

## AMOUNT OF RESOURCES SAVED

### Indicator Phrasing

**English:** total amount of [specify the resource and unit] saved per [specify the time-frame] thanks to [specify the measure]

**French:** montant total de [spécifiez la ressource et l'unité de mesure] économisé(e) par [spécifiez la période] grâce à [spécifiez la mesure]

**Portuguese:** quantidade total de [especifique o recurso e a unidade de quantificação] poupado por [especifique o intervalo de tempo] devido à [especifique a medida]

**Czech:** celkové množství [uvedte zdroj a jednotku] ušetřených během [uvedte časový rámec] díky [uvedte opatření]

### What is its purpose?

The indicator shows the extent to which the intervention sustainably reduced the use of natural or man-made resources within a given period. This can include fuel (firewood, charcoal, kerosene, petrol, etc.), electricity, water, food waste, plastic, construction materials and other resources whose use contributes to depleting the natural resource base.

### How to Collect and Analyse the Required Data

There are different methodologies available, depending on which resource you measure, who uses it (e.g. households vs. companies), what data is already available, etc. The two key approaches include:

**1) REVIEW OF AVAILABLE DATA:** Depending on who your target group is and which resource you monitor, you might be able to take advantage of already available data. For example:

- a company or organisation which developed / promotes a certain technology (e.g. a solar lamp) has reliable and up-to-date data on how much of a given resource the technology saves when used
- companies having records of how much of a given resource they used
- electric metres (or electricity bills) providing data on electricity consumption

This approach is much easier; however, such data is often unavailable or might not be sufficiently reliable.

**2) ON-SITE MEASUREMENTS** involve measuring the amount of a given resource used by a sample of households (or other target groups) within a certain period (e.g. 24 or 72 hours) in a way that can be generalised to a longer period and larger population. As much as possible, the measurement should **follow an internationally recognized protocol** (see an example of Kitchen Performance Test (KPT))

protocol and other protocols included [at this site](#)).

For example, if you want to measure in the target areas the consumption of firewood used for cooking, you should:

- secure **measuring equipment** (scales)
- prepare **written guidance on the entire measurement process** that the enumerators / measurers can follow and train them in its use (take advantage of guidance included in the [KPT protocol](#))
- prepare **two randomly selected samples of households** with similar socio-economic conditions and household size (read this [KPT protocol](#) and this [Appendix 3](#) for guidance on sampling) – [those who use the project's technology](#) that was supposed to reduce firewood consumption (e.g. a fuel-efficient stove or a biodigester) and [those who do not](#).
- determine the **duration of measurement** (e.g. 72 hours)
- **agree with the selected households** on:
  - *their agreement to participate in the measurements* (they must understand why they are asked to participate and that the results will not bring them or deprive them of any benefits)
  - *when the measurement will take place* (this must be a 'normal' day when the household is not cooking significantly more or less than usual)
  - *what firewood they should use* within the measured period (together you should set aside a specific stock of firewood that is the same type of firewood that the household usually uses)
  - *how should the firewood be used* (it should be used in the same way as on any other 'normal' day)
  - *leaving any unused firewood from the agreed stock pile in place*
- measure the weight of the firewood allocated for the given period
- after the monitored period is over, measure the weight of the unused firewood
- **determine the weight of the firewood that was used** during the monitored period by households who 1) used the firewood-saving technology and 2) those who did not use it
- **calculate the difference in firewood consumption** between these two groups of households
- use the data on the amount of firewood saved per day per household (that used the promoted firewood-saving technology) to **calculate the total amount of firewood saved per household during the period stated in your indicator**
- to **calculate the indicator's value**, divide the total amount of firewood saved per household during the measured period by the total number of households using the firewood-saving technology

**A similar process can be used to measure the usage of other resources**, such as kerosene or charcoal.

## Important Comments

1) It is **not recommended** to assess the value of this indicator by only asking people about the amount of resources they use, as it is very likely that they will not be able to give you precise data. This

is especially important if reducing the amount of resources saved is among your main indicators and/or if you use the data to calculate reductions in greenhouse gas emissions. The only exception is when they can prove the amount they state, such as by showing bills, meter, or any other reliable way (though this is more likely in higher-income countries only).

2) An alternative approach to household selection is doing a **paired-sample study**, where the same households are measured before and after they started using the promoted technology. Ideally, these measurements should not be more than several weeks apart, so that you reduce the influence of any seasonal changes in the use of the given resource. Using this approach also allows for repeated testing to capture changes in the usage of resources (due to seasonal variations but also due to other factors).

3) The use of many resources is prone to significant variations. Make sure that you **only compare data from the same period of a year**; otherwise, your data will not likely be reliable.

4) Since the use of certain resources (e.g. firewood) differs depending on how many people there are in a household, you need to ensure your two samples include households with a **very similar number of members**. You might also consider using "standard adult" equivalence factors defined in terms of sex and age as provided in Table 4 of the [KPT Protocol](#).

5) In the case of direct measurements, the **duration of the monitored period** (e.g. 24 or 72 hours) depends, amongst others, on how much the resource is used during an average day or night. For example, if a kerosene lamp is only used for a shorter period at night, you might want to decide to use a longer monitoring period, ensuring a more precise measurement.

6) Keep in mind that the fact that a household is starting to use the promoted technology **does not mean that it will completely stop using the resource**, the use of which the technology is trying to reduce. For example, households which use solar lamps might still (albeit to a much lesser extent) use kerosene lamps.

7) The usage of a certain resource saved can change over time (e.g. if families stop using the resource-saving technology or if they use it less). Therefore, **consider conducting the measurements at two different points in time**.

8) If you intend to **measure food waste**, refer to the excellent guidance provided in the document 'Why and How to Measure Food Loss and Waste' below.

## Access Additional Guidance

- Bailis, R. (2018) [KPT Protocol \(version 4\)](#)
- Bailis, R. (2007) [KPT Protocol \(version 3, incl. Appendix 3\)](#)
- CEC (2021) [Why and How to Measure Food Loss and Waste: A Practical Guide](#)

