.1%	0.6%	-1.3%	a
Sint Maarten (Dutch part)										
Saint Vincent and the Grenadines	2.2	2.8	3.1	2.9	2.9	2.4%	1.1%	-1.3%	-0.5%	a
Sudan	9.8	7.2	4.7	4.0	4.0	-3.1%	-4.2%	-4.0%	-0.3%	b
Suriname		5.7	4.0	3.4	3.4	-3.5%	-3.8%	-3.8%	-1.4%	b
Swaziland	4.3	6.6	5.0	4.5	4.6	4.5%	-2.8%	-2.5%	2.3%	a

Country	Energy Intensity (MJ/USD 2011 PPP)						Compound annual growth rate of Energy Intensity (%)				
	1990	2000	2010	2014	2015		1990-2000	2000-2010	2010-2014	2014-2015	
Sweden	7.5	6.1	5.3	4.7	4.3		-2.0%	-1.4%	-2.9%	-9.4%	b
Switzerland	3.2	2.9	2.5	2.3	2.2		-0.9%	-1.4%	-2.7%	-2.9%	b
Syrian Arab Republic	11.6	10.4	10.0	4.4	4.0		-1.1%	-0.5%	-18.3%	-9.5%	b
Tajikistan	11.5	12.3	5.7	5.1	5.0		0.6%	-7.4%	-2.7%	-1.1%	b
Tanzania	11.2	11.5	9.2	8.5	8.3		0.2%	-2.1%	-2.0%	-2.2%	b
Thailand	4.7	5.2	5.4	5.6	5.4		1.1%	0.4%	0.5%	-2.6%	b
Timor-Leste											
Togo	10.3	13.9	16.6	14.6	14.3		3.0%	1.8%	-3.1%	-1.9%	b
Tonga	3.3	3.2	3.0	3.0	3.0		-0.1%	-0.1%	-1.8%	1.5%	a
Trinidad and Tobago	16.7	17.7	20.2	19.1	19.1		0.6%	1.3%	-1.4%	-0.3%	b
Tunisia	4.5	4.2	3.9	3.7	3.8		-0.7%	-0.7%	-1.2%	2.0%	b
Turkey	3.6	3.6	3.4	2.9	2.9		0.1%	-0.5%	-3.8%	0.0%	b
Turkmenistan	23.9	25.9	18.8	14.3	13.9		0.8%	-3.2%	-6.6%	-3.0%	b
Turks and Caicos Islands											
Tuvalu	3.5	3.3	3.9	3.7	3.9		-0.3%	1.5%	-1.3%	6.0%	a
Uganda	20.6	12.4	10.0	9.7	9.6		-4.9%	-2.1%	-0.9%	-0.2%	a
Ukraine	19.4	23.7	15.4	12.5	11.8		2.0%	-4.2%	-5.2%	-5.5%	b
United Arab Emirates	4.1	4.1	5.5	5.3	5.1		-0.2%	3.1%	-1.2%	-3.6%	b
United Kingdom	5.6	4.8	3.8	3.1	3.0		-1.6%	-2.4%	-4.9%	-1.7%	b
United States	8.7	7.3	6.1	5.6	5.4		-1.7%	-1.9%	-1.9%	-3.8%	b
Uruguay	3.1	3.0	3.0	2.9	3.1		-0.2%	-0.2%	-0.6%	6.9%	b
Uzbekistan	30.8	34.5	14.9	11.1	10.0		1.1%	-8.0%	-7.2%	-9.7%	b
Vanuatu	3.1	4.0	3.9	4.3	3.9		2.4%	-0.3%	2.4%	-9.3%	a
Venezuela	5.8	6.1	6.3	5.5	4.7		0.5%	0.4%	-3.5%	-13.7%	b
Vietnam	7.5	5.8	6.3	5.7	5.9		-2.5%	0.8%	-2.4%	3.5%	b
United States Virgin Islands											
Palestine (State of)											
Yemen	2.6	2.9	3.1	3.2	2.1		0.9%	0.8%	1.0%	-36.2%	b
Zambia	12.1	12.0	7.8	7.4	7.3		-0.1%	-4.2%	-1.2%	-0.7%	b
Zimbabwe	14.7	13.3	19.5	15.7	15.8		-1.0%	3.9%	-5.3%	0.3%	b
World	7.8	6.6	5.9	5.4	5.3		-1.6%	-1.2%	-2.1%	-2.9%	c
High income	7.1	6.2	5.4	5.0	4.8		-1.3%	-1.4%	-2.1%	-2.3%	c
Low income	12.9	13.1	10.9	10.0	9.8		0.2%	-1.8%	-2.2%	-2.3%	c
Lower middle income	8.5	7.0	5.3	4.8	4.6		-2.0%	-2.7%	-2.6%	-3.8%	c
Upper middle income	9.0	6.9	6.5	6.0	5.8		-2.7%	-0.5%	-2.2%	-3.8%	c
Central Asia and Southern Asia	8.2	7.1	5.7	5.4	5.2		-1.4%	-2.2%	-1.4%	-3.6%	c
Eastern Asia and South-eastern Asia	8.7	7.1	6.7	5.9	5.6		-2.0%	-0.7%	-3.0%	-4.4%	c
Latin America and the Caribbean	4.5	4.3	4.1	3.9	3.9		-0.5%	-0.5%	-0.8%	-1.4%	c
Northern America and Europe	8.1	6.7	5.6	5.2	5.0		-1.9%	-1.7%	-2.1%	-2.6%	c
Oceania	7.4	6.4	5.9	5.2	5.1		-1.3%	-1.0%	-2.7%	-1.8%	c
Sub-Saharan Africa	9.2	9.8	7.8	7.3	7.2		0.6%	-2.2%	-1.6%	-1.5%	c
Western Asia and Northern Africa	4.5	4.4	5.0	4.4	4.8		-0.3%	1.2%	-3.2%	8.6%	c

