Step 1: Technical performance

- Multi-tier technical measurement of the primary cooking solution in two steps:
 - Three-level measurement based on the direct observation of the cookstove and fuel.
 - Manufactured non-BLEN cookstoves (medium grade) are further categorized into four grades based on technical attributes. This grade categorization would be possible only for cookstoves that have undergone third-party testing. Non-BLEN manufactured cookstoves that have not been tested are assumed to be Grade D.

Medium grade

Self-made ¹		Manufactured ²		ВІ	BLEN ³	
cookstove		non-BLEN cookstove		e coo	cookstove	
	Low grade	Medium grade			High grade	
Attributes	Grade-E	Grade-D	Grade-C	Grade-B	Grade-A	
Efficiency Indoor	Certified Non-BLEN manufactured Cookstoves				ed	
pollution	Self-made cookstoves or equivalent				BLEN	
Overall pollution		Uncertified Non-BLEN manufactured			cookstoves or	
Safety		cookstoves			equivalent	

A self-made cookstove refers to a three-stone fire or equivalent, typically made by an untrained person without the use of premanufactured parts.

² A manufactured cookstove refers to any cookstove available in the market (including artisans and small local producers).

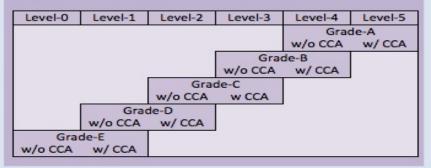
³BLEN cookstove refers to stove-independent fuels (such as biogas, LPG, electricity, natural gas). Non-BLEN cookstoves include most solid and liquid fuels for which performance is stove dependent.

Step 2: Actual use

- Measurement of additional aspects of access beyond technical performance.
- Three types of attributes, as listed below:

Conformity	 Chimney/hood/pot skirt used (as required). Stove regularly cleaned and maintained (as required).
Convenience	 Household spends less than 12 hrs/week on fuel collection/preparation. Household spends less than 15 min/meal for stove preparation. Ease of cooking is satisfactory.
Adequacy	 Primary stove fulfills most cooking needs of the household, and it is not constrained by availability or affordability of fuel, cultural fit, or number of burners. If multiple cooking solutions are used (stacking), other stoves are not of a lower technical grade.

 Multi-tier measurement is based on technical performance adjusted for the above attributes.



Index of access to household cooking = $\sum (P_T \times T)$

with P_T = Proportion of households at the T^{th} level. T = Level number {0,1,2,3,4,5}

Source: World Bank /ESMAP.

Low grade

Note: BLEN = biogas-LPG-electricity-natural gas; CCA = conformity, convenience, and adequacy.

High grade

* The proposed multi-tier framework (above) is complementary to the multitiered technical standards for cookstove performance proposed by the Alliance led International Workshop Agreement (IWA). The IWA multitier standards provide the basis for measurement of cookstove performance on the four technical attributes—efficiency, indoor pollution, overall pollution, and safety (annex 2.4). Laboratory measurements based on the IWA standards would be used by the multitier framework (above) to determine the overall technical performance of the primary cookstove in step-1. The objective of the multitier framework (above) is to measure the level of household access to cooking solutions. It builds upon the technical performance of each of the multiple cooking solutions being used in the household (including the use of nonsolid fuels), while also taking into account CCA attributes.