

Rayburnomics

What makes Rayburn such a great choice!



Nov 2011
Version 3.9

Cast-iron credentials in challenging times

The first Rayburn was produced in 1946 – a challenging time when resources were scarce. And the principles that made Rayburn revolutionary in 1946 make it a sensible and economic choice today.

Rayburns were originally engineered to allow homes to easily enjoy plentiful hot water and convenient cooking while consuming the least amount of fuel, and have been made from recycled iron right from the start. The cosy appeal of their pleasing design and warm glow when running were viewed as secondary to the functional requirements of post-war rural homeowners.

Today, some customers buy a classic Rayburn purely for its looks - but for most, the Rayburn is a practical and cost-effective solution to cooking and heating that has the added bonus of adding warmth and character to their kitchens.

Today's Rayburn owner benefits from sixty years of product development, with state-of-the-art control technology and super-efficient heating – all designed to maintain the Rayburn reputation for fuel thrift and achieving maximum fuel efficiency.

Rayburnomics helps to answer questions about the practical uses of a Rayburn, explain how a Rayburn fits into today's lifestyles, offer reassurance about the green credentials of purchasing and running a Rayburn, and to spell out how much it really costs to run a Rayburn.

Style *and* substance

Rayburn is the original domestic goddess – a source of fantastic food, cosy warmth throughout the home, and lashings of hot water. In these times of unprecedented fuel prices and increasingly scarce resources, Rayburn maintains its credentials as a relevant, sensible and viable value-for-money workhorse, while maintaining the good looks, character and heritage of cast-iron cooking.

A member of the AGA family

Rayburn is in good company for sure. It shares a great deal with its sister brand, AGA, and many Rayburn purchasers recognise this straight away – the cast iron ovens cook fantastic food using radiant heat, British-made throughout, a choice of stunning coloured enamel finishes, cast-iron hotplates, and the warm glow of heat into the kitchen that can offset the need for radiators. For some, it is the on-off 'AGA' that's ready to cook in around 25 minutes and is only on when you need it. For all Rayburn owners, it's the heart of their home, and a focal point for the family in the most important room in the home.

What does a Rayburn bring home?

Choice & Capability

The Rayburn family is large, it is all about choice and this means there should be a Rayburn to suit everyone's needs, urban or rural, summer or winter. All Rayburns deliver the great flavour and succulence of food cooked in cast-iron ovens and the majority of models also provide hot water or central heating and hot water – with all available in a choice of fuel types. Each Rayburn brings its unique radiant heat to the kitchen, delivering the warmth of a conventional radiator at the same time as performing their core cooking – and heating - functions.

Fuel Flexibility

The Rayburn was originally created to run on solid fuel – and this is still the preferred choice for around half of our customers. Other fuel options include oil, gas, and LPG.

Why purchase a solid fuel and wood burning Rayburn?

In the rural heartland of Rayburn, solid-fuel and wood burning Rayburns offer an unrivalled and unique solution for home heating and hot water, while also providing the superb flavour of cast-iron cooking – a great combination of 'domestic service' in one package.

Solid fuel and wood burning models aren't troubled by power cuts, continuing to provide cooking and hot water throughout – ideal for locations with an interrupted power supply or for rural homeowners working towards self-sufficiency.

The following solid fuel types are presented in order of highest fuel efficiency and calorific value:

- 1st: Coal or Anthracite
- 2nd: Seasoned Hardwood
- 3rd: Dry Turf or Briquettes
- 4th: Softwood

Hardwood and softwood is an excellent fuel, and can be the cheapest fuel commonly available. Hardwood logs are best because they burn for longer and provide more energy.

Why purchase a wood burning only model?

A wood burning Rayburn makes a very economical choice – the boiler model benefiting from tax incentives at purchase¹, and costing far less to run than comparable separate cooker and heating systems. We have seen a significant increase in the sale of wood burning models in recent years, accounting for around half of all Rayburn sales.

¹ Lower VAT rate applies to Rayburn 345W only when purchased from and installed by the same dealer.

