

# Hot Tech

BY JOHN HERBERT

The Biolite CampStove 2 is an updated version of the original CampStove, and it's a different approach to portable cooking. The big features of the CampStove 2 are firstly, its fuel is wood; and secondly, it generates power. Where it differs from the original CampStove is that the power generator unit has a battery pack attached.

## DESCRIPTION

The CampStove 2 comprises 3 main parts. The first part is the cooker/burn chamber, the second is the battery/fan/thermo electric generator, and the last part is the pot. The unit "nests" so that for travel it all fits inside the pot. The pot itself has a combination bowl and pouring spout, and for those who like a bit of home comfort there is even a coffee press included! Rounding out the package is an LED light on a flexible stalk, ideal for camp use. And all of this fits into a nylon carry bag.

Power in the form of USB chargers is starting to become a 'want' for many outdoors people. Cameras, torches, cell phones and GPS devices are often chargeable with a USB cord; the problem of course is that there needs to be a power source. Well ... the CampStove 2 generates power via a thermo-electric generator (TEG) to charge its 2600mAh battery. The TEG creates power based on the Seebeck effect; this is where two dissimilar metals in close proximity but with a temperature difference, create electricity. I won't go into the in-depth science; suffice to say it works!

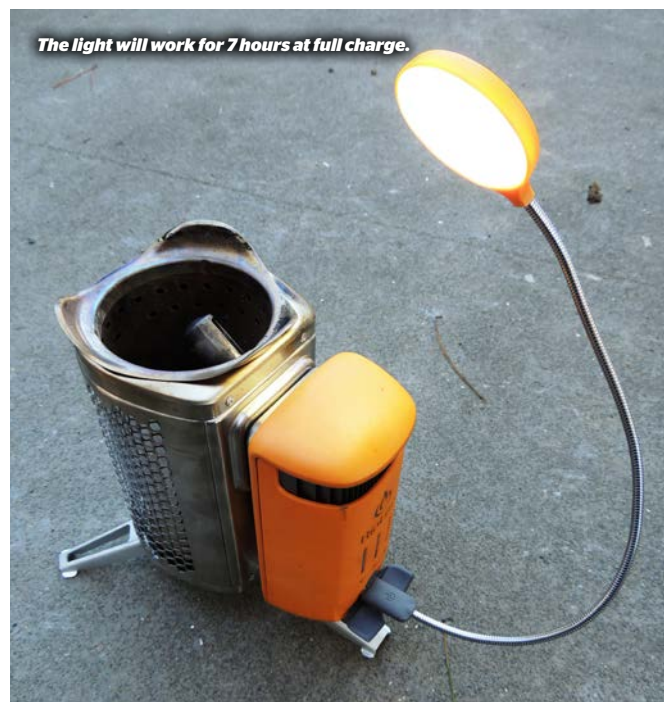
Cooking-wise the unit uses biomass (wood, pinecones etc) to create heat and while the small size of the unit might put you off, the battery/fan/TEG unit on the side is what allows something this small to create such a lot of heat. As we know, if you light wood and it burns, it burns efficiently when it has lots

of oxygen, and the evidence of efficient burning is no smoke. The CampStove 2 uses the fan on the side to force air into the fire chamber to increase efficiency, and this is the key to maximising the heat output of a small burn chamber.

## TESTING

To test the unit I boiled a litre of outside temperature water (12°C); without letting the unit warm up, this took just over 10 minutes. I then redid the test with the burn chamber at maximum heat and the same quantity boiled in 5 minutes 45 seconds – slower than a good gas stove, but still quite respectable. When boiling water you're best to use the highest fan setting, but you need to have the burn chamber full before you start as it's very efficient; it'll burn through your wood quickly at that setting. I also tried some scrambled eggs in a small pan and by lowering the fan speed I could regulate the heat so as not to burn them.

I did note that when the burn meter is at its highest the charge rate is at its highest as well, so to get the highest temperatures it works best if the fan is on full and the pot is on to trap the heat. My biggest gripe with the unit is the position of the thermal conductor; it sits in the middle of the burn chamber and affects what you can get into there. If you're feeding it sticks this is less of a problem, but fatter bits of wood and things like pinecones may be a problem. You can of course



stack the burn chamber before you insert the TEG unit. The location is necessary of course as it needs to be in the centre to get exposed to as much heat as possible.

Biolite say the TEG will recharge the battery in 1.5 hours. During my test I had the unit working for just on half an hour and in that time the charge lights on the side went from 2 bars to 4 bars, so the 1.5 hour claim seems reasonable.

## CONSIDERATIONS

The CampStove 2 works and works well, but it's not for every situation. If the area you're hunting in has few trees you might struggle to find enough fuel; also in really tough environments where you may need heat instantly the collection of enough fuel to cook a meal may require precious time and effort. I would also say that when wood is wet it's going to be harder to start the fire, and some

heat efficiency will be lost.

The other use for the CampStove 2 is in the role of disaster preparedness. I would certainly be happy to have this unit in my grab bag should a big shake occur. Weight wise the complete setup is 1.5kg: compared to something like an MSR Reactor at around 500g it's heavy ... but when you add gas, the equation starts changing. The same is true with multi fuel systems: fuel is where the weight is. For longer hunts and base camp use the CampStove 2 starts making more sense. However the CampStove 2 generates power where other cookers do not; that means you can also cut down on weight by leaving batteries and portable solar power panels at home.

## CONCLUSION

The CampStove 2 is not for everyone, nor is it right for every scenario; however where there is available burnable material it works and works well. The bonus is that it also generates power, and if you need that then it's a winner. The design is clever and it appears to be well made.

It appeals to me because there are no ongoing costs in gas and I know that for most of the places I go there will be available wood to fuel it. It also works for me as an option when camping with the family – especially when you need to provide a nice cup of coffee for the guests. The CampStove 2 retails for \$259; and while that makes it more expensive than a basic gas setup, it's also cheaper than many high-end setups ... and it does have extra features like power generation, and no ongoing fuel costs. Accessory-wise there is a small grill that would cook 2 or 3 steaks or half a dozen sausages.

Certainly: for the hardcore hunter the weight will be the consideration, but for a base camp it's well worth looking at.

The LED lights from left to right indicate heat/power, fan speed and battery charge.



This is the cheapest fuel available.



## Specs

**BIOLITE CAMPSTOVE 2**  
 WEIGHT: 935g (Without Pot)  
 SIZE: 127 x 210mm  
 POWER: 2600mAh battery  
 INPUTS/OUTPUTS:  
 Micro USB in, USB out 3 watts/2A  
 FLEXLIGHT:100 Lumens

### PROS:

- Generates Power
  - Cheap readily available fuel
  - Fan helps create good heat
- ### CONS:
- No wood, no fire
  - Weight



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