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# BUILD A FUEL EFFICIENT CLAY STOVE



## BACKGROUND

Climate change is such a pertinent issue in our lives and can be attributed to the excessive demand and use of fossil fuels. The carbon dioxide being released from burning fossil fuels is happening at a rate too fast for it to be re-absorbed by plants and trees. The carbon in wood is part of the current carbon system and, if used sustainably, has a minimal carbon dioxide emission value.

The Clay Stove uses a nominal amount of wood to prepare meals as the clay retains the heat compared to cooking on open fires, which uses twice the amount of wood.

For schools and communities that only use wood to prepare meals, the stove has proven to effectively reduce the amount of wood needed. For families, it saves gas, which saves money and also reduces the amount of carbon dioxide that would have been released into the atmosphere from using gas or electricity.

The key to the success of the Clay Stove is that it is well suited for families and communities that have access to free sustainably harvested timber. The Clay Stove will not work in areas that do not have access to sustainably harvested timber.



*Acknowledgements: This 'How To' is an adaptation of the resource 'Build a traditional fuel efficient stove', developed by Louise Williamson for the WESSA Eskom Energy and Sustainability Programme.*

# Building a Traditional Fuel Efficient Clay Stove

You will need:

- Three medium sized stones and a pot
- Five volumes (buckets) of clay (old termite mounds work well for this)
- One volume of dry grass
- Water



## Preparing the clay mixture

1. Mix the clay and water and add the dry grass. Mix well until the clay can be rolled into a sausage or ball.

## Construction

**Step 1:** Choose a place for the stove, making sure the entrance for the wood is facing the direction of the wind. Place the stones in a triangle, making sure the sides of the triangle are equal in size. Also make sure the pot fits between the stones.



**Step 2:** Fix the stones in the ground in small holes. Put some clay mixture around them



**Step 3:** Control the distance between the floor and the pot by putting a few sticks of wood underneath. The distance should be about 12 to 14cm.



**Step 4:** Take out the wood and start laying down coil after coil of the clay mixture in a circle, joining the three stones. Make the lower part of the clay wall thicker than the upper part.



**Step 5:** Wet the pot and place it on the three stones. Start laying clay around the pot until you reach the top. Pack the clay slightly away from the pot to leave a gap.



**Step 6:** Remove the pot while turning it slowly to widen the gap (about the width of your fingers). This is necessary to ensure airflow for the fire.



**Step 7:** Mark out the entrance of the stove, making it round on the top and shaping a little platform for the wood in front of the entrance. Smooth out the edges of the entrance and the surface of the stove.



Allow the stove to dry. It will crack during this process. Simply keep filling in the cracks until it stops.

When the stove is dry, you can use it. Make sure not to put too much wood inside and not to sit in front of the entrance. The air needs to get to the fire.

After cooking, put out the fire in order not to waste wood. During the rainy season, cover the stove to protect it against rain.

Enjoy your stove and save firewood!



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