

For Some tips for saving energy while cooking

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Energy use is measured in kilowatt-hours (kWh). It can be difficult to compare the energy used by appliances, but you can estimate how much an appliance will use by multiplying its power rating (i.e. how much energy it uses when it is switched on) by the time you leave the appliance on (in hours). So a microwave may have a power rating of 800W and be on for 3 minutes. This would use 0.04kWh ($= 0.8 \times 3/60$) whereas an oven with a power rating of 2kW on for 45 minutes would use 1.5kWh ($2 \times 45/60$), 37.5 times as much.

General tips (from [uswitch.com](https://www.uswitch.com))

- The microwave is generally the most efficient way to heat up and cook food so use it whenever possible.
- Only use as much water as is needed to cover the food you're cooking. Don't waste energy boiling water you don't need.
- Use a pan that is the right size for the amount of food you are cooking, use the right size hob ring for the pan and use a lid to keep the heat in.
- Use a double steamer so you can layer vegetables on top of each other and use just one ring.
- Turn down the level of the ring or burner once the cooking temperature or state is reached. Most dishes need to simmer, not boil.
- Slow cookers are energy-efficient; you can leave your food to cook slowly while you get on with other things.
- If you use the oven, cook as much as possible in one go to make sure the space and heat is used.
- Opening the oven door means the oven loses heat so keep it closed while you're cooking.
- If using an electric oven, turn it off 10 minutes before the food has finished cooking. The food will continue to cook in the residual heat.
- Some frozen foods such as peas, chips and other vegetables should be cooked from frozen. Otherwise, e.g. for stews or pies, defrost frozen food in the fridge in advance. This helps the fridge to use less energy and means less energy is used during cooking.
- Pressure cookers can be worth using to cook beans, meats, whole meals or stews. Food cooks more quickly than it would in a pan, thereby saving energy.

Passive cooking methods

- Passive cooking uses much less energy. It's mainly used for cooking food such as pasta. Instead of actively cooking pasta for the whole of the cooking time, boil it for 2 mins, then turn the hob off and leave the pan with the lid on for the remainder of the time. So, if packet says to cook for 12 mins:
 - bring the water to a boil, add the pasta,
 - boil it for 2 minutes then switch off the hob
 - put the lid on and wait for 10 minutes before draining and serving. You can put a tea towel over the pan to keep the heat in but make sure that it's not somewhere where it could catch fire.
- Different shaped pasta takes different lengths of time to cook. Macaroni is usually quickest.
- You can also use this method to cook potatoes (cut up small), boil for 2-3 mins, then cover with a teatowel and leave for 20 mins then mash them.
- This method also works well with rice. Measure the volume of rice you want to cook. Add double the volume of water and a pinch of salt. Bring to the boil, boil for 2-3 mins, then cover with a lid or plate and a teatowel for 10-12 mins then fluff with a fork before serving.
- Only use this method for foods that would be safe to eat raw.
- Other forms of passive cooking include haybox and wonderbag (use Google for more information about these. You can use a duvet or blanket instead of a wonderbag)

Microwave

The microwave is generally the most efficient way to heat up and cook food, especially for small amounts. It's almost always quicker and the heat is more focused on whatever's being cooked. If you have one, try to use it rather than the hob or oven. Most of the things that you would cook on a hob can be cooked in the microwave. Microwaves use up to 80% less energy than conventional ovens.

- <https://www.bbcgoodfood.com/howto/guide/how-cook-microwave>
- Top tips for cooking in a microwave (from BBC Good Food)
 - Never put anything metal in the microwave
 - Separate foods by cooking time. Start with larger items and add in the smaller foods as you go so everything is warmed up enough for when you need it
 - Cut up larger foods to speed up cooking time
 - Arrange food in single layer on a microwave-safe dish
 - Cover dishes with a high liquid content with cling film and pierce the film
 - Don't overfill your dish
 - Stir food regularly to distribute heat evenly
- **Rice**
 - How to cook rice in the microwave (Jamie Oliver's method)
 - 75g rice per serving (approx 1/4 mug)
 - 150ml water per serving (approx 1/2 mug)
 - Put the rice and water and a pinch of salt in a large microwave-safe bowl and cover with microwave-safe plate
 - Cook in the microwave on a medium heat (400-500W) for 8-10 mins, then remove from the microwave and leave to steam for up to 10 mins with the lid on.
 - Brown rice will take longer than white rice to cook
 - These times are for two portions (~0.075kWh (0.5 x 9/60)). If you are cooking for more people, you will need to add cooking time.
- **Pasta**
 - How to cook pasta in the microwave (wikiHow)
 - To serve 4 people, use 300g spaghetti
 - Break up the spaghetti into halves or thirds and put in microwave-safe bowl. Remember pasta will double or triple in size when cooked.
 - Pour enough water to cover the spaghetti by 2 inches (~5cm).
 - Microwave the pasta for 3 mins longer than the package says, e.g. if the package says to boil for 10 mins, you'll need to microwave them for 13 mins.
 - Drain and use the cooked pasta.
- **Vegetables**
 - 'Baked' potatoes (wikiHow)
 - Choose, wash and dry the potato. Remove any blemishes.
 - Prick a couple of times on each side with a fork. This is to allow steam to escape and will stop the potato from exploding.
 - Place the potato on a microwave-safe plate and microwave on full power for three minutes. Check it and cook for a minute or two longer if needed. Using a tea towel or oven glove, gently squeeze the potato. If the potato is tender enough for it to give under pressure and for the skin to break, it is ready. A single potato should take just over 5 minutes to cook, but more will take longer.
 - Other vegetables (wikiHow)
 - Just wash, dry, and microwave for a few mins; your veggies are ready to eat.
 - Add about 3 tablespoons of water to the bowl for every pound (450g) of vegetable, then microwave on high.
 - For reference, per pound (450g) potato chunks generally take about 8 mins, broccoli florets about 4 mins, and spinach about 3 mins.
 - <https://www.wikihow.com/Cook-Vegetables-in-the-Microwave>