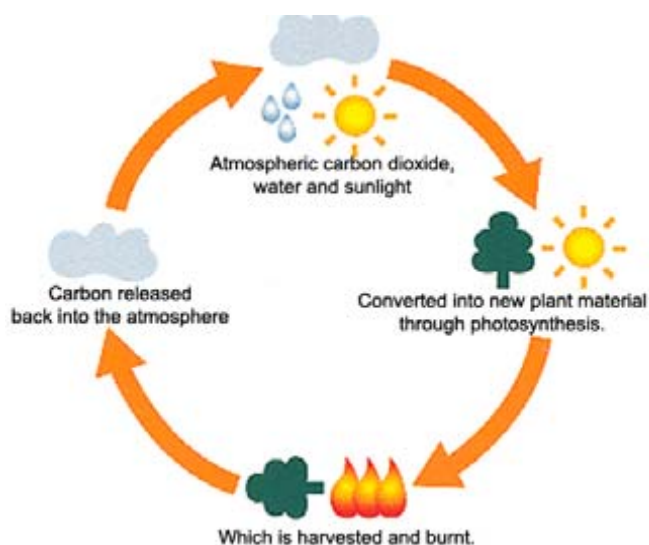
Many rural homeowners have ready access to free wood, simply cutting, drying and storing their own wood in an outdoor wood store to obtain the perfect level of seasoning for maximum heat output and efficiency – making the Rayburn extremely cost effective in heating their home, providing lashings of hot water and meeting all their cooking needs.

Most people are surprised to find out that, with a bit of practice and the right choice of wood, a Rayburn wood burner only needs filling up with wood once or twice a day!

There are two great reasons to buy a wood burning Rayburn:-

1. Firstly, because it is a sustainable fuel source, wood is the greenest choice. Unlike gas or oil, which are fossil fuels formed over millions of years, a tree that is felled to provide logs can be replaced like-for-like in as little as 10 years. In addition, wood for burning is a relatively cheap and readily available fuel for the vast majority in the UK.
2. Secondly, wood is considered a carbon neutral fuel when it is burned. As part of the process of photosynthesis, trees absorb carbon dioxide from the atmosphere. When you burn a log on a fire it will only release the same amount of carbon dioxide that it had absorbed whilst it was living – and exactly the same amount that would have been released if the log had been left to decompose naturally on the forest floor. So, as long as the tree is replaced (ideally as part of a sustainable managed tree planting programme), there is no net impact on the environment.

Surely, no one can doubt that the ultimate energy source is one that is totally sustainable. Not only do trees provide food and shelter to wildlife during their life, the timber can be efficiently burned to provide warmth and flame. During its life, a tree will release twenty times more oxygen into the atmosphere than is required for combustion, which in turn releases no more CO₂ than would eventual decay. The healthiest trees are often those found in managed plantations with careful harvesting regimes. Healthy trees absorb three times as much CO₂ as released during combustion.



For more information about selecting, storing and burning wood, see 'Burn wood, not money - The Rayburn guide to selecting, storing and burning wood'.

Yet more benefits...

The Government is committed to ensuring that we take individual responsibility for reducing our own personal and household carbon footprints (carbon emissions) and, as a result, have created a number of environmental incentives to encourage individuals to do something about it.

One such incentive is a reduced rate of VAT on the purchase and installation of any appliance fitted with a boiler that burns wood only – currently 5% rather than the standard 20%. This is part of **HM Revenue and Customs Notice 708/6 - "Energy-saving materials"** which details how the government is promoting heating homes by the burning of sustainable "vegetal matter" (plant derived matter). This initiative has been running since 1 January 2006 as an incentive for more people to switch from oil and gas.

The reduced VAT rate **ONLY** applies at the point when the unit is purchased and installed at the same time.

The reduced VAT rate does not apply to "multi fuel" appliances, i.e. those that can burn fossil fuels as well as wood – such as Rayburn SFW models, which is why we have created the 345W.

In Ireland, new legislation states that 10% of all home heating requirements must be from a renewable source such as wood or solar

Our R&D team have been working hard to develop innovative ways of connecting the Rayburn to other sustainable supplies of energy, and recently launched the Rayburn Solar Package that enables a Rayburn cooker, AGA wood burning stove and solar collector panel to be connected together in an intelligent home energy management solution that automatically switches between the most effective and sustainable energy source available at the time.

Why purchase an oil or gas fired Rayburn

Oil-fired Rayburns are still a very popular lifestyle choice, adding convenience and a clean experience to the standard Rayburn benefits. Although burning solid fuel is a much cleaner and easier solution than people realise, some still view burning solid fuel as a labour intensive experience and associate it with the past.

