

Solar power



How big would a solar panel need to be to power a typical Welsh home?

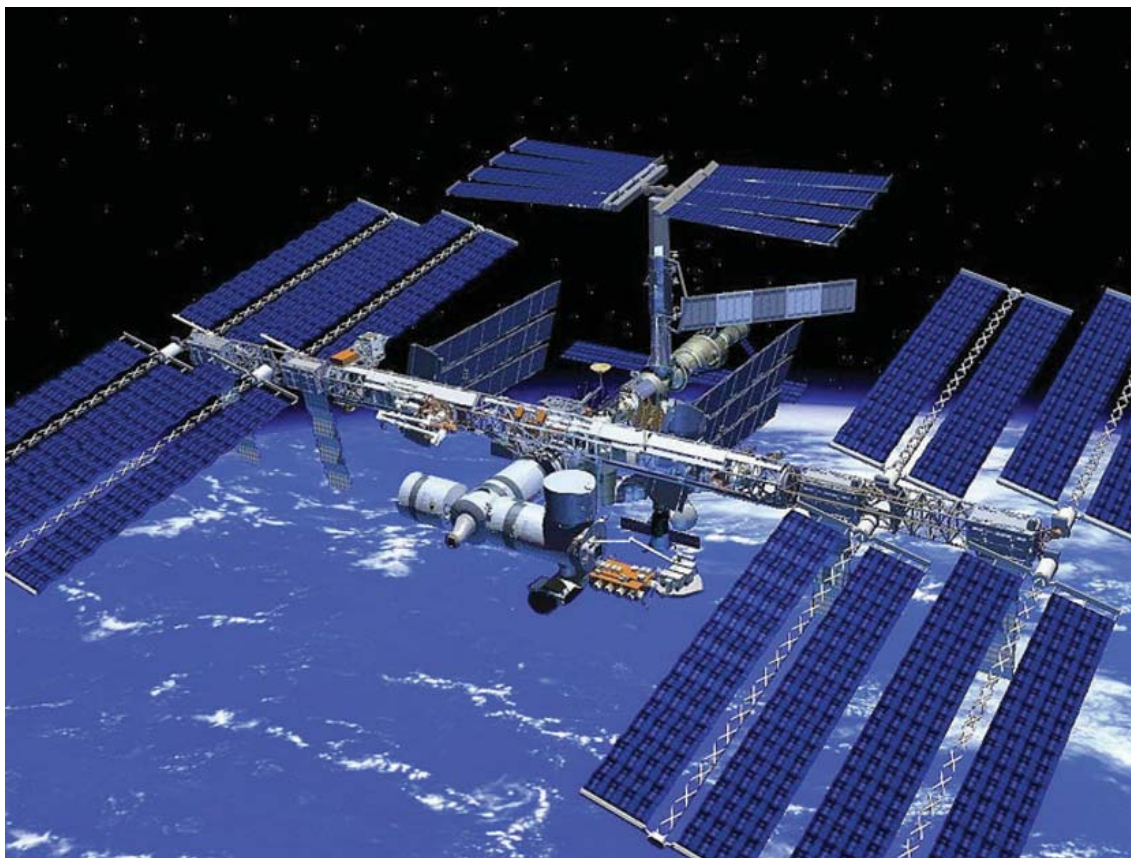
A typical home in Wales can use either electricity or gas to provide heat for the house, the hot water, the tumble dryer and the oven. If you were to power a house with solar electricity, you would certainly use gas appliances as much as possible, because solar electricity is so expensive. This means that what you would be powering with solar electricity are things like the refrigerator, the lights, the computer, the TV, stereo equipment, motors in fans and the washing machine.

Let's say that all of those things give an average power need of 800 watts. This is pretty small – a rapid boil kettle uses 3000W of electricity.

The average solar panel produces about 10 mW per cm² on a bright sunny day.



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- Can you say exactly what size you would need?
- What assumptions are you making?
- What else would you need, apart from the panel, to make a practical system practical?

Solar panels cost about £1000 per square meter: about how much would it all cost and about how long would it take you to get your money back?

Assume the solar panels would save you £120 pounds per year on your electricity bills.