



**Absolute number of domestic  
low carbon technology units  
delivered as a result of ICF**

**KPI 9 Methodology Note**  
November 2018

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## Acronyms

BAU	Business As Usual
DFID	Department for International Development
HMG	Her Majesty's Government
ICF	International Climate Finance
KPI	Key Performance Indicator
LCD	Low Carbon Development
LCTs	Low Carbon Technologies
M&E	Monitoring and Evaluation
MtCO <sub>2</sub>	Metric Tonnes of Carbon Dioxide
MW	Megawatt
ODA	Overseas Development Assistance
SREP	Scaling Up Renewable Energy
UK	United Kingdom
BAU	Business As Usual
DFID	Department for International Development
HMG	Her Majesty's Government
ICF	International Climate Finance
KPI	Key Performance Indicator
LCD	Low Carbon Development
LCTs	Low Carbon Technologies

# Absolute number of domestic low carbon technology units delivered as a result of ICF

## Rationale

ICF is focused on achieving transformation – supporting new and innovative technologies, accelerating learning from technology, and driving down technology costs through development, deployment and commercialisation.

## Summary table

Table 1: KPI 9 summary table

<b>Units</b>	Absolute number of domestic low carbon technologies units delivered (not the number of different technologies supported).
<b>Disaggregation summary</b> ( <a href="#">click for more details</a> )	<ul style="list-style-type: none"> <li>Technology type</li> <li>Scale: i.e. those brought to market (&lt;100,000 units), or number of technologies scaled beyond 100,000 units</li> </ul>
<b>Headline data to be reported</b>	Absolute number of individual low carbon units delivered.
<b>Latest revision</b>	<p>September 2018.</p> <p>The main revisions to this Methodology Note are:</p> <ul style="list-style-type: none"> <li>Step-by-step methodological guidance</li> </ul>
<b>Timing issues</b>	<p><i>When to report:</i> ICF programmes will be required to report ICF results once each year in March. Please bear in mind how much time is needed to collect data required to report ICF results and plan accordingly.</p> <p><i>Reporting lags:</i> Your programme may have produced results estimates earlier in the year, for example during your programme’s Annual Review. It is acceptable to provide these results as long as they were produced in the 12 months preceding the March results commission. In some cases, data required for producing results estimates will be available after the results were achieved – if because of this, results estimates are only available more than a year away from when results are delivered, this should be noted in the results return.</p>
<b>Links across the KPI portfolio</b>	There are links between KPI 9 and other indicators within the ICF results framework. KPI 9 can be a contributor to KPI 6 (tCO <sub>2</sub> e, outcome) by means of a conversion factor. KPI 9 could also contribute to KPI 7 (MW clean energy installed). There is a strong link between KPI 9 and KPI 2 as all LCTs commercialised in KPI 9, as currently defined and practiced, will be for the energy access market (KPI 2).

## Technical Definition

This indicator demonstrates progress on the viability of Low Carbon Development (LCD). Greater commercial delivery of low carbon technologies at the domestic level fosters decentralised development and private sector growth.

Data required at the project level includes:

- the type and number of domestic low carbon technologies supported
- those low carbon technologies brought to market (< 100,000 units), and
- the number of technologies scaled beyond 100,000 units, where 100,000 is used as a proxy measure for reaching commercial scale.

### Definition of domestic low carbon technologies

- (i) Domestic (i.e. household) technologies that improve energy efficiency, by at least 15% over the baseline (e.g. energy efficient light bulbs).
- (ii) Domestic (i.e. household) technologies based on renewable power, or which lead to a switch from fossil fuel to clean energy (e.g. solar lamps or compact fluorescent light bulbs).

### Thresholds for Commercial Scale

The current KPI threshold proposes to disaggregate the indicator between projects installing low carbon units above and below 100,000 units.<sup>1</sup> Depending on market definition and size, a penetration of >1% is often considered commercial. For example, the relevant (target) market for a particular solar lamp may be off-grid rural households in four provinces of Rwanda. With approximately 800,000 rural off-grid households, 1% penetration would be 8,000 units, and a distribution program delivering < 100,000 units (say, 50,000) could reasonably be assessed as 'brought to scale' in this context. To arrive at this conclusion, you should carefully consider and justify the choice of target market size (e.g. in this case rural Rwandan off-grid households, rather than 'all Rwandan households').

