

# OVERVIEW



What is a  
solar cooker?



# What is a solar cooker?

A solar cooker is a device which uses the energy of direct sunlight to heat, cook or pasteurize drink.

Solar cooking is often used where minimal fuel consumption is important, or the danger of accidental fires is high, and the health and environmental consequences of alternatives are severe.



Photo Credit: Regula Ochsner, ADES-Madagascar, 2017



# What is a solar cooker?

The three most common types of solar cookers are box cookers, curved concentrators (parabolic) and panel cookers. Hundreds — if not thousands — of variations on these basic types exist.



Several large-scale solar cooking systems have been developed to meet the needs of institutions worldwide.

Why is solar  
cooking  
important?





# Why solar cooking?



- Nutritious meals
- Can be used for drying food
- Can pasteurize water
- Zero time (or danger) from collecting biomass fuel



# Why solar cooking?



- Zero fuel cost
- Zero air pollution
- Zero greenhouse gas emission
- Zero inhalation of smoke
- Reduces deforestation

# Why solar cooking?

- 3.7+ million solar cookers worldwide
- (and counting...)
- 13.4+ million people directly impacted by solar thermal cooking
- Almost 7 billion meals cooked
- Reduce CO2 emissions by 27 million tons
- Over \$1 billion dollar saved globally over the lifespan of the solar cookers due to greenhouse emissions reductions

