



WBG SCORECARD FY24-FY30 METHODOLOGY NOTE

WBG Results Indicator

The purpose of this note is to ensure the rigor, transparency, and reproducibility of the WBG results indicators included in the new WBG Scorecard FY24-FY30, as well as their alignment with the WBG’s vision. Technical teams were asked to provide a sufficiently detailed methodology so that anyone who reads this note can understand its rationale, theory of change, data sources, and method of calculation.

Definitions included in this template are aligned to the WBG Scorecard paper endorsed by the Board on Dec 19, 2023. The methods notes are living documents and will be subject to updating and revision pending operational inputs and implementation lessons over time.

OVERVIEW																			
INDICATOR NAME	Millions of people provided with access to electricity																		
SUB-INDICATORS	<ul style="list-style-type: none"> • People provided with direct access to electricity through new connections¹ • People provided with inferred access to electricity through new connections² • People provided with improved electricity service through existing connections³ 																		
OUTCOME AREA	<table border="0"> <tr> <td><input type="checkbox"/> Protection for the Poorest</td> <td><input type="checkbox"/> No Learning Poverty</td> </tr> <tr> <td><input type="checkbox"/> Healthier Lives</td> <td><input type="checkbox"/> Effective Macroeconomics and Fiscal Management</td> </tr> <tr> <td><input type="checkbox"/> Green and blue planet and resilient populations</td> <td><input type="checkbox"/> Inclusive and equitable water and sanitation services</td> </tr> <tr> <td><input type="checkbox"/> Sustainable food systems</td> <td><input type="checkbox"/> Connected Communities</td> </tr> <tr> <td><input checked="" type="checkbox"/> Affordable, reliable, and sustainable energy for all</td> <td><input type="checkbox"/> Digital connectivity</td> </tr> <tr> <td><input type="checkbox"/> Digital services</td> <td><input type="checkbox"/> Gender equality and youth inclusion</td> </tr> <tr> <td><input type="checkbox"/> More and Better Jobs</td> <td><input type="checkbox"/> Better Lives for People in Fragility, Conflict, and Violence</td> </tr> <tr> <td></td> <td><input type="checkbox"/> More private investments</td> </tr> </table>	<input type="checkbox"/> Protection for the Poorest	<input type="checkbox"/> No Learning Poverty	<input type="checkbox"/> Healthier Lives	<input type="checkbox"/> Effective Macroeconomics and Fiscal Management	<input type="checkbox"/> Green and blue planet and resilient populations	<input type="checkbox"/> Inclusive and equitable water and sanitation services	<input type="checkbox"/> Sustainable food systems	<input type="checkbox"/> Connected Communities	<input checked="" type="checkbox"/> Affordable, reliable, and sustainable energy for all	<input type="checkbox"/> Digital connectivity	<input type="checkbox"/> Digital services	<input type="checkbox"/> Gender equality and youth inclusion	<input type="checkbox"/> More and Better Jobs	<input type="checkbox"/> Better Lives for People in Fragility, Conflict, and Violence		<input type="checkbox"/> More private investments		
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SDG ALIGNMENT	<p>See https://sdgs.un.org/ for further details on SDGs:</p> <table border="0"> <tr> <td><input type="checkbox"/> 1. No Poverty</td> <td><input type="checkbox"/> 10. Reduced Inequalities</td> </tr> <tr> <td><input type="checkbox"/> 2. Zero Hunger</td> <td><input type="checkbox"/> 11. Sustainable Cities and Communities</td> </tr> <tr> <td><input type="checkbox"/> 3. Good Health and Well-being</td> <td><input type="checkbox"/> 12. Responsible Consumption and Production</td> </tr> <tr> <td><input type="checkbox"/> 4. Quality Education</td> <td><input type="checkbox"/> 13. Climate Action</td> </tr> <tr> <td><input type="checkbox"/> 5. Gender Equality</td> <td><input type="checkbox"/> 14. Life Below Water</td> </tr> <tr> <td><input type="checkbox"/> 6. Clean Water and Sanitation</td> <td><input type="checkbox"/> 15. Life on Land</td> </tr> <tr> <td><input checked="" type="checkbox"/> 7. Affordable and Clean Energy</td> <td><input type="checkbox"/> 16. Peace, Justice and Strong Institutions</td> </tr> <tr> <td><input type="checkbox"/> 8. Decent Work and Economic Growth</td> <td><input type="checkbox"/> 17. Partnerships for the Goals</td> </tr> <tr> <td><input type="checkbox"/> 9. Industry Innovation and Infrastructure</td> <td></td> </tr> </table> <p>List of specific UN targets (if applicable):</p>	<input type="checkbox"/> 1. No Poverty	<input type="checkbox"/> 10. Reduced Inequalities	<input type="checkbox"/> 2. Zero Hunger	<input type="checkbox"/> 11. Sustainable Cities and Communities	<input type="checkbox"/> 3. Good Health and Well-being	<input type="checkbox"/> 12. Responsible Consumption and Production	<input type="checkbox"/> 4. Quality Education	<input type="checkbox"/> 13. Climate Action	<input type="checkbox"/> 5. Gender Equality	<input type="checkbox"/> 14. Life Below Water	<input type="checkbox"/> 6. Clean Water and Sanitation	<input type="checkbox"/> 15. Life on Land	<input checked="" type="checkbox"/> 7. Affordable and Clean Energy	<input type="checkbox"/> 16. Peace, Justice and Strong Institutions	<input type="checkbox"/> 8. Decent Work and Economic Growth	<input type="checkbox"/> 17. Partnerships for the Goals	<input type="checkbox"/> 9. Industry Innovation and Infrastructure	
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DISAGGREGATION	<input checked="" type="checkbox"/> Youth <input checked="" type="checkbox"/> Sex <input type="checkbox"/> Disability-inclusive <input checked="" type="checkbox"/> FCS <input checked="" type="checkbox"/> SS, SIDS and LDCs <input checked="" type="checkbox"/> IDA, IBRD, IFC and MIGA <input checked="" type="checkbox"/> Country income groups <input checked="" type="checkbox"/> Regions <input checked="" type="checkbox"/> WBG Joint Programming																		
ENGAGEMENT TYPE	<p>WORLD BANK</p> <input checked="" type="checkbox"/> IBRD <input checked="" type="checkbox"/> IDA <input checked="" type="checkbox"/> Trust Fund (TF) <input type="checkbox"/> Advisory Services and Analytics (ASA) <input type="checkbox"/> Treasury Products (including technical assistance)																		
	<p>IFC</p> <input checked="" type="checkbox"/> IFC Investment <input checked="" type="checkbox"/> IFC Upstream and Advisory Services																		
	<p>MIGA</p>																		