## Methodological Summary

The diagram below shows a step-by-step guide for reporting on KPI 9. These steps are expanded on the Methodology section immediately below.

Figure 2: KPI 9 Methodological Summary

<b>KPI 9: Absolute number of domestic low carbon technology units introduced through ICF support</b>
1. Check intervention fits within definition of Low Carbon Technology. e.g. Energy Efficient Light Bulbs with an increase in efficiency of 80%
2. Obtain data from project level M&E. E.g. 3000 households in year 1; 4,000 households in year 2; 5,000 households in year 3
3. If necessary, convert household data into units of low carbon technology. E.g. 12,000 households with energy efficient light bulbs = 12,000 units
4. Subtract the baseline. E.g. 12,000 units – 2,000 units = 10,000 units
5. Calculate pro-rata share where HMG only funded part of a programme. E.g. 10,000 * 0.5 = 5,000 units
6. Disaggregate between technology type, scale. E.g. 5,000 units of energy efficient light bulbs, brought to market (<100,000 units)

Monitoring the level of commercial innovation in clean energy and technology uptake will help to demonstrate ICF support to transformative technologies.

Note that If absolute number of individual low carbon units is not available, then numbers of households with technology delivered may be used as a proxy (assuming that 'one household = one unit' is

<sup>1</sup> This benchmark for commercial scale may be revisited in the future, and it may be appropriate to have different commercial scale levels for different regions and technologies. This determination would be informed through global data on commercialisation and penetration of technologies, or through local commercial assessments.

acceptable). If the number of households with low carbon technology / technologies delivered is used as a proxy, please note this in the ICF results template as part of your ICF results return.

## Methodology

### 1. Check that the intervention fits within the definition of low carbon technology

The definition of low carbon technology is found in the “Technical Definition / Methodological Summary” section above. If so, proceed. If not, data is irrelevant to this KPI. [See example.](#)

### 2. Obtain data from project/programme-level M&E

Reporting Team will report on the uptake of low carbon technologies measured as an absolute number of units delivered. [See example.](#)

### 3. If necessary, convert household data into units of low carbon technology

Where the absolute number of individual low carbon units delivered is not available, suitable proxies may be developed (i.e. if detail is available on the number of households targeted, assume number of households is a suitable proxy for number of units delivered). If this proxy is used, please note this in your results return. [See example.](#)

### 4. Subtract the baseline (counterfactual/additionality)

To compare results with the counterfactual and account for additionality, the projected number of units of low carbon technologies delivered without the ICF intervention (i.e. the baseline) should be subtracted from the total. If you are not able to estimate what the counterfactual is, you can use an ‘adjustment factor’. This adjustment factor should be high (e.g. 95%), if you are confident your results are additional, and your data quality is good. A lower ‘adjustment factor’ (e.g. 50%) should be used, if you have a lot of uncertainty and there are other partners in the area undertaking similar activities. [See example.](#)

### 5. Calculate pro-rata share where HMG only funded part of a programme (attribution)

If HMG is the sole investor in a project or programme, it should assume all responsibility for any results (where the results are assessed to be additional and where HMG has a causal role).

In many instances HMG may be acting alongside one or more other development partners or multilateral bodies that also provide funding or support for projects or programmes – and where each partner has played a role towards the results. In these cases, HMG should only claim responsibility for the portion of results that can be attributed to its support.

**If HMG is only funding part of a project/programme**, reporters should calculate results as a pro-rata attributable share based on the value of all public co-financing towards the project.

In instances where ICF programmes leverage (public or private) finance that helps to deliver programme results, please contact your central ICF teams on how to address attribution of results delivered. See methodology notes for KPI 11 and 12 for definitions (of public, private, and leveraged finance and co-finance).

