The U.S. Commitment to Clean Cookstoves

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EPA Cookstoves Research Meeting

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Policy Drivers for U.S. Support for Clean Cooking

"Many of the **women** have labored over these hearths for hours, often with their **infant babies** strapped to their backs, and they have **spent many more hours gathering the fuel**…. **Millions of lives could be saved and improved**."

Former Secretary of State Hillary Clinton (2010)

"When I first started beating the drums on this alliance, there were people who said, 'There she goes again.' (Laughter.) 'Clean cookstoves**?** **What does that have to do with world peace and prosperity and human rights and democracy and freedom?' Well, everything actually**… We have to think differently."

Former Secretary of State Hillary Clinton (2013)

"This is a very personal issue for me. It's about **poverty**. It's about the **underserved**… This is in many ways the ultimate **environmental justice** issue… We're starting a process that will help them meet **the most basic human need** – cooking a meal in a way that won't cause them harm."

Former EPA Administrator Lisa Jackson (2010)

"We have the opportunity to significantly improve the **health** of millions of people around the world, especially **women and girls**, who cook over open fires or stoves as well as decrease emissions that add to **climate change**."

EPA Administrator Gina McCarthy (2014)

"More and more Kenyans own and use a clean cookstove. They are **healthier** and their homes have **less pollution**. The **burden on Kenya's forests** is reduced. And the growing market for cookstoves is **creating jobs and strengthening manufacturing in Kenya**."

U.S. Ambassador to Kenya Robert Godec (2014)

USAID is "harnessing the power of science, technology, and innovation to create **cutting-edge solutions** to our toughest global challenges… We are mobilizing new **private sector investment** to create cleaner and more efficient cookstoves that can potentially benefit billions of **vulnerable people**."

USAID Administrator Raj Shah (2014)

Original 5-Year U.S. commitment to Clean Cooking and the Global Alliance for Clean Cookstoves (2010-2015)

U.S. 5-Year Commitment through 2015

- Original commitment: $50 million across 6 agencies
  - USG agencies have obligated roughly $84 million to date
- Current status: up to $150 million across 11 federal agencies
  - diplomacy
  - evidence base & research ($72 million)
  - market development/field activities ($28 million)
  - financing (up to $50 million)
  - technical assistance

Examples of how USG research has driven the sector and the evidence base forward:

Driving the Market:

- Lab Testing has served as foundation for Alliance's global strategy to set up regional testing centers and establish global standards (EPA)
- A major – and perhaps the only major public sector – stove technology R&D effort (DOE)
- Exploring and evaluating innovative business models to distribute and sell clean and efficient cookstoves (AID)

Evidence Base:

- Leading the major global health effects studies (NIH)
- Leading research effort integrating climate, health, and air quality (as related to clean cooking) (EPA)
- Leading research related to adoption of clean and more efficient cooking solutions (AID)
- Completed one of the most advanced field health evaluations of cookstoves ever undertaken (CDC)

New U.S. Support Through 2020 Announced at Cookstoves Future Summit – up to $200 million

- Diplomacy
- Financing: up to $125 million
  - Mobilize private financing via development credit (AID)
  - This figure does not include the renewal of OPIC's commitment of up to $50 million
- Evidence Base & Research: $59 million
  - Research related to the performance, adoption, and health, climate and air quality benefits of clean and efficient cooking solutions (NIH, EPA, CDC)
  - Related technical assistance (NOAA)
- Market development/field activities: $16 million
  - Efforts to help scale adoption of stoves and fuels that meet household energy needs and release fewer pollutants (State Dept, USAID, EPA, Peace Corps)

Interventions must be tailored to specific policy goals

Policy Priority	Performance Indicator	Solution(s)
Forestry, habitat preservation	Fuel use savings	Fuel-efficient stove(s), with direction towards cleaner over time
Women's & girls' empowerment	Fuel use and time savings	
Economic development and poverty reduction	Fuel use savings, fuel expenditures savings, health-relevant emissions	
Climate change, long-term	Reduction of emissions of long-lived GHG (mostly a function of fuel use savings)	
Climate change, near-term	Reduction of emissions of short-lived climate pollutants (e.g., black carbon)	Top Choice: clean electricity or clean fuels 2nd Choice: advanced solid biomass stove(s) that can substantially reduce emissions (incl. black carbon) 3rd Choice: efficient stove(s) that can reduce direct smoke exposures (e.g., with chimney or hood)
Health	Reduction of air pollutant emissions and exposures	

(Source: adapted from Anenberg et al, Environmental Science and Technology, May 7, 2013)

Examples: EPA's Long History with a Step-Wise Approach to Addressing Air Pollution

