

Solar Cooking, past present and future

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“Let The Sun Power Your Life”

SunFire Solutions roots go back to 2001-2003. SunFire formally started operation in 2004 to popularize Solar Cooking in the region despite abundant financial support. Initially we spent 2-3 years touring the region, demonstrating various models of Solar Cookers to Governments, Communities, NGO's etc. SunFire's Goal was to get the words "Solar Cooker" into the popular vocabulary and into the imagination of people all over Africa, We believe we have largely achieved this. Three years later SunFire started manufacture of the SK design in SA and carried on production for 5 years before realising the model was inappropriate. The main issues being difficulty in assembly, movement once assembled and use of the one of the worlds most expensive aluminum. In around 2000 SunFire began improving the design of Solar Cookers in partnership with a Chinese firm. This model takes 20 minutes to construct, is twice as fast and much more cost effective, we are still making improvements but are in general happy with the result.

“The trees are running away from us” ...

Communities often say.

Approximately 500 Million Africans use firewood to meet their daily cooking needs. Until recently, few other choices were available; Globally this is one of the largest social and environmental issues of our time, yet it remains virtually invisible. Solar cookers provide many benefits, just a few are listed:

- ☺ Free cooking energy for 10 years and beyond
- ☺ Less risk of illness from toxic smoke/Paraffin inhalation (“indoor air pollution is the 4th largest killer of Women and Children in Developing Countries, above Malaria”, WHO
- ☺ Free water boiling capabilities to improve child mortality by providing an easy to boil water for infant formula
- ☺ Ensure cooking fuel doesn't cost more than the food/nutrition in the pot..!!
- ☺ Reduce deforestation, habitat loss and “black soot” - a low hanging carbon particle identified as a major driver of climate change, 3 Billion people use firewood to prepare meals each day
- ☺ Provide communities with long-term sustainable tools to strengthen their culture, society and eco systems

SunFire's strategy for 2016

Is the creation of a permanent Solar Road show or “Solar Caravan”. The Solar Caravan will take Solar Cookers, Lights and Clean Wood burners into communities. Bringing awareness for the reasons why we need to change our ways for the survival and thriving of our future generations. Further more become a tool for the communities we visit. This should address the main challenge – that Solar Cookers are still not widely available to the people who can benefit the most from them, micro credit is our next challenge. SunFire is going to link the Solar Caravan to a U-Tube channel and upload short films every 2 weeks. Our intention is to create a global audience linked to crowd funding - allowing the Caravan team to directly donate equipment to Rural households in as close to real time as possible.

Conclusion

Calculated from the figures above, we see that the average household (using wood and paraffin for cooking) in South Africa produces 6,5 tons of CO2 per year, as well as 0.7 tons of CO and 0.3 tons of black carbon.

The introduction of a solar cooker to a wood or paraffin using household would mean that we could cut these numbers drastically. The use of a Solar cooker can reduce the need of these fuels by up to 60% per day as the only time wood or paraffin would need to be used, is in the evening and on rainy or cloudy days.

Considering we get roughly 320 Sunny days in a year on average in South Africa, the Solar cooker is a perfect replacement to traditional fuels whenever the sun is shining.

In many ways the time of the Solar Cooker has come in Africa and SunFire Solutions with our 12 years of experience is uniquely ready to project Solar Cooking into the place of common household appliance (like the cell phone) where it can and should be.

A Grim picture...