a. Source: Energy Balances, UN Statistics Division (2017)

b. Source: World Energy Balances, IEA (2017)

c. Sources: World Bank analysis based on World Energy Statistics and Balances, IEA (2017); Energy Balances, UN Statistics Division (2017)

Country	Share in total final energy consumption (%)												Final use of renewable energy (petajoules)						Total final energy consumer (petajoules)	
	Renewable Energy						Solid biofuels			Other (biogas, renewable waste, marine)			Electricity	Heat	Transport	2015	2015			
	1990	2010	2014	2015	2015	2015	Traditional use	Modern use	Hydro	Liquid Biofuels	Wind	Solar						Geothermal		
Togo	78.70%	65.83%	72.16%	71.26%	58.55%	9.45%	3.26%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	3.28	62.68	-	-	93		
Tokelau																				
Tonga	1.49%	1.01%	1.70%	1.88%	1.05%	0.00%	0.00%	0.00%	0.00%	0.00%	0.82%	0.00%	0.00%	0.01	0.01	-	-	1		
Trinidad and Tobago	1.19%	0.33%	0.28%	0.28%	0.28%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	-	0.49	-	-	172		
Tunisia	14.48%	12.69%	12.93%	12.56%	11.29%	0.16%	0.06%	0.00%	0.00%	0.40%	0.65%	0.00%	0.00%	1.58	38.41	-	-	318		
Turkey	24.51%	14.33%	11.61%	13.37%	0.00%	3.26%	5.47%	0.12%	0.95%	0.97%	2.46%	0.00%	0.00%	247.17	233.73	5	5	3,630		
Turkmenistan	0.28%	0.07%	0.04%	0.04%	0.04%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	-	0.31	-	-	753		
Turks and Caicos Islands	1.79%	0.52%	0.58%	0.57%	0.57%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	-	0.01	-	-	1		
Tuvalu	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.01	(0.01)	-	-	0		
Uganda	96.02%	91.61%	90.22%	89.06%	70.33%	16.97%	1.77%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	9.34	461.67	-	-	529		
United Kingdom	0.65%	3.64%	7.40%	8.71%	0.00%	3.48%	0.41%	0.79%	2.65%	0.54%	0.00%	0.83%	0.00%	270.87	119.23	39	39	4,926		
Ukraine	0.65%	2.88%	3.50%	4.14%	2.31%	0.82%	0.72%	0.07%	0.14%	0.06%	0.00%	0.02%	0.00%	18.77	62.25	1	1	1,989		
United Arab Emirates	0.00%	0.11%	0.15%	0.14%	0.00%	0.09%	0.00%	0.00%	0.00%	0.04%	0.00%	0.00%	0.00%	0.93	1.94	-	-	2,093		
Uruguay	44.81%	52.82%	55.39%	58.02%	6.64%	34.09%	12.38%	1.75%	3.09%	0.07%	0.00%	0.00%	0.00%	33.61	70.54	3	3	184		
United States Virgin Islands	0.00%	0.00%	2.76%	3.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	3.88%	0.00%	0.00%	0.09	-	-	-	2		
United States	4.18%	7.51%	8.75%	8.72%	0.00%	3.24%	1.36%	2.41%	1.05%	0.12%	0.36%	0.18%	0.00%	1,800.87	1,910.77	1,386	1,386	58,483		
Uzbekistan	1.33%	2.64%	2.90%	2.97%	0.00%	0.01%	2.96%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	34.56	0.17	-	-	1,169		