¹ The sub-indicator on direct access to electricity relies on the project results frameworks.

² The sub-indicator on inferred electricity access relies on model-based calculations conducted independently by global reporting teams.

³ The sub-indicator on improved electricity service relies on model-based calculations conducted independently by global reporting teams.

	<input checked="" type="checkbox"/> MIGA Guarantee
ENGAGEMENT INSTRUMENT	<p>WORLD BANK</p> <p><input checked="" type="checkbox"/>IPFs <input checked="" type="checkbox"/>DPFs <input checked="" type="checkbox"/>PforR <input checked="" type="checkbox"/>Guarantees</p> <p><input checked="" type="checkbox"/>TF: IDA <input checked="" type="checkbox"/>TF: IBRD <input checked="" type="checkbox"/>TF: RETF⁴ <input checked="" type="checkbox"/>TF: GEF⁵ <input checked="" type="checkbox"/>TF: MONT⁶ <input checked="" type="checkbox"/>TF: SPF⁷</p> <p><input type="checkbox"/>ASA: BB⁸ <input type="checkbox"/>ASA: BETFs/EFOS⁹ <input type="checkbox"/>ASA: RAS¹⁰</p> <p>IFC</p> <p><input checked="" type="checkbox"/>Loans <input checked="" type="checkbox"/>Equity <input type="checkbox"/>Blended Finance <input checked="" type="checkbox"/>Syndications <input checked="" type="checkbox"/>Asset Management</p> <p><input checked="" type="checkbox"/>Advisory Services <input type="checkbox"/>Trade and Commodity Finance <input checked="" type="checkbox"/>Treasury Client Solutions</p> <p>MIGA</p> <p><input checked="" type="checkbox"/>Political Risk Insurance <input checked="" type="checkbox"/>Credit Enhancement <input checked="" type="checkbox"/>Trade Finance Guarantees</p>
LEGACY INDICATOR NAME	<p><input type="checkbox"/>WB Old Scorecard indicator:</p> <p><input checked="" type="checkbox"/>WBG Old Scorecard indicator: [People provided with new or improved electricity service (millions)]</p> <p><input type="checkbox"/>N/A</p>
RATIONALE	
DEFINITION	<p>The number of people who have received new or improved electricity service through operations supported by IBRD, IDA, IFC, and MIGA. This includes estimates of direct access, inferred access, and improved service, covering affordability, reliability, availability, and other attributes as defined under the Multi-Tier Framework for Energy Access.¹¹ Affordability is considered as the cost of a standard consumption package per year relative to household income and is aligned with SDG7.</p> <ul style="list-style-type: none"> • Direct access: The number of people in households previously lacking electricity service who benefited from the new grid or off-grid connections. Direct access results are derived from project results frameworks. • Inferred access: The number of people in households previously lacking electricity service who are likely to have benefited from new services made possible as an indirect result of investments that increased the availability of electricity in the grid in the given country. Inferred access results are derived from model-based calculations conducted by global reporting teams. • Improved service: The number of people in households with pre-existing grid service who are likely to have benefited from attaining a higher tier of electricity service under the Multi-Tier Framework for Energy Access. Improved service results are derived from model-based calculations conducted by global reporting teams.
REPORTING TIMELINE	<input checked="" type="checkbox"/> Results achieved ¹² <input checked="" type="checkbox"/> Results expected ¹³

