



## **SUSTAINABILITY IN CERAMICS – HINTS & TIPS**

We all have a passion for ceramics, but we do not want it to create any more environmental impact than is necessary. A balance can hopefully be struck. Overall, we still want to keep ceramics enjoyable and fun – but even a small lessening of our carbon footprint will be helpful. Where you, as potters, have the option of a choice, these hints and tips are intended to inform those choices and prompt further thought and discussion.

### **Energy**

The largest impacts are from kiln firings. You may have little choice over the fuel method you use, but these points are worth considering for electricity:

- Seek out an electricity tariff that is backed by renewable energy.
- If you have an “off-peak” or “2-rate” tariff you should be able to programme your kiln to fire within these times – typically between 11pm & 7am.
- Choosing to fire your kiln when the energy source is from renewables that are generating a high percentage versus conventional sources – the benefit being to use the non-storable renewable energy when it is most available, reduces the demand upon other generation types which have storable fuels. Some weblinks for available data include:
  - <https://grid.iamkate.com/>
  - The National Energy System Operator App, shows Carbon Intensity by geography – giving homeowners a rough indication of optimum times to use appliances where choice can be made. The NESO App is available for both Android and Apple. It is fairly simple, but hopefully will evolve over time – more Apps may become available – or energy Suppliers may publish data...
  - Having a smart meter should increasingly enable householders to benefit from future “time of use” tariffs and offers. Many suppliers currently offer free or reduced rate tariffs at off-peak times. It is likely that in future these periods will be targeted at known periods of lower grid demand and/or over generation capacity. If the peaks and troughs within the nation’s electricity demand can be smoothed out, the UK overall generation capacity can also become more efficient and less carbon-producing.

- If you have solar panels – time your firings to bright sunny days if possible and “predictable”.
- Maximise your kiln loading density to minimise the carbon footprint per item fired.
- Consider “Do I really need to fire this clay?” – if your pot/piece is flawed and at risk of not ending up as you intended it to be – firing is very unlikely to correct or improve it. Recycle the unfired clay and make a better version next time.
- Firing temperatures:
  - Consider lowering your top firing temperature to see if the same results can be achieved a few degrees lower.
  - Test a lower bisque firing at between 900°C & 1000°C degrees to see if this affects your glazed end product. The lower temperature is likely to make your bisque-ware a little more porous for absorbing glaze moisture during applications – so test, as always.
- Are you able to consider a single firing method of raw glazing or unglazed work?

### **Water**

Often overlooked, but minimising water usage reduces environmental impact. Some actions to consider:

- Avoid washing or cleaning tools & equipment under a running tap.
- Consider using a repurposed hand sprayer to rinse off tools & equipment, as a more focussed water source. Use over a bucket as below.
- 3 bucket system – 3 buckets/tubs containing water
  - 1<sup>ST</sup> bucket used to rinse clay off hands, tools & equipment
  - 2<sup>nd</sup> bucket used for second rinsing where needed
  - 3<sup>rd</sup> bucket the final cleaning rinse where needed
  - Buckets left to stand to allow the clay to settle for draining and reclaim – drained off water could be re-used elsewhere, plant watering etc.
  - Depending upon timescale and quantity of usage, maybe a drop of bleach or vinegar in each bucket to reduce bacteria build up.
  - If a single clay body used, simple to operate due to lack of crossover contamination.
  - If multiple clay bodies used, then ideally 3 buckets per clay if scope, or maybe a mixed reclaim clay could create interesting results.
- Glazing rinse bucket – If using a bulk pouring or dipping glaze, then keep a bucket of water for rinsing off hands, sieves, tools and any scrapings. These can be left to settle and the glaze reclaimed and added back into main container.

## **Materials**

From a general, often global viewpoint, consider the ethical sourcing of all materials and tools. This includes mining/extraction of oxides, clays and many glazing materials.

- Ask pottery suppliers if they have any data on ethical sourcing of their product ranges. The more questions are asked, the more likely it is that data will be produced to inform choices.
- Reclaim as much clay as possible from within your making practices.
- Consider if bisque or even glazed failures could be recycled into your own grog, mosaics etc.
- Subject to landowners' permissions and on a small scale – A lower carbon footprint can be achieved using local clays for interesting decorating slips, or even workable clay bodies.
- Bagged clay that has dried out – can be softened by adding a cup of water to the sealed bag and then immerse in a water butt or similar, so the depth causes pressure to encourage water back into the clay body to re-soften.
- Any un-reclaimable materials of mixed clay/glaze etc, can be dried out and sent to landfill as a lower impact than washing down the drains.
- Many food/catering outlets can be a source of re-usable plastic tubs and lids – rather than buying new plastic.
- Packaging – for those that despatch ceramic items, most customers really appreciate the effort producers apply to making their packing as recycled/recyclable as possible.

## **Glazing**

A number of factors already mentioned above, but to re-cap:

- Wood ash is a powerful flux, with a myriad of online recipes and data on processing for inclusion in your glazes to create interesting effects. Hopefully reducing or avoiding buying industrially mined/processed materials.
- Local clays can be dried and used in many glaze recipes.
- For Reduction-fired effects – it may be viable to use small quantities of Silicon Carbide added to recipes to create similar effects in an Oxidation firing – typically with copper-based glazes.
- Left over glaze quantities – could be added to a general “lucky dip” glaze bucket to evolve over time into interesting glaze, giving due regard to and excluding any toxic components that may be used for food-contact surfaces.

**Any further hints and tips that you can share will be great for future versions –**

**[admin@westcountrypotters.co.uk](mailto:admin@westcountrypotters.co.uk)**