The perception of oil as a potentially expensive fuel is shaped by the urban experience – where petrol prices and cost-per-barrel headlines dominate the news cycle. In the countryside, Rayburn users effectively "hedge" their oil costs as they fill the tank before the winter season – gaining the convenience of an on-tap supply at a fixed and predictable cost.

Rayburn owners also tend to use their oil sparingly by switching off and using their AGA or Stanley wood burning stove - an excellent way of managing the home heating bills in a cost effective manner.

For those who are able to connect to the natural gas network, there are Rayburn models optimised for this fuel source – offering the highest level of convenience of fuel supply and including the A-rated boiler efficiency. Alternatively, in rural areas selected Rayburns can run on LPG.

Whether running on oil or gas, Rayburn Technology is among the most advanced in the world, with every model optimised to deliver unrivalled efficiency ratings and cost-effective operation.

Control & efficiency

One of the most common misconceptions about Rayburn is that they have to be ‘always on’. In fact, the opposite is true, making them a bit like an on-off ‘AGA’.

Even Rayburn solid fuel models offer automatic thermostatic control, while other fuel types allow for fully-programmable timers so that the Rayburn only provides the function you want when you need it. That’s why Rayburn recommends a home survey to customers before they commission and install their range – to ensure they’re buying the right model to suit their needs, and to recommend the best way to use a Rayburn in their home.

In terms of the fuel and heat efficiency of a Rayburn, their post-war origins ensure that they do as much as possible for as little as possible. The use of cast-iron is designed to hold onto heat, and let it trickle out slowly to the home whilst cooking. Engineering and technological advances in the intervening years have greatly added to this basic benefit: Rayburn boilers are now highly rated for their energy efficiency and fuel use. More crucially, today’s Rayburn ranges includes many models that offer total, independent and programmable control over cooking, heating and hot water - so that every customer can tailor the use of a Rayburn to suit their own lifestyle.

AGA quality

As part of the AGA family, Rayburn benefits from the reputation and expertise that has made AGA an icon – exemplified by our three year warranty. Rayburn owners gain the pleasure and attractiveness of a cast-iron range built to AGA standards, but with the added bonus of typically a lower purchase cost, large choice of models and far greater functionality.

Rayburn and the environment

The Rayburn is our unsung environmental champion - but there is a compelling case to be made to support its green credentials:

Recycled Materials

Part of the Rayburn you see today was once a cast iron manhole cover, or perhaps a gearbox. A Rayburn is manufactured with a relatively simple list of common and easily sourced materials, ingredients for the cast iron recipe - so it achieves a very high percentage of recycled material use in the final product.

Low carbon footprint from factory to your home

Unlike many other kitchen appliances, the Rayburn is manufactured here in the UK – so it has far less distance to travel in order to reach most of our customers.

Optimised for renewable fuels

Rayburn was originally invented to run on renewable resources – that’s why around half of the models we sell today use green fuels like wood.

Efficient energy use

A Rayburn is built to create and store heat in the most efficient way possible, using traditional materials, teamed with modern engineering and high-spec insulation to save heat – and money. When a Rayburn is used for cooking, heating and hot water, it operates at a level of fuel efficiency that equals – and sometimes betters – the separate provision of these functions. When you also factor in the ‘AGA effect’ of radiant heat that a Rayburn brings to the kitchen, you have an ancillary energy source that offers the output of a conventional radiator. Our customers use this for everything from drying clothes and warming food to incubating farm animals or preparing dried herbs – at no extra cost.

Don’t forget that a kitchen radiator on a central heating system has an output of around 1.5kW per hour and, providing it’s fitted with a thermostat, will automatically turn off when the Rayburn is running. That’s a saving of at least 7.5kW or 38p per day if the Rayburn is on for five hours – and probably more because it continues to release heat for a period after it’s turned off.

AGA Rayburn Solar Hot Water

Our new Solar hot water (solar thermal) systems are an eco friendly and cost effective way to provide free hot water for your Rayburn home by using energy from the sun. And our solar panels don't need direct sunlight to work – you can still heat water on a cloudy day. It's all possible with solar hot water.

What are the benefits?

