



Testing cookstoves with protocols from the lab standard and rating them using VPTs enables:

- **Greater alignment** in methodology and metrics for testing and comparison of stoves
- **Policy development** based on a standardized set of metrics and benchmarks
- **Label creation** using a standardized benchmarking scale
- **Product development** that strives toward defined levels of performance
- **Program evaluation** based on impacts as determined by internationally accepted metrics

Purpose and Scope of the Standards

The Harmonized Laboratory Test Protocols [standard](#) (referred to here as “the lab standard”) provides a detailed procedure to measure efficiency, emissions of fine particulate matter (PM_{2.5}), and carbon monoxide (CO) of solid-, liquid- and gas-fueled cookstoves for household and small institutional uses. The lab standard also describes how to evaluate cookstove safety and durability of solid-fueled and solar cookstoves. An accompanying technical report, [Voluntary Performance Targets](#) (VPTs), provides guidelines to rate the efficiency, emissions, safety, and durability of cookstoves tested using the lab standard along a tier scale from zero to five (0-5).

Benefit of the Lab Standard and VPTs

The lab standard offers countries, policymakers, NGOs, and testing centers around the world a method to evaluate a variety of cookstove types, fuels, and modes of use based on international best practices. The VPTs relate cookstove emissions to defined health goals, based on evidence of health risks of exposure to PM_{2.5} and CO in the World Health Organization (WHO) [Guidelines for Indoor Air Quality](#). The highest rating (tier 5) for emissions of PM_{2.5} and CO corresponds with emissions rates that are most likely to meet the WHO-recommended guideline levels for these pollutants. Unlike the [field standard](#), the lab standard does not assess the impact of a clean cooking intervention; rather, the lab standard assesses the performance of the cookstove under controlled conditions.

	Tier	Thermal efficiency %	Emissions		Safety (score)	Durability (score)
			CO g/MJ _d	PM _{2.5} mg/MJ _d		
Better performance ↑	5	≥50	≤3,0	≤5	≥95	<10
	4	≥40	≤4,4	≤62	≥86	<15
	3	≥30	≤7,2	≤218	≥77	<20
	2	≥20	≤11,5	≤481	≥68	<25
	1	≥10	≤18,3	≤1030	≥60	<35
	0	<10	>18,3	>1030	<60	>35

VPTs for efficiency, emissions, safety, and durability tiers. These default values, based on global data, can be used for tiers or can be adjusted based on context-specific data and goals.

Priorities for Action: How Stakeholders Can Use the Lab Standard and VPTs

Government officials and other policymakers can adopt or adapt the lab standard into a voluntary program or a testing regulation and establish policies and programs that require a level of stove performance, defined by VPTs, appropriate to their local context. These can include tax and tariff policies, marketing approval requirements, consumer-facing appliance labels, etc. By referencing an international standard, policies and programs build on international best practices and facilitate trade.

Cookstove manufacturers can evaluate their products using standard protocols and benchmark them against the VPTs to understand how they compare to other stoves on the market. Testing data can be used to improve performance, safety and durability. Testing data can also be used to help access new markets where standards are implemented, or new funding which requires certain levels of performance.

Testing centers and research scientists can build their capacity and use the equipment guidelines and protocols in the standard to test according to well-defined, internationally recognized procedures. They can test and benchmark products and explain these results to non-technical stakeholders. The data they generate are valuable for all actors in the sector.

Donors, implementers, and procurement agencies can incorporate the lab standard and VPTs into policies and programs to help ensure that the highest performing products appropriate to organizational goals and local context are used, as well as to assess the potential benefits of proposed interventions.



For more information, please visit CCA online at
www.CleanCookingAlliance.org



About the Clean Cooking Alliance

CCA works with a global network of partners to build an inclusive industry that makes clean cooking accessible to the three billion people who live each day without it. Established in 2010, CCA is driving consumer demand, mobilizing investment to build a pipeline of scalable businesses, and fostering an enabling environment that allows the sector to thrive. Clean cooking transforms lives by improving health, protecting the climate and the environment, empowering women, and helping consumers save time and money.