⁴ RETF: Recipient Executed Trust Fund

⁵ GEF: Global Environment Facility

⁶ MONT: Montreal Protocol

⁷ SPF: Special financing

⁸ Bank's own administrative budget (BB).

⁹ Donors (via Bank-executed Trust Funds (BETFs) or Externally Financed Outputs (EFOS).

¹⁰ Clients (via Reimbursable Advisory Services (RAS).

¹¹ <https://mtfenergyaccess.esmap.org/>

¹² New WBG Scorecard paper (Section G): it refers to results that have occurred at a given moment of the projects' results horizon. Results achieved can be based on actuals at the project level or can use model-based estimations at the portfolio level relying always on available project level data inputs.

¹³ New WBG Scorecard paper (Section G): it refers to the anticipated results over the projects' results horizon. Expected results is based on the latest available estimations of future results, including model-based or other informed estimations.

DIRECT/INDIRECT	<input checked="" type="checkbox"/> Direct ¹⁴ <input checked="" type="checkbox"/> Indirect ¹⁵
ACTUALS/ MODEL-BASED	<input checked="" type="checkbox"/> Actuals <input checked="" type="checkbox"/> Model-based
UNIT OF MEASURE	<input checked="" type="checkbox"/> Number of people <input type="checkbox"/> Number of countries <input type="checkbox"/> USD <input type="checkbox"/> GW <input type="checkbox"/> Hectares <input type="checkbox"/> tCO2eq/year <input type="checkbox"/> Other: _____ [Please specify]
THEORY OF CHANGE	Please refer to Annex 1 for a visualization of the theory of change.
OUTCOME TYPE/ SUBTYPE	<p>Outcome type/subtypes from the IEG taxonomies developed in Results and Performance of the World Bank Group Annual Review (RAP) 2021 mapped to the outcome(s) measured by the indicator.¹⁶</p> <p>WORLD BANK A. Access to services expanded D. Quality of services improved G. Use of services or assets increased I. Public assets improved</p> <p>IFC Project-level outcomes: 1.1. Access to goods and services 1.2. Quality/affordability of goods and services 1.3. Enhanced capacity of final beneficiaries 1.4. Improved living standards (earnings) of individuals Market-level outcomes: 11. Inclusiveness in the market</p> <p>MIGA Project-level outcomes: 1.1. Access to goods and services 1.2. Quality/affordability of goods and services 1.3. Enhanced capacity of final beneficiaries 1.4. Improved living standards (earnings) of individuals 1.6. Economic return 7.1. Gross value added 7.2. Induced/ indirect employment Foreign investment-level outcomes: 9. Business and Sector Practices 10. Market development 11. Development reach 13. Signaling effects</p>
INCLUSION CRITERIA	Interventions that involve the following across the three institutions are considered in scope: <ul style="list-style-type: none"> • Construction, rehabilitation, upgrade, or acquisition of grid-based electricity infrastructure (such as power plants, transmission, and distribution networks) aimed at expanding access or improving the quality and reliability of electricity services to households.

¹⁴ New WBG Scorecard paper (Annex I, Technical Criteria): it refers to outcomes with sufficient causal proximity to WBG interventions to allow for attribution of results.
¹⁵ New WBG Scorecard paper (Annex I, Technical Criteria): it refers to outcomes where attribution is located further down the causal chain, relative to WBG interventions, and may be contingent on other exogenous factors.
¹⁶ Independent Evaluation Group: [RAP 2021](#).