Slow cooker

- Slow cookers use a fraction of the energy used by a conventional oven. Even if you leave it on all day, it will use about the same amount of energy as a lightbulb.
- Another benefit is that they can be left on to cook without worrying about your food burning or drying out.
- Slow cookers are brilliant for cooking stews and casseroles, particularly cheaper cuts of meat.
- Some grains that take a long time to cook on the hob, e.g. brown rice or barley, can be cooked in a slow cooker, saving energy.
 - For brown rice, measure by volume and use two units of water to one volume of rice.
 - For barley, use three units of water to one unit of barley.
- Baked potatoes can also be cooked in a slow cooker.
- The Feed your Family website has lots of recipes for slow cookers <https://fyf20quid.co.uk/browse-recipes/recipe-category/slow-cooker/>
- See the chart at the end to convert oven cooking times to slow cooker cooking times.
- If you have a freezer, Feed your Family has recipes for 'dump bags' which are freezer bags made up of the ingredients for a meal which can then be defrosted and 'dumped' into the slow cooker and cooked. They can be made in batches and frozen until needed [.https://fyf20quid.co.uk/browse-recipes/recipe-category/dump-bag/](https://fyf20quid.co.uk/browse-recipes/recipe-category/dump-bag/)
- <https://www.bbcgoodfood.com/recipes/slow-cooker-sausage-casserole> You can use regular brown-skinned or white onions instead of red onions, and potato, pumpkin or squash instead of sweet potato.
- <https://wickedleeks.riverford.co.uk/lifestyle/slowly-does-it-top-four-slow-cooker-recipes-to-save-energy/>

Pressure cooker

- Food cooks in around a third of the time compared to a hob, so you use less energy.
- They are ideal for cooking cheaper ingredients like dried beans and pulses from scratch.
- <https://www.bbcgoodfood.com/howto/guide/pressure-cookers-and-how-use-them-0>

Air fryer

- I don't have experience of these but they are quicker than a conventional oven, saving electricity.
- <https://www.bbcgoodfood.com/recipes/collection/air-fryer-recipes>
- You need to convert the temperature and cooking time. See chart at end.

Some useful websites:

- **Feed your family** <https://fyf20quid.co.uk/> Feed Your Family started off as a small Facebook group called Feed your family for £20 a week, with the aim of helping to re-educate a generation of parents who are relying on expensive ready meals and jars of sauce to feed their families. They post recipes, tips and advice and have built up a following of over 500,000 people.
 - e.g. Energy Saving Summer Meals <https://fyf20quid.co.uk/energy-saving-summer-meals/>
 - e.g. One week meal plan for January <https://fyf20quid.co.uk/feed-you-family-for-20-a-week-week-1/>
- **BBC Good Food guide to energy-efficient cooking** <https://www.bbcgoodfood.com/howto/your-guide-to-energy-efficient-cooking>
- **Jamie's £1 wonders** <https://www.jamieoliver.com/budget-friendly-recipes/>

Convert Oven Times to Slow Cooker Timers

| Conventional Method | Slow Cooker Low | Slow Cooker High |
|---------------------|-----------------|------------------|
| 15-30mins | 4-6 hrs | 2-3 hrs |
| 35-45mins | 6-8 hrs | 3-4 hrs |
| 50mins-1hr | 8-10 hrs | 4-6 hrs |



AIR FRYER CONVERSION CHART



OVEN TIME

10 MINUTES
15 MINUTES
20 MINUTES
25 MINUTES
30 MINUTES
35 MINUTES
40 MINUTES
45 MINUTES
50 MINUTES
55 MINUTES
1 HOUR

AIR FRYER

8 MINUTES
12 MINUTES
16 MINUTES
20 MINUTES
24 MINUTES
28 MINUTES
32 MINUTES
36 MINUTES
40 MINUTES
44 MINUTES
48 MINUTES

OVEN

190c
200c
210c
220c
230c

OVEN (FAN)

170c
180c
190c
200c
210c

AIR FRYER

150c
160c
170c
180c
190c