- Solar thermal can produce up to 65% of your annual hot water needs
- Helping to reduce energy consumption and fuel costs
- Helping to shrink your carbon footprint
- Ethical investment with rewards from the government

Eco-Connect Panel

Our new Eco-Connect panel (which recently won the OFTEC Innovative product of the year award 2010 at the recent OFTEC awards for Excellence!) makes the problem of integrating traditional heating systems with renewables like wood burning stoves and Solar hot water a whole lot easier. It will automatically bias a whole heating system to renewables saving the homeowner money on their fuel bills and reducing harmful environmental emissions. It works with a diverse range of systems including solar, boilers, central heating range cookers, thermal stores, heat pumps, underfloor heating, radiators and woodburning stoves.

It's a very clever piece of kit, so if you'd like to know more about AGA Rayburn Eco-Connect for yourself, why not visit the AGA Rayburn Home Energy Management Centre in Kidderminster.

Solar Electric

Our new Solar Electric (photovoltaic) systems are an economical way to power your Rayburn home by using energy from the sun to create green electricity. What's more our solar panels don't need direct sunlight to work - you can still generate electricity with a cloudy sky. It's all possible with solar electric.

What are the benefits?

- Using the electricity as it is generated can deliver savings on your energy bills.
- Ethical investment with good rates of return
- Helping to protect you from energy price hikes
- Helping to save the planet for future generations

Our portfolio of home energy management products includes solar hot water, solar electric, AGA woodburning stoves, the award winning Eco-Connect panel and Rayburn Heatranger woodburning or condensing all-in-one central heating range cookers. AGA Rayburn's home energy management products are fully controllable, fit in with any lifestyle, and make being green much easier.

Rayburn running costs – the facts

There is a Rayburn that runs on almost every fuel, and one to suit most sizes of home. For Rayburn models that provide hot water or hot water and heating, you'll need to consult a qualified heating engineer who can calculate running costs based on the size and type of home.

If you're wondering how much it will cost to run a cooker-only Rayburn (Cookmaster or XT), here's a handy table that shows the energy consumption and running costs based on energy prices as of October 2008. It costs surprisingly little to run a Rayburn, and these figures are based on running the Rayburn for five hours in the evening – providing all the cooking you need along with 5 hours of warmth into the kitchen.

Don't forget that a kitchen radiator on a central heating system has an output of around 1.5kW per hour and, providing it's fitted with a thermostat, will automatically turn off when the Rayburn is running. That's an offset saving of at least 7.5kW per day just for the radiator if the Rayburn is on for five hours – and probably more because it continues to release heat for a period after it's turned off. And that's in addition to the small appliances you won't need to run such as kettle, toaster, tumble drier, microwave and so on.

Five hours of operation in the evening

Rayburn type	Daily fuel/energy consumption (5hrs)	Cost per unit** Pence	Cost per day £
200 series			
Wood or solid fuel (SFW)	4.16 kg logs*	-	Free to 50p+
Natural gas (G)	19.8 kW**	3.96	0.78
Propane gas (L)	2.91 litres	38.9	1.13
300 series			
Wood only (W)	5.2 kg logs*	-	Free to 60p+
Oil (K)	2.05 litres	56.45	1.16
400 series			
Natural gas (G)	25.55 kW**	3.96	1.01
Propane gas (L)	3.62 litres	38.9	1.41
Oil (K)	2.53 litres	56.45	1.43
XT			
Natural gas (G)	25.55 kW**	3.96	1.01
Oil	2.53 litres	56.45	1.43

*Correctly seasoned hardwood logs

** Prices based on British Gas Standard with Energy Smart package for the Midlands – Aug 2011

Sources: Gas energy costs (Aug 2011) – www.comparethemarket.com
Oil costs (Aug 2011) – www.fuelseeker.co.uk
Propane Gas (Aug 2011) – Calor Gas
Wood / Solid Fuel (Aug 2011) – www.soliftec.com

Some useful Links

<http://www.hetas.co.uk/> - HETAS is the official body recognized by government to approve solid fuel domestic heating appliances, fuels and services

http://www.solidfuel.co.uk/pdfs/buidling_regs_consumer%20leaflet.pdf

<http://www.rangeefficiency.org.uk> - The official independent industry website displaying efficiency and other data for Range central-heating cookers.