- Construction, rehabilitation, upgrade, or acquisition of **distributed energy infrastructure** (such as mini-grids and stand-alone solar systems for consumptive and productive use) aimed at expanding access or improving the quality and reliability of electricity services to households.
- Introduction of **subsidy schemes, financing mechanisms, and payment programs** for enterprises and service providers that facilitate affordable, sustainable, and scalable access to electricity and productive use of electricity for households.
- **Financing and acquisition of electricity service providers** to be financially sustainable to enable access expansion.
- Structuring **public-private partnerships** to improve people’s access to high-quality electricity services.
- Development of **policies, laws, and regulations** to support expanding access or improving the quality and reliability of electricity services to households.
- Activities supporting **greater electricity production or better transmission and distribution networks** that result in indirect access (inferred access and improved service).

ADVANTAGES

The indicator directly contributes to SDG7 on affordable, reliable, and clean energy access. It also supports the World Bank Group’s mission of ending poverty on a livable planet. It focuses on household-level access outcomes. It also captures inferred access and improved service in addition to new connections. The indicator is also people centric as it measures expanded electricity access and outlines outcomes that improve lives. The indicator also reports the number of beneficiaries reached.

The indicator aligns with and builds on the established Multi-Tier Framework methodology and combines actual results data and robust model-based estimates. It enhances the measurement scope to include a focus on indirect beneficiaries who were often overlooked and underestimated in previous methodologies. It also adopts enhanced techniques while maintaining consistency as both the old and new scorecards use the same methodological approach, combining project-level actual results and model-based calculations. Additionally, it provides a harmonized model applicable to IBRD, IDA, IFC, and MIGA projects.

LIMITATIONS

Variability in client data collection methods, units of measurement for generation projects that are used as input data for model-based calculations (GW of installed capacity or GWh of energy production), and timeliness of reporting present challenges. Furthermore, for MIGA and IFC, reporting actual results achieved on a fiscal year basis is challenging as MIGA and IFC collect results data directly from clients who typically align their fiscal year with the calendar year. Therefore, harmonization of data across World Bank Group institutions remains a challenge.

For the model-based estimates, the following limitations apply:

- **Data availability:** Generation and consumption data are not always available for each year and for every country, which requires the use of regional estimates or substitutive parameters in some circumstances.
- **Underlying assumptions:** The model is based on various assumptions, including an estimated consumption level of newly connected households and fixed value for transmission and distribution losses across countries. These assumptions may result in approximation in some settings, in particular for low-income and FCV countries where transmission losses could be significantly higher than the model suggests, and average consumption levels could be significantly lower than model estimates. Going forward, the IBRD, IDA, IFC, and MIGA teams will explore opportunities to improve model assumptions to increase accuracy and rely on country-specific parameters where available.
- **Attributes of affordability:** While affordability is considered in the World Bank Group operations, the actual affordability impacts are challenging to measure. They are country/context specific (dependent on country income, poverty level, level of tariffs, and other factors) and depend on many factors in addition to the cost of electricity supply and tariffs, such as subsidies, and availability of social safety nets. The model relies on

the attributes of affordability as defined by the Multi-Tier Framework for Energy Access, which has been developed based on a broad consultative exercise and represents a consensus view across numerous international agencies working in this field. The current methodology does not allow for the estimation of people benefiting from more affordable energy in the context of high access or high household consumption levels. Going forward, the IBRD, IDA, IFC, and MIGA teams will explore deepening the affordability concept in the model-based calculations beyond the Multi-Tier Framework's definitions, to fully reflect people benefiting from more affordable energy.

DATA AND CALCULATION

INTERNAL DATA SOURCE(S)

- World Bank's Operations Portal (PADs, PDs, ISRs, and ICRs)
- World Bank's Operations Portal (Lending and Portfolio)
- IFC Operational Portal (iDesk/iPortal)
- IFC AIMM System
- MIGA DEIS
- MIGA Portfolio Records
- Other

METHOD OF CALCULATION (CORE)

The following section is organized in three sub-sections, covering direct access, inferred access, and improved electricity service. While the direct access results are derived from the project results frameworks, the inferred access and improved service results are derived from model-based calculations conducted independently by global reporting teams.

A. Direct access expected results and results achieved

Direct access measures the number of people in households previously lacking electricity service who benefited from the new grid or off-grid connections.

The input data for this indicator are reported by clients and are either estimated (for expected results) or collected (for achieved results). Results data rely on various data sources depending on the project and the type of technology, including but not limited to sales reports of the suppliers of the off-grid solutions verified by an independent verification agent, consumer databases or reports of utility companies that refer to new connections, administrative records from government agencies (e.g., regulators, ministries), and progress reports of the project implementation units or guarantee holders. The project/portfolio teams review data provided by the client and enter it into the relevant project documents and results measurement systems.