Vanuatu	24.16%	38.38%	32.14%	36.11%	33.54%	0.00%	0.95%	0.73%	0.75%	0.14%	0.00%	0.00%	0.00%	0.04	0.83	-	-	2		
Venezuela	11.98%	11.44%	12.32%	12.84%	0.61%	1.42%	10.81%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	164.58	30.89	-	-	1,522		
Vietnam	76.08%	34.80%	37.04%	35.00%	21.70%	5.01%	8.27%	0.00%	0.02%	0.00%	0.00%	0.00%	0.00%	189.78	610.41	-	-	2,286		
Wallis and Futuna Islands	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	-	-	-	-	0		
Western Sahara	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	-	-	-	-	-		
Yemen	2.15%	0.96%	0.97%	2.28%	0.00%	2.28%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	-	2.43	-	-	107		
Zambia	82.98%	92.10%	88.03%	87.99%	56.73%	19.60%	11.66%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	39.99	261.69	-	-	343		
Zimbabwe	63.98%	82.88%	81.05%	81.80%	72.77%	5.53%	3.21%	0.29%	0.00%	0.00%	0.00%	0.00%	0.00%	13.05	310.22	1	1	397		
World	16.65%	16.67%	17.30%	17.46%	7.88%	3.67%	3.26%	0.91%	0.70%	0.56%	0.18%	0.29%	0.00%	16,595.98	42,690.54	3,182	3,182	357,871		
High Income	6%	10%	11%	11%	0.06%	4.41%	2.75%	1.51%	1.19%	0.60%	0.16%	0.49%	0.00%	7.376	6.439	2,081	2,081	142,272		
Low Income	69%	81%	82%	82%	69.44%	9.85%	2.62%	0.02%	0.03%	0.00%	0.00%	0.16%	0.00%	200	5,961	1	1	7,505		
Lower Middle Income	45%	40%	40%	40%	31.02%	5.77%	2.14%	0.15%	0.27%	0.09%	0.16%	0.01%	0.00%	1,490	19,814	76	76	53,983		
Upper Middle Income	19%	14%	13%	13%	3.84%	2.36%	4.42%	0.75%	0.53%	0.83%	0.24%	0.26%	0.00%	7.380	9,799	1,016	1,016	137,623		
Central Asia and Southern Asia	39.06%	30.03%	28.57%	28.38%	21.01%	5.03%	1.83%	0.04%	0.31%	0.11%	0.00%	0.04%	0.00%	885.99	9,849.93	16.05	16.05	37,890.91		
Eastern Asia and South-eastern Asia	27.49%	14.02%	13.98%	14.09%	6.49%	1.29%	3.79%	0.23%	0.55%	0.11%	0.28%	0.35%	0.00%	5,378.17	9,384.93	242.21	242.21	106,515.63		
Latin America and Caribbean	32.64%	28.48%	27.20%	27.73%	4.41%	10.76%	8.14%	3.56%	0.51%	0.20%	0.13%	0.02%	0.00%	2,381.48	3,372.55	832.75	832.75	23,757.27		
Northern America and Europe	5.79%	10.08%	11.68%	11.87%	0.35%	4.40%	3.06%	1.64%	1.26%	0.50%	0.14%	0.50%	0.00%	7,006.59	6,253.05	2,066.72	2,066.72	129,134.81		
Oceania	13.37%	12.83%	13.57%	13.51%	1.41%	5.72%	3.15%	0.26%	1.07%	0.85%	0.20%	0.20%	0.00%	220.91	305.16	10.42	10.42	3,972.40		
Sub-Saharan Africa	71.04%	71.26%	70.14%	69.98%	60.05%	7.97%	1.76%	0.01%	0.05%	0.07%	0.07%	0.00%	0.00%	321.30	12,184.62	1.39	1.39	17,907.79		
Western Asia and Northern Africa	9.30%	6.20%	5.05%	5.42%	1.45%	1.35%	1.54%	0.02%	0.24%	0.35%	0.44%	0.03%	0.00%	377.82	731.32	4.93	4.93	20,550.68		