#### **If HMG is contributing to a fund**

‘First best’ approach: use project/programme level attribution (as above)

In this approach, reporters calculate results attributable to the UK for each project/programme implemented by the fund using the project/programme level attribution approach, and then sum results across all projects/programmes in the fund to reach total UK attributable results.

This approach allows for recognition of other co-finance contributions at the project/programme level. However, this approach may be complicated or not always possible in practice as it relies on (i) full information about project/programme level inputs, (ii) additional work to calculate results at the project/programme level.

#### 'Second best' approach: use fund-level attribution

Reporters apply fund-level attribution (i.e. at point of UK investment) for reporting results. I.e. results should be shared across all donors that contribute to a fund. All results are attributable to the relevant fund (e.g. CIFs, CP3, GAP) regardless of whether these funds blend with other sources of finance in implementing projects at levels below the point of UK investment. This approach assumes that any further finance towards the project is counted as leveraged. Where this is known to not be the case, a more conservative approach to attribution may be appropriate, please contact your central ICF teams on further guidance.

While this is the less preferred approach as it does not recognise additional contributions at the project/programme level, it may be more practical to implement where full data on project/programme level inputs is not available.

**Note:** The distinction between attribution at the project/programme level and at the fund level (or at point of UK investment) is only an issue where the UK is investing in funds where there are multiple investment levels. [See example.](#)

## 6. Disaggregate the data

Disaggregate between the following parameters:

- Technology type
- Scale: i.e. those brought to commercial scale (<100,000 units); or number of technologies scaled beyond 100,000 units

[See example.](#)

## 7. Where possible use a third party (e.g. independent and certified energy expert) to verify the technology delivered.

[See example.](#)

[See Quality Assurance sub-section of Data Management section below.](#)

## Worked Example

### *Worked example 1*

Based on a fictitious programme where ICF part funds a programme to provide households in Rwanda with energy efficient compact fluorescent light bulbs, which require 80% less electricity than inefficient incandescent bulbs.

**1. Does intervention fits within the definition of low carbon technology? If so, proceed.**

**2. Obtain data from project/programme level M&E**

In year 1, 3,000 units were delivered (according to ICF results return).

In year 2, an additional 4,000 units are delivered according to the project logframe.

In year 3, an additional 5,000 units are delivered (same).

Therefore, the total (cumulative) units delivered = 12,000 units

**3. Convert household data into units of low carbon technology**

Where the absolute number of individual low carbon units delivered is not available, assume number of households as suitable proxy for number of units delivered.

**4. Subtract the Baseline**

As there is a high level of certainty that the programme is additional (i.e. there are no similar interventions within this fictitious scenario) and the data quality is deemed to be good a 95% adjustment factor is used and a baseline of 600 units is subtracted (i.e. the projected number of units of low carbon technologies delivered without the ICF intervention).  $12,000 - 600 = 11,400$ .

**5. Calculate ICF Attribution**

As DFID funded 50% of the programme, and the other 50% was funded by the Danish government, 5,700 units were attributed to the UK.

**6. Disaggregate the data**

The data was disaggregated as follows:

- **Number of ICF-funded units:** 5,700
- **Technology type:** energy efficient light bulbs
- **Scale:** brought to commercial scale (i.e. <100,000 units)

**7. Verification Expert**

A certified energy & emissions evaluator was used to verify the LCT technology delivered through ICF support.

## Data Management

### Data Sources

Some data will be available directly from programmes, for example from project-level M&E. Ideally, the duty to collect data should be the responsibility of recipients of ICF funding, or a third-party auditing entity. This information will need to be kept up to date by liaising with programme managers.

### Most Recent Baseline

The baseline should reflect project status prior to ICF funding being provided, along with anticipated projections of what would happen without the ICF (i.e. BAU). For long-running programmes, the baseline should be taken as 2015 unless otherwise stated. The baseline should align with the economic appraisal in the project design.



### **Data Issues / Risks and Challenges**

To avoid reporting errors, Country offices are encouraged to rely on independent third-party verification.