The expected results for this indicator will capture the project results that will occur over the entire results horizon of the project, covering the period as defined by the new WBG corporate scorecard FY24-FY30 paper. The latest available estimation of the expected results at the project level (end targets of the indicators included in the results frameworks) is reported in relevant project documents for IBRD/IDA projects, as well as the AIMM results measurement systems for IFC and MIGA's portfolio's records and results measurement system. The achieved results for this indicator capture the project results that have occurred or plausibly occurred since the start of the project at a given cut-off date for the given reporting cycle. The data on the actual results achieved at the project level are reported in the Implementation Status and Results Reports (ISR) and Implementation Completion Results Report (ICR) in the case of IBRD/IDA projects, as well as the AIMM results measurement systems for IFC and MIGA's portfolio's records and results measurement system.

B. Inferred access expected results and the results achieved (model-based calculations)

Step 1: Identify key energy country parameters.

The first step in the methodology is to identify which key energy country parameters allow a relationship to be drawn between the additional generated electricity in a country setting and an increase in the number of people provided with additional electricity access.

The key energy country parameters include:

- **Total electricity generation** (GWh/year).¹⁷
- **Final electricity consumption, observed** (GWh/year).¹⁸
- **Residential consumption, observed** (GWh/year).¹⁹
- **Population**: Number of *de facto* residents in a country.²⁰
- **Access to electricity** (% of the population): share of the population with an electricity connection.²¹
- **Average household size**: average number of people in a household.²²

From the above inputs, the following calculations are performed:

- **Final electricity consumption (calculated)**: total electricity generated less transmission and distribution losses at the fixed value of 10%, expressed in GWh/year.²³
- **Residential share of consumption**: ratio of residential consumption over final electricity consumption. When country data are not available for this indicator, regional data is used instead.²⁴
- **Residential consumption (calculated)**: share of final electricity consumption (calculated) used by residents. This is the final electricity consumption (calculated) multiplied by the country's residential share of consumption.
- **Number of people with access to electricity**: inferred by multiplying the percentage of the population with access to electricity by the total population, per country.
- **Number of households with access to electricity**: inferred by dividing the number of people with access to electricity by the average household size, per country.
- **Average annual residential consumption per connected household**: inferred by dividing residential consumption by the number of households with access to electricity. When residential consumption data is not available for a country, total generation for residential use is used instead.²⁵

These data are updated annually based on the latest data series from the World Bank Group, International Energy Agency (IEA), Organization for Economic Cooperation and Development (OECD), and similar sources. Following the update of the data, the country parameters are organized in 5-year periods to calculate incremental annual changes and outline the relationship patterns between the indicated variables.²⁶ These include the following, for the period between 2018 and 2023:

- **Total additional final electricity consumption (calculated) (2018-2023)**: the difference in the total electricity generated in year 2023 versus year 2018.
- **Total additional residential consumption (calculated) (2018-2023)**: the difference in final electricity consumption (calculated) used by residents in year 2023 versus year 2018.
- **Additional households with access to electricity (2018-2023)**: the difference between the number of households with access to electricity in year 2023 and in year 2018.

¹⁷ Source: US Energy Information Administration.

¹⁸ Source: International Energy Agency (IEA) World Energy Statistics and Balances.

¹⁹ Source: IEA World Energy Statistics and Balances.

²⁰ Source: WBG World Development Indicators.

²¹ Source: WBG World Development Indicators.

²² Source: RISE and UN.

²³ 10 percent T&D losses is considered a conservative benchmark of basic efficiency, while noting that in many developing countries T&D losses can be far higher, even exceeding 40 percent such as in Central African Republic.

<https://openknowledge.worldbank.org/bitstream/handle/10986/25091/108555.pdf?sequence=10&isAllowed=y>

²⁴ Regional data for Residential share of consumption is calculated by averaging the residential share of consumption of countries belonging to a given World Bank Region.

²⁵ In case total generation for residential use data is not available as well, the regional average data for annual residential consumption per connected households is used. Regional average data for annual residential consumption is achieved by averaging the annual average data consumption for countries belonging to a given World Bank region. Averages are computed from the database of countries included in the Corporate Scorecard.

²⁶ The same calculations should be used for the previous five-year periods (2017 to 2022, and 2016 to 2021).

