THE FEDERATION OF BAKERS

FACTSHEET No. 17

ENERGY USE IN PLANT BREAD PRODUCTION

- Bread is the most energy efficient food available.

- Products containing milk, meat, fish, fruit and vegetables are not as effective as bread in converting fossil fuel energy into food energy.

- The chart shows you how energy efficient bread is when compared with other foods.

Food Industry Sector ***Product***	**Total fossil fuel energy required for production** ***Megajoules/Kg***	**Ratio of fossil fuel energy in to food energy out**
Bread and bread products	**18**	**1 : 5**
Biscuits	**38**	**4 : 1**
Milk and milk products	**53**	**1 : 3**
Sugar	**55**	**2 : 9**
Fruit and vegetable products	**60**	**4 : 0.9**
Cocoa, chocolate and sugar confectionery	**91**	**3 : 7**
Meat and fish products	**143**	**7 : 1**

Source: ***RHM Research and Engineering Limited***
Dr Gordon Beech

- Twice as much energy (36 mj per kg) is required to produce a kilogram of biscuits and eight times (143 mj per kg) more energy is required to produce meat and fish products.

- Meat and fish products have the lowest output ratio at 7:1.

- It takes only 18 megajoules (mj) of fossil fuel to produce one kilogram of plant-produced bread.

- The ratio of fossil fuel energy needed to produce food compared with the food energy output shows bread at the top of the list, with a ratio of 1:5.