Year	Indicator	Level
1971	TSP	75µg/m^3
1987	PM_{10}	50 µg/m^3
1997	$PM_{2.5}$	15 µg/m^3
	PM_{10}	50 µg/m^3
2006	$PM_{2.5}$	15 µg/m^3
	PM_{10}	(revoked)
2012	$PM_{2.5}$	12 µg/m^3

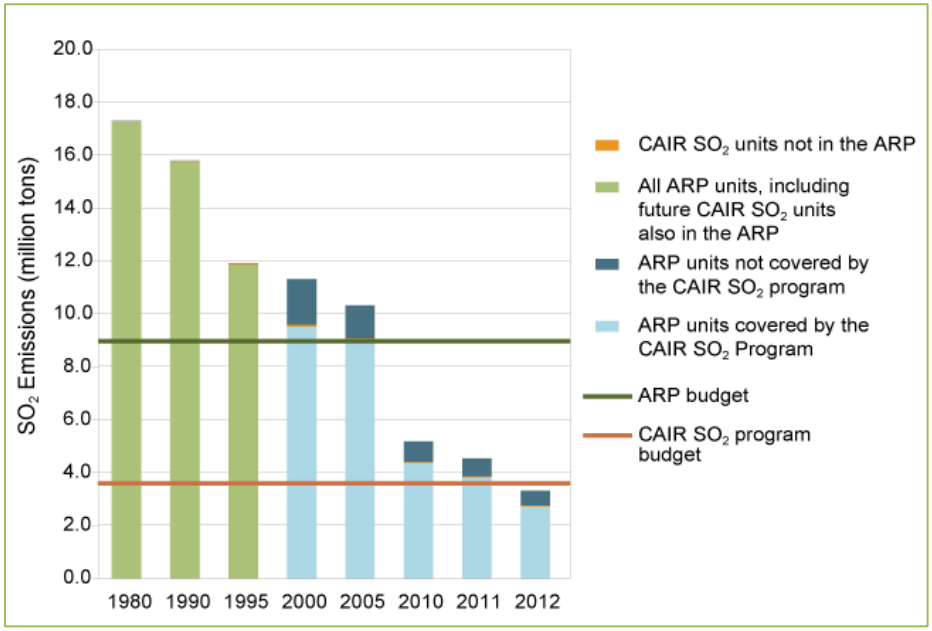
Evolution of U.S. Primary Annual PM Standard

Year	1975	1977	1979	1981	1988	1994	1999	2004-2007	2004-2009	2008-2009
Cars	3.1	2.0		1.0		0.6	0.3		0.07	
Smaller SUVs, Minivans, and Light Trucks	3.1		2.3		1.2	0.6	0.5		0.07	
Larger SUVs, Vans, and Heavier Trucks					1.7	1.53		0.2		0.07

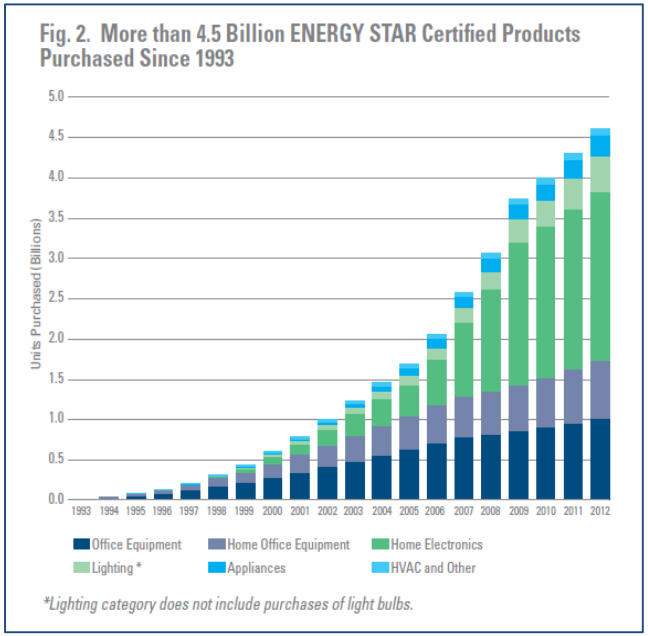
Evolution of U.S. Tailpipe NOx Standards (grams/mile)

Chemical Group	Production Phaseout Dates	Deadline Met
Halons	January 1, 1994	✓
Chlorofluorocarbons (CFCs)	January 1, 1996	✓
Carbon tetrachloride	January 1, 1996	✓
Hydrobromofluorocarbons (HBFCs)	January 1, 1996	✓
Methyl chloroform	January 1, 1996	✓
Chlorobromomethane	August 18, 2003	✓
Methyl bromide	January 1, 2005	✓

U.S. Production of First-Generation Ozone-Depleting Substances Phased Out on Schedule



Laws and Regulations to Address Acid Rain



Market Development with ENERGY STAR