- **Estimated total incremental residential consumption by newly connected households (2018-2023):** the multiplication of the minimum expected electricity consumption of newly connected households (360 kWh/year)²⁷ by the number of additional households with access to electricity in the 2018-2023 time period.

Step 2: Calculate inferred access share.

Inferred access share represents the average proportion of additional generation that is estimated to result in the connection of electricity to new households in the latest 5-year period according to available country data. Inferred access share is calculated using the formula $A = B/C$, where:

- A = inferred access share (latest 5-year period)
- B = estimated total incremental residential consumption by newly connected households (latest 5-year period)
- C = calculated total additional residential consumption (latest 5-year period)

To address any potential data discrepancies, the inferred access share should be compared to two previous 5-year periods, and the sum of the absolute value of differences between inferred access shares (denoted by $D_{2018-2023}$ in the case of 2018-2023) should be calculated using the formula:

$$D_{2018-2023} = |A_{2018-2023} - A_{2017-2022}| + |A_{2017-2022} - A_{2016-2021}|.$$

The following approach is used to estimate a reliable value of the final inferred access share, denoted A_{Final} , depending on the amount of inconsistency between the data sets for the different time periods.

Sum of differences between inferred access shares (D)	Strategy to determine final inferred access share (A_{Final})
0-49 (L)	The divergence is within normal limits, and the country data is to be considered consistent. The inferred access share for the latest 5-year period should be used.
50-99 (M)	The country data is consistent overall but not for the latest 5-year period. The average of the three 5-year time periods should be used.
100+ (H)	The country data is not consistent. Regional inferred access share should be used ²⁸

In cases where the access rate is greater than 95%, the final inferred access share A_{Final} is set to zero.

Step 3: Apply the final inferred access shares to the project-level results achieved under generation and transmission projects²⁹ to calculate the number of people with inferred access.

The final step estimates how much of the additional electricity generated or transmitted by projects supported by IBRD, IDA, IFC and MIGA is then transformed into the number of people benefitting from inferred access to electricity based on a minimum electricity consumption estimate for newly connected households.

²⁷ For the purposes of this model, newly connected households are conservatively assumed to consume a minimum expected yearly consumption of 360 kWh/year following assumptions from RISE and the MTF. Both of these models are based on a yearly standard consumption package set at 365 kWh, or 1 kWh per day, to represent minimum levels of use of electricity services to satisfy basic electricity needs, excluding cooking and heating needs. The framework considers that a standard consumption package of 365 kWh per year should cost the household less than 5 percent of its income. In this exercise, we have been more conservative and set the estimated consumption to 360 kWh/year.

²⁸ To calculate regional data, a simple average of generation and consumption data provided for each country falling in differential categories “L” and “M” should be calculated, and then the share of residential generation destined to newly connected households should be computed.

²⁹ As distribution project components always result either in direct access or in improved service, they are excluded from inferred access calculations.

If the generation or transmission project supported by IBRD, IDA, IFC or MIGA reports direct access results, it should be excluded from the inferred access calculations to avoid double-counting. The model relies on selected project-level results indicators including but not limited to the following:

- Electricity generated by the project or other increase in electricity production or capacity constructed/rehabilitated.
- Increase of the amount of electricity transmitted or distributed, including via increased transmission or distribution capacity.
- Capacity savings stemming from the project (only relevant if applicable to transmission and distribution (T&D) network).
- Reduction of the amount of unserved energy (only relevant if applicable to T&D network).
- Reduction of technical and non-technical losses or other increase of efficiency (only relevant if applicable to T&D network).

In the case of the calculation of expected results, the model calculations rely on the end targets of the indicators. In the case of achieved results, the model calculations rely on the results achieved as of cut-off date for the given reporting cycle.

The project-level results are used to estimate available residential electricity expressed in the following formulas:

Available Residential Electricity (denoted E):

$$E = R \times S,$$

where R is the project-level result measured in MWh and S is the residential share of consumption.

Net Available Residential Electricity:³⁰

$$F = \begin{cases} (1 - L_{TD}) \times E, & \text{for generation projects,} \\ E, & \text{for transmission projects,} \end{cases}$$

where L_{TD} are the T&D losses associated with generation projects.

MWh to new consumers (denoted M):

$$M = F \times A_{Final}$$

Number of people with inferred access are calculated as follows (denoted N_{IA}):

$$N_{IA} = \frac{1000 \times M \times H}{360}$$

where H is the average household size³¹ and the denominator corresponds to minimum expected electricity consumption of newly connected households.

C. Improved electricity service expected results and results achieved (model-based calculations)

³⁰ T&D losses are excluded from T&D project results, with the exception of projects falling under the T&D Improvement/Expansion category.