a. Source: Energy Balances, UN Statistics Division (2017)

b. Source: World Energy Balances, IEA (2017)

c. Sources: World Bank analysis based on World Energy Statistics and Balances, IEA (2017); Energy Balances, UN Statistics Division (2017)

ABBREVIATIONS AND ACRONYMS

CAGR	Compound annual growth rate	MTF	Multi-Tier Framework
COP21	2015 United Nations Climate Change Conference (Paris Agreement)	MW	Megawatt
DHS	Demographic and Health Survey	NOAA	The National Oceanic and Atmospheric Administration
DISCO	Distribution Utility	NSS	National Sample Survey
ECAPOV	Europe and Central Asia Poverty Database	OECD	Organization of Economic Co-operation and Development
EJ	Exajoules	PAYGO	Pay-as-you-go
ESMAP	Energy Sector Management Assistance Program	PPA	Power purchase agreement
EU	European Union	PPP	Purchasing power parity
EVs	Electric Vehicles	PV	Photovoltaic
FiT	Feed-in tariff	RE	Renewable Energy
HIES	Household Income Expenditure Survey	REN21	Renewable Energy Policy Network for the 21st Century
GDP	Gross domestic product	RISE	Regulatory Indicators for Sustainable Energy
GED	Global Electrification Database	SAIDI	System Average Interruption Duration Index
GHACCO	Ghana Alliance for Clean Cookstoves and Fuels	SAIFI	System Average Interruption Frequency Index
GNI	Gross national income	SDG	Sustainable Development Goal
GOGLA	Global Off-Grid Lighting Association	SEDLAC	Socio-Economic Database for Latin America and the Caribbean
GPWG-DB	Global Poverty Working Group Database	T&D	Transmission and distribution
GW	Gigawatt	TFEC	Total final energy consumption
ICT	Information and communications technology	TPES	Total primary energy supply
IEA	International Energy Agency	TJ	Terajoules
IFC	International Finance Corporation	TWh	Terawatt-hours
IRENA	International Renewable Energy Agency	UN	United Nations
IRES	International Recommendations for Energy Statistics	UNSD	United Nations Statistics Division
LDC	Least developed country	USAID	United States Agency for International Development
LSMS	Living Standards Measurement Survey	WB	World Bank
LPG	Liquefied Petroleum Gas	WDI	World Development Indicators
MEPS	Minimum Energy Performance Standards	WEO	World Energy Outlook
MICS	Multi-Indicator Cluster Survey	WHO	World Health Organization
MIS	Malaria Indicator Survey		
MJ	Megajoules		



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Funding gratefully
acknowledged from



Advisory group of partner agencies