### **Quality Assurance**

All results estimates should be quality assured before they are submitted during the annual ICF results return, ideally at each stage data is received or manipulated. For example, if data is provided by partners, this data should be interrogated by the ICF programme team for accuracy, or are the very least data should be sense checked for plausibility. When converting any provided data into KPI results data, quality assurance should be undertaken by someone suitable and not directly involved in the reporting programme. Suitable persons vary by department; this could be an analyst, a results / stats / climate and environment adviser / economist.

Central ICF analysts will quality assure results that are submitted and this may lead to follow up requests during this stage.

To avoid inherent reporting biases, it is strongly recommended that, where possible, data collection is undertaken by a third party that is not directly involved with implementing the project. Where not possible, consider using independent evaluations or alternative means to periodically check the validity of results claims.

Any concerns about data quality or other concerns should be raised with your departmental ICF analysts and recorded in documentation related to your results return.

## **Data disaggregation**

The following data is to be disaggregated as part of workings:

- Technology type
- Scale i.e. those brought to commercial scale (<100,000 units); or number of technologies scaled beyond 100,000 units

## **Annex 1: Further worked examples**

### **Worked example 2**

Based on a fictitious programme where ICF funds a programme to give households in Bangladesh solar lamps

- 1. Does intervention fits within the definition of low carbon technology? If so, proceed.**
- 2. Obtain data from project/programme level M&E**

In year 1, 20,000 units were delivered.

In year 2, an additional 30,000 units are delivered.

In year 3, an additional 40,000 units are delivered.

In year 4, an additional 40,000 units are delivered.

Therefore, the total (cumulative) units delivered = 130,000 units

- 3. Convert household data into units of low carbon technology**

Where the absolute number of individual low carbon units delivered is not available, assume number of households as suitable proxy for number of units delivered.

#### 4. Subtract the Baseline

As there is a low level of certainty that the programme is additional (i.e. there are several similar interventions within this fictitious scenario) and there is some doubt over the data quality a 50% adjustment factor is used and a baseline of 65,000 units is subtracted (i.e. the projected number of units of low carbon technologies delivered without the ICF intervention).  $130,000 - 65,000 = 65,000$

#### 5. Calculate ICF Attribution

As DFID funded 100% of the programme, 65,000 units were attributed to the UK.

#### 6. Disaggregate the data

- **Number of units:** 65,000
- **Technology type:** solar lamps
- **Scale:** less than 100,000 units

#### 7. Verification Expert

A certified energy & emissions evaluator was used to verify the LCT technology delivered through ICF support.

## Annex 2: Comparability and synergies with other external indicators

Most if not all key players are seeking to leverage private sector investment and commercialise low carbon technologies for broader uptake. However, none identified are using an indicator like KPI 9, except when it is converted to energy access (akin to ICF KPI 2).

## Annex 3: Definitions of key methodological terms used across Methodology Notes

As different HMG departments may use the same terminology to refer to different concepts, this section sets out definitions for key terms used across Methodology Notes for ICF KPIs. The terms used in these notes refer to the concepts as defined below, rather than to alternative, department-specific usages of these terms.

**Counterfactual:** The situation one might expect to have prevailed at the point in time in which a programme is providing results, under different conditions. Commonly, this is used to refer to a 'business as usual' (BAU) counterfactual case that would have been observed if the ICF-supported intervention had not taken place.

**Additionality:** Impacts or results are additional if they are beyond the results that would have occurred in the absence of the ICF-supported intervention. That is, results are additional if they go beyond what would have been expected under a BAU counterfactual.

**Causality:** Causality refers to the assessment that one or more actors bear responsibility for additional results or impacts, because of funding provided through the ICF or actions taken under an ICF programme. Multiple development partners may be assessed to have played a causal role in delivering results.

**Attribution:** Attribution refers to allocating responsibility for impacts or results among all actors that have played a causal role in programmes that deliver additional results. Results are commonly attributed to causal actors based on their financial contributions to programmes (though there may be cases where greater nuance is needed, as with KPI 11 and KPI 12).

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