³¹ If data on the country's average household size is not available, the data on the regional average household size is used.

Step 1: Calculate improved service share.

The final improved service share, denoted I_{Final} , is the share of total generation for residential use that is not counted for estimating inferred access:

$$I_{Final} = 1 - A_{Final}$$

If the household consumption tier is equal to 5, I_{Final} is set to zero, as the average household already receives the highest tier of electricity service.

Step 2: Identify the average consumption tier according to the Multi-Tier Framework for Energy Access (MTF)³².

The household consumption tier is the level of consumption, according to the MTF, corresponding to the country's average annual consumption per connected household. The minimum annual kWh for each consumption tier is shown in the table below.³³

Household Consumption Tier	Minimum annual kWh
1	4.5
2	73
3	365
4	1250
5	3000

Step 3: Apply the improved service shares to the project-level results achieved under generation, transmission, and distribution projects to calculate the number of people with improved service.

This methodology defines an improvement in electricity service as an increase in consumption tier according to the MTF. The additional electricity generated, transmitted, or distributed by projects supported by IBRD, IDA, IFC and MIGA is used to verify how many households are likely to have improved connections and have climbed the consumption ladder based on the average household consumption tier in each country. In addition, the project-level results for access projects that improve the quality and reliability of electricity services to households will be included in the model calculations.

This step relies on the project-level results and calculation as in step 3 of the inferred access. The estimates for improved service are computed as follows:

MWh to existing consumers (denoted \bar{M}):

$$\bar{M} = F \times I_{Final}$$

where F is defined exactly as in the inferred access calculation. Note that if a project only has a distribution component, $\bar{M} = F$ as $A_{Final} = 0$ and $I_{Final} = 1$ since the net available electricity only benefits those with existing service.

³² <https://mtfenergyaccess.esmap.org/methodology/electricity>

³³ We consider the tiers' consumption threshold to have a 10% margin of error (e.g., 3,000 – 10% = 2,700 kWh/year) and we consequently exclude countries whose average annual residential consumption per connected household fares above 2,700 kWh/year. Correspondingly, the households are automatically considered in the higher tier if their consumption is less than the 10% threshold to the next tier (to account for a margin of error in setting the average tier).

Number of people achieving the next consumption tier and therefore benefitting from improved service (denoted N_{IS}):

$$N_{IS} = \frac{1000 \times \bar{M} \times H}{\Delta}$$

where H is the average household size and Δ is the difference between the lower bound of the next consumption tier and the average household consumption.

For generation, transmission and distribution projects, the number of people achieving the next consumption tier will at maximum be equal to the capping for improved results for generation, transmission and distribution projects variable. This variable refers to the number of people or households connected to the transmission backbone or the otherwise electrified population in the area reached by the project. The capping data are project- or area-specific and derives from the project documents. If project- or area-specific data are not available, the country-level capping applies.

D. Calculating the stock of expected results and the stock of results achieved for the indicator, covering direct access, inferred access, and improved electricity service

This indicator is a composite of estimates of direct access, inferred access, and improved service results, reporting on both expected results and results achieved.

The indicator values of expected results and results achieved will be aggregated based on the direct access results that are derived from project results frameworks (as explained in step 1) and inferred access results and improved service results that are derived from model-based calculations (as explained in step 2 and 3).

Step 5: Disaggregate results for the indicator, covering direct access, inferred access, and improved service.

See the Method of calculation (Disaggregation) below for further details.

METHOD OF CALCULATION (DISAGGREGATION)

- **Youth:** Where available, project data disaggregated by age demographics are used. Otherwise, the standardized approach specified in the Corporate Scorecard Disaggregation Methodology is followed, based on the UN definition of youth (ages 15-24).
- **Sex:** The standardized approach specified in the Corporate Scorecard Results Calculation Handbook is followed.
- **FCS:** Results are aggregated according to the most recent FCS list.³⁴
- **Small States (SS), Small Island Developing States (SIDS), and Least Developed Countries (LDCs):** Results are aggregated according to the most recent list of SS,³⁵ SIDS,³⁶ and LDCs.³⁷
- **IDA/IBRD/IFC/MIGA:** Project data are used to aggregate results by institution.
- **Region:** Project data are used to aggregate results by WBG region.³⁸
- **Country income group:** Results are aggregated according to the income level list.³⁹
- **WBG joint programming:** The standardized approach specified in the Corporate Scorecard Results Calculation Handbook is followed.