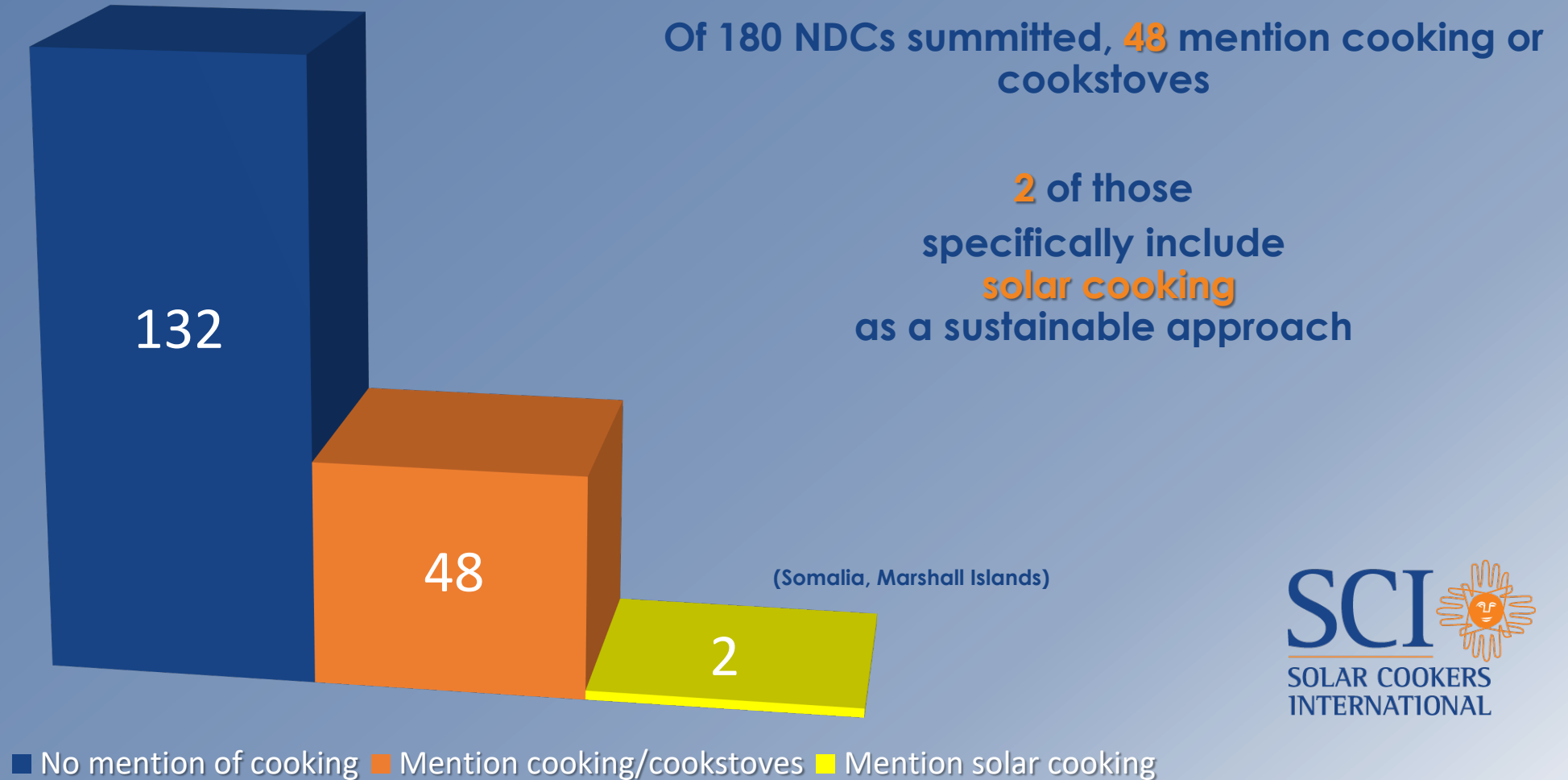




Is solar cooking  
included in the  
Nationally  
Determined  
Contributions?  
(NDCS)



# Nationally Determined Contributions (NDCs)



How does  
solar cooking  
support the  
SDGs?





# How does solar cooking support the SDGs?



1 NO POVERTY



Up to 40% of household energy budgets are used for heating water and cooking. Access to free solar energy through appropriate technologies reduces costs and financial burden.

2 ZERO HUNGER



Nutritious foods (pulses and legumes) require large amounts of fuels to cook. Solar thermal energy enables families to cook nutritional and traditional foods, building resilience for food price and fuel price volatility.

3 GOOD HEALTH AND WELL-BEING



Household air pollution is the number one cause of disease. Solar cooking does not produce smoke or other harmful emissions that harm women and children.

4 QUALITY EDUCATION



Because there is no fuel to collect for solar cooking, time can be used for education and study.



# How does solar cooking support the SDGs?



5 GENDER  
EQUALITY



Providing cooking fuel has been the domain of women and girls. Since solar cooking requires no fuel, women and children gain time for other activities, including education and business.

6 CLEAN WATER  
AND SANITATION



Solar cookers can pasteurize water, making local water sources safe for consumption while addressing issues of disease and scarcity.

7 AFFORDABLE AND  
CLEAN ENERGY



Solar energy is true modern energy: it requires no gathering or purchase, is available everywhere, does not rely on supply chains, and has the highest energy efficiency of all energy sources.

8 DECENT WORK AND  
ECONOMIC GROWTH



Solar cooking frees up time and money for other activities, including education which leads to productive employment.

# How does solar cooking support the SDGs?



Solar cooking technologies are accessible to local innovators and provide access to decentralized energy, ultimately supporting economic development and stability.



Solar energy is of proportionally higher value to the bottom 40% of the global population, who will benefit most from increased access to decentralized, free energy.



Solar energy can be captured for household and institutional uses in urban settings where biomass fuels are not available, reducing reliance on expensive fossil fuels for cooking and water pasteurization. Accessing solar energy sources reduces competition for energy, reducing human conflict in high-density settings.



Enough solar energy reaches the Earth's surface every hour to power all human activity for a year. Decentralized use of solar energy contributes to sustainable patterns of energy consumption, reducing market distortions.





# How does solar cooking support the SDGs?



Use of free, zero-emission solar energy reduces production of climate change forcing agents, such as greenhouse gases and black carbon produced by fossil and other biomass fuels.



Replacing biomass combustion fires with solar energy helps promote preservation of healthy biomass and significantly reduces marine pollution from land-based activities.



The rate of deforestation and desertification is slowed when solar energy replaces harvested biomass fuels. Solar cooking and water pasteurization supports forest management, halts land degradation, and arrests desertification and marine pollution.



Access to free solar thermal energy is essential to achieve two of humankind's most important rights: cooked food and safe water. Solar energy is the ultimate inclusive energy source—by reducing competition for scarce or expensive fuels, it reduces human conflict.



# How does solar cooking support the SDGs?

17 PARTNERSHIPS  
FOR THE GOALS



The solar thermal cooking sector has a strong history of appropriate technology. Knowledge sharing for solar thermal cooking innovations strengthens and empowers community members, particularly women, to be change agents for revitalized, sustainable development.



Solar Cookers International  
[www.solarcookers.org](http://www.solarcookers.org)

More Information on solar cooking:  
[www.solarcooking.org](http://www.solarcooking.org)





# Solar cooking: a strong history



Al Gore and Solar Cookers International at Nickelodeon Studios in 1993 discussing environmental solutions.