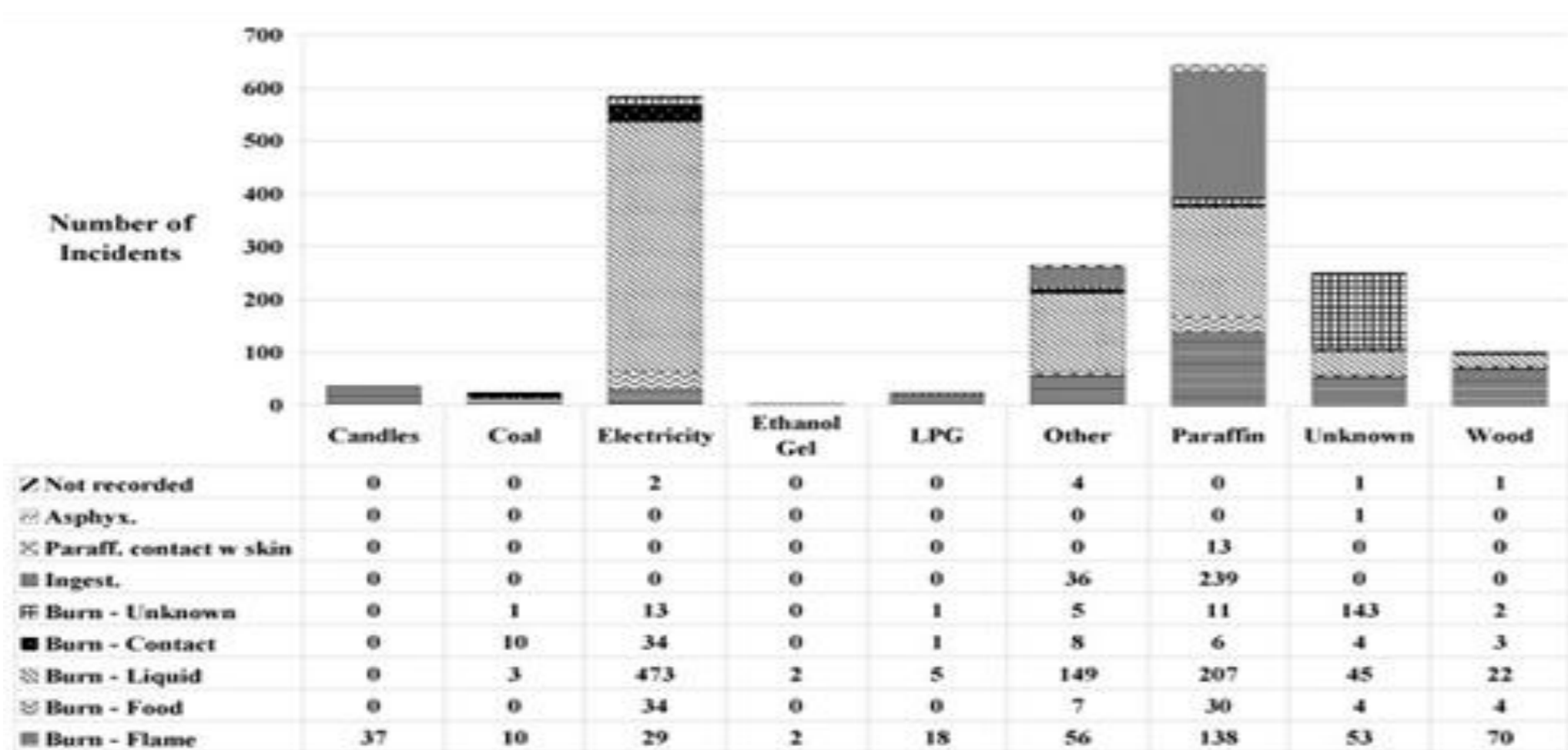
The Wood & Paraffin use in South Africa

Recent studies by the department of environmental affairs in South Africa show that a staggering 40 Million kg of CO2 and 1.5 Million kg of Black Carbon is emitted in South Africa every day from only wood used for cooking. The paraffin use amounts to a further 2.5 Million kg per day of CO2. However it also deposits 700 000 kg of black carbon(soot) into the atmosphere, daily...

Surveys and hospital records between 1996 and 2001 in South Africa (not including our neighboring countries), estimated that:

- ☹ **80,000 children ingest paraffin (kerosene) every year.**
- ☹ **40 000 children develop chemical pneumonia each year as a result of ingesting/inhaling paraffin.**
- ☹ **More than 200 000 people per year are injured or lose part/all of their property from paraffin (kerosene) related fires.**

Incident reports in SA



Topics

- A short history of SunFire Solutions
- Wood and paraffin use in SA
- Benefits of Solar cooking
- Our plan of action for 2016

References

- Paraffin association of South Africa
- Carbon neutral