³⁴ WB: [Classification of Fragile and Conflict-Affected Situations](#)

³⁵ <https://www.worldbank.org/en/country/smallstates/overview>.

³⁶ UN List of SIDS: [List of SIDS](#)

³⁷ UN List of LDCs: [List of LDCs](#)

³⁸ WBG regions are Africa West, Africa East, East Asia & Pacific, Europe & Central Asia, Latin America & the Caribbean, Middle East & North Africa, and South Asia.

³⁹ WB Data: [WB Country and Lending Groups](#)

PRINCIPLES TO AVOID DOUBLE COUNTING

For more information, please refer to the [Common Principles to Limit Double Counting](#).

Project-level results are used as inputs to the model-based calculations for inferred access and improved service. In cases of joint or complementary generation, transmission and distribution projects across the World Bank Group, there is a risk of double counting. To mitigate the risk, the reporting teams will adhere to standardized formats of data collection and reporting and follow the standardized data-sharing protocols among WBG institutions currently under development.

QUALITY ASSURANCE PROCESS

Designated units responsible for the corporate reporting on this indicator across WBG institutions engage with the project teams to provide guidance and training on the application of this methodology note to their operations. Staff members involved in project preparation and implementation are expected to be aware of project-level activities that are counted toward the indicator, estimation methods, data sources, and data collection mechanisms for this indicator. The reporting teams also facilitate cross-institution and cross-region learning, exchange of good practices, enhancement of the quality of results frameworks for direct access results, and improvement of consistency in estimation of inferred access and improved service results across projects.

If the project activities meet the inclusion criteria for this indicator, the project teams in consultation with the clients should consider including a relevant indicator to the project results framework to measure direct access under the WB institutions supported projects.⁴⁰ Throughout project implementation, the project teams should also assess whether the data for this indicator has been collected and reported by the clients in a methodologically sound manner and whether M&E arrangements are functioning well or need to be adjusted. In case of any issues related to data availability and reliability, the project teams should identify measures and actions needed to address these issues in a timely manner.

The focal points responsible for the reporting validate the completeness and consistency of the project-level data reported for this indicator. This includes checking whether the right measurement units have been used across the projects, whether all fields have been completed in the dataset, and whether data are internally consistent and realistic. These can be a combination of manual and automated checks in the calculation and reporting sheet.⁴¹ The focal points should record any inconsistencies in the data identified, manual adjustments and revisions made, and any additional assumptions used for the calculations to complete the reporting sheet. The purpose of keeping these records is to maintain the history of each data point in case it is ever necessary to revise the whole data series back through time, explain revisions to the data, or update the calculation methods. Following the data validation, the calculation and reporting sheet with the key reporting figures will be shared with Energy (Industry) specialists and (or) Sector Economists/Results Measurement Specialists for additional data quality checks.

Upon completion of the annual reporting cycle, the reporting protocols will be reviewed and updated based on the feedback and experience of the focal points responsible for reporting to ensure data consistency and comparability across IBRD, IDA, IFC, and MIGA. The calculation

⁴⁰ It is the client's responsibility to estimate, collect and report data inputs for this indicator throughout the project. As data quality at entry is a key determinant of the project's performance and a critical element for corporate reporting, it is recommended that project teams work closely with the clients to estimate the targeted results and provide any technical support needed. To facilitate data collection and reporting for this indicator, the project team should provide detailed guidance to the clients, covering the unit of measurement, data sources, methodology for data collection, and reporting responsibilities. The guidance could be issued as a separate M&E Manual that is compiled during preparation or the first months of implementation.

⁴¹ Specifically, the focal points are encouraged to check: (i) projects that report a progress value much higher than the one reported in the previous cycle, which seems unrealistic to be achieved over one year, (ii) projects that report a progress value smaller than the baseline or significantly higher than the target value, (iii) projects that report significantly large results in their first or second reporting year or do not report any progress for more than 5 years, (iv) projects that report several values related to different types of generation or transmission output (to avoid any potential double counting). If any errors are identified, the focal points should request accurate data from the project teams (or directly from clients) and make manual adjustments in the calculation and reporting sheet. The focal points should also proactively engage with the project teams (or directly with clients) to rectify the inaccuracies for future reporting periods.

methods for inferred access and improved service results will continue to evolve and be further developed as the Bank's experience with implementing the methodology grows.⁴²

VERSION

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⁴² IBRD, IDA, IFC, and MIGA teams will further explore deepening the affordability concept in the model-based calculations. This methodology note will be reviewed and updated periodically to capture lessons learned from reporting on